

Atlantic States Marine Fisheries Commission

Atlantic Coastal Cooperative Statistics Program Coordinating Council

October 19, 2021

Web Conference

11:00 a.m. – 12:30 p.m.

Draft Agenda

The times listed are approximate; the order in which these items will be taken is subject to change; other items may be added as necessary.

1. Welcome/Call to Order (*J. Carmichael*)
2. Council Consent
 - Approval of Agenda
 - Approval of Proceedings from August 2021
3. Public Comment
4. Consider Recommendations for FY2022 Submitted Proposals (*J. Simpson*) **Action**
5. Other Business/Adjourn

**DRAFT PROCEEDINGS OF THE
ATLANTIC COASTAL COOPERATIVE STATISTICS PROGRAM
COORDINATING COUNCIL**

**Webinar
August 5, 2021**

These minutes are draft and subject to approval by the
Atlantic Coastal Cooperative Statistics Program Coordinating Council
The Council will review the minutes during its next meeting.

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2. **Approval of Minutes of May 4, 2021** by Consent (Page 1).
3. **Motion to adjourn** by Consent (Page 10).

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ATTENDANCE

Council Members

Bob Beal, ASMFC	Lynn Fegley, MD
Megan Ware, ME, proxy for P. Keliher	Lewis Gillingham, VA, proxy for P. Geer
Renee Zobel, NH	Dee Lupton, NC, proxy for K. Rawls
Dan McKiernan, MA	Mel Bell, SC, proxy for P. Maier
Jason McNamee, RI, Vice-Chair	Kathy Knowlton, GA, proxy for D. Haymans
Greg Wojcik, CT, proxy for J. Davis	Hannah Hart, FL, proxy for J. McCawley
Maureen Davidson, NY, proxy for J. Gilmore	John Carmichael, SAFMC, Chair
Joe Cimino, NJ	Brandon Muffley, MAFMC, proxy for C. Moore
Kris Kuhn, PA, proxy for T. Schaeffer	Mike Millard, USFWS, proxy for L. Whitney
John Clark, DE	Richard Cody, NOAA

Staff

Toni Kerns	Alex DiJohnson	Jennifer Ni
Laura Leach	Lisa Havel	Marisa Powell
Lisa Carty	Chris Jacobs	Mike Rinaldi
Tina Berger	Jeff Kipp	Julie Defilippi Simpson
Pat Campfield	Savannah Lewis	Caitlin Starks
Maya Drzewicki	Kirby Rootes-Murdy	Deke Tompkins
Kristen Anstead	Sarah Murray	Geoff White

Guests

Shanae Allen, FL FWC	Carol Hoffman, NY DEC	Nicholas Popoff, US FWS
Renee St. Amand, CT DEP	Harry Hornick MD DNR	Craig Pugh, Leipsic, DE
Max Appelman, NOAA	Raymond Kane, MA (GA)	Kathy Rawls, NC (AA)
Pat Augustine, Coram, NY	Ben Landry, Omega Protein	Story Reed, MA DMF
Jeff Brust, NJ DEP	Wilson Laney	Eric Reid, Kingstown, RI
Heather Corbett, NJ DEP	Mike Luisi, MD DNR	Scott Schaffer, MA DMF
Jessica Daher, NJ Dep	Chip Lynch, NOAA	Tom Sminkey, NOAA
Russell Dize, MD (GA)	Jerry Mannen, NC (GA)	Melissa Smith, ME DMR
Cynthia Ferrio, NOAA	Nichola Meserve, MA DMF	Somers Smott, VMRC
James Fletcher, Wanchese Fish	Steve Meyers	David Stormer, DE DFW
Tom Fote, NJ (GA)	Roy Miller, DE (GA)	Ritchie White, NJ (GA)
Doug Haymans, GA (AA)	Allison Murphy, NOAA	Chris Wright, NOAA
Jay Hermsen, NOAA	Brian Neilan, NJ DEP	Erik Zlokovitz, MD DNR
Helen Takade-Heumacher, EDF	Gerry O'Neill, Cape Seafoods	
Matthew Heyl, NJ DEP	Cheri Patterson, NH (AA)	
Peter Himchak, Cooke Aqua	Michael Plaia	

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The Atlantic Coastal Cooperative Statistics Program Coordinating Council of the Atlantic States Marine Fisheries Commission convened via webinar; Thursday, August 5, 2021 and was called to order at 10:45 a.m. by Chair John Carmichael.

MR. GEOFF WHITE: Before I turn things over to our Chair, John, I wanted to at least put a couple of notes out. Renee Zobel from New Hampshire is our new member. Last meeting, we had her on as a proxy, so welcome Renee, as the New Hampshire member. Hannah has joined us as proxy as well, so welcome Hannah. The other point I wanted to make here on ACCSP staff, Mike Rinaldi has been a data team member, and data coordinator for several years now. But just in the last few weeks he applied for and was selected as the new data team lead, so congratulations to Mike Rinaldi as our new Data Team Lead. In a side note, congratulations to Julie Simpson for now holding one title, as Deputy Director, instead of trying to maintain two job roles and titles, as she has for the last few years. Congrats to Mike, and a thank you to Julie. With that, I will turn it over to John to get to get us going.

CALL TO ORDER

CHAIR JOHN CARMICHAEL: I appreciate that and getting us started, so welcome everybody, and I'll call this meeting of the ACCSP Coordinating Council to order. We've got another webinar effort, so thanks everyone for being there, and your patience as we get through the webinar world continuing.

APPROVAL OF AGENDA

The first order of business is consent for approval of the agenda. Are there any reflected changes or additions to the agenda? Any hands, Geoff? I don't see any.

MR. WHITE: I do not see any either.

CHAIR CARMICHAEL: All right, I guess I'm just a participant, I wouldn't see any anyway. Okay, so let's consider the agenda approved.

APPROVAL OF PROCEEDINGS

CHAIR CARMICHAEL: Our last meeting was May, 2021, so are there any changes or additions to the minutes? Hearing nothing then, Geoff, the minutes stand approved.

PUBLIC COMMENT

CHAIR CARMICHAEL: I guess the next thing is to open it up for public comment. Geoff, seeing no comments?

MR. WHITE: Correct, no comments.

CHAIR CARMICHAEL: Geoff, on my hard agenda I had, do we need to consent approval for the Program Update?

MR. WHITE: No.

CHAIR CARMICHAEL: Okay, good enough then.

PRESENTATION FOR FUNDING PROJECTIONS AND 2022 PROPOSALS

CHAIR CARMICHAEL: I turn it over to you then to go over the presentation for Funding Projections and 2022 Proposals.

MR. WHITE: All right, thank you so much. I appreciate everybody here, presenting a new view of the process. Historically, during the August meeting, the Coordinating Council has not done a lot with the current proposals, but as we've moved to a little bit more transparency of where things are at, and follow up with some of the extensions, and where the funding looks to be for next year.

I wanted to provide some more information to everybody about what proposals were received, where we are in the process, and also provide some information that I've been working with the Leadership Team about. The next slide does have a summary of all the proposals, but we did end up

with eight maintenance proposals during the May meeting and the funding process.

There was an allowance for maintenance proposals to request a sixth-year extension, and that could have applied to, I believe six proposals, but three partners chose to select that option, and submitted the proposals. We did end up with four new proposals, and the ACCSP Administrative Grant does include a new software team member proposal.

Last year that was proposed and selected to delay, and then of course where we are in the process at the moment. The initial proposals were reviewed. There was an ability for staff workload to be discussed again, a new part of the process. There were three projects that have a significant impact on staff time total, so these estimates are a little bit broad, but across three projects there is the potential for kind of 800 ACCSP staff person hours that was estimated.

I'll touch on those a little bit more on the next slide. This is a summary of the proposals that have been submitted. I realize that it's a little bit small, but the benefit of us all having computers in front of us instead of projections, hopefully you can all see this, of what the three extension year projects are, as well as the proposals that came in as maintenance and new.

The three projects that had some staff workload items, a couple were in the 200 to 400 hours, the South Atlantic Council, North Carolina Citizen Science Project is one of those that is expected, because there is a little bit more of an ACCSP role in coordination and development of the central process there. Another is PRFC Trip Reporting as a new partner in implementing trip reporting and using SAFIS.

That is typical and expected to have a higher staff workload, and then the third is the VMS and eTRIPS integration. That is under new

projects Item 1 in the Massachusetts/Rhode Island, and that has to do with new location tracking request and requirements, which trackers, or which devices that would be installed on vessels interact with SAFIS, and the ability for SAFIS to present kind of the consolidated track back to the Agency partners that would have the right confidential allowance to see kind of the viewpoints across vessels.

I know that that relates to the previous workshop on wind energy, as well as lobster fishing locations and those types of activities. The VMS integration has a lot to do with the spatial work that Mike Rinaldi has been doing, and will continue to be doing, and how to summarize that. The overall funding here is a little bit above what we expect. However, it is lower than the projections earlier this year, when the thought process came through about the Year 6 extensions. With that I'm not going to focus too much more on the detail here, but the idea of a projection is our next slide.

Again, a busy slide, so we'll spend a little bit of time here. But I do want to call that Julie was able to help develop this for tracking, and I appreciate her work on this. The green bar in the middle is the average 75 percent maintenance funding level across years, after the Administrative Grant has been taken out. The maintenance projects have been trending pretty well. The differences that you really see were in 2021, so the maintenance projects had a dip there, in large part because Maine chose to wait a year to submit another proposal, and the new projects bumped up, because last year PRFC was a larger new proposal that came through.

Both of those moved to maintenance in the 2022 proposals that have been submitted. The kind of coincidence of the yellow and the blue bar bridging the green line, is simply just an awareness of where the 75/25 point is, when we include the extra year for those three projects that chose to submit.

That's a bit of how things have tracked historically for maintenance and new proposals. On the right

side of the screen, you can see there are two kind of projection bars. Those relate to kind of an Excel forecast of historical maintenance funds in the kind of greater slope reddish brown bar, and then the gray bar is the manual, where the expectations written up at the top of which particular projects are expected to end, or you need a step-down time period.

The nice news there is that the mathematical projection, as well as the manual projection are pretty darn close, in terms of what's going to happen in the future for maintenance proposals. There of course is no future projection on new proposals, as that wouldn't be very valid. We don't know those things at this time.

The next slide is for the Administrative Proposal. Just at this point I want to ask if the Council has any questions or thoughts about where the maintenance and new project proposals are, or questions at this point in the presentation, and I'm looking for hands, so far, I am not seeing any.

EXECUTIVE DIRECTOR ROBERT E. BEAL: Geoff, this is Bob Beal. I guess I'm an organizer, so I can't raise my hand.

MR. WHITE: Please go ahead.

EXECUTIVE DIRECTOR BEAL: Or I guess I should be asking John. But Geoff, on your previous slide, with all the new projects, maintenance projects and Admin Grant, just to be, I guess as simple as possible. Where normal ACCSP funding is around 3.4 million, when you add up everything that has been proposed for 2022, we're at 3.6 and change. We're \$225,000.00 or \$250,000.00 short. When we get to the October meeting, that is when we're going to need to sort out that difference between, basically what's not funded, or how do we make up that \$225,000.00 or \$250,000.00. Is that an accurate summary of where we are?

MR. WHITE: That is correct. I do see Richard Cody's hand up, and this information is really for your information. Final proposals aren't due until August 14, so there may be a few pencil sharpening activities occurring, including the Admin Grant. The other thing is, there is potential for at least one of the projects has asked for funding elsewhere.

Yes, there is a about a \$250K difference to think about, but at this point the proposals still need to be ranked in September, and brought back to the Coordinating Council for evaluation in October. There is not a need for action right now. With that, Mr. Chair, Richard Cody has his hand up, so I would call on him, if you have no objection.

CHAIR CARMICHAEL: I do not, you go ahead and call on hands, since you can see them.

MR. RICHARD CODY: Geoff, I just had one question. There were three maintenance projects that chose to exercise the extension. How many overall projects were there that didn't, or were there any? I thought there were two.

MR. WHITE: Julie, can you help me out? Yes, thank you. I thought it was three, but I was just checking. There were three other projects that chose not to submit for the extension.

MR. CODY: All right, thank you.

MR. WHITE: I am not seeing other hands, so at this point let's step forward to the Admin Proposal. Again, this is a new part of the process to include this information. While it is available through the Operations Committee, I did want to at least provide some transparency to you about what we're looking at and projecting, and that this will again come back in October.

The big point here is, instead of presenting it as we did last year, kind of an Option 1 was a staff software person, and a different option the Leadership Team has discussed and left us as presenting as one proposal. I will identify that 2021 is there as a comparison point, but it does look like

it's about a \$250,000.00 increase from what was actually funded last year.

I did want to point out that there was a lower meeting cost for the 2021, because of the pandemic. There was also a choice in trying to find some funds to delay the hiring of the Data Team Lead, and so that has been accomplished, it provided some cost savings, but the 2021 only included half of the year for that.

The other choice was in the carryover funds from previously, all of the Help Desk was chosen to move to the carryover funds. For the coming year, yes, we included the software staff member as well, and under contract in Other, we include about \$90,000.00 for application development, and about \$75,000.00 for the Help Desk support.

We recognize that we're learning still about how much the Help Desk costs on a monthly basis. At the moment last year's funding stream is working out, to cover what we think we need to by the end of February. If there is need to seek external support for the Help Desk next year, we'll continue on those efforts. But I recognize the concern of the Council and the balance between the Admin Grant and funds available for projects, and some of those, what are the ACCSP priorities and workload balances, and what is the best coastwide use of the ACCSP, you know funding and approach.

Those things are all on the table, I am working with John and the Leadership Team about some perspectives of where we're headed with those types of things. We'll have more information, we have more meetings scheduled for later in August and September, but we'll have more information at your October meeting.

Just for a little more clarity on what the Admin Proposal includes for the justification for a future software staff member. Right now, we have kind of two and a half positions in software, and we're doing great on the current

capability list, that is database storage, record processing, the online APEX just happens to be the name of what that software is, but that is an in-house Oracle tool.

The ACCSP end of the API, the application programming interface. But the way that mobile apps and other folks interact with the database, from a submit data and get your validations and things back. The growth areas in the middle are really about mobile app development, maintenance and deployment, and being able to test the mobile apps across environments and features.

That is kind of a catch all, and I don't want to get too geeky on your guys, but when you deploy an application to mobile platforms, you've got differences between the Windows, the Android, and the IOS applications, which require additional testing. Also, with eTRIPS, and movement towards one-stop reporting, and the way it's working right now.

There is a lot of great flexibility with a partner switchboard of turning questions or options or things on and off. The difficulty with that is, it depends on your log-in, and if a person logs in that has one permit it's really straightforward to test. If they log in with two, three, or more permits associated with their account, it just becomes a little bit more difficult to test.

That is why there is a need to kind of test those things, and that is really a tradeoff point with your Agency staff, in how much ACCSP can test, and how much we rely on you as partner staff to test. That is an important point that has to do with your staff workload balancing. These growth areas in the software team member would decrease in the long term, but not eliminate the need for contract support.

Right now, when there is a bump in work activity that is short term, and we have reliance on their knowledge and development expertise. I think contract support will still be necessary. However, making smaller changes or having the capability to

not be one deep, and having some staff resources there to onboard that part is an important long-term vision.

That is a bit of what we're looking at on the staff justification points. Again, I think this is a good point to pause and ask for questions. The next agenda item Julie is going to cover the accountability subgroup update, but while we're here, I think this is a good point to see if anyone has a desire to raise any questions. At the moment I'm not seeing any hands up.

CHAIR CARMICHAEL: All right, yes thanks, Geoff. I think it is good to pause here, and then you know as Bob mentioned, looking down the road there is a potential funding squeeze we might have to deal with, depending on how projects play out in October. We wanted to highlight the Admin Grant and a few of the points Geoff raised, about 2021 versus 2022 are pretty relevant.

You know 2021 was a special year, and there were a number of adjustments made within the initial Admin Grant, to support as many projects as possible. One of those was including pushing off the software staff. One of the highlights to various things that have changed within that, you know recognizing the difference in the bottom line could cause some attention.

MR. GEOFF: Thank you, John, we have a hand up from John Clark, so Mr. Clark.

MR. JOHN CLARK: Yes, thank you, Geoff. Good explanation of the need to increase the administrative budget. Just curious, it's about what about an 11 percent increase in the administrative budget. Do you know what the, Bob, I know we were over this with NOAA on Monday, but how much is the Federal line increasing for ACCSP?

EXECUTIVE DIRECTOR BEAL: I don't recall, John, let me go back and look. But I think it's staying relatively stable. It's complicated, which is not

a great answer, but part of ACCSPs funding is a set amount of the Atlantic Coastal Act, and the other part is the FIN line. The FIN line, I think is increasing a little bit.

But I don't know how much of that line, the FIN budget increase will directly translate to money that goes to the individual programs at the three interstate commission. It's kind of a complicated answer. The line seems to be going up, but I don't know how much that will translate into ACCSP budget increasing. Hopefully some.

MR. CLARK: This is sort of the term, what was the one that Paul Doremus used, funding erosion, where you are level funded, but because of inflation the funding is actually decreasing.

EXECUTIVE DIRECTOR BEAL: Yes, the value of every dollar keeps going down, unfortunately.

MR. WHITE: This is Geoff. I absolutely appreciate those points. The Leadership Team, kind of a new name for the ACCSP Executive Committee, has asked for some of those tradeoff questions, about what does core ACCSP staff bring to the entire coastwide benefit and workload for partner staff, as well as the ability for project funding to go out. You know those are the discussions that are going on with the Leadership Team, and providing some really healthy feedback between them and myself, about what are the priorities moving forward. I'm not seeing other hands.

CHAIR CARMICHAEL: Okay, if no other hands yes, I think we can move on.

ACCOUNTABILITY SUBGROUP REPORT

MR. WHITE: Mr. Chair, if you wanted to hand it over to Julie, we can go to the next slide and get the update on the Accountability Subgroup.

CHAIR CARMICHAEL: All right, take it away, Julie.

MS. JULIE DEFILIPPI SIMPSON: All right, thank you, Mr. Chair. Okay, so the Accountability Subgroup was reported to you before, and last time we

reported we had defined accountability, and we had gotten through inventorying the current practices and procedures that were happening.

What we've been able to work on in the last year is to review that original survey that we did, and figure out what we needed to do to address Items 3 and 4, which is defining the gaps between what is being provided and what is needed for science and management, and then also evaluate all those current practices and procedures, and what works and what works for someone that someone else may not be aware of.

We've actually been able to complete 3 and 4, and we are currently in the process of working on the documentation, and developing best practices and standards. Our hope is to have at least a preliminary draft report ready for this group by their October meeting. Just to give you an idea of what we've been working on in the last year.

The original survey that we did, had 19 respondents. It went to all of the agencies that are partners of ACCSP, and we asked fairly broad questions about what practices were used at the Agency, such as onboard observers, dockside monitors and samplers, do not fish reports, inner-agency report comparisons. Things like, does your agency conduct audits.

This kind of gave us an idea of what tools and processes that were being used by everyone. But we realize that we needed to get down into a deeper level, to really address Items 3 and 4 in our objectives. Our second survey, in this one we followed up with our data managers. We essentially went back out to the ACCSP partners, and we expanded the number of people that we sent this forward to.

We got 34 respondents. As you can see from the rainbow pie chart, there is really great representation, both at the state and federal level in the Commission and the Fish and

Wildlife. You know there is really a lot of representation in the respondents. We were very pleased with the broad breadth of response, and thankful to everyone who took the time to answer these questions.

The questions in this survey were really for the data managers asking them when you're reconciling the data, what do you see? We looked at things like lack of metadata and caveats. We also asked questions that were geared toward, do you have to do things manually? Why do you have to do them manually?

What causes delays? Where do you feel like you have the resources to do the things that you want to do, and where do you feel like things may or may not get done because of a lack of resources? Then finally, in the last slide, we reached out to our data consumers, and again we broadened the user group here, because it includes a lot of the agencies that we talked to, but it also included other people in those agencies. We also broadened our group to include academic institutions. We also included the regional councils in this as well. You can see, again we have great representation, and we greatly appreciate everyone that responded. We got 47 responses to this one.

Very similar to what we did with the Data Managers. We asked our Data Consumers about their experiences when they are working with the data. This was, do you feel that the fields are clearly defined? How accessible is the data for you? Is the availability of data happening in a time that works for you? Do you see inconsistencies between data sources?

These were the kinds of things that we've asked people, and now we're basically going through all of this information, and attempting to put it together into a report, and figure out what everyone's experiencing, and where is the Delta between what we want to do as managers, what the Data Consumers need, and what is currently being produced, and how we can potentially address

those gaps. That's my last slide, and so Mr. Chair, Richard Cody has his hand up.

CHAIR CARMICHAEL: Okay, sure. I really appreciate the work of this group, and what you've done working with them as well. Thanks to those who took the time to respond to the survey. This type of two-way feedback seems like it's going to be really helpful, and help us keep the program moving forward. It's great to see that broad participation, as you mentioned. With that, I'll go over to Richard for a question.

MR. CODY: Yes, Julie, can you explain who would be included in Other on the pie chart?

MS. SIMPSON: I would actually have to check on the Other, and I can get back to you on that one. But I believe that that might have been, we did try to reach out to some of the folks that are in, we put this out there to a really broad group, I think there was a couple hundred people that we actually asked.

I believe that we got, off the top of my head that group includes, there was a journalist that responded to this. There was someone who is in charge of their fishing cooperative that responded to this. Essentially, anyone who wasn't part of an agency. There were a couple of folks that were retired, that still in some way participate in Council activities, and still use the data. Those are the folks that I can think of off the top of my head.

MR. CODY: Okay, thank you.

MR. WHITE: I also see Lynn Fegley's hand up.

MS. LYNN FEGLEY: Hi, good afternoon, everybody. Question. Julie, you probably said this and I probably just blinked and missed it. Is the list of items, like lack of clearly defined fields, timing of availability? Those are the responses that you got from people, or those are particular things you are looking for in the survey?

MS. SIMPSON: Those were particular things that we asked in the survey. We did allow for sort of free-form additional comments at the end of the survey. But we tried to create it in such a way, where there were categories that we created, and we asked people to rank them on one of those sliders. That way we would have quantifiable data for the majority of everything, and then other comments that we could dig through, to hopefully provide extra clarification.

MS. FEGLEY: Okay, and so my question is about inconsistencies between sources. I'm just wondering, were you thinking about inconsistencies between NOAA, you know like GARFO and ACCSP numbers, and was there any question? What I'm trying to get at is this issue of confidentiality, and I think that confidentiality is handled differently by different folks. I guess I'm just wondering what that inconsistency between sources was trying to get to.

MS. SIMPSON: Yes, there are a couple of components with that. One is the idea of different folks showing data publicly, especially, differently. Some of that at the federal level has been resolved, because ACCSP did work with the federal folks to have our databases align, which was a huge improvement for, I think everyone.

But we were also looking at it from the perspective of, at the confidential level if someone goes in and gets data, maybe from ACCSP, and then up at GARFO gets data from the AA tables, where those have had value added, which means there has been some manipulation between, you might see an inconsistency.

The other thing was merely the idea that you know if you ask one person and then you ask another person, if you're not clear about exactly what you want, your data could get queried differently, just the code that is written is different. That kind of thing can also create inconsistencies that are inadvertent, because you've asked two people the same question, without being uber specific.

MS. FEGLEY: Thanks, if I could just follow up quickly, to say that I really appreciate the work that you guys are doing here, like the Chairman said. This is, I think going to be in the long run, extremely helpful for the rigor of our data and these programs, so thanks!

MS. SIMPSON: Mr. Chair, I don't see any more hands.

CHAIR CARMICHAEL: Okay, thank you. If no others, we can move on.

DISCUSS ATLANTIC RECREATIONAL IMPLEMENTATION PLAN PRIORITIES

CHAIR CARMICHAEL: What was next, so it will be Geoff on the Atlantic Recreational Implementation Plan and Priorities.

MR. WHITE: You as a group discussed this during your last meeting, and this is kind of our quick update standpoint and opportunity to add suggestions down there at the bottom. But about every five years, MRIP asks the Regional Implementation Teams, ACCSP being one of them, to update the priorities, and fill out that document.

As we do that, historical priorities are left on there, is what we're expecting. The ideas of improving precision and comprehensive for-hire data collection and monitoring, are where we've focused our efforts, and I say "our" in the collective, because MRIP has made significant progress in both the data standards, as well as the funding for APAIS, to address PSE, and ACCSP has been working on kind of the for-hire data collection and monitoring piece pretty aggressively. But as the Rec Tech Committee and staff will flesh out this document a bit more, it includes both the sections on background, intended direction, potential costs, et cetera. These Implementation Plan priorities are used by MRIP to set their longer-term funding and responsiveness to coastwide needs.

The request is for all ACCSP partners, agencies, including councils to really weigh in, so that items that are important and coming up are included in the document to the best extent possible. During the May meeting and when Operations Committee discussed about it, adding in Citizen Science, adding in the in-season monitoring, the National Academy of Science Report was released, just maybe two weeks ago.

I want to say the week of the 19th, July, and MRIP has a plan to respond to that externally. Of course, we heard some of Janet Coit's comments at the beginning of this week about that being a priority for them as well. I've heard Dee Lupton happened to speak up during the May meeting as having that in-season recreational monitoring as an important item to address as well.

Then of course the last one is kind of regional coordination for consistent use of MRIP data. This came up from the Rec Tech Committee, it was very briefly discussed at meetings since then. If these are items that the Council would like us to fill in on the next iteration of the Implementation Plan.

I think we're all set to flesh that out and bring it back to the Council when the document has been drafted, because you will have approval of that before it is finalized. But again, an opportunity to have a little discussion. We do have another 15 minutes here, or provide the bullet of an important item that you would like us to add to the list and look into. I see a hand up from Kathy Knowlton, so Kathy, please go ahead.

MS. KATHY KNOWLTON: Good morning. I am super excited with these additional suggestions, both from the point of view of such progress that has already been made since the 2017 list was originally put together, and has been continually chipped away at. Particularly I agree with you with the increase in sample size that came through, through MRIP.

For these additional suggestions, I think I heard you say that the meeting was just in like the spring,

early summer. When you got on that bullet point that the additional suggestions were for the years '22 through '26, it's going to sound like I'm asking a really weird, specific question. When it says 2022, does that mean for inclusion as priorities in FY-22 proposals?

To make that a little bit more specific, so in the funding proposal process, in addition to the two matrices, the July, 2017 funding prioritization for the Rec Tech Committee is a part of the ranking process, and obviously those bullet points 1 through 6, since that was posted July, didn't have the benefit of these additional suggestions. Do these additional suggestions have a part in the ranking process for FY-22 proposals?

MR. WHITE: Kathy, thanks for the question. Right now, they do not, and so the funding decision document and the RFP that went out in June, when it comes to ranking of criteria and proposals that have already been submitted. They are certainly good projects, but I don't believe they are part of the documented ranking that will occur by Ops and Advisors this September.

MS. KNOWLTON: Those are fine, that are listed in that slide.

MR. WHITE: Yes, the 2022 to '26 is the timeline of the Atlantic Recreational Implementation Plan, so about every five years in a maximum, or if there has been a major shift in priorities, the regional plans should be updated. MRIP has provided guidance nationally on that, and we're kind of due, and the Gulf Commission is also in the process of updating theirs this year. That document, I would expect to be referenced in ACCSP RFP next May, you know going forward, the proposals already submitted. No, these things are not part of the process.

MS. KNOWLTON: Okay, thank you very much for that clarification.

MR. WHITE: I do not see other hands. Oops, Richard Cody has his hand up, please go ahead.

MR. CODY: Yes, I just wanted to add to the timeline there the fact that MRIP develops a five-year or so strategic plan. The next one is coming up for development right now. We expect to implement it sometime in 2023. Having the different regional implementation plan priorities identified, will help us too, in terms of planning strategically for over the next few years. I don't know if that helps, Kathy, lend some context to the dates that are provided there.

MS. KNOWLTON: Yes, it does, thank you.

MR. WHITE: For the Council, the MRIP Executive Steering Committee, which Bob is on, has asked me to participate in their strategic planning process in that group, so that will be one thing that I am participating in over the next six months or so. Not seeing any more hands at the moment, I did want to touch on one more slide.

The MRIP Survey/Data Standards, this slide was presented to you back in May, and I simply wanted to call out during the Coordinating Council meeting that Richard will be presenting it during the Policy Board at the next meeting, I believe starting at 12:15. Both the 2020 estimate development, as well as the MRIP Survey and Data Standards presentation.

I invite all of the Coordinating Council members to stick around for that presentation coming up. As I said, there will be opportunities for, not just a presentation, but discussion of that at the Policy Board meeting, in the wider audience. Maya, you can move one slide forward, and I will turn it back to our Chair. We have finished the presentation for today.

CHAIR CARMICHAEL: All right, thank you, Geoff. You know I appreciate the ongoing updates of MRIP, always an important topic in recreational fisheries grow more and more important every day to deal with them and get good data, and you guys

are doing a good job there, and I would like to see continued evolution of the priorities, and what we recognize as being important. I appreciate the effort there, and I'll see, are there any other questions for any other topics here, or other business to bring up before we adjourn? Geoff, no hands?

MR. WHITE: We had no hands, but Kathy got hers up in time, so Kathy.

MS. KNOWLTON: Sorry, I thought that was a legacy hand, sorry to let you down.

MR. WHITE: Not letting us down. Thank you all for your attention and participation today, John, back to you.

ADJOURNMENT

CHAIR CARMICHAEL: All right, yes thank you, the legacy hand, indeed. All right, so I think we stand adjourned, and yield back eight minutes to the Commission. Well done everybody, thank you.

(Whereupon the meeting convened at
11:37 a.m. on Thursday August 5, 2021.)



Atlantic Coastal Cooperative Statistics Program

1050 N. Highland Street, Suite 200A-N | Arlington, VA 22201

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FY22 Proposal Recommendations to Coordinating Council

From the Operations and Advisory Committees

- Maintenance Proposals
 - Recommend that the states involved in the *Portside Commercial Catch Sampling and Comparative Bycatch Sampling for Atlantic Herring, Atlantic Mackerel and Atlantic Menhaden fisheries* project participate in a conference call to discuss or brainstorm future sampling to avoid data gaps and the resultant addition of these species to the Biological Matrix.
- New proposals
 - If the *Implementation of Electronic Quota Monitoring Reporting in North Carolina* proposal is funded through the Fisheries Information System (FIS) RFP, then the remaining funds should be distributed to new proposals first and then moved to maintenance.

** all above are consensus decisions*

Our vision is to be the principal source of fisheries-dependent information on the Atlantic coast through the cooperation of all program partners.



FY2022 Proposal Rankings (Average)

	Admin Grant	2,294,358	\$44,423	2,338,781
3.35M	Maint @ 75%	758,414	New @ 25%	252,805
3.50M	Maint @ 75%	870,914	New @ 25%	290,305

Project Name	Partner	Score	Cost	Cumulative Cost	3.5M Amt Remaining	3.35M Amt Remaining
FY22: Maintenance and Coordination of Fisheries Dependent Data Feeds to ACCSP from the State of Rhode Island	RI DEM	52.9782609	\$ 27,521	\$ 27,521	\$ 843,393	\$ 730,893
FY22: SAFIS Expansion of Customizable Fisheries Citizen Science Data Collection Application	SAFMC/NC DMF	51.2045455	\$ 116,182	\$ 143,703	\$ 727,211	\$ 614,711
FY22: Managing Mandatory Dealer Reporting in Maine	ME DMR	51.1521739	\$ 61,304	\$ 205,007	\$ 665,907	\$ 553,407
Advancing Fishery Dependent Data Collection for Black Sea Bass (Cetropistis striata) in the Southern New England and Mid-Atlantic Region Utilizing Modern Technology and a Vessel Research Fleet Approach	RI DEM	50.0217391	\$ 132,005	\$ 337,012	\$ 533,902	\$ 421,402
FY22: Managing 100% Lobster Harvester Reporting in Maine	ME DMR	50	\$ 335,662	\$ 672,674	\$ 198,240	\$ 85,740
Portside Commercial Catch Sampling and Comparative Bycatch Sampling for Atlantic Herring, Atlantic Mackerel and Atlantic Menhaden fisheries	ME DMR	47.2608696	\$ 26,254	\$ 698,928	\$ 171,986	\$ 59,486
Electronic Trip-Level Reporting for the Potomac River Fisheries Commission Commercial Fisheries Sector	PRFC	39.8695652	\$ 215,612	\$ 914,540	\$ (43,626)	\$ (156,126)
Continued development of a mobile application to assist Maritime Law Enforcement Personnel with fisheries enforcement tasks	RIDEM/GAD NR USCG	33.7954545	\$ 50,000	\$ 964,540	\$ (93,626)	\$ (206,126)

includes carryover from maintenance projects

North Carolina fishery-dependent biological data transmissions to the Atlantic Coastal Cooperative Statistics Program Data Warehouse	NCDMF	55.6956522	\$ 79,887	\$ 79,887	\$ 210,418	\$ 172,918
Implementation of Electronic Quota Monitoring Reporting in North Carolina	NCDMF	51.8043478	\$ 63,854	\$ 143,741	\$ 146,564	\$ 109,064
Integration of vessel monitoring systems and electronic reporting in SAFIS and SAFIS applications through API development and field testing of multiple hardware options: Phase 2	MADMF/RI DMF	48.3863636	\$ 86,244	\$ 229,985	\$ 60,320	\$ 22,820
FY22: DNA and Bycatch Characterization of New Jersey's American Shad Fishery in Delaware Bay	NJDFW	44.0869565	\$ 88,886	\$ 318,871	\$ (28,566)	\$ (66,066)

	Partner	Title	Primary Module	Others	Cost	Maximum Funding Year 6	Extension	
MAINTENANCE	1	ME DMR	FY22: Managing 100% Lobster Harvester Reporting in Maine	Catch/Effort (100%)	\$ 335,662			
	2	ME DMR	FY22: Managing Mandatory Dealer Reporting in Maine	Catch/Effort (100%)	\$ 61,304	\$ 61,312	X	
	3	ME DMR	Portside Commercial Catch Sampling and Comparative Bycatch Sampling for Atlantic Herring, Atlantic Mackerel and Atlantic Menhaden fisheries	Biological (70%)	Bycatch (30%)	\$ 26,254	\$ 44,484	X
	4	RI DEM	Advancing Fishery Dependent Data Collection for Black Sea Bass (Cetropistis striata) in the Southern New England and Mid-Atlantic Region Utilizing Modern Technology and a Vessel Research Fleet Approach	Biological (50%)	Catch/Effort (25%), Bycatch (25%)	\$ 132,005		
	5	SAFMC/NCDMF	FY22: SAFIS Expansion of Customizable Fisheries Citizen Science Data Collection Application	Biological (90%)	Catch/Effort (10%)	\$ 116,182		
	6	RIDEM/GADNR USCG	Continued development of a mobile application to assist Maritime Law Enforcement Personnel with fisheries enforcement tasks	Catch/Effort (100%)		\$ 50,000		
	7	PRFC	Electronic Trip-Level Reporting for the Potomac River Fisheries Commission Commercial Fisheries Sector	Catch/Effort (100%)		\$ 215,612		
	8	RI DEM	FY22: Maintenance and Coordination of Fisheries Dependent Data Feeds to ACCSP from the State of Rhode Island	Catch/Effort (100%)		\$ 27,521	\$ 27,521	X
			Total Maintenance		\$ 964,540			
New	1	MADMF/RIDMF	Integration of vessel monitoring systems and electronic reporting in SAFIS and SAFIS applications through API development and field testing of multiple hardware options: Phase 2	Catch/Effort (100%)	\$ 86,244			
	2	NCDMF	Implementation of Electronic Quota Monitoring Reporting in North Carolina	Catch/Effort (100%)	\$ 63,854			
	3	NCDMF	North Carolina fishery-dependent biological data transmissions to the Atlantic Coastal Cooperative Statistics Program Data Warehouse	Biological	Bycatch	\$ 79,887		
	4	NJDFW	FY22: DNA and Bycatch Characterization of New Jersey's American Shad Fishery in Delaware Bay	Biological (80%)	Bycatch (20%)	\$ 88,886		
			Total New		\$ 318,871			
Admin	ACCSP	ACCSP Administrative Budget	Admin		\$ 2,294,358			
			Grand Total Proposed		\$ 3,577,769			



STATE OF MAINE
DEPARTMENT OF
MARINE RESOURCES
MARINE RESOURCES LABORATORY
P.O. BOX 8, 194 MCKOWN POINT RD
W. BOOTHBAY HARBOR, MAINE 04575-0008

PATRICK C. KELIHER
COMMISSIONER

August 5, 2021

Atlantic Coastal Cooperative Statistics Program
1050 N. Highland St. Ste. 200 A-N
Arlington, VA 22201

Dear ACCSP:

We are pleased to submit the proposal titled “FY22: Managing 100% Lobster Harvester Reporting in Maine” for your consideration. This is a maintenance proposal which has not changed in the scope of work. The continuation of this project will allow the Maine Department of Marine Resources (MEDMR) come into compliance with ASMFC’s Addendum 26 requirement that the MEDMR move from 10% lobster reporting (in 2019 the MEDMR moved to an ASMFC required “optimized draw” selection method to choose the lobster harvesters required to report for the following year. The “optimized draw” selects different percentages of license types and active/non-active harvesters based on the makeup of the overall fishery based on a mix of dealer data and harvester reported data) to 100% electronic lobster reporting. The deadline for this Addendum to be fully implemented is currently January 1, 2024; however, new regulations to reduce the risk of entanglement to right whales through the Atlantic Large Whale Take Reduction Plan continue to accelerate the timeline for documenting effort and vertical line use in the lobster fishery. To comply with and track the pending vertical line reductions resulting from these initiatives, MEDMR is aiming for implementation of the 100% reporting requirement as early as 2023. The MEDMR’s initial goal was to implement 100% reporting in 2021; however, funding shortfalls prevented this from occurring. Continued funding of this proposal would allow MEDMR to start this implementation.

The MEDMR does not currently have the funds or staff needed to support the program at the 100% reporting level. Overall, MEDMR are proposing to create nine new positions that have been identified as necessary to successfully roll out 100% electronic lobster harvester reporting. Not all these positions are included in our funding request as other one-time funding sources have been identified. Please view all graphs in color. This proposal addresses the following 2022 ranking criteria: catch and effort, data delivery plan, regional impact, funding transition plan, in kind contribution, improvement in data quality and timeliness, impact on stock assessment and properly prepared.

During the initial pre-proposal review process, we were asked four questions. We will address them here and within the proposal where appropriate.

1. Budgeting for 500 logbooks seems low. We just send watermen reporting on paper 1 page and instruct them to make their own copies. RI charges watermen for logbook costs.
 - a. *Addendum XXVI requires 100% electronic harvester reporting. While this is probably not possible for any partner, the MEDMR would like to only allow those individuals who are able to demonstrate that electronic reporting is not possible. We currently*

have two fisheries (menhaden and herring) that require 100% electronic harvester reporting and out of the 600 plus harvesters licensed in these fisheries, less than 5 have been offered other means of reporting that are not electronic. Our forms are currently only supplied for other fisheries if a harvester requests them. We have discussed charging for paper logbooks in the past, but currently are not looking at that as an option at this time.

2. In kind contribution is 38% not 62%

a. We calculate our in-kind by dividing the total MEDMR contribution (\$208,508) by the total requested amount (\$335,662.37) to determine our in-kind contribution of 62%. All the positions listed as partner contributions are fully funded by the State of Maine and should be included as in-kind and not a match.

3. Budgeted for in-person training. We use videos and remote outreach.

a. We will also utilize videos and remote outreach; however, there are times when it is most productive to hold a few large in-person meetings to assist those that are not as tech savvy as others and are more comfortable having an in-person meeting. Having to on-board almost 6000 new harvesters will require every tool we have in our toolbox. There are also areas in Maine where internet speeds and or connectivity are lacking so remote meetings are difficult (this is why we developed a reporting application that will work "offline"). We intend to rely heavily on remote meetings and creating video and reporting how-to's (many are already created) to assist those individuals that are comfortable with that format.

4. Confirm if other partners using VESL will also be able to take advantage of the GARFO compliance.

a. The MEDMR has a contract with Bluefin Data LLC that will allow any harvester with a MEDMR license or permit to use the VESL application free of charge. Once approved by GARFO, if those harvesters with a MEDMR license or permit also have reporting obligations to GARFO, they will be able to use VESL to fulfill their GARFO reporting requirements regardless of where they are landing.

For a summary of the proposal for ranking purposes, please see page 28. Please contact Robert Watts at the MEDMR with any questions. Thank you for your consideration of this proposal.

Sincerely,

Robert B. Watts II
Marine Resources Scientist III
rob.watts@maine.gov
(207) 633-9412

Atlantic Coastal Cooperative Statistics Program
1050 N. Highland Street. Suite. 200A-N
Arlington, VA 22201

FY22: Managing 100% Lobster Harvester Reporting in Maine

Total Cost: \$335,662.37

Submitted by:

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Erin L. Summers
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Applicant Name: Maine Department of Marine Resources (MEDMR)

Principal Investigator: Robert Watts, Marine Resource Scientist

Project Title: FY22: Managing 100% Lobster Harvester Reporting in Maine

Project Type: Maintenance Project

Requested Award Amount (without the NOAA administration fee): \$335,662.37

Requested Award Period: One year after receipt of funds

Objectives:

The objective of this proposal is to comply with Addendum XXVI (http://www.asmfc.org/uploads/file/5a9438ccAmLobsterAddXXVI_JonahCrabAddIII_Feb2018.pdf) of ASMFC's (Atlantic States Marine Fisheries Commission) American lobster Fisheries Management Plan (FMP) which requires MEDMR increase the percentage of trip level landings information MEDMR collects from commercial lobster harvesters from the current "optimized draw method" (approximately 380 harvesters) to 100% (approximately 6,000 harvesters). Starting in 2019, ASMFC Addendum XXVI required MEDMR move to an "optimized draw" selection method to choose the lobster harvesters required to report for the following year. The "optimized draw" selects different percentages of license types and active/non-active harvesters based a statistical analysis of the variability of each license class using a combination of dealer data and harvester reported data. In the past MEDMR would select approximately 700 to 800 harvesters per year, now around 350 to 400 harvesters are selected with the idea that the selected harvesters would provide the same number of trip records (See Figure 3). Addendum XXVI requires 100% reporting (electronic reporting is recommended but not mandatory) by January 2024 in addition to other new required fields that became mandatory in January 2021. MEDMR started collecting total endlines and 10 min square data at the trip level in 2020 even though ASMFC moved these requirements back to 2021. Requiring the MEDMR to implement 100% reporting will cause MEDMR to increase landings and licensing staff by a total of 9 currently non-existent positions to effectively manage, monitor and audit what will be a 500% increase in the number of trip level reports the MEDMR receives on an annual basis.

National Marine Fisheries Service (NMFS) is in the process of finalizing new rules to protect North Atlantic right whales as part of the Atlantic Large Whale Take Reduction Plan (ALWTRP) for the Northeast lobster fishery. The Department of Marine Resources submitted a proposal to NMFS in December 2019. The proposal laid out a plan for regulations to reduce the risk of entanglement to right whales due to the Maine portion of the lobster fishery. Portions of that plan were incorporated into the Draft ALWTRP Rules published in 2020. Additionally, the DMR proposal included a commitment to move lobster harvesters to 100% reporting, the timing of which depends on securing adequate funding. ASMFC is requiring 100% reporting in the lobster fishery by 2024. The AWTRT has recommended on more than one occasion that fisheries move to 100% reporting as soon as possible. MEDMR strongly agrees with this recommendation because our ability to achieve and monitor the consensus goals of the AWTRT is tied to the availability of these data in the short term. MEDMR believes that the January 2023 date is necessary to meet the data guidelines outlined in Addendum 26, the needs of the AWTRT, and work out any data collection and data management issues well before the 2024 deadline. Additionally, MEDMR is interested in moving the timeframe for 100% electronic lobster harvester reporting up to as early as 2023 to track effort and vertical line use in support of pending new regulations. The FY20 proposal intended MEDMR to require 100% reporting starting in January 2021; however, lack of funding has required this timeframe be pushed back to 2023. Similarly, in the 2023 timeframe the MEDMR does not

have the funding to continuously fund all the positions necessary to effectively administer, collect, audit and distribute the data required in Addendum XXVI. If the MEDMR is not able to secure adequate funding, the January 2023 start date might need to be pushed back to January 2024. **The MEDMR has self-funded the creation of a new offline mobile application for both iOS® and Android® platforms through dedicated technology funds. This program is being built to accept reports from all fisheries and meet NMFS electronic reporting requirements. This new program has dynamic entry pages and be completely table driven allowing the entry pages to display more concise field descriptions based on species and gears fished. There will be built in data validations, favorites and basic end user analytics.** The MEDMR anticipates putting this new offline reporting application out a group of test harvesters around the time this proposal is submitted and be in full production by the end of the fall. **The primary tasks will be electronic reporting software training, regulation compliance, data audits, data entry and general outreach. Staff will also focus on harvester outreach to help industry understand the importance of the accurate and timely reporting. Electronic reporting will be required for commercial lobster harvesters and heavily pushed for those that still report other fisheries on paper. The focus on expansion of electronic reporting will require the MEDMR to spend a significant amount of time on outreach, explaining the reporting system to harvesters and troubleshooting any issues that might arise.** Currently, MEDMR only required electronic reporting in our Atlantic herring and Atlantic menhaden fisheries. There are currently no plans to mandate electronic reporting for other fisheries, as this is not an ACCSP requirement.

Need:

Maine currently requires harvesters from 12 fisheries to report trip level landings on a monthly basis. Two other quota monitored fisheries (Atlantic herring and Atlantic menhaden) have daily reporting requirements during their “open quota monitored seasons (i.e. directed and episodic fishing season for menhaden). The 2020 seasons are the first year the MEDMR has required electronic reporting for these two fisheries. **When the MEDMR implements 100% lobster reporting, the number of new harvesters (see Table 1) will require significant resources tracking compliance, entering and auditing a ~500% increase in the number of reports received from approximately 60K to ~300K. In 2020, approximately 5,750 lobster harvesters were licensed to fish in Maine. Of those 5,750 harvesters, MEDMR dealer reports indicate 4,052 harvesters sold at least once to a licensed dealer. All 5,750 license holders regardless of activity will be required to report for each month they hold a current license. During the 2019 season the MEDMR move to an “optimized draw” selection method to choose the lobster harvesters required to report for the following year. The “optimized draw” selects different percentages of license types and active/non-active harvesters based a statistical analysis of the variability of each license class using a of combination of dealer data and harvester reported data. In the past MEDMR would select approximately 700 to 800 harvesters per year, now around 350 to 400 (280 active in 2020) are selected with the idea that the selected harvesters would provide the same number of trip records (See Figure 3). Overall in 2020, MEDMR required 382 lobster harvesters to report trip level information. The number of individual lobster harvesters required to report will increase to just under 5,800 when 100% lobster harvester reporting becomes mandatory.**

Of those 5,750 licensed harvesters, ~1,300 (23%) of them will eventually be required to report to National Marine Fisheries Service (NMFS) since they possess a federal lobster permit. **Regardless of their federal permit status, MEDMR will work with all harvesters to ensure all landings are reported either to MEDMR or NMFS since the collected data will benefit all partners. MEDMR staff will also audit all records with a state landed of Maine but defer any federal data changes to NMFS.**

Table 1: Increase in Individual Harvester Reporting Expected in Maine

Moving from 10% to 100% Lobster Reporting							
Year	Total Trips Entered	Lobster Only Entered	10% Active Lobster Harvesters	100% Active Lobster Harvesters	100% Lobster Harvesters	Lobster Trips From Dealer Reports	Lobster Harvester Reports Expected if 100% Required
2015	54,368	29,551	532	4,406	5,898	270,324	295,510
2016	57,864	30,927	566	4,504	6,012	293,919	309,270
2017	58,702	29,877	535	4,485	6,021	276,754	298,770
2018	58,974	26,870	541	4,389	5,950	264,046	268,700
2019	45,672	17,400	275	4,330	5,850	256,338	232,319
2020*	41,704	17,176	280	4,052	5,766	218,962	232,241

*2020 data are preliminary and subject to change without notice.

100% active license based on dealer reported data from 2015 - 2020

Harvester counts are individual harvesters. Many harvesters have multiple licenses that are tracked separately.

Expected reports are calculated from reports received by harvesters and extrapolated based on reports received by dealers.

*Increase in the number of harvesters and reports expected when MEDMR implements 100% lobster harvester reporting.

In 2016 MEDMR converted to a new online licensing and landings system, called Maine LEEDS (Licensing Enforcement and Environmental Data System). Using this system, harvesters and dealers are able to:

- Renew a license you previously held
- Apply for a new license you’ve never held before
- Order tags (for certain licenses)
- Reprint your license
- Upgrade a license (if applicable)
- Pay administrative fees
- Report landings
- Check reporting compliance status
- Upload documents to the department
- Change your password to the system

This web application has been an extremely useful tool that will allow for more “self-service” for harvesters and dealers, will improve customer satisfaction and increase MEDMR staff efficiency. **In late spring 2018, MEDMR started allowing harvesters to enter their data through the LEEDS system. Since the first record entered directly by a harvester occurred on 5/28/2018, 308 harvesters have entered 15,946 (9.8%) records that in the past MEDMR data entry staff would have had to enter. The breakdown by year is 1,004 (from 83 harvesters) in 2018, 2,782 records (from 232 harvesters) in 2019, 10,798 records (from 569 harvesters) in 2020 and to date have 1,311 records from 146 harvesters in 2021.** Having industry enter their own information also saves staff time because paper reports do not need to be opened or processed through the mail, scanned into our LEEDS system or entered by hand. Staff have spent significant time training and creating outreach material (videos, electronic user guides, etc.) and communicating directly with industry.

MEDMR intends on requiring (with some potential exemptions based on to be determined criteria) 100% electronic harvester reporting for lobster, herring and menhaden. Reliable high-speed internet access is not available in certain parts of the state which prohibits full 100% electronic reporting. The goal is to get as close to that as possible. The addendum allows until January 1, 2024. Many other states are also not yet 100% electronic in the lobster fishery at this point. **Halibut, herring and menhaden are quota monitored species that MEDMR has identified as benefiting from requiring state only harvesters to report electronically. Starting in 2020 all herring and menhaden harvesters were required to report electronically through either Maine LEEDS or some federally accepted reporting application during the active harvest season. This**

new requirement replaced the email system MEDMR relied upon the past few seasons to monitor quota. Requiring daily electronic reporting will save the harvesters from emailing and then filling out complete harvester reports at the end of the week/month. The offline mobile application MEDMR is building through its own funds will allow harvesters with multiple reporting fisheries the ability to use one program to fulfill all their requirements whether they are state only or federal. **Of the 1.13 million trips entered for 2020 in the data warehouse, 31% of them were landed in Maine which exceeds any other state (Figure 1 – view in color).** This figure includes both dealer and harvester records. **If MEDMR had required 100% harvester reporting in 2020, the number of warehouse records for 2020 would have been 1.35 million (when extrapolating current lobster reporting levels to 100% lobster) and MEDMR would have accounted for 42% of all records (dealer and harvester) landed in ACCSP’s Warehouse.** These records were submitted by both “state-only” harvesters (those that only report to MEDMR) as well as federal harvesters (those that report to fulfill both NMFS and MEDMR reporting requirements). **Because all state licensed harvesters are required to report to the MEDMR regardless if they have federal reporting requirements or not, MEDMR works with NMFS to collect data from federally permitted harvesters so they do not need to double report. MEDMR staff devotes time and resources to help all harvesters that submit data to NMFS and MEDMR.**

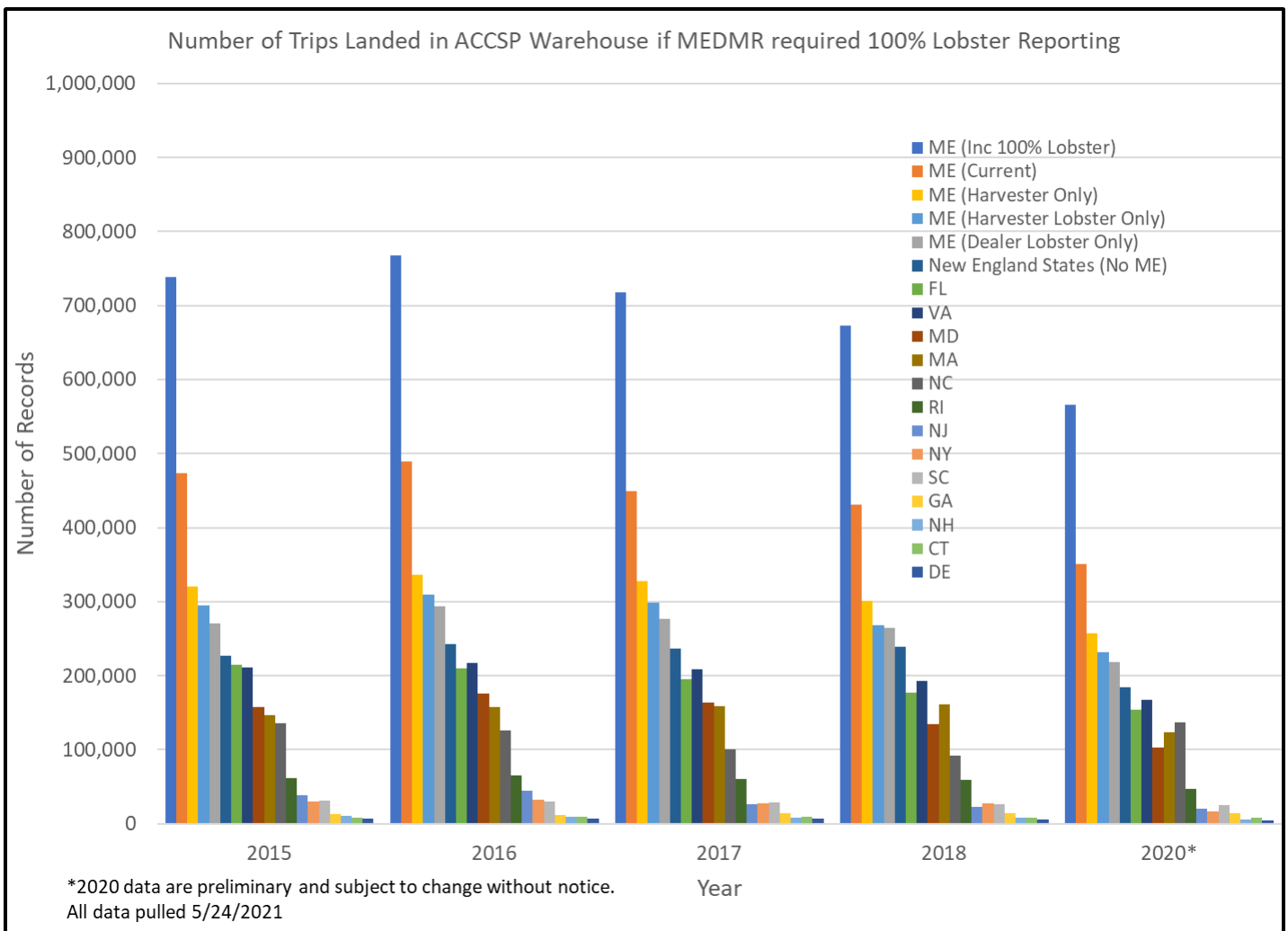


Figure 1: Number of Reported Trip Records by State Landed in ACCSP Data Warehouse

Once MEDMR requires 100% lobster harvester reporting the volume of phone calls and data requests will increase. Throughout the year, approximately 40% to 60% of all harvesters are out of compliance for at least one

month of reporting. In 2020 there were 3,570 harvesters with 5,199 individual licenses from all 12 fisheries that required harvester reporting and MEDMR sent out approximately 2,800 compliance letters (and emails) and fielded thousands of calls a month relating to reporting questions and compliance/license renewal status. Doubling the total number of harvesters required to report (many lobster harvesters are required to report other fisheries) will increase these figures and require more staff and staff time to provide industry with an acceptable level of customer service.

More staff will be needed to assist with audits and the increase in data that will require auditing. The increase in data will increase the time it takes to complete audits. The implementation of 100% lobster harvester reporting will allow the MEDMR to audit and compare 100% of our lobster dealer and harvester data. These two datasets alone account for over 500,000 records annually and will take significant staff resources to complete. MEDMR currently matches up what the 10% harvester reports indicate against what dealers reported for the same individuals. Any discrepancies over 2,000 pounds for the year are flagged and further research is conducted. While the data submitted through an electronic means will certainly help reduce the amount of data that MEDMR staff will need to audit through built in data validations, there are audits that will still need run (such as dealer vs harvester) that will take up significant staff time the first few years of 100% reporting.

The first few years will require significant outreach with industry. **Communicating with industry and fielding electronic reporting questions will be the biggest time burden the landings program will face. Almost 75% of all harvester records submitted to MEDMR are key entered by MEDMR staff. Electronic reporting will be a cultural shift for the lobster fishery, which will require diligent customer service and an intuitive reporting application.** MEDMR is funding the development of a new harvester reporting application that will be user friendly and meet the reporting needs of all MEDMR reporting fisheries, as well as meet NMFS eVTR reporting requirements. MEDMR spent significant time testing ACCSP's eTRIPs V2, which was greatly improved over the previous versions. However, there are still significant concerns about the number of reporting pages it took to complete, the agility of a program that is not fully table driven, and the ease of use for different fisheries. The program MEDMR contracted with Bluefin Data LLC to build will work on both Android® and iOS® and meet all federal requirements (including NERO, SERO and HMS) so federal harvesters will be able to utilize this system. **The MEDMR has a contract with Bluefin Data LLC that will allow any harvester with a MEDMR license or permit to use the VESL application free of charge. Once approved by GARFO, if those harvesters with a MEDMR license or permit also have reporting obligations to GARFO, they will be able to use VESL to fulfill their GARFO reporting requirements regardless of where they are landing. All data collected through the new MEDMR funded harvester applications will be submitted directly to ACCSP through the newly developed API (requirements are listed here <https://accsp-software.github.io/spec-unified-api-prod/>).** The funding source for the new mobile applications are through dedicated technology funding within MEDMR's budget. These funds must be used for advancing technologies and cannot be used for personnel.

The number of trip records that MEDMR staff entered into MARVIN (MEDMR's database that contains all sampling, biological and landings data that MEDMR collects) has increased 490% since 2007 (Figure 2 – view in color), which was the last year the MEDMR did not require 10% lobster harvester reporting. When harvesters submit paper reports, they are entered into the MARVIN database. MARVIN is used for reports submitted on paper because it is a faster method of data entry and MEDMR uses this tool to audit the data before sending a copy of it to ACCSP. Routines are configured to convert the MARVIN data to ACCSP codes before they are uploaded to the ACCSP warehouse.

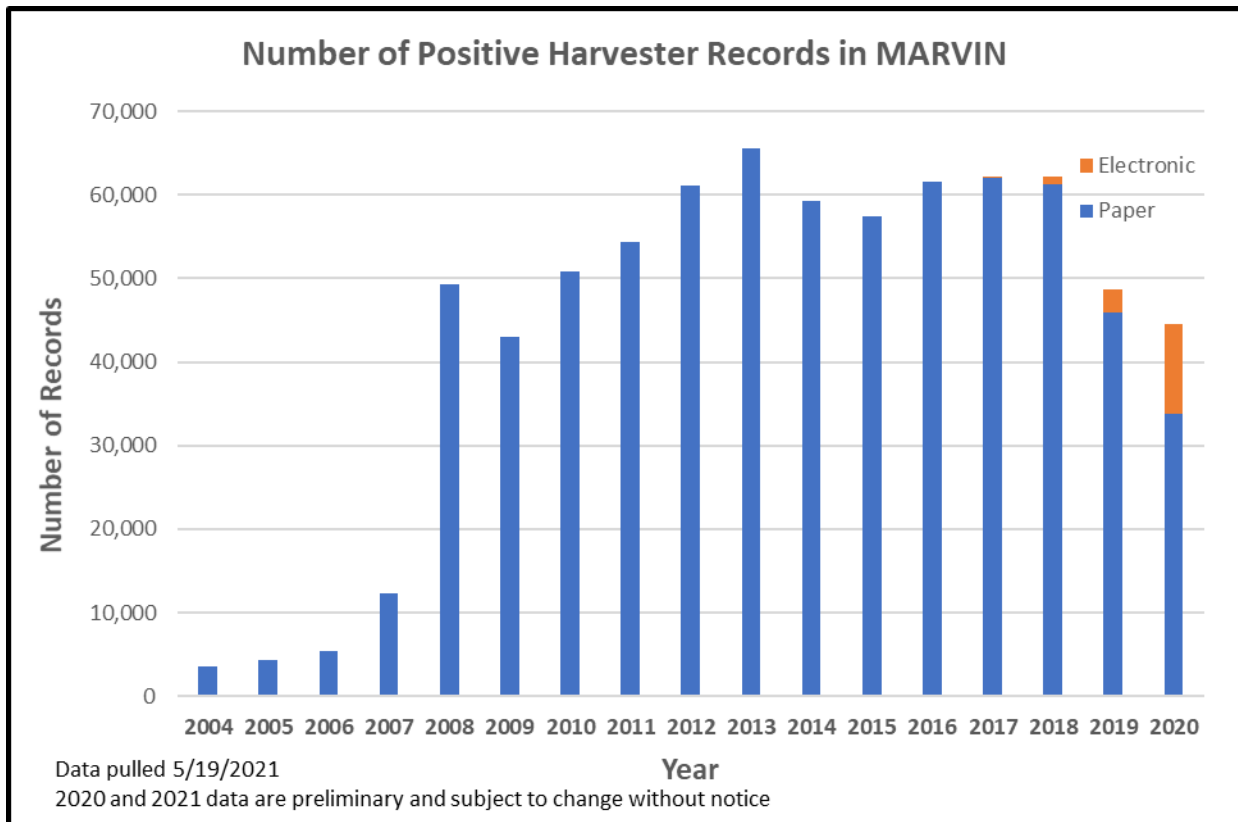


Figure 2: Number of Positive Trip Records Entered by MEDMR Staff and Industry into MARVIN

Landings data entered in MARVIN are uploaded to the ACCSP data warehouse. The significant increase in the amount of data entry, outreach/education and auditing are the single greatest challenge facing the landings harvester (including lobster) program staff. MEDMR currently funds seven positions that work at least part-time on harvester reporting. Currently no positions working on the harvester program are funded by ACCSP grants. In addition to the FY20 ACCSP grant, MEDMR was able to secure additional one-time funding of \$600K from NOAA through congressional appropriations as part of a large \$1.6 million dollar bill to offset costs that might result from new regulations in the lobster fishery to protect right whales (split with MA, NH, ME and RI). While this funding is vital, it does not provide MEDMR with enough funds to fully fund multiple years of lobster reporting. MEDMR continues to look for other sources of funding (both internal and external) to fund 100% lobster reporting. MEDMR has modified the current budget from last year’s funded proposal to account for the FY20 and other NOAA funds. The positions listed in this grant currently have no other funding source available. MEDMR is now requesting funding for 4 new positions.

This proposal is designed to help fund the transition from 10% harvester reporting to 100% harvester reporting where most harvesters will be required to report electronically **as required by Addendum XXVI**. MEDMR understands that not everyone will be able to report electronically so a paper option must still be available. The positions being funded will be doing very little data entry and will mostly be assisting harvesters with reporting questions along with other data entry duties.

Summary of staffing:

MEDMR Landings Program staff involved in harvester reporting who are fully funded by MEDMR:

- Scientist IV: makes decisions on the general Landings Program direction.

- **Scientist III:** oversees the Landings Program, participates in ACCSP committees, transfers data to ACCSP; reporting technology development and responds to data requests.
- **Scientist II:** manages the day-to-day operations of the Landings Program, is responsible for database development, responds to data requests and updates the Landings Program web page. This position also audits data, and monitors licenses and compliance.
- **Specialist II:** provides one-on-one outreach with the harvesters; trains harvesters how to report electronically or on paper; follows up on compliance issues. This position audits data from “state-only” and “NMFS” harvesters. See the *Approach* section below for further details on auditing. This position is also assigned tasks in the dealer-reporting project.
- **Office Associate II:** corresponds with industry regarding new suspension authority for failure to report on time; identifies and notifies delinquent reporters; follows protocols for suspending licenses; works with the licensing division to ensure licenses are re-issued when reports have been submitted.
- **Office Associate I:** opens and processes mail and enters data into MARVIN.

Proposed new MEDMR Landings Program staff to be funded by additional NOAA grant:

- **Marine Resource Scientist II (1 position):** Oversee the daily operations of harvester reporting program, including but not limited to scheduling of duties, directly supervising four employees, managing harvester data audits, database maintenance and assisting with reporting writing.
- **Marine Resource Scientist I (2 positions):** Oversee the rollout of the new offline harvester reporting application, outreach with industry and overseeing data audits. These two positions will be one of the primary contacts for industry members that have reporting program questions.
- **Office Specialist I Supervisor (1 position):** Supervise three Office Associate I positions and two Office Associate II positions located in the West Boothbay Harbor, ME Laboratory. This position will assist with incomplete reports, handle in-person report drop-off, report rejections, compliance mailings and calls and data audits.
- **Office Associate II (1 position):** Will have similar duties to the Office Associate II listed below (currently filled by Alice Mayberry). Will be based out of our Augusta office and will be cross-trained to assist our Licensing Department when help is needed.
- **Office Associate II (currently filled by Alice Mayberry):** Primary contact for incomplete reports, rejects reports, primary contact for compliance and reporting questions, notifies new harvesters of reporting requirements, assists with audit research.

Proposed new MEDMR Landings Program staff to be funded by ACCSP grant:

- **Marine Resource Specialist II (2 positions):** Help run data audits and correct erroneous data, primary data audit researcher for dealer vs harvester audits and will assist the Marine Resource Scientist I’s with any industry technical outreach questions.
- **Office Associate II (2 positions):** Will have similar duties to the Office Associate II listed above that is currently staffed by Alice Mayberry). This position will be based out of our West Boothbay Harbor office.

The MEDMR has discussed and decided against the idea to ramp up from the current number of harvesters selected to report to 100% reporting. It has determined the best way forward is to go directly to 100% harvester reporting. For MEDMR to provide excellent customer service from the beginning, the number of positions proposed are what we feel are necessary to provide the best level of customer service while being as fiscally responsible as possible. Each position created will be a limited period position and each year MEDMR will evaluate these new positions to determine if they are still needed. We anticipate that by year 3 to 5 we might be able to reduce the number of positions as harvesters become more versed with the reporting programs.

Finding funding to help defray the costs for this federally mandated requirement is something that the MEDMR has been looking for and will continue to look for. MEDMR will also look for ways to bring the overall costs down through either staff reductions as the program evolves or any and all in-house or outside sources. MEDMR will continue to look at ways to streamline the Landings Program's operation and will continue to try and automate as many processes (compliance and audits for instance) that will cut down on staffing needs. The extra staff included in this proposal will assist with the initial roll out and anticipated help that industry will need and the ability to assist industry within a reasonable amount of time to answer their questions.

It is essential that this harvester reporting program meet its funding needs, which are born as a result of ASMFC's requirement that MEDMR collect trip level harvester reports from 100% of all licensed commercial lobster harvesters. The implementation of new lobster fishery regulations in the Atlantic Large Whale Take Reduction Plan to reduce the threat of entanglement to endangered right whales is expediting the timeframe to increase reporting to 100% faster than Addendum XXVI required. **Requiring 100% lobster reporting will add another tool for monitoring Maine's commercial fisheries, which are large and economically important to the U.S. seafood industry.** According to the NMFS commercial fisheries database (as of 5/24/2021), Maine was ranked as the highest state on the Atlantic Coast in commercial value (\$559.8 million of which \$406 million were lobster) and fourth highest in whole pounds landed (185.8 million of which 96.6 million were lobster) in 2020. **This comprehensive harvester reporting program also addresses ASMFC compliance issues for several fisheries, including American lobster, Atlantic herring, American eel and Atlantic menhaden.**

This grant does not include any funding for the offline mobile harvester reporting application. The MEDMR will fully fund the original programming, programmatic updates and maintenance costs associated with this project. The MEDMR will continue to fund the monthly maintenance fees. MEDMR will continue to try to identify alternative sources of funding for the harvester reporting project, but the State of Maine is continuing to face budget challenges and there are few options for state funding to cover the total cost.

Results and Benefits:

The data collected so far through MEDMR's harvester reporting program have shown how valuable this information is for Maine's fisheries. **Currently MEDMR requires 12 fisheries to submit trip level harvester reports and lobster is the only fishery not collecting 100% of harvester trips (Figure 3 shows all non-confidential fisheries trips reported over past 5 years). Maine's commercial lobster fishery is by far the largest lobster fishery on the East Coast in both volume and number of individuals.** There are just under 5,800 licensed harvesters of which MEDMR currently only selects ~380 harvesters each year to report. Even with selecting only a percentage of harvesters in the lobster industry, MEDMR scientists have learned more about the fleet characteristics, gear configurations and fishing patterns for full time and part time fishermen involved in this fishery than they have been able to with the current sampling programs. Other fishery managers are now analyzing landings data to learn more about the fishing fleet and the makeup of other fisheries. **Requiring 100% reporting will only increase the MEDMR's knowledge base and increase the amount of data collected. Since most data will be submitted to SAFIS and all data stored in the ACCSP Warehouse, this large dataset will be available to all partners.**

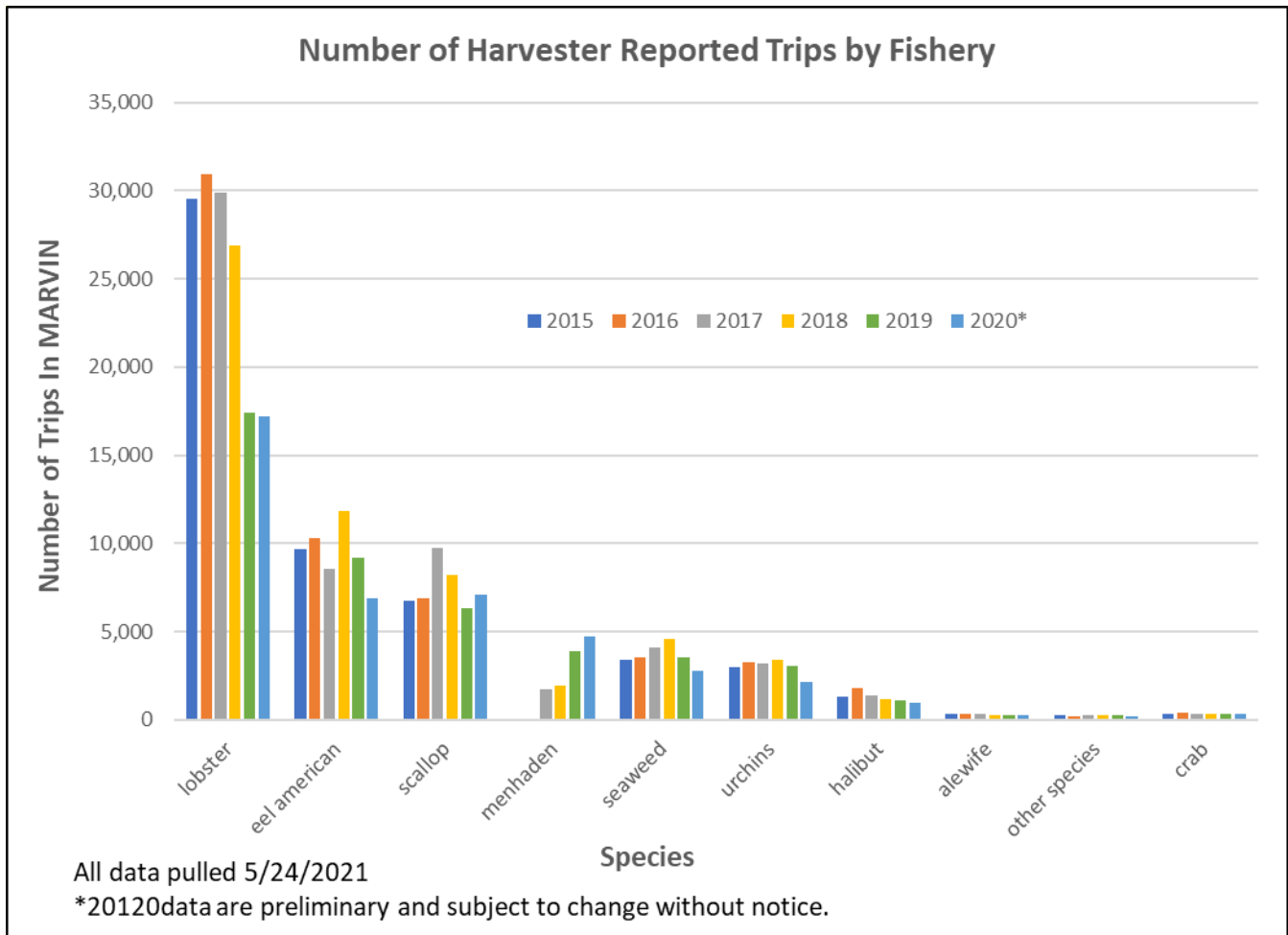


Figure 3: Number of Harvester Reported Trips by Fishery from Harvester Data

This grant will allow MEDMR to meet ASMFC’s Addendum XXVI target of 100% harvester reporting in the lobster fishery by January 2024. This timeline is potentially being sped up by protected species issues and could require 100% trip level reporting in the lobster fishery by January 2023. This grant will allow MEDMR the ability to fund positions needed to ensure the data collected are as accurate as possible through more data auditing, especially linking dealer and harvester reports together through our “dealer vs harvester reporting” audits where we match up each harvester report to the dealer report and their total landings are scrutinized. Addendum XXVI does not necessarily require 100% electronic reporting; however, MEDMR will require nearly 100% lobster harvester electronic reporting and know that harvesters in other fisheries are looking to move from paper reporting to electronic reporting when this option is available in an intuitive offline application. MEDMR anticipates that any new harvesters that report on paper will be offset by those the currently report on paper but will be required to switch to an electronic reporting option and the data entry staff currently employed will be sufficient. Staff are fielding more calls each day asking about electronic reporting and are promoting our Maine LEEDS online reporting, but most want a mobile friendly reporting option. **MEDMR is already uploading data reported to MARVIN to ACCSP every six months and intends to start uploading every month; which benefits all partners.**

Metadata for the harvester program will be updated as needed according to the Federal Geographic Data Committee (FGDC) and the Content Standard for Digital Geospatial Metadata (CSDGM) standards where appropriate. The resulting metadata will be reported to ACCSP as text and XML.

This project will help MEDMR meet the data collection standards of ACCSP. All partners will benefit, as all data will be uploaded to ACCSP and many of the species landed in Maine have a broad geographic range which includes many other agencies in their management. Partners will benefit from the technologies built and lessons learned from the offline harvester reporting application MEDMR intends to have in production by early summer as this will be available to any partner.

Approach:

1. Enforce compliance

MEDMR staff will enforce compliance of the trip level reporting regulation through these methods:

- **Provide initial outreach and technical support needed for harvesters to report trip level landings to MEDMR. Meet with harvesters in a group setting and one on one as needed to explain reporting procedures, install application, troubleshoot issues with reporting, and explain consequences for failing to report.**
- **Review paper reports submitted for completeness and verify the submissions in Maine LEEDS. If reports are incomplete, MEDMR will contact industry to correct reporting mistakes. If a harvester cannot be contacted by phone, the report will be returned for correction. Reports submitted electronically are deemed complete upon submission.**
- **Send delinquent harvesters not included in the suspension process emails indicating what they are missing and send automated notifications within the Maine LEEDS program when a report is received or not.**
- **Complete suspension notices monthly to those harvesters involved in the halibut, herring, menhaden and elver fisheries that are delinquent enough to meet the minimum notification criteria as outlined in the suspension law (Attachment 4).**
- **Complete follow-up suspension notices monthly to those harvesters that are delinquent enough to meet the minimum notification criteria as outlined in the suspension law (Attachment 4).**
- **MEDMR will suspend harvester licenses for those who fail to report in a timely manner. See Attachment 4 for the law, which dictates suspension procedures MEDMR will follow.**

2. Data entry

Paper reports and electronic reports entered through the Maine LEEDS system will go directly into MARVIN and then uploaded to the ACCSP Warehouse at least every 6 months once it has been thoroughly audited.

The harvester reporting application MEDMR contracted to have built by Bluefin Data LLC will include point of entry validations for harvester, vessel, gear, gear to various other variables (i.e. fisheries, gear quantities), gear quantities, locations, pounds, dispositions for example. The data entered through these new applications will utilize ACCSP's API and all data will be submitted directly into SAFIS.

3. Encourage electronic reporting

MEDMR staff will encourage harvesters who report on paper to report using one of the two electronic reporting methods MEDMR will offer (Maine LEEDS or our own Offline Electronic Reporting Application). MEDMR staff will train all harvesters who are required to report electronically regardless if they have reporting obligations to NOAA or not.

MEDMR believes that electronic reporting will benefit industry as much as it benefits MEDMR. If harvesters enter their own data through the MEDMR proposed application, they will have the ability to run basic analytics within the application to view their own trends and harvest information. MEDMR will benefit by

reducing the amount of staff time spent entering data. If MEDMR was not able to offer an electronic reporting option, the number of data entry staff required to handle approximately 300,000 records per year would be at least 7 or 8 individuals in addition to what is currently proposed. Electronic reporting will not only save MEDMR staff data entry time, we will be able to automate many of our daily reporting processes, include data validation at the point of harvester entry and automate compliance and spend more time on data audits and outreach with industry.

4. Continue outreach with industry to promote buy-in.

MEDMR staff will continue to work with harvesters to explain the purpose and benefits of harvester reporting. Staff (along with staff from GARFO and Bluefin Data LLC) attended the annual Maine Fishermen's Forum in March 2020 to facilitate an electronic reporting discussion. This discussion allowed MEDMR, GARFO and Bluefin Data LLC an opportunity to show harvesters the current and future electronic reporting options that are/will be available. The session was lightly attended but helped formulate ideas of how to improve this important part of outreach. We also anticipate holding a workshop to demonstrate the two MEDMR electronic reporting options available to industry to help promote buy in. **We will also utilize videos and remote outreach; however, there are times when it is most productive to hold a few large in-person meetings to assist those that are not as tech savvy as others and are more comfortable having an in-person meeting. Having to on-board almost 6000 new harvesters will require every tool we have in our toolbox. There are also areas in Maine where internet speeds and or connectivity are lacking so remote meetings are difficult (this is why we developed a reporting application that will work "offline"). We intend to rely heavily on remote meetings and creating video and reporting how-to's (many are already created) to assist those individuals that are comfortable with that format.**

Staff will work with established industry organizations, such as the MEDMR advisory councils, lobster zone councils, and dealer and harvester associations to reiterate the program goals and show results of mandatory reporting. Staff will also focus on explaining the statutory authority for suspending licenses for those who fail to report on time, and how this will help gather more accurate data.

5. Audit of harvester data submitted.

Staff will audit data submitted monthly. Paper data will be audited twice per month; electronic audits sent via email from SAFIS will be corrected weekly. SAFIS audits for "state-only" harvesters will be corrected via an ODBC connection to a view of the Maine data. **Audits concerning federal harvesters will be vetted through the NMFS Northeast Region. MEDMR staff will audit electronic data submitted by federal harvesters because these harvesters submit data in order to also fulfill MEDMR reporting requirements. MEDMR performs basic audits of records to catch potential oversights from NMFS audits.** MEDMR also compares dealer-reported landings with harvester-reported landings and identifies both parties if there are any discrepancies. In these audits, MEDMR contacts dealers and harvesters when discrepancies are discovered and works to correct records or recover missing data.

MEDMR does intend to audit 100% of all individual records that are submitted. **Many of these audits will be simple gross audits (over the trip, gear quantity, spatial audits, etc.); however, the data submitted through the new mobile application will have validations built-in for pre-submission checks. Harvesters will not be able to enter certain gear/species combinations, certain dispositions for certain species and gear quantity checks for instance. Many of these audits will be canned within the audit database and will be added to a routine check. The dealer/harvester audits are performed annually**

and start by looking at yearly totals with a 2,000 pound discrepancy. Dealer/harvester audits are not performed on a trip by trip basis.

6. Transmission of harvester data to ACCSP.

MEDMR will continue to upload harvester data from MARVIN to the ACCSP data warehouse once every two months. In each data feed, the following fields are uploaded to the warehouse according to ACCSP protocols: cf_license_nbr, iss_agency, trip_type, supplier_trip_id, port, state, coast_guard_nbr, state_reg_nbr, trip_start_date, trip_start_time, trip_end_date, trip_end_time, num_crew, num_anglers, vtr_number, vessel_permit, sub_trip_type, reporting_source, fuel_used, fuel_price, charter_fee, distance, in_state, area_code, sub_area_code, local_area_code, latitude, longitude, gear, lma, gear_quantity, gear_sets, fishing_hours, hours_days, total_gear, gear_size, mesh_ring_length, mesh_ring_width, stretch_size, target_species, avg_depth, species_itis, disposition, market_code, grade_code, unit_of_measure, sale_disposition_flag, dealer_license_nbr, date_sold, reported_quantity, price, dea_iss_agency, catch_source, catch_latitude, catch_longitude, supplier_catch_id. MEDMR enters data daily and audits data weekly, so the data uploaded to the warehouse are a mix of pre- and post-audited records. MEDMR does not keep track of what percentage of the uploaded records are “reloads” due to errors, but simply reloads all the data in MARVIN to the warehouse once every three months. **In addition, the data supplied by the MEDMR offline mobile application will be sent directly to SAFIS daily.**

The MEDMR does not upload data from MARVIN to SAFIS because MEDMR staff continually audit data each week, so the data that are uploaded to the warehouse are a mix of pre- and post-audited records. The reloading of data from MARVIN to the Warehouse is an automated process that the MEDMR loads into a temporary table provided by the Warehouse. If we were to perform the same upload method to SAFIS we would need the ability to mass delete records from SAFIS (which we do not have the ability to do at this time) before records are reloaded to avoid creating duplicate records.

7. Report metadata to ACCSP.

Metadata will be created with ESRI ArcCatalog 10 in order to conform to the FGDC (Federal Geographic Data Committee) standards and specifications. As specified by the federal standard, MEDMR metadata will include the following main sections with detailed information on: identification information, data quality information, spatial data organization information, spatial reference information, entity and attribute information, distribution information, metadata reference information, citation information, time period information and contact information. Created metadata will be available in text and XML formats.

Geographic Location: Operations will be based out of Boothbay Harbor, Maine and the project will take place throughout Maine.

Milestone Schedule:

	<u>Months</u>											
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>	<u>11</u>	<u>12</u>
1. Enforce harvester compliance	X	X	X	X	X	X	X	X	X	X	X	X
2. Data enter harvester reports	X	X	X	X	X	X	X	X	X	X	X	X
3. Encourage electronic harvester reporting	X	X	X	X	X	X	X	X	X	X	X	X
4. Industry outreach to promote industry buy-in	X	X	X	X	X	X	X	X	X	X	X	X
5. Audit harvester data	X	X	X	X	X	X	X	X	X	X	X	X
6. Upload harvester data to ACCSP			X		X		X			X		X
7. Report metadata to ACCSP												X
8. Semi-annual reports							X					X
9. Annual reports												X

Table 2. Project Accomplishments Measurement:

Goal	Measurement	2019	2020*	2021*
Enforce Harvester Compliance	Number of compliance letters to harvesters	3,226	2,555	671
Enforce Harvester Compliance	Number of harvesters suspended for failing to report timely	447	421	-
Harvester Data Entry	Number of trip records by year landed in data warehouse	46,235	34,148	437
Harvester Data Entry	Number of positive trip records by year landed in MARVIN	48,655	44,595	6,949
Harvester Data Entry	Number of paper trip records entered in MARVIN	45,873	33,797	5,572
Harvester Data Entry	Number of electronic trip reports entered into Maine LEEDS	2,782	10,798	1,377
Harvester Data Entry	Number harvesters entering directly into Maine LEEDS	232	569	154
Harvester Data Entry	Number of positive trip records by year landed in SAFIS	-	-	-
Encourage Electronic Reporting	Number of harvesters submitting positive reports in SAFIS	-	-	-
Transmit Harvester Data to Data Warehouse	Frequency of data submitted by year landed	1 time every 6 months	1 time every 6 months	1 time every 6 months
Outreach	Number of custom data requests	479	1051	376

Text in bold indicate where proposal hit on ranking criteria.

*2020 and 2021 data are incomplete at time of report creation.

Cost Summary: FY22 Managing 100% Lobster Harvester Reporting in Maine				
5/1/2022 - 4/30/2023				
Personnel^A	Description			Cost
2 Marine Resource Specialist II (to be created)	full time position for 12 months	2 @ \$40,816		\$81,632.00
2 Office Associate II (to be created)	full time position for 12 months	2 @ \$34,361.60		\$68,723.20
		Subtotal		\$150,355.20
Fringe Benefits^A				
2 Marine Resource Specialist II (to be created)	Includes health, dental, workers comp, FICA, life insurance and retirement	2 @ \$24,490		\$48,980.00
2 Office Associate II (to be created)		2 @ \$20,617		\$41,234.00
		Subtotal		\$90,214.00
		Total Personnel		\$240,569.20
Travel				
1 vehicle ^B	1 car * \$377.34/mo * 12 mo			\$4,528.08
Mileage fee	1 car * 1,150 mi per mo * \$.1533/mi * 12 mo			\$2,115.54
Toll allowance	Estimated			\$200.00
5 Overnight stays ^C	4* \$150/night			\$600.00
Per diem (includes extended days)	(2 overnights @ \$65/day & 5 extended days @ \$24/day)			\$250.00
		Total Travel		\$7,693.62
Supplies				
Year labels	1,000 labels (500/box * 2 boxes * \$15.00/box)			\$30.00
Folder labels	1,000 labels (500/box * 12 boxes * \$24.50/box)			\$49.00
AAK Color Coded Folders ^D	1,000 folders (50/box * 120 boxes * \$23/box)			\$460.00
Other				
Printing and binding of harvester report forms	500 logbooks * \$2.50 per logbook			\$1,250.00
Postage for logbooks	Mail 500 logbooks * \$5.00 per logbook			\$2,500.00
Postage for info packets and letters	(\$0.55*1000 compliance letters)			\$550.00
Maine LEEDS enhancement programming				\$2,100.00
Telecommunication charges ^E	5 phones * \$50/mo * 12 mo			\$3,000.00
		Total Supplies		\$9,939.00
		Subtotal		\$17,632.62
		Total Direct Costs		\$258,201.82
		Indirect Costs (30%)		\$77,460.55
		Total Award to DMR		\$335,662.37

A: Cost includes salary and benefits, which are dictated by contract with State of Maine and are non-negotiable.

B: All state agencies must rent vehicles through state's Central Fleet Agency which is non-negotiable. Vehicle costs include the following services and costs: maintenance, repairs, insurance, and gasoline.

C: DMR staff meet with and train harvesters how to electronically report to DMR and/or NMFS.

D: AAK Color Coded Folders are folders MEDMR uses for all harvester reporting, they are reusable but will need 2 years supply eventually.

E: One cell phone for each of the Scientist II, Scientist I (2) and Specialist II (2) working on the project.

Partner Contribution For ACCSP Purposes

Scientist IV (7% time)	\$9,116
Scientist III (25% time)	\$25,919
Scientist II (25% time)	\$28,742
Specialist II (25% time)	\$19,788
Office Associate I (85% time)	\$66,322
Office Associate I (50% time)	\$39,013
Office Associate II (25%)	\$19,604
	\$208,504

Text in bold indicate where proposal hit on ranking criteria.

Budget Narrative for FY2022 proposal:

Personnel and Fringe Benefits: The new positions proposed in this proposal (2 Marine Resource Specialist II and 2 Office Associate II). These positions are funded full time (100%) by this award and are a Department of Marine Resources' employees. Salary and benefits for this employee are dictated by contract with the State of Maine and are non-negotiable. Benefits include retirement benefits, FICA, health insurance, dental insurance, workers compensation and life insurance. The benefits are determined by a formula the state uses which is variable dependent upon the position classification, the pay grade of the employee (e.g. the number of years the person has been employed by the State of Maine) and type of coverage the employee selects.

Travel: The Scientists and Specialists are the employees who will be travelling. The travel is for holding electronic harvester reporting workshops, visiting harvesters to install reporting software, training harvester staff how to electronically report or troubleshooting reporting problems. Staff provide harvesters with one-on-one training first via phone but then in person if individuals need further assistance with the reporting system and help troubleshoot electronic reporting problems. Travel occurs throughout the coast of Maine, although trips to the interior are unusual unless the harvester can only meet inland. These harvesters must be trained in the use of electronic reporting and in some cases a group informational setting will not be enough for some to learn how to report their landings information.

The monthly fee for the vehicle is dictated by contract with the State of Maine Central Fleet Agency; the fee is based on the type of vehicle leased, and the mileage fee is based on how many miles the car was used the previous year. Because of this, the vehicle fees between projects may differ. This project has one Nissan Rogue SUV which is a state-owned vehicle that MEDMR leases from the State of Maine Central Fleet Agency.

Occasional extended day travel or overnight stays are necessary. If multiple harvester appointments to these remote areas are made for the same day, or appointments are made for consecutive days, overnight travel may be necessary. The rates were calculated through the GSA website for posted rates.

Supplies: Filing supplies are needed each year but as more harvesters eventually shift to electronic reporting the need for filing supplies will decrease. The filing supplies include AAK folders used to store individuals log sheets, labels (year and name) and protective coatings for these labels. These are the same folders used for all of MEDMR's harvester reports and are purchased from Allied Systems Products AAK Filing system.

Other: The MEDMR will try and push electronic reporting as much as possible and will require waivers to report on paper for lobster reporting. To help cut down on costs, MEDMR will try and have harvesters print their own paper forms when necessary from the MEDMR website. We do accept forms via email, fax or U.S. mail. The bound logbook includes a carbon copy that harvesters use for their records, or to resend should the original gets lost in the mail. Many harvesters like this carbon copy feature, which is one of the main reasons why we choose to continue to purchase these bound logbooks. Cell phones for the Specialists and the Scientists are necessary for communication and safety when on travel to harvester meeting locations. Staff often needs to call NMFS or the programmer when installing software or troubleshooting reporting issues in the field. The line for Maine LEEDS enhancement programming is to cover any programmatic cost associated with enhancements identified by MEDMR's once the new 100% reporting requirement is put in place. MEDMR anticipates that after the compliance enhancement is in place, other features that will be a large time saver for MEDMR will be identified.

Indirect costs: The Department of Marine Resources has an indirect cost rate of 34.3%; however, our Commissioner has authorized this proposal use the lower rate of 30%. See Attachment 3 for the Negotiated Indirect Cost Agreement. These indirect funds are a necessity to help defray and offset the administrative costs associated with the ASMFC's directive to increase MEDMR's lobster reporting from its current rate to 100%. These indirect monies are utilized to help cover the administrative costs not covered directly by this grant proposal and help offset any burden MEDMR assumes with fulfilling their ASMFC reporting requirements.

Cost Summary: FY21 Managing 100% Lobster Harvester Reporting in Maine (Proposal Withdrawn at Operations Fall Meeting)				
5/1/2021 - 4/30/2022				
Personnel^A		Description		Cost
	2 Marine Resource Specialist II (to be created)	full time position for 12 months	2 @ \$37,766	\$75,532.00
	1 Office Associate II (Alice Mayberry)	full time position for 12 months	1 @ \$45,553.89	\$45,553.89
	1 Office Associate II (to be created)	full time position for 12 months	1 @ \$33,289	\$33,289.00
			Subtotal	\$154,374.89
Fringe Benefits^A				
	2 Marine Resource Specialist II (to be created)	Includes health, dental, workers comp, FICA, life insurance and retirement	2 @ \$21,652	\$43,304.00
	1 Office Associate II (Alice Mayberry)		1 @ \$26,116.81	\$26,116.81
	1 Office Associate II (to be created)		1 @ \$19,085	\$19,085.00
			Subtotal	\$88,505.81
			Total Personnel	\$242,880.70
Travel				
	1 vehicle ^B	1 car * \$377.34/mo * 12 mo		\$4,528.08
	Mileage fee	1 car * 1,150 mi per mo * \$.1533/mi * 12 mo		\$2,115.54
	Toll allowance	Estimated		\$200.00
	5 Overnight stays ^C	6* \$150/night		\$900.00
	Per diem (includes extended days)	(6 overnights @ \$65/day & 36 extended days @ \$24/day)		\$1,254.00
			Total Travel	\$8,997.62
Supplies				
	Year labels	1,000 labels (500/box * 2 boxes * \$13.95/box)		\$27.90
	Folder labels	1,000 labels (500/box * 2 boxes * \$24.50/box)		\$49.00
	AAK Color Coded Folders ^D	1,000 folders (50/box * 20 boxes * \$23/box)		\$460.00
Other				
	Printing and binding of harvester report forms	1000 logbooks * \$2.50 per logbook		\$2,500.00
	Postage for logbooks	Mail 1000 logbooks * \$5.00 per logbook		\$5,000.00
	Postage for info packets and letters	(\$0.55*3250 compliance letters)		\$1,787.50
	Maine LEEDS enhancement programming			\$28,000.00
	Telecommunication charges ^E	5 phones * \$40/mo * 12 mo		\$2,400.00
			Total Supplies	\$40,224.40
			Subtotal	\$49,222.02
	Total Direct Costs			\$292,102.72
	Indirect Costs (15%)			\$43,815.41
	Total Award to DMR			\$335,918.13

A: Cost includes salary and benefits, which are dictated by contract with State of Maine and are non-negotiable.

B: All state agencies must rent vehicles through state's Central Fleet Agency which is non-negotiable. Vehicle costs include the following services and costs: maintenance, repairs, insurance, and gasoline.

C: DMR staff meet with and train harvesters how to electronically report to DMR and/or NMFS.

D: AAK Color Coded Folders are folders MEDMR uses for all harvester reporting, they are reusable but will need 2 years supply eventually.

E: One cell phone for each of the Scientist II, Scientist I (2) and Specialist II (2) working on the project.

Partner Contribution For ACCSP Purposes

Scientist IV (7% time)	\$9,116
Scientist III (25% time)	\$25,919
Scientist II (25% time)	\$28,742
Specialist II (25% time)	\$19,788
Office Associate I (85% time)	\$66,322
Office Associate I (50% time)	\$39,013
Office Associate II (25%)	\$19,604
Mobile Harvester Reporting App Development	\$32,050
	\$240,554

Budget Narrative for FY2021 proposal (Proposal withdrawn at Operations Committee Meeting 9/2020):

Personnel and Fringe Benefits: The new positions proposed in this proposal (2 Marine Resource Specialist II and 1 Office Associate II) and current Office Associate II (currently filled by Alice Mayberry). These positions are funded full time (100%) by this award and are a Department of Marine Resources' employees. Salary and benefits for this employee are dictated by contract with the State of Maine and are non-negotiable. Benefits include retirement benefits, FICA, health insurance, dental insurance, workers compensation and life insurance. The benefits are determined by a formula the state uses which is variable dependent upon the position classification, the pay grade of the employee (e.g. the number of years the person has been employed by the State of Maine) and type of coverage the employee selects.

Travel: The Scientists and Specialists are the employees who will be travelling. The travel is for holding electronic harvester reporting workshops, visiting harvesters to install reporting software, training harvester staff how to electronically report or troubleshooting reporting problems. Staff provide harvesters with one-on-one training first via phone but then in person if individuals need further assistance with the reporting system and help troubleshoot electronic reporting problems. Travel occurs throughout the coast of Maine, although trips to the interior are unusual unless the harvester can only meet inland. These harvesters must be trained in the use of electronic reporting and in some cases a group informational setting will not be enough for some to learn how to report their landings information.

The monthly fee for the vehicle is dictated by contract with the State of Maine Central Fleet Agency; the fee is based on the type of vehicle leased, and the mileage fee is based on how many miles the car was used the previous year. Because of this, the vehicle fees between projects may differ. This project has one Nissan Rogue SUV which is a state-owned vehicle that MEDMR leases from the State of Maine Central Fleet Agency.

Occasional extended day travel or overnight stays are necessary. If multiple harvester appointments to these remote areas are made for the same day, or appointments are made for consecutive days, overnight travel may be necessary. The rates were calculated through the GSA website for posted rates.

Supplies: Filing supplies are needed each year but as more harvesters eventually shift to electronic reporting the need for filing supplies will decrease. The filing supplies include AAK folders used to store individuals log sheets, labels (year and name) and protective coatings for these labels. These are the same folders used for all of MEDMR's harvester reports and are purchased from Allied Systems Products AAK Filing system.

Other: The MEDMR will try and push electronic reporting as much as possible and will require waivers to report on paper for lobster reporting. To help cut down on costs, MEDMR will try and have harvesters print their own paper forms when necessary from the MEDMR website. We do accept forms via email, fax or U.S. mail. The bound logbook includes a carbon copy that harvesters use for their records, or to resend should the original gets lost in the mail. Many harvesters like this carbon copy feature, which is one of the main reasons why we choose to continue to purchase these bound logbooks. Cell phones for the Specialists and the Scientists are necessary for communication and safety when on travel to harvester meeting locations. Staff often needs to call NMFS or the programmer when installing software or troubleshooting reporting issues in the field. The line for Maine LEEDS enhancement programming is to cover any programmatic cost associated with enhancements identified by MEDMR's once the new 100% reporting requirement is put in place. MEDMR anticipates that after the compliance enhancement is in place, other features that will be a large time saver for MEDMR will be identified.

Indirect costs: The Department of Marine Resources has an indirect cost rate of 34.3%; however, our Commissioner has authorized this proposal use the lower rate of 15%. See Attachment 3 for the Negotiated Indirect Cost Agreement. These indirect funds are a necessity to help defray and offset the administrative costs associated with the ASMFC's directive to increase MEDMR's lobster reporting from its current rate to 100%. These indirect monies are utilized to help cover the administrative costs not covered directly by this grant proposal and help offset any burden MEDMR assumes with fulfilling their ASMFC reporting requirements.

Cost Summary: FY20 Managing 100% Lobster Harvester Reporting in Maine
3/1/2020 - 2/28/2021

Personnel^A		Description	Cost
1 Marine Resource Scientist II (to be created)		full time position for 12 months	1 @ \$50,079 \$50,079
2 Marine Resource Scientist I (to be created)		full time position for 12 months	2 @ \$45,340 \$90,680
2 Marine Resource Specialist II (to be created)		full time position for 12 months	2 @ \$37,849 \$75,698
2 Office Specialist I Supervisory (to be created)		full time position for 12 months	2 @ \$36,234 \$72,468
1 Office Specialist I (to be created)		full time position for 12 months	1 @ \$34,424 \$34,424
1 Office Associate II (to be created)		full time position for 12 months	1 @ \$31,741 \$31,741
		Subtotal	\$355,090
Fringe Benefits^A			
1 Marine Resource Scientist II (to be created)			\$32,551
2 Marine Resource Scientist I (to be created)			\$58,942
2 Marine Resource Specialist II (to be created)	Includes health, dental, workers comp, FICA, life insurance and retirement		\$49,204
2 Office Specialist I Supervisory (to be created)			\$47,104
1 Office Specialist I (to be created)			\$22,376
1 Office Associate II (to be created)			\$20,632
		Subtotal	\$230,809
		Total Personnel	\$585,899
Travel			
1 vehicle ^B		1 car * \$188.67/mo * 12 mo	\$2,264
Mileage fee		1 car * 1,000 mi per mo * \$.1533/mi * 12 mo	\$1,840
Toll allowance		Estimated	\$100
5 Overnight stays ^C		5* \$150/night	\$750
Per diem (includes extended days)		(5 overnights + 5 extended days) * \$65/day	\$650
		Total Travel	\$5,604
Supplies			
Filing Supplies		folders, folder labels, year labels	\$500
Other			
Printing and binding of harvester report forms		1000 logbooks * \$2.50 per logbook	\$2,500
Postage for logbooks		Mail 1000 logbooks * \$4.75 per logbook	\$2,375
Postage for info packets and letters		(\$0.50*3250 compliance letters)	\$1,625
Software (Adobe DC Professional)		8 copies at \$329.65/copy	\$2,637
Technology (equipment, licenses)			\$500
Enhancements to Maine LEEDS system		Automate compliance for electronic reporting	\$40,000
Telecommunication charges ^D		5 phones * \$40/mo * 12 mo	\$2,400
		Total Supplies	\$52,537
		Subtotal	\$58,141
		Total Direct Costs	\$644,039
		Indirect Costs (30%)	\$193,212
		Total Award to DMR	\$837,251

A: Cost includes salary and benefits, which are dictated by contract with State of Maine and are non-negotiable.

B: All state agencies must rent vehicles through state's Central Fleet Agency which is non-negotiable. Vehicle costs include the following services and costs: maintenance, repairs, insurance, and gasoline.

C: DMR staff meet with and train harvesters how to electronically report to DMR and/or NMFS.

D: One cell phone for each of the two specialists, one each for the two scientists and one scientist II working on the project.

Partner Contribution For ACCSP Purposes

Scientist IV (7% time)	\$9,115
Scientist III (25% time)	\$24,542
Scientist II (25% time)	\$26,854
Specialist II (25% time)	\$18,710
Office Associate I (85% time)	\$47,568
Office Associate I (50% time)	\$37,191
Office Associate II (50%)	\$32,813
Office Associate II (15%)	\$10,531
Office Associate II (15%)	\$9,750
Office Associate II (15%)	\$8,513
Office Associate II (100%)	\$65,626
<u>Mobile Harvester Reporting App Development</u>	<u>\$150,000</u>

\$441,211

Budget Narrative for FY2020 proposal:

Personnel and Fringe Benefits: The new positions proposed in this proposal (1 Marine Resource Scientist II, 2 Marine Resource Scientist I, 2 Marine Resource Specialist II, 2 Office Specialist I Supervisory, 1 Office Specialist I and 1 Office Associate II). These positions are funded full time (100%) by this award and are a Department of Marine Resources' employees. Salary and benefits for this employee are dictated by contract with the State of Maine and are non-negotiable. Benefits include retirement benefits, FICA, health insurance, dental insurance, workers compensation and life insurance. The benefits are determined by a formula the state uses which is variable dependent upon the position classification, the pay grade of the employee (e.g. the number of years the person has been employed by the State of Maine) and type of coverage the employee selects.

Travel: The Scientists and Specialists are the employees who will be travelling. The travel is for holding electronic harvester reporting workshops, visiting harvesters to install reporting software, training harvester staff how to electronically report or troubleshooting reporting problems. Staff provide harvesters with one-on-one training first via phone but then in person if individuals need further assistance with the reporting system and help troubleshoot electronic reporting problems. Travel occurs throughout the coast of Maine, although trips to the interior are unusual unless the harvester can only meet inland. These harvesters must be trained in the use of electronic reporting and in some cases a group informational setting will not be enough for some to learn how to report their landings information.

The monthly fee for the vehicle is dictated by contract with the State of Maine Central Fleet Agency; the fee is based on the type of vehicle leased, and the mileage fee is based on how many miles the car was used the previous year. Because of this, the vehicle fees between projects may differ. This project has one Nissan Rogue SUV which is a state-owned vehicle that MEDMR leases from the State of Maine Central Fleet Agency.

Occasional extended day travel or overnight stays are necessary. If multiple harvester appointments to these remote areas are made for the same day, or appointments are made for consecutive days, overnight travel may be necessary. The rates were calculated through the GSA website for posted rates.

Supplies: Filing supplies are needed each year but as more harvesters eventually shift to electronic reporting the need for filing supplies will decrease. The filing supplies include folders used to store individuals log sheets, labels (year and name) and protective coatings for these labels.

Other: The MEDMR will try and push electronic reporting as much as possible and will require waivers to report on

paper for lobster reporting. To help cut down on costs, MEDMR will try and have harvesters print their own paper forms when necessary from the MEDMR website. We do accept forms via email, fax or U.S. mail. The bound logbook includes a carbon copy that harvesters use for their records, or to resend should the original gets lost in the mail. Many harvesters like this carbon copy feature, which is one of the main reasons why we choose to continue to purchase these bound logbooks. Cell phones for the Specialists and the Scientists are necessary for communication and safety when on travel to harvester meeting locations. Staff often needs to call NMFS or the programmer when installing software or troubleshooting reporting issues in the field. All Landings Program staff use Adobe DC Pro to enter or audit paper reports or .PDF's that have been received electronically. The cost for this program has been set by our OIT Department. The line for Maine LEEDS enhancement is the programmatic cost to streamline MEDMR's compliance with harvester data submitted to SAFIS. MEDMR will need to create a SQL Server table to pull any data submitted by a harvester from the ACCSP Warehouse with Maine permits and flip their Maine LEEDS compliance record to submitted. This feature will be a large time saver for MEDMR and will save at least one full-time staff position.

Indirect costs: The Department of Marine Resources has an indirect cost rate of 30%. See Attachment 3 for the Negotiated Indirect Cost Agreement. These indirect funds are a necessity to help defray and offset the administrative costs associated with the ASMFC's directive to increase MEDMR's lobster reporting from its current rate to 100%. The anticipated increase to ~300,000 new harvester records and overall ~700,000 records (dealer and harvester) supplied to ACCSP's Data Warehouse will account for roughly 42% of all reports stored in the Data Warehouse. The increase in harvester reports received by MEDMR will be roughly 538%. These indirect monies are utilized to help cover the administrative costs not covered directly by this grant proposal and help offset any burden MEDMR assumes with fulfilling their ASMFC reporting requirements.

Attachment 1. Project History

Fund Year	Title	Cost	Extension through	Actual dates funding covered	Results
2020	FY20- Managing 100% Lobster Harvester Reporting in Maine	\$336,120	Apr-22	May 2020 – Apr 2021	Start preparing for MEDMR to move from mandatory 10% lobster harvester reporting to 100% lobster. Work on enhancement to Maine LEEDS program and continue work on app development.
2021	FY21- Managing 100% Lobster Harvester Reporting in Maine	\$335,918.13 (withdrawn)		May 2021 – Apr 2022	Continue preparations for MEDMR to move from mandatory 10% lobster harvester reporting to 100% lobster. Finalize enhancement to Maine LEEDS program, outreach with industry and rolling out MEDMR's offline harvester application built by Bluefin Data LLC.
2022	FY22- Managing 100% Lobster Harvester Reporting in Maine	\$335,662		May 2022 – Apr 2023	Final preparations before 100% reporting requirement is implemented in January 2023. Continue with outreach, audits and implementing reporting requirements.

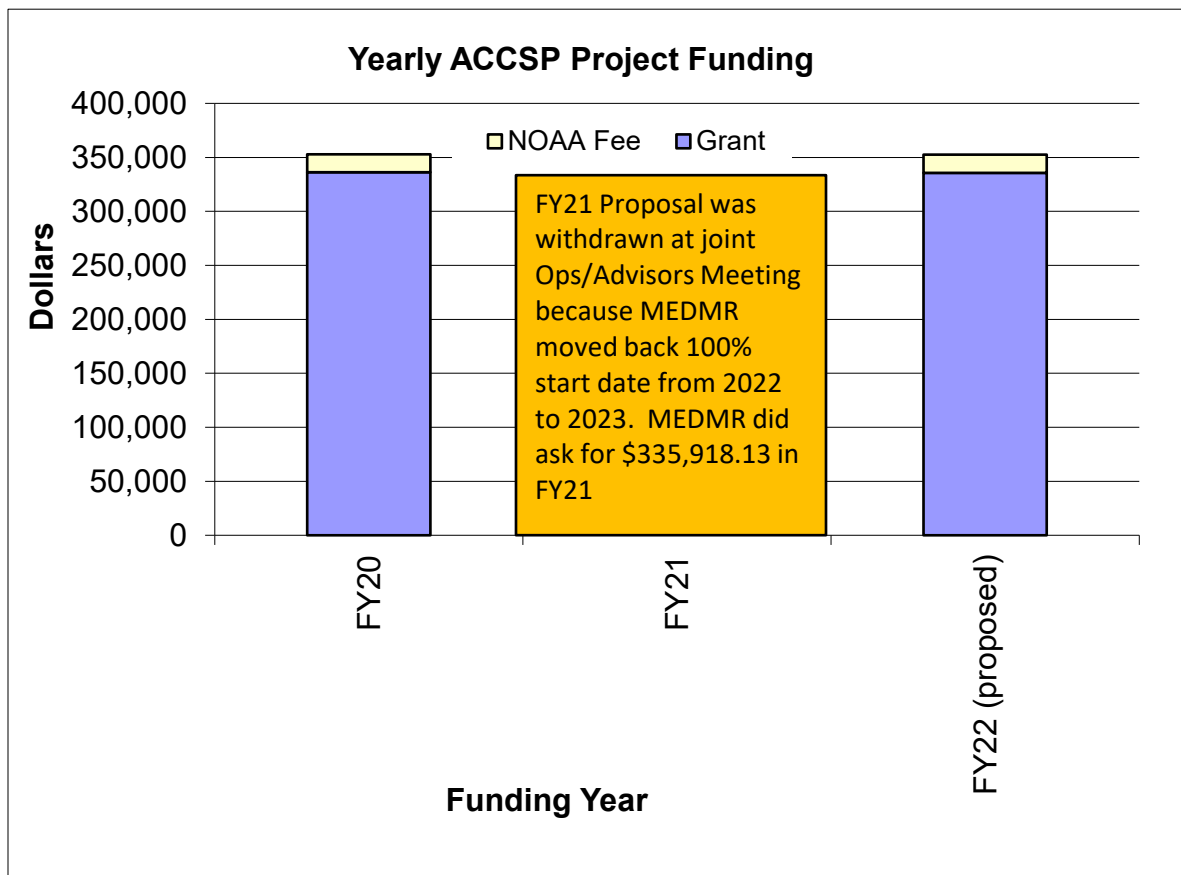


Figure 4. Project Funding History

Attachment 2: Negotiated Indirect Cost Agreement and Letter of Acknowledgement

U.S. Department of Commerce
Office of Acquisition Management – Grants Management Division
1401 Constitution Ave., NW, HCHB Rm 6412
Washington, DC 20230, Attn: Indirect Cost Program

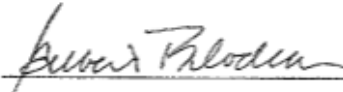
CERTIFICATE OF INDIRECT COSTS

This is to certify that I have reviewed the indirect cost rate proposal prepared and maintained herewith and to the best of my knowledge and belief:

- (1) All costs included in this proposal dated 3/18/20 to establish indirect cost billing rates for July 1, 2019 through June 30, 2020 are allowable in accordance with the requirements of the federal awards to which they apply and 2 CFR Part 200, "Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards". This proposal does not include any costs which are unallowable as identified in the applicable federal cost principles. For example, advertising contributions and donations, bad debts, entertainment costs or fines and penalties.
- (2) All costs included in this proposal are properly allocable to federal awards on the basis of a beneficial or causal relationship between the expenses incurred and the agreements to which they are allocated in accordance with applicable requirements. Further, the same costs that have been treated as indirect costs have not been claimed as direct costs. Similar types of costs have been accounted for consistently and the Federal Government will be notified of any accounting changes that could affect the rate.
- (3) The indirect cost rate calculated within the proposal is 34.30%, which was calculated using an indirect cost rate base type of Modified Total Direct Costs. The calculations were based on actual costs from fiscal year July 1, 2018 thru June 30, 2019 to obtain a federal indirect cost billing rate for fiscal year beginning July 1, 2019.

Subject to the provisions of the Program Fraud Civil Remedies Act of 1986, (31 USC 3801 et seq.), the False Claims Act (18 USC 287 and 31 USC 3729); and the False Statement Act (18 USC 1001), I declare to the best of my knowledge that the foregoing is true and correct.

Organization Name: State of Maine, Department of Marine Resources

CFO Signature:  Date: 3/18/2020

Name/Title Authorized Official: Gilbert M. Bilodeau, Director, Natural Res Ser Ctr

Dept Head Signature:  Date: 03/18/2020

Name/Title Authorized Official: Patrick Keliher, Commissioner



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
ACQUISITION AND GRANTS OFFICE

August 10, 2020

Mr. Brandon Flint
Managing Staff Accountant
Natural Resources Service Center
155 State House Station
Augusta, ME 04333

Dear Mr. Flint:

This letter supersedes the previous letter dated May 1, 2020 concerning this subject, and confirms that no further action is required under Department of Commerce Financial Assistance Standard Term & Condition A.05, Indirect Costs. Pursuant to OMB regulation 2 CFR Part 200, your organization is not required to submit an indirect cost allocation proposal or plan narrative to its cognizant agency. These plans are to be prepared and retained at the local government level. OMB regulation 2 CFR Part 200, Appendix V Il, par. D states, in part:

All department or agencies of the governmental unit desiring to claim indirect costs under Federal awards must prepare an indirect cost rate proposal and related documentation to support the costs. The proposal and related documentation must be retained for audit in accordance with the records retention requirements contained in the Common Rule.

When actual costs are known at the end of your fiscal year, you are required to account for differences between estimated and actual indirect costs by means of either: a) making an adjustment to the next year's indirect cost rate calculation to account for carry-forward (the difference between the estimated costs used to establish the rate and the actual costs of the fiscal year covered by the rate); or b) making adjustments to the costs charged to the various programs based on the actual charges calculated. Since OMB regulation 2 CFR Part 200 requires the independent auditor to determine the allowability of both direct and indirect costs, the organization's indirect cost charges will be subject to audit.

It is important to note that your organization is still required to submit to the Grants Management Division of the National Oceanic and Atmospheric Administration (NOAA) an annual Certificate of Indirect Costs. NOAA acknowledges receipt of your most recent certificate, submitted March 18, 2020 pertaining to your rate of 34.30% for Fiscal Year 2020. Additionally, your request to move to a two-year fixed rate with carry-forward schedule, is approved. Given this, the aforementioned indirect cost rate of 34.30% is also applicable for Fiscal Year 2021.

The submission of the Certificate of Indirect Costs is due to our office within six (6) months after the close of your fiscal year.

A copy of this letter will be retained in your official award file. If you have any questions, please contact Lamar Revis at 301.628.1308 or at lamar.revis@noaa.gov. Thank you.

Sincerely,

Lamar Dwayne Revis

Arlene Simpson Porter
Director, Grants Management Division



Department of Marine Resources

INTEROFFICE MEMORANDUM

TO: FILE
FROM: PATRICK KELIHER, COMMISSIONER
SUBJECT: RATE USED FOR COST ALLOCATION
DATE: 5/25/21

In accordance with OMB Circular A-87, the Department of Marine Resources has submitted to the U.S. Department of Commerce a departmental cost allocation plan for use during state fiscal year 2019 ending June 30, 2019. The indirect cost rate proposal is 34.30%. I am authorizing the use of the lesser rate of **30%** to be used during this period.

ACCSP
"FY22: Managing 100% Lobster Harvester Reporting in Maine"
(May 1, 2022 – April 30, 2023)

A handwritten signature in black ink, appearing to read "P. Keliher", is written over a horizontal line.
Patrick Keliher, Commissioner 5/26/21

Attachment 4: Authority to Suspension Licenses for Delinquent Reporters

An Act to Improve the Quality of the Data Used in the Management of Maine's Fisheries

Be it enacted by the People of the State of Maine as follows:

Sec. 1. 12 MRSA §6301, sub-§6 is enacted to read:

6. Ownership identified. If a license issued under chapter 625 is issued to a firm, corporation or partnership, the individual who owns the highest percentage of that firm, corporation or partnership must be identified on the license application. When 2 or more individuals own in equal proportion the highest percentages of a firm, corporation or partnership, each of those owners must be identified.

Sec. 2. 12 MRSA §6412 is enacted to read:

§ 6412. Suspension of license or certificate for failure to comply with reporting requirements

1. Authority to suspend. The commissioner, in accordance with this section, may suspend a license or certificate issued under this Part if the holder of the license or certificate fails to comply with reporting requirements established by rule pursuant to section 6173. A license or certificate suspended under this section remains suspended until the suspension is rescinded by the commissioner. The commissioner shall rescind a suspension when:

A. The commissioner determines and provides notice to the holder of the suspended license or certificate that the holder has come into compliance with the reporting requirements established by rule pursuant to section 6173; and

B. The holder pays to the department a \$25 administrative fee.

When a suspension is rescinded, the license or certificate is reinstated. Until the suspension is rescinded, the holder of the suspended license or certificate is not eligible to hold, apply for or obtain that license or certificate.

2. Process for suspension for failing to comply with weekly reporting. If the commissioner determines that a person who holds a license or certificate under this Part has failed to comply with a weekly reporting requirement established by rule pursuant to section 6173, the commissioner shall notify the person at the telephone number provided on the application for the license or certificate and by e-mail if an e-mail address is provided on the application. If the license or certificate holder has not complied with the reporting requirements within 2 days after the commissioner has provided the notice, the commissioner shall mail a notice of suspension to the license or certificate holder by certified mail or the notice must be served in hand. The notice must:

A. Describe the information that the license or certificate holder is required to provide pursuant to this Part that the department has not received; and

B. State that, unless all the information described in paragraph A is provided to the department or the license or certificate holder requests a hearing, the license or certificate will be suspended in 3 business days after the license or certificate holder's receipt of the notice.

If the license or certificate holder has not complied with the reporting requirements or requested a hearing within 3 business days after receipt of the notice, the commissioner shall suspend the license or certificate.

3. Process for suspension for failing to comply with monthly reporting. If the commissioner determines that a person who holds a license or certificate under this Part has failed to comply with a monthly reporting requirement established by rule pursuant to section 6173, the commissioner shall notify the person at the telephone number provided on the application for the license or certificate and by e-mail if an e-mail address is provided on the application. If the license or certificate holder has not complied with the reporting requirements within 45 days after the commissioner has provided the notice, the commissioner shall mail a notice of suspension to the license or certificate holder by certified mail or the notice must be served in hand. The notice must:

A. Describe the information that the license or certificate holder is required to provide pursuant to this Part that the department has not received; and

B. State that, unless all the information described in paragraph A is provided to the department or the license or certificate holder requests a hearing, the license or certificate will be suspended in 3 business days after the license or certificate holder's receipt of the notice.

If the license or certificate holder has not complied with the reporting requirements or requested a hearing within 3 business days after receipt of the notice, the commissioner shall suspend the license or certificate.

4. Hearing. A license or certificate holder receiving a written notice of suspension pursuant to this section may request a hearing on the suspension by contacting the department within 3 business days of receipt of the notice. If a hearing is requested, the suspension is stayed until a decision is issued following the hearing. The hearing must be held within 3 business days of the request, unless another time is agreed to by both the department and the license or certificate holder. The hearing must be conducted in the Augusta area. The hearing must be held in accordance with:

A. Title 5, section 9057, regarding evidence, except the issues are limited to whether the license or certificate holder has complied with reporting requirements established by rule pursuant to section 6173;

B. Title 5, section 9058, regarding notice;

C. Title 5, section 9059, regarding records;

D. Title 5, section 9061, regarding decisions, except the deadline for making a decision is one business day after completion of the hearing; and

E. Title 5, section 9062, subsections 3 and 4, regarding a presiding officer's duties and reporting requirements, except that notwithstanding Title 5, section 9062, subsection 1, the presiding officer must be the commissioner or the commissioner's designee.

Summary of Proposal for ACCSP Ranking

Proposal Type: Maintenance Proposal

Primary Program Priority and Percentage of Effort to ACCSP modules:

Catch and Effort (10 points): 100% of licensed lobster (and 11 other fisheries) must report trip level information. Most of these reports will be electronic.

Data Delivery Plan (2 Points): All electronic data through the MEDMR offline application will be submitted into SAFIS daily. All data entered into MEDMR's MARVIN database and will be sent to the ACCSP Data Warehouse on at least a bi-annual basis after all data have been thoroughly audited.

Project Quality Factors:

Regional Impact (5 Points): all partners will benefit, as all the data collected will be uploaded to ACCSP. Regional management organizations, such as ASMFC, will benefit from the trip level information from Maine. Partners may also benefit from the technologies/procedures tested in the new offline MEDMR mobile application. MEDMR is currently contracted with Bluefin Data LLC to build a mobile app for harvesters to use to meet the 100% lobster reporting requirement mandated in ASMFC Addendum XXVI. MEDMR is currently paying for all start-up costs associated with this project and shared findings with ACCSP. Partners will be able to utilize (the developer might charge a support fee) this application once built if they so choose.

Funding transition plan (4 Points): MEDMR will continue to look for other funding sources; however, with the timeline of 100% lobster reporting being pushed forward from the date set in Addendum XXVI, MEDMR will need help to achieve the requirements coming in the next few years. MEDMR is funding the development of an offline mobile harvester reporting application that will meet MEDMR, NMFS NERO and SERO along with HMS reporting requirements. MEDMR will pay for the ongoing monthly maintenance fee associated with this program. MEDMR has already secured an additional one-time \$600K in additional federal funding for this project. Currently, the MEDMR does not have any plans to require electronic reporting for all fisheries but intends on pushing electronic reporting. Geographical restrictions prevent all harvesters from having reliable high-speed internet access at this time.

In-kind Contribution (3 Points): the partner contribution is listed on page 14. MEDMR's in-kind contribution is approximately 62% of the requested amount. **We calculate our in-kind by dividing the total MEDMR contribution (\$208,508) by the total requested amount (\$335,662.37) to determine our in-kind contribution of 62%. All the positions listed as partner contributions are fully funded by the State of Maine and should be included as in-kind and not a match.**

Improvement in Data Quality/Timeliness (4 Points): MEDMR can audit data at a more detailed level, including checking harvester reported data against dealer reported data. MEDMR encourages reporting timeliness through outreach with harvesters and is working with Marine Patrol to ensure industry understands the importance of submitting accurate and timely information. The Maine State Legislature also passed law that authorizes license suspensions for those who fail to report on time which has improved the timeliness and quality of the data submitted for the fisheries that utilize this law.

Potential secondary module as a by-product (in program priority order) (3 points): The offline application that MEDMR envisions will be able to eventually link up with certain dealer reports and accept tracker data which will revolutionize the way spatial data could be used to determine many effort fields and dealer and harvester reports are matched up.

Impact on Stock Assessment (3 Points): Regional management organizations which carry out stock assessments will benefit from the detailed landings data reported from Maine. This information is used in stock assessments for many species that are managed by regional agencies.

Properly Prepared (1 Points): MEDMR followed ACCSP guidelines and pertinent documents when preparing this proposal.

Merit (3 points): This proposal allows MEDMR to comply with mandatory ASMFC requirements. The MEDMR currently provides more data to the data warehouse than any other state and accounts for over 30% of all records landed in the Data Warehouse. MEDMR are always looking for ways to collect data in a timely and efficient manner.

Summary of Proposal for ACCSP Ranking (Abridged Ranking Process)

Achieved Goals: MEDMR did not receive FY20 funding for this grant from NOAA until June 8, 2020. MEDMR also pulled back our FY21 proposal with the understanding that the FY22 would be treated as a maintenance proposal since our new data to require 100% lobster reporting shifted from January 1, 2022 to January 1, 2023. MEDMR has already completed the Maine LEEDS enhancement to automate electronic reporting compliance. The offline harvester application is set for a soft roll out to select industry members on June 14, 2021.

Data Delivery Plan (2 Points): All electronic data through the MEDMR offline application will be submitted into SAFIS daily. All data entered into MEDMR's MARVIN database and will be sent to the ACCSP Data Warehouse on at least a bi-annual basis after all data have been thoroughly audited.

Level of Funding (1 Point): Last year MEDMR asked for \$837,251 and was awarded \$336,162. This FY22 proposal is asking for \$335,620.77.

Properly Prepared (1 Points): MEDMR followed ACCSP guidelines and pertinent documents when preparing this proposal.

Merit (3 points): This proposal allows MEDMR to comply with mandatory ASMFC requirements. The MEDMR currently provides more data to the data warehouse than any other state and accounts for over 30% of all records landed in the Data Warehouse. MEDMR are always looking for ways to collect data in a timely and efficient manner.

Robert B. Watts II
Maine Department of Marine Resources
(207) 633-9412
[**rob.watts@maine.gov**](mailto:rob.watts@maine.gov)

June 2021

PROFILE:

- Knowledge of Maine and federal regulations pertaining to commercial fishing and associated reporting requirements through working with the Department of Marine Resources and the National Marine Fisheries Service.
- Knowledgeable of Maine's fishing industries and how they operate.

EDUCATION:

B.S. Marine Science, Maine Maritime Academy, Castine, ME 2002

EMPLOYMENT EXPERIENCE:

May 2016 – Present **Marine Resource Scientist III**
Maine Department of Marine Resources
West Boothbay Harbor, ME

- Manages daily operations of Maine's Commercial Landings Program, which collects, compiles and distributes commercial fishery statistics for Maine's commercial fisheries.
- Supervises Landings Program personnel.
- Maintain Microsoft Access databases for licensing information, compliance and data entry.
- Communicates with industry regarding reporting requirements, monitors reporting compliance and works with the licensing division in order to ensure all mandatory reporting requirements are met and licenses are issued accordingly.
- Oversees DMR's landings suspension authority and process.
- Oversees DMR's swipe card reporting program.
- Oversees MEDMR's MARVIN database.
- Maintains dealer and harvester auditing databases.
- Oversaw Maine's Interactive Voice Response (IVR) reporting program (IVR reporting ended in 2019)
- Serves as key contact for Maine commercial landings information.
- Promotes Maine's partnership with Atlantic Coastal Cooperative Statistical Program (ACCSP), serving on the Operations Committee, Commercial Technical Committee, Information Systems Technical Committee, Standard Codes Committee and Outreach Committee; working to bring the Landings Program into compliance with ACCSP standards.

Jan 2014 – Jan 2016 **Marine Resource Scientist III (Acting Capacity)**

June 2015 – Apr 2016 **Marine Resource Scientist II**
Maine Department of Marine Resources
West Boothbay Harbor, ME

- Manages daily operations of Maine's Commercial Landings Program, which collects, compiles and distributes commercial fishery statistics for Maine's commercial fisheries.
- Supervises Landings Program personnel.
- Maintain Microsoft Access databases for licensing information, compliance and data entry.
- Communicates with industry regarding reporting requirements, monitors reporting compliance and works with the licensing division in order to ensure all mandatory reporting requirements are met and licenses are issued accordingly.

- Oversees DMR's landings suspension authority and process.
- Oversees DMR's swipe card reporting program.
- Maintains dealer and harvester auditing databases.
- Oversees Maine's Interactive Voice Response (IVR) reporting program.
- Serves as key contact for Maine commercial landings information.
- Promotes Maine's partnership with Atlantic Coastal Cooperative Statistical Program (ACCSP) through serving on the Commercial Technical Committee, Information Systems Technical Committee and Outreach Committee; working to bring the Landings Program into compliance with ACCSP standards.

**Feb 2012 – Apr 2015 Marine Resource Scientist I
Maine Department of Marine Resources**

- Manages daily operations of Maine's Commercial Landings Program, which collects, compiles and distributes commercial fishery statistics for Maine's commercial fisheries.
- Supervises five Landings Program personnel.
- Maintain Microsoft Access databases for licensing information, compliance and data entry.
- Communicates with industry regarding reporting requirements, monitors reporting compliance and works with the licensing division in order to ensure all mandatory reporting requirements are met and licenses are issued accordingly.
- Oversees outreach to industry.
- Maintains dealer and harvester auditing databases.
- Oversees Maine's Interactive Voice Response (IVR) reporting program.
- Serves as key contact for Maine commercial landings.

**Oct 2007 – Jan 2012 Marine Resource Specialist II
Maine Department of Marine Resources**

- Oversee daily operations of the harvester landings program.
- Notify new harvesters about reporting requirements.
- Maintain databases used for data audits and data entry.
- Monitor reporting compliance database and notifies harvesters if they are delinquent.
- Supervise two Landings Program personnel.
- Oversees IVR reporting.
- Prepare data requests from various sources

**Jul 2005 – Oct 2007 Marine Resource Specialist I
Maine Department of Marine Resources**

- Interviewed marine recreational anglers all over the Maine coast to help determine fish stocks. Identified, weighed, measured and recorded fish caught by anglers.
- Created publications, updated regulation handouts and updated the recreational fishing website as needed.

**May 2001 – Jun 2005 Conservation Aid
Maine Department of Marine Resources**

- Interviewed marine recreational anglers all over the Maine coast to help determine fish stocks. Identified, weighed, measured and recorded fish caught by anglers.
- Acted as a liaison between the State of Maine and the recreational anglers, answered anglers questions about fishing regulations.

Erin L. Summers
Maine Department of Marine Resources
(207) 633-9556
erin.l.summers@maine.gov

June 2020

Profile:

- Work collaboratively with state, federal, academic, conservation, and industry partners to reduce whale entanglements and mortality in marine mammals and sea turtles through bodies such as the Atlantic Large Whale Take Reduction team and Atlantic Large Whale Disentanglement Network.
- Build research programs to provide baseline data on large whale life history, ecology, and habitat use in Maine's coastal rocky bottom habitats. Design new and emerging methodologies to inform management decisions.
- Oversee research and monitoring programs within the Division of Biological Monitoring at DMR, including the lobster programs, surveys for scallops, sea urchin, shrimp, and herring, recreational fisheries program, inshore trawl survey, and the landings and reporting group.
- Represent the Department of Marine Resources in stakeholder meetings, including those for wind energy permitting, Natural Resource Damage Assessments, department wide research and priority setting, etc.
- Member of the Atlantic Scientific Review Group advising NOAA Fisheries on marine mammal stock assessments

Education:

MA Biology: Boston University Marine Program Woods Hole, Ma. 5/02
BA Biology, Spanish minor: Truman State University Kirksville, Mo. 5/00

Employment:

Jan 2017 – present: **Marine Resource Scientist IV**
 Maine Department of Marine Resources
 West Boothbay Harbor, Me

- Oversee Division of Biological Monitoring, including Commercial Landings Program, Benthic group (lobster, scallops, urchins), and Pelagics group (herring, groundfish, shrimp, and recreational fishing)
- Lead Scientist for DMR's Large Whale Conservation Program
- Member of the Atlantic Large Whale Take Reduction Team

Feb 2006 – Jan 2017: **Marine Resource Scientist II**
 Maine Department of Marine Resources

- Lead scientist for DMR's Large Whale Conservation Program
- Secured grant funding, wrote reports, tracked budgets to support research projects
- Completed projects to support management decisions for the Atlantic Large Whale Take Reduction Plan, including tagging humpback whales, right whale habitat surveys, passive acoustic surveys, gear density surveys, testing alternative fishing gear, characterizing fishing practices, etc.
- Oil Spill Response Coordinator
- Assist with GIS coordination

Jan 2010 – May 2010: **Adjunct Faculty**

**Unity College
Unity, Me**

- Taught upper level course in the biology of Marine Mammals

**Feb 2004 – Feb 2006: Marine Mammal Research Specialist
University of New England
Biddeford, Me**

- Lead Research technician on project to track and predict right whale habitat use and distribution
- Analysis of remotely sensed data and right whale sightings in the Bay of Fundy Critical Habitat
- Assisted with report writing and budget tracking
- Completed project and published paper analyzing right baleen using stable isotope analysis
- Completed project and published papers satellite tagging and tracking basking sharks off the coast of New England

**Sept 2002 – Feb 2004: Research Technician
Cetacean and Sea Turtle Team, NOAA Fisheries Service
Beaufort, NC**

- Lead technician tracking and analyzing movements of satellite tagged dolphins
- Perform field work including fishing gear and dolphin aerial surveys, boat based dolphin biopsy and photo-identification surveys, satellite tagging dolphins, responding to strandings, etc.
- Participate in necropsies as needed

**Oct 2000 – June 2002: Laboratory Technician
Marine Biological Laboratories
Woods Hole, Ma**

- Manage daily operations of the laboratory of marine veterinarian, Roxanna Smolowitz
- Run experiments and document methodologies and results
- Prepare media, samples, histology slides, and other lab bench work



STATE OF MAINE
DEPARTMENT OF
MARINE RESOURCES
MARINE RESOURCES LABORATORY
P.O. BOX 8, 194 MCKOWN POINT RD
W. BOOTHBAY HARBOR, MAINE 04575-0008

JANET T. MILLS
GOVERNOR

PATRICK C. KELIHER
COMMISSIONER

August 5, 2021

Atlantic Coastal Cooperative Statistics Program
1050 N. Highland St. Ste. 200 A-N
Arlington, VA 22201

Dear ACCSP:

We are pleased to submit the proposal titled “FY22: Managing Mandatory Dealer Reporting in Maine” for your consideration. This is a maintenance proposal which has not changed in the scope of work. The Maine Department of Marine Resources (MEDMR) has required mandatory swipe card reporting for elver dealers since the 2014 season; which the MEDMR fully funded. The MEDMR has required the sea urchin industry to use eDR mobile (ACCSP’s swipe card program) for the past four seasons. This is the swipe card program that MEDMR worked collaboratively with the Massachusetts Division of Marine Fisheries (MADMF), National Marine Fisheries Service Greater Atlantic Regional Office (NMFS GARFO), ACCSP and HarborLight Software LLC. The MEDMR brought its experience with the Elver System swipe card project to this effort in the hope that other partners may benefit from the new swipe card system and we could use our “lessons learned” to make this project a success. The roll-out during the first two seasons did not go as smooth as intended; however, the past three seasons were greatly improved. The MEDMR also continued to monitor compliance and suspend those dealers who fail to report on time. The threat of a license suspension has improved the timeliness and quality of data submitted. Please view all graphs in color. **This proposal addresses the following 2022 ranking criteria: catch and effort, sociological and economic data, data delivery plan, regional impact, funding transition plan, in-kind contribution, improvement in data quality and timeliness, impact on stock assessment and properly prepared.** We are applying as a year 7 maintenance proposal with the COVID funding shortfall. As requested, the explanation for requesting the additional year of funding can be found in the FY22 Budget Narrative on pages 13-14. For a summary of the proposal for ranking purposes, please see page 26. **There were no changes made to this final proposal from our pre-proposal as no questions were asked.** Please contact Robert Watts at the MEDMR with any questions. Thank you for your consideration of this proposal.

Sincerely,

Robert B. Watts II
Marine Resources Scientist III
rob.watts@maine.gov
(207) 633-9412

Lessie L. White Jr
Marine Resources Scientist II
lessie.l.white@maine.gov
(207) 633-9509

Atlantic Coastal Cooperative Statistics Program
1050 N. Highland Street. Suite. 200A-N
Arlington, VA 22201

FY22: Managing Mandatory Dealer Reporting in Maine

Total Cost: \$61,304.35

Submitted by:

Robert B. Watts II
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erin.l.summers@maine.gov

Applicant Name: Maine Department of Marine Resources (MEDMR)

Principal Investigator: Robert Watts, Marine Resource Scientist

Project Title: FY22: Managing Mandatory Dealer Reporting in Maine

Project Type: Maintenance Project

Requested Award Amount (without the NOAA administration fee): \$61,304.35

Requested Award Period: One year after receipt of funds

Change in Scope/Cost from Previous Year Project:

This is a maintenance proposal which has not changed its scope from the FY21 proposal. **The dealer reporting objectives have largely remained unchanged since 100% of licensed dealers must report trip level information on 100% species they purchase from harvesters, which meets ACCSP standards.** However, since 2014 the MEDMR required that all elver dealers report daily using a MEDMR initiated and funded swipe card reporting program called the “Elver System” for dealers to report. Elver dealers were required to report daily using the Elver System. Since 2015, the Elver System was modified to start tracking of dealer-to-dealer transactions. Not only are harvesters required to swipe a card at the initial point of sale, but also dealers are required to swipe a card for any dealer-to-dealer elver transactions. The MEDMR implemented swipe card reporting in the sea urchin fishery during the 2016-2017 season. The program used for sea urchins was the swipe card program (eDR mobile) that MEDMR worked collaboratively with the Massachusetts Division of Marine Fisheries (MADMF), National Marine Fisheries Service Greater Atlantic Regional Office (NMFS GARFO), ACCSP and HarborLight Software LLC. The MEDMR required all 9 sea urchin dealers to report for the 2020-2021 season through the eDR mobile program for the fifth season. This was the third consecutive season that the program had very few issues within the season. The MEDMR continues to bring its experience with the Elver System and now eDR mobile swipe card projects to the current effort in the hope that other partners may benefit from the new swipe card system. The MEDMR currently does not have any plans to expand swipe card reporting to other fisheries unless there are management needs that swipe cards would justify. The MEDMR staff was again able to present data on this past season within a week of seasons end. Industry was impressed with how fast MEDMR could provide them with accurate data. The use of swipe cards in the sea urchin fishery allowed MEDMR to continue their management approach towards fishing days in the sea urchin fishery. In past years, harvesters were provided with set days they could fish. For the past four seasons, the MEDMR allowed harvesters to pick their own days from a list of open fishing days. It was the hope of the MEDMR that allowing this flexibility will allow harvesters to stay home on foul weather days. **The MEDMR also continued to suspend dealer licenses for those who fail to report on time which has greatly improved the timeliness and quality of the data submitted.** The MEDMR continues to fund the position that administers this suspension authority. These costs are not included in this grant proposal. See Attachment 1 for a summary of the project history and Attachment 2 (view in color) for a graph of previous grant costs.

Objectives:

The objective of this proposal is to collect trip level landings information from all licensed dealers who buy directly from harvesters. The primary tasks will be regulation compliance, data entry and auditing. Staff will also focus on dealer outreach to help industry understand the importance of the accurate and timely reporting. Electronic reporting will be encouraged for those still opting to report on paper. The continuous expansion of electronic reporting requires the MEDMR to spend a significant amount of time on outreach, explaining each system to dealers and troubleshooting any issues that might arise. In 2014 Maine State Legislature passed a law requiring that all elver dealers report using a swipe card program. Another law was passed in 2015

that provides the MEDMR the authority to require scallop and sea urchin dealers to report with swipe cards. **The results of the Elver System have proven successful and the MEDMR feels that swipe cards only be used where there is a fisheries management need.** Currently the MEDMR does not anticipate any new fisheries be required to report via swipe card. The MEDMR used their swipe card program experience as a learning process to help create a more complete swipe card program in collaboration with MADMF, NOAA GARFO, ACCSP and HarborLight Software LLC. Since the 2016-2017 sea urchin season the MEDMR required all sea urchin dealers to use eDR mobile to report all sea urchin transactions. There is no plan to mandate electronic reporting for all other dealers at this time, as this is not an ACCSP requirement.

Need:

Maine has many dealers who can buy directly from harvesters, and spends significant resources tracking compliance, entering and auditing many records. In 2020, approximately 500 dealers were licensed to buy from harvesters and 193 (38%) of them were required to report to National Marine Fisheries Service (NMFS). Regardless of their federal permit status, MEDMR works with all dealers to ensure all landings are reported either to MEDMR or to SAFIS, and staff audits all records with a state landed of Maine. Of the dealers, 179 (33%) chose to report on paper; 149 (28%) chose Trip Ticket (electronic reporting software developed by Bluefin Data LLC); 102 (19%) chose file upload; 57 (11%) chose key entry SAFIS; 36 (7%) were required to use VESL (swipe card reporting program developed by Bluefin Data LLC and used exclusively by MEDMR elver dealers, the number of dealers will fluctuate from year to year); 9 (2%) were required to use eDR mobile (swipe card program created jointly by ACCSP, MADMF, MEDMR and NOAA GARFO) and 5 (1%) would report using the NMFS quahog database (Table 1).

Table 1: Reporting Methods Chosen for the 2020 Primary Buyers in Maine

Reporting Method	Combo Dealers	State Dealers	Total Dealers
Paper	9	170	179
Trip Ticket	97	52	149
VESL Program	0	36	36
eDR Mobile	1	8	9
SAFIS Key Entry	32	25	57
File Upload	59	43	102
Quahog Electronic Logbook	4	0	4
Total Electronic*	193	164	357
Grand Total	202	334	536

*Data submitted via Trip Ticket, SAFIS Key Entry, eDR Mobile, VESL, File Upload and Quahog Electronic Logbook are data electronically reported.

Note: Fourteen dealers chose multiple methods of reporting, so they were counted two or more times on this table.

Some dealers opted to report using multiple methods, (largely due to the exemption of certain species in the federal reporting requirement). **Of the 1.133 million trips for 2020 in the data warehouse, 352,519 (31%) of them were landed in Maine which exceeds any other state (Figure 1 – view in color). These records were submitted by both “state-only” dealers (those that only report to MEDMR) as well as “combo” dealers (those that report to fulfill both NMFS and MEDMR requirements). Because MEDMR cooperatively works with NMFS to collect and audit data from federally permitted dealers, MEDMR staff devotes time and resources to help these “combo” dealers submit data and MEDMR staff audits all these records.**

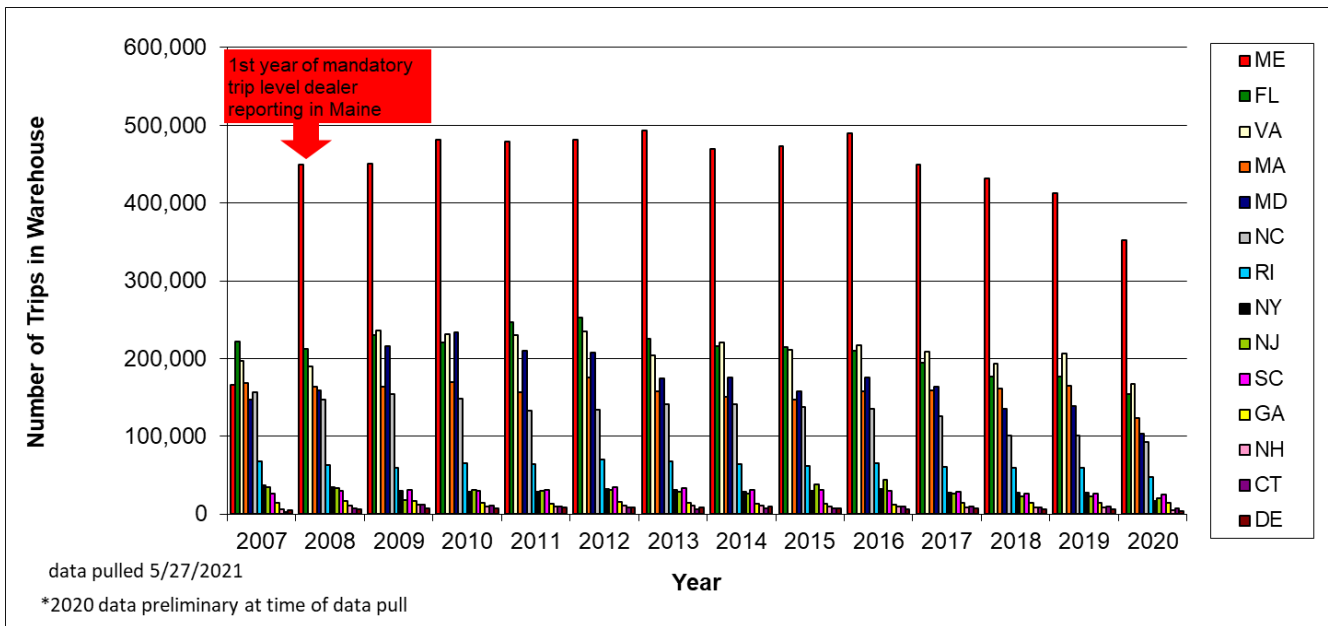


Figure 1: Number of Reported Trip Records by State Landed in ACCSP Data Warehouse

The number of trip records that MEDMR staff uploaded into SAFIS or data entered into MARVIN (MEDMR’s database that contains all sampling, biological and landings data that MEDMR collects) has increased 112% since 2007 (Figure 2 – view in color). When dealers submit reports on paper, they are entered into the MARVIN database. MARVIN is used for reports submitted on paper because it is a faster method of data entry and MEDMR wishes to use this tool to audit the data before sending a copy of it to ACCSP. Routines are configured to convert the MARVIN data to ACCSP codes before they are uploaded to the ACCSP warehouse.

The numbers in Figures 1 and 2 differ because they contain different data sets. Figure 1 shows the Maine-landed data in the warehouse which contains data from: MARVIN dealer data, MARVIN harvester data, SAFIS data, the federal ocean quahog data, and highly migratory species data. Figure 2 only shows Maine-landed records from MARVIN dealer data and SAFIS data.

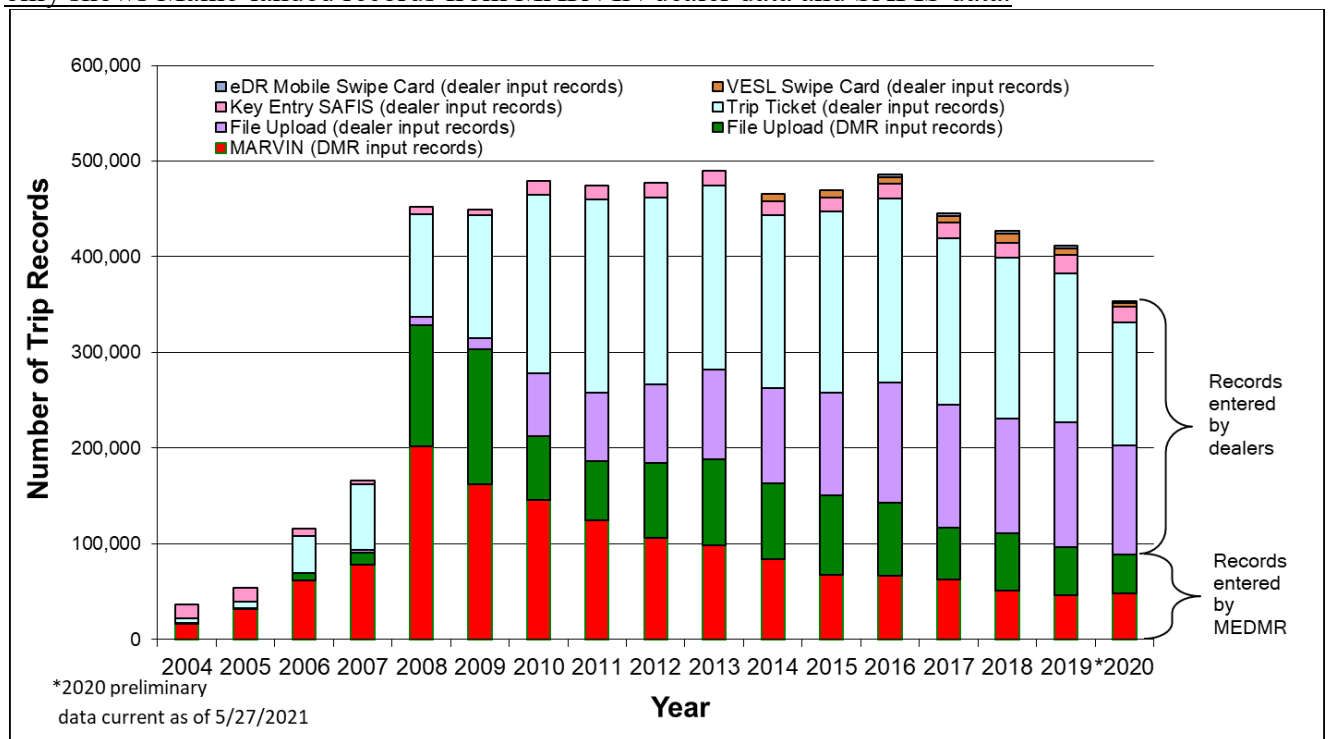


Figure 2: Number of Dealer Reported Trip Records entered in MARVIN and SAFIS

Landings data entered in MARVIN are uploaded to the ACCSP data warehouse. The significant increase in the amount of data entry and auditing is the single greatest challenge for the dealer program staff. Within the past few years, MEDMR absorbed the cost of three of the four positions (and 8 months for the last position) previously funded by ACCSP grants, and MEDMR is also funding the position who will administer the license suspension process of the program. MEDMR is now requesting partial funding (four months) for one existing position: one Specialist I who audits data, helps set up dealers with electronic reporting (trip ticket, file upload, key entry SAFIS and swipe card programs), uploads data for “state-only” dealers, trains and supports “combo” dealers to report their own data, and provides the personal outreach with industry. It is essential that this dealer reporting program continue as it is an important tool for monitoring Maine’s commercial fisheries which are large and economically important to the U.S. seafood industry. According to the NMFS commercial fisheries database (as of 5/24/2021), Maine was ranked as the highest state on the Atlantic Coast in commercial value (\$559.8 million) and fourth highest in whole pounds landed (185.8 million) in 2020. This comprehensive dealer reporting program is also an ASMFC (Atlantic States Marine Fisheries Commission) compliance issue for several fisheries, including American lobster which is Maine’s largest fishery.

Summary of staffing:

MEDMR Landings Program staff involved in dealer reporting who are fully funded by MEDMR:

- Scientist IV: makes decisions on the general Landings Program direction.
- Scientist III: oversees the Landings Program, participates in ACCSP committees, transfers data to ACCSP; reporting technology development and responds to data requests.
- Scientist II: manages the day-to-day operations of the Landings Program, is responsible for database development, responds to data requests and updates the Landings Program web page. This position also audits data, and monitors licenses and compliance.
- Specialist II: provides one-on-one outreach with the seafood dealers; trains dealers how to report electronically or on paper; follows up on compliance issues; uploads data from “state-only” dealers who choose to file upload; and audits data. This position trains “combo” dealers how to file upload their own data, maintains dealer upload conversion tables, troubleshoots uploading errors, and installs Trip Ticket at dealer locations. This position not only audits data from “state-only” dealers, but also data submitted electronically by “combo” dealers. This position frequently works with federally permitted dealers because the dealers are also submitting this information in order to fulfill MEDMR reporting requirements. See the *Approach* section below for further details on auditing. This position is also assigned tasks in the harvester-reporting project.
- Office Associate II: corresponds with industry regarding new suspension authority for failure to report on time; identifies and notifies delinquent reporters; follows protocols for suspending licenses; works with the licensing division to ensure licenses are re-issued when reports have been submitted.
- Office Associate I: opens and processes mail and enters data into MARVIN.

MEDMR Landings Program staff currently funded by ACCSP and in need of additional ACCSP funding:

- Specialist I (four months): provides one-on-one outreach with the seafood dealers; trains dealers how to report electronically or on paper; follows up on compliance issues; uploads data from “state-only” dealers who chose to file upload; and audits data. This position trains “combo” dealers how to file upload their own data, maintains dealer upload conversion tables, troubleshoots uploading errors, and installs Trip Ticket at dealer locations. This position not only audits data from “state-only” dealers, but also data submitted electronically by “combo” dealers. This position frequently works with federally permitted dealers because the dealers are also submitting this information in order to fulfill MEDMR reporting requirements. MEDMR staff help federally permitted dealers to submit data and staff audit the data submitted to ensure the data are as accurate as possible, even though the data may have been submitted under the NMFS partner ID. See the *Approach* section below for further details on auditing.

The FY14 through FY21 grant did not include any funding for the elver swipe card program. The MEDMR fully funded the original programming, programmatic updates and maintenance costs associated with this project. The MEDMR will continue to fund the monthly maintenance fees.

Results and Benefits:

The data collected so far have shown how valuable this information is for Maine’s fisheries. In the lobster industry, MEDMR scientists have learned more about the fleet characteristics and number of active full time and part time fishermen involved in this fishery than they have been able to with the current sampling programs. Other fishery managers are now analyzing landings data to learn more about the fishing fleet and the makeup of other fisheries. MEDMR has learned how many harvesters are active in each fishery (Figure 3 – view in color).

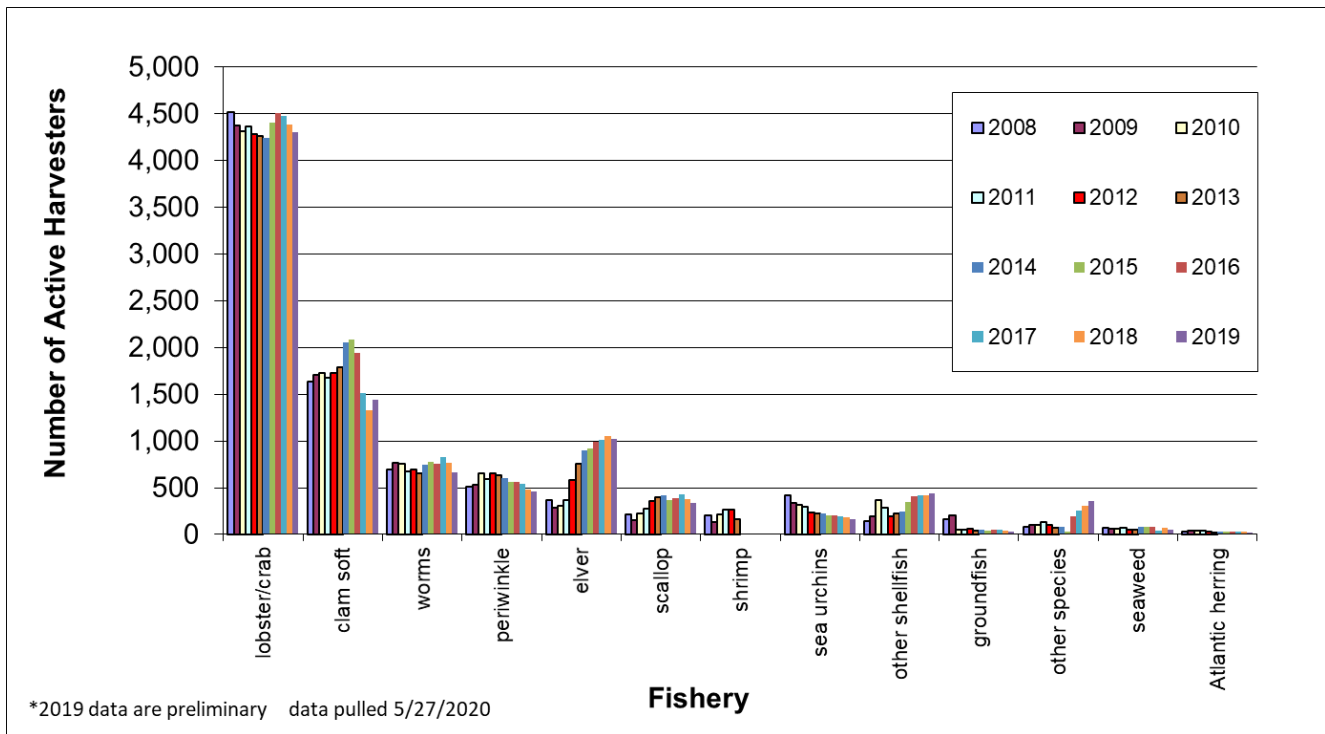


Figure 3: Number of Active Harvesters Reported in Dealer Data

This grant will allow MEDMR to complete an 14th year of mandatory trip level reporting for all dealers. More data auditing and follow up with dealers will help to ensure the data reported are as accurate as possible. MEDMR continues to encourage more dealers to move from paper reporting to electronic reporting as dealers become more comfortable with trip level reporting and will continue to mandate electronic swipe card reporting in the elver and sea urchin fishery. The MEDMR participated in a collaborative effort that created a complete swipe card program with MADMF, NOAA GARFO, ACCSP and HarborLight Software LLC that was used for sea urchin reporting the past two seasons. The MEDMR expects other fisheries will eventually be required to use the swipe card program. MEDMR is already uploading data reported to MARVIN to ACCSP every six months and intends to start uploading every month; which benefits all partners.

Metadata for the dealer program will be updated as needed according to the Federal Geographic Data Committee (FGDC) and the Content Standard for Digital Geospatial Metadata (CSDGM) standards where appropriate. The resulting metadata will be reported to ACCSP as text and XML.

This project will help MEDMR meet the data collection standards of ACCSP. All partners will benefit, as all data will be uploaded to ACCSP and many of the species landed in Maine have a broad geographic range which includes many other agencies in their management. Partners have also benefited from the technologies built and lessons learned from the elver dealer swipe

card/mobile app project that was rolled out to elver dealers in 2014 and the ACCSP eDR mobile app project in 2016.

Approach:

1. Enforce compliance

MEDMR staff will enforce compliance of the trip level reporting regulation through these methods:

- Provide initial outreach and technical support needed for dealers to report trip level landings to MEDMR. Meet with dealers individually as needed to explain reporting procedures, load software, troubleshoot problems with reporting, and explain consequences for failing to report.
- Review reports submitted for completeness and log the submissions in the compliance database. If reports are incomplete, MEDMR will contact industry to correct reporting mistakes. If a dealer cannot be contacted by phone, the report will be returned for correction.
- **Complete suspension notices monthly to those dealers that are delinquent enough to meet the minimum notification criteria as outlined in the suspension law (Attachment 4).**
- Complete follow-up suspension notices monthly to those dealers that are delinquent enough to meet the minimum notification criteria as outlined in the suspension law (Attachment 4).
- **MEDMR will suspend dealer licenses for those who fail to report in a timely manner. See Attachment 4 for the law, which dictates suspension procedures MEDMR will follow.**

2. Data entry

Paper reports will be entered into MARVIN. Staff will file upload all data through the SAFIS interface for those “state-only” dealers who choose to report from their own accounting systems.

3. Encourage electronic reporting

MEDMR staff will encourage dealers reporting on paper to report using one of the three electronic reporting methods (SAFIS key entry, Trip Ticket, or file upload). Currently only certain fisheries are required to report using swipe card technology, so the swipe card report type is not counted above. MEDMR staff will train “combo” dealers who are required to report electronically according to NMFS regulation to upload their own data and will help them maintain their conversion tables so the correct fishermen, vessels, ports and species-grade-market-unit combinations are reported. MEDMR staff will install Trip Ticket at those dealer locations where file uploading is not an option. Staff will also customize the Trip Ticket program so that only the correct harvesters, vessels, species, ports and gears pertinent to the dealer can be chosen.

MEDMR believes the electronic reporting can benefit many in the industry as much as it benefits MEDMR by reducing the amount of key entry required of staff. Starting with the 2014 elver season and continuing through 2021 season, the MEDMR required all elver dealers report daily using the “VESL” (formally the “Elver System”), which was created by Bluefin Data LLC. The MEDMR required VESL to be used to record and report all harvester to dealer transactions. In 2015 through 2021, the Elver System and VESL also tracked dealer-to-dealer transactions. The MEDMR paid for and supplied each dealer with an Elver System or VESL (starting in 2017) program and swipe card reader and training. There was a total of 12 buying stations that could have purchased directly from harvesters in 2021, 18 in 2020, 16 in 2019, 36 in 2018, 24 in 2017, 22 in 2016 and 27 in 2015. Starting in September 2016 MEDMR required that all sea urchin dealers use eDR Mobile (created through collaborative effort with MEDMR, MADMF, ACCSP, NOAA GARFO and HarborLight Software) to purchase sea urchins directly from harvesters. During the 2020 – 2021 season, 9 dealer locations were set up and required to use swipe card technology to purchase sea urchins from licensed harvesters. This figure is down slightly from the 11 sea urchin dealers that reported through eDR Mobile for the 2019-2020 seasons and 12 for the 2018-2019 and 2017-2018 seasons. A total of 15 that were set up for the 2016 – 2017 season. While the initial roll-out for the first two seasons did not come without glitches, the rollout for the past three seasons (2020-2021, 2019-2020 and 2018-

2019) were very smooth. **The use of the swipe cards in the elver and sea urchin fishery has eliminated the need of MEDMR staff to manually enter approximately 10,000 transactions between both fisheries each year while also providing staff with the most up to date data available. Dealers were required to report daily which allowed the MEDMR to monitor each harvester's individual quota (elver only) and the overall quota (elver only). For the past four sea urchin seasons the MEDMR was able to utilize eDR mobile to allow for harvesters to pick which days they fished based off a pre-determined calendar of fishing days. It was the hope to make this fishery safer for all involved by allowing harvesters to stay home on bad weather days.**

4. Continue outreach with industry to promote buy-in.

MEDMR staff will continue to work with dealers to explain the purpose and benefits of this reporting system. Staff will attend the annual Maine Fishermen's Forum and present a Landings Program poster explaining the importance of accurate reporting as well as displaying preliminary data by fishery. At the 2020 Fishermen's Forum, MEDMR released its "Landings Data Portal" (https://mainedmr.shinyapps.io/Landings_Portal/) which provides the public with non-confidential data summarized by species and port. This portal also includes all historical data currently available in .PDF form on our website (<https://www.maine.gov/dmr/commercial-fishing/landings/historical-data.html>). It is the hope that providing more accessibility to our non-confidential data will reduce the amount of time MEDMR staff spend on basic queries while providing the public with better access to the data collected. Since it's release, the data portal has been used to download a data file 529 times (see project accomplishment chart). Staff will work with established industry organizations, such as the MEDMR advisory councils, lobster zone councils, and dealer and harvester associations to reiterate the program goals and show results of mandatory reporting. Staff will also focus on explaining the new statutory authority for suspending licenses for those who fail to report on time, and how this will help gather more accurate data.

5. Audit of dealer data submitted.

Staff will audit data submitted monthly. Paper data will be audited twice per month; electronic audits sent via email from SAFIS will be corrected weekly. SAFIS audits for "state-only" dealers will be corrected via an ODBC connection to a view of the Maine data. Audits concerning "combo" dealers will also be vetted through the NMFS Northeast Region. MEDMR staff audit data submitted by "combo" dealers because these dealers submit data in order to also fulfill MEDMR reporting requirements. MEDMR performs basic audits of records to catch potential oversights from NMFS audits, audits data exempted from the federal reporting rule (e.g. softshell clams, razor clam, mussels, oysters, quahog, elver, and worm data), and performs additional audits that NMFS does not. For example, MEDMR audits all records to flag those harvesters selling without a license for that species. MEDMR also compares dealer-reported landings with harvester-reported landings and identifies dealers with discrepancies. In these audits, MEDMR contacts dealers when discrepancies are discovered and works to correct records or recover missing data.

6. Transmission of dealer data to ACCSP.

MEDMR will try to upload dealer data from MARVIN to the ACCSP data warehouse once every two months but at a minimum every 6 months. In each data feed, the following fields are uploaded to the warehouse according to ACCSP protocols: supplier dr id, supplier dealer id, supplier trip id, supplier cf id, supplier vessel id, unload year, unload month, unload day, state code, county code, port code, primary gear, data source, data supplier, reported quantity, live pounds, dollars, disposition code, grade code, unit measure, species ITIS, market code, supplier action flag, dr seq id, fishing mode. **MEDMR enters data daily and audits data weekly, so the data uploaded to the warehouse are a mix of pre- and post-audited records. MEDMR does not keep track of what percentage of the uploaded records are "reloads" due to errors, but simply reloads all the data in MARVIN to the warehouse once every three months. In addition, the data supplied by the Elver System are sent directly to SAFIS daily during elver season.**

The MEDMR does not upload data from MARVIN to SAFIS because MEDMR staff continually audit data each week, so the data that are uploaded to the warehouse are a mix of pre- and post-audited records. The reloading of data from MARVIN to the Warehouse is an automated process that the MEDMR loads into a temporary table provided by the Warehouse. If we were to perform the same upload method to SAFIS we would need the ability to mass delete records from SAFIS (which we do not have the ability to do at this time) before records are reloaded to avoid creating duplicate records. In addition, quahog data are loaded into the warehouse and not into SAFIS, so all Maine dealer data would still reside in the warehouse and not SAFIS.

7. Report metadata to ACCSP.

Metadata will be created with ESRI ArcCatalog 10 in order to conform to the FGDC (Federal Geographic Data Committee) standards and specifications. As specified by the federal standard, MEDMR metadata will include the following main sections with detailed information on: identification information, data quality information, spatial data organization information, spatial reference information, entity and attribute information, distribution information, metadata reference information, citation information, time period information and contact information. Created metadata will be available in text and XML formats.

Geographic Location: Operations will be based out of Boothbay Harbor, Maine and the project will take place throughout Maine.

Milestone Schedule:

	<u>Months</u>											
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>	<u>11</u>	<u>12</u>
1. Enforce dealer compliance	X	X	X	X	X	X	X	X	X	X	X	X
2. Data enter dealer reports	X	X	X	X	X	X	X	X	X	X	X	X
3. Encourage electronic dealer reporting	X	X	X	X	X	X	X	X	X	X	X	X
4. Industry outreach to promote dealer buy-in	X	X	X	X	X	X	X	X	X	X	X	X
5. Audit dealer data	X	X	X	X	X	X	X	X	X	X	X	X
6. Upload dealer data to ACCSP		X		X		X	X		X		X	
7. Report metadata to ACCSP												X
8. Semi-annual reports						X						X
9. Annual reports												X

Project Accomplishments Measurement:

*2020 and 2021 data are incomplete at the time of proposal submission

Goal	Measurement	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020*	2021*
Enforce Dealer Compliance	Number of dealer licenses rejected due to failure to report	43	155	48	56	66	81	16	35	15	115	407	-	-	-	-	-	-	-
Enforce Dealer Compliance	Frequency of referrals to Marine Patrol due to missing reports	-	-	-	-	-	4X per yr	4X per yr	4X per yr	4X per yr	4X per yr	4X per yr through 6/1/14	-	-	-	-	-	-	-
Enforce Dealer Compliance	Number of compliance calls to delinquent dealers	-	-	-	-	166	297	259	451	523	420	269	208	45	37	25	25	18	15
Enforce Dealer Compliance	Number of suspension letters to delinquent dealers	-	-	-	-	-	-	-	-	-	-	407	567	177	876	532	421	338	11
Enforce Dealer Compliance	Number of dealers suspended for failing to report timely	-	-	-	-	-	-	-	-	-	-	27	57	38	32	29	89	43	0
Dealer Data Entry	Number of trip records by year landed in data warehouse	15,858	27,455	127,936	166,468	449,216	451,056	481,668	478,819	481,204	493,212	469,200	473,185	489,166	448,825	431,546	412,536	354,473	55,112
Dealer Data Entry	Number of positive trip records by year landed in MARVIN	15,824	31,486	61,656	76,744	197,289	159,437	143,766	124,057	105,760	98,195	83,942	67,871	66,656	62,447	51,055	46,603	46,881	5,537
Dealer Data Entry	Number of positive trip records by year landed in SAFIS	21,602	26,382	59,452	91,551	250,656	290,155	333,132	350,232	371,391	391,192	381,413	401,520	418,957	383,235	377,103	365,071	305,660	51,622
Encourage Electronic Reporting	Number of dealers submitting positive reports in SAFIS	69	78	98	142	204	230	275	291	312	328	342	330	339	329	340	321	347	221
Transmit Dealer Data to Data Warehouse	Frequency of data submitted by year landed	Yearly	Yearly	Yearly	Yearly	yearly to twice per month	twice per month	twice per month	twice per month	twice per month	twice per month	bi-monthly	once every 6 months	once every 6 months	once every 6 months	once every 6 months	once every 6 months	once every 6 months	once every 6 months
Outreach	Number of custom data requests	-	11	95	155	204	269	275	281	302	419	434	569	806	720	532	479	946	272
Outreach	Number of custom data requests from portal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	362	167

MEDMR does not consider data complete until the end of the following year. This is a standard practice we have always worked under. Example: 2020 data will be considered complete in January of 2022.

Cost Summary: FY22 Managing Mandatory Dealer Reporting in Maine

10/1/2022 - 9/30/2023

Personnel^A	Description	Cost
1 Specialist I (Eileen Greenleaf)	full time position for 4 months	15,276.26
	Subtotal	15,276.26
Fringe Benefits^A		
1 Specialist I (Eileen Greenleaf)	Includes health, dental, workers comp, FICA, life insurance and retirement	9,656.43
	Subtotal	9,656.43
	Total Personnel	24,932.69
Travel		
Mileage Reimbursement	1000 miles @ \$0.44/mile	440.00
Per diem (includes extended days)	12 extended days @\$24/day	288.00
	Total Travel	728.00
Supplies		
Filing Supplies	folders, folder labels, year labels	300.00
Other		
Printing and binding of dealer report forms	500 logbooks * \$3.50 per logbook	1,750.00
Postage for logbooks	Mail 350 logbooks * \$5.00 per logbook	1,750.00
Postage for info packets and letters	(\$0.50*325 compliance letters)	162.50
Technology (computer programs, equipment)		350.00
Telecommunication charges ^C	4 phones * \$50/mo * 12 mo	2,400.00
	Total Supplies	6,712.50
Contractual		
Trip Ticket 1 yr maintenance (Software support and upgrades)	\$1,232/mo fee * 12 mo	14,784.00
	Total Contractual	14,784.00
	Subtotal	22,224.50
Total Direct Costs		47,157.19
Indirect Costs (30%)		14,147.16
Total Award to DMR		61,304.35

A: Cost includes salary and benefits, which are dictated by contract with State of Maine and are non-negotiable.

B: DMR staff meet with and train dealers how to electronically report to DMR and/or NMFS.

C: One cell phone for each of the two specialists and one each for the two scientists working on the project.

Partner Contribution For ACCSP Purposes

Scientist IV (15% time)	\$9,115
Scientist III (50% time)	\$51,837
Scientist II (50% time)	\$57,484
Specialist II (75% time)	\$59,364
Specialist I (67% time)	\$51,906
Office Associate I (15% time)	\$11,704
Office Associate II (85%)	\$66,654
Elver Mobile Swipe Card Project	\$10,605

\$318,669

Budget Narrative for FY-2022 proposal:

Personnel and Fringe Benefits: The Specialist I named in the grant is Eileen Greenleaf. The position was transitioned from being fully funded (100%) by this award to only 4 months in the FY21 and MEDMR will assume the remainder of the salary on an annual basis. This same situation will occur for FY22. This position is a Department of Marine Resources' employee. Salary and benefits for this employee are dictated by contract with the State of Maine and are non-negotiable. Benefits include retirement benefits, FICA, health insurance, dental insurance, workers compensation and life insurance. The benefits are determined by a formula the state uses which is variable dependent upon the position classification, the pay grade of the employee (e.g. the number of years the person has been employed by the State of Maine) and type of coverage the employee selects. The total cost for this position is approximately \$75,500/year. The remainder of this position is captured within the in-kind calculation.

Travel: The Specialists are the employees who will be travelling. The travel is for visiting dealers to install reporting software, training dealer staff how to electronically report or troubleshooting reporting problems. Staff provide dealers with one-on-one training on these reporting systems and help troubleshoot electronic reporting problems. Travel occurs throughout the coast of Maine, although trips to the interior are not unusual if the dealer headquarters is located inland. These dealers must be trained in the use of electronic reporting and in some cases given reporting software to submit their landings information.

The mileage reimbursement rate is set by the State of Maine and are not negotiable.

Occasional extended day travel or overnight stays are necessary. If multiple dealer appointments to these remote areas are made for the same day, or appointments are made for consecutive days, extended days have replaced overnight stays to keep budget costs to a minimum. The rates were calculated through the GSA website for posted rates. The number of extended days have increased to accommodate the extra trips the Specialists have made for dealer set ups for swipe card reporting and removing the overnight stays.

Supplies: Filing supplies are needed each year. The MEDMR does not require paper dealers to use the supplied bound logbook. Many of our paper dealers download the electronic version of their form from our website. We do accept forms via email, fax or U.S. mail. The bound logbook includes a carbon copy that dealers use for their records, or to resend should the original gets lost in the mail. Many dealers like this carbon copy feature, which is one of the main reasons why we choose to continue to purchase these bound logbooks.

Contract: The Trip Ticket reporting software is custom-made software only available from Bluefin Data LLC and was purchased in a previous grant. This is the only vendor that can provide the software support and maintenance, this is the only outside vendor providing these services to ACCSP and NMFS as well as MEDMR. In this grant segment, this award will pay for a maintenance contract for Bluefin Data LLC to provide backup support, to be available for troubleshooting software problems and provide program upgrades as needed. This program is essential, as seafood dealers in Maine use the software to comply with MEDMR regulations. The information is used by MEDMR, National Marine Fisheries Service and other state agencies for fisheries management. The increase in cost for FY22 reflects that in 2019, NMFS stopped their support agreement with Bluefin and shifted the cost to the dealer. The additional cost will cover all the state-only and "combo" dealers.

Other: Cell phones for the Specialists and the Scientists are necessary for communication and safety when on travel to dealer locations. The Scientist positions are not mentioned in the personnel costs because the positions are paid for with state money (not grant money), although staff members travel while working on this grant award. Staff often needs to call NMFS or Bluefin Data LLC when installing software or troubleshooting reporting issues at the dealer locations. Dealer reporting logbooks are printed every year and distributed to those who opt to report on paper. Some dealers use many logbooks per year, depending on the logbook type they choose and the number of harvesters with which they do business.

Indirect costs: The Department of Marine Resources has an indirect cost rate of 30%. See Attachment 2 for the Negotiated Indirect Cost Agreement.

Year 7 Funding Appendix: The MEDMR is asking for one additional year of funding to help offset budget shortfalls due to the COVID-19 pandemic. At the time of this pre-proposal's submission, MEDMR has been

flat funded for the current biennium budget. These additional funds will allow MEDMR to continue to fund the MR Specialist I position at the same level as the FY21 proposal allowed, and continue to fund dealer reporting software (Trip Ticket and paper reporting) for state and combo (state/federal) dealers. It is the hope of MEDMR that the current COVID-19 issues on budgets will dissipate and MEDMR will have the opportunity to request these additional funds be included in our next state biennium budget in 2023. There will be no unspent funds from our FY20 or FY21 Managing Mandatory Dealer Reporting in Maine grant at the end of the FY21 funding period.

Cost Summary: FY21 Managing Mandatory Dealer Reporting in Maine				
10/1/2021 - 9/30/2022				
Personnel^A		Description		Cost
	1 Specialist I (Eileen Greenleaf)	full time position for 4 months		15,276.26
			Subtotal	15,276.26
Fringe Benefits^A				
	1 Specialist I (Eileen Greenleaf)	Includes health, dental, workers comp, FICA, life insurance and retirement		9,656.43
			Subtotal	9,656.43
			Total Personnel	24,932.69
Travel				
	Mileage Reimbursement	1000 miles @ \$0.44/mile		440.00
	5 Overnight stays ^B	5* \$150/night		750.00
	Per diem (includes extended days)	(5 overnights @ \$65/day & 12 extended days @\$24/day		613.00
			Total Travel	1,803.00
Supplies				
	Filing Supplies	folders, folder labels, year labels		300.00
Other				
	Printing and binding of dealer report forms	500 logbooks * \$3.50 per logbook		1,750.00
	Postage for logbooks	Mail 500 logbooks * \$4.00 per logbook		2,000.00
	Postage for info packets and letters	(\$0.50*300 compliance letters)		150.00
	Technology (computer programs, equipment)			350.00
	Telecommunication charges ^C	4 phones * \$50/mo * 12 mo		2,400.00
			Total Supplies	6,950.00
Contractual				
	Trip Ticket 1 yr maintenance (Software support and upgrades)	\$1,120/mo fee * 12 mo		13,440.00
			Total Contractual	13,440.00
			Subtotal	22,193.00
	Total Direct Costs			47,125.69
	Indirect Costs (30%)			14,137.71
	Total Award to DMR			61,263.40

A: Cost includes salary and benefits, which are dictated by contract with State of Maine and are non-negotiable.

B: DMR staff meet with and train dealers how to electronically report to DMR and/or NMFS.

C: One cell phone for each of the two specialists and one each for the two scientists working on the project.

Partner Contribution For ACCSP Purposes

Scientist IV (15% time)	\$9,115
Scientist III (50% time)	\$51,837
Scientist II (50% time)	\$57,484
Specialist II (75% time)	\$59,364
Specialist I (67% time)	\$51,906
Office Associate I (15% time)	\$11,704
Office Associate II (85%)	\$66,654
<u>Elver Mobile Swipe Card Project</u>	<u>\$9,500</u>

\$317,564

Text in bold indicate where proposal hit on ranking criteria.

Budget Narrative for FY-2021 proposal:

Personnel and Fringe Benefits: The Specialist I named in the grant is Eileen Greenleaf. The position is in transition from being fully funded (100%) by this award to only 4 months then MEDMR will assume the remainder of the salary on an annual basis. This position is a Department of Marine Resources' employee. Salary and benefits for this employee are dictated by contract with the State of Maine and are non-negotiable. Benefits include retirement benefits, FICA, health insurance, dental insurance, workers compensation and life insurance. The benefits are determined by a formula the state uses which is variable dependent upon the position classification, the pay grade of the employee (e.g. the number of years the person has been employed by the State of Maine) and type of coverage the employee selects. The total cost for this position is approximately \$75,500/year. The remainder of this position is captured within the in-kind calculation.

Travel: The Specialists are the employees who will be travelling. The travel is for visiting dealers to install reporting software, training dealer staff how to electronically report or troubleshooting reporting problems. Staff provide dealers with one-on-one training on these reporting systems and help troubleshoot electronic reporting problems. Travel occurs throughout the coast of Maine, although trips to the interior are not unusual if the dealer headquarters is located inland. These dealers must be trained in the use of electronic reporting and in some cases given reporting software to submit their landings information.

The mileage reimbursement rate is set by the State of Maine and are not negotiable.

Occasional extended day travel or overnight stays are necessary. If multiple dealer appointments to these remote areas are made for the same day, or appointments are made for consecutive days, overnight travel may be necessary. The rates were calculated through the GSA website for posted rates. The breakdown of overnight stays and extended days are now split because their costs are different. The number of extended days have increased to accommodate the extra trips the Specialists have made for dealer set ups for swipe card reporting.

Supplies: Filing supplies are needed each year. The MEDMR does not require paper dealers to use the supplied bound logbook. Many of our paper dealers download the electronic version of their form from our website. We do accept forms via email, fax or U.S. mail. The bound logbook includes a carbon copy that dealers use for their records, or to resend should the original gets lost in the mail. Many dealers like this carbon copy feature, which is one of the main reasons why we choose to continue to purchase these bound logbooks.

Contract: The Trip Ticket reporting software is custom-made software only available from Bluefin Data LLC and was purchased in a previous grant. This is the only vendor that can provide the software support and maintenance, this is the only outside vendor providing these services to ACCSP and NMFS as well as MEDMR. In this grant segment, this award will pay for a maintenance contract for Bluefin Data LLC to provide backup support, to be available for troubleshooting software problems and provide program upgrades as needed. This program is essential, as seafood dealers in Maine use the software to comply with MEDMR regulations. The information is used by MEDMR, National Marine Fisheries Service and other state agencies for fisheries management. The increase in cost for FY21 reflects that in 2019, NMFS stopped their support agreement with Bluefin and shifted the cost to the dealer. The additional cost will cover all of the state-only and "combo" dealers.

Other: Cell phones for the Specialists and the Scientists are necessary for communication and safety when on travel to dealer locations. The Scientist positions are not mentioned in the personnel costs because the positions are paid for with state money (not grant money), although staff members travel while working on this grant award. Staff often needs to call NMFS or Bluefin Data LLC when installing software or troubleshooting reporting issues at the dealer locations. Dealer reporting logbooks are printed every year and distributed to those who opt to report on paper. Some dealers use many logbooks per year, depending on the logbook type they choose and the number of harvesters with which they do business.

Indirect costs: The Department of Marine Resources has an indirect cost rate of 30%. See Attachment 3 for the Negotiated Indirect Cost Agreement. (A new agreement was not available at time of submission, will submit new agreement before final proposal submission).

Cost Summary: FY20 Managing Mandatory Dealer Reporting in Maine
10/1/2020 - 9/30/2021

Personnel^A	Description	Cost
1 Specialist I (Eileen Greenleaf)	full time position for 12 months	\$46,207
	Subtotal	\$46,207
Fringe Benefits^A		
1 Specialist I (Eileen Greenleaf)	Includes health, dental, workers comp, FICA, life insurance and retirement	\$29,289
	Subtotal	\$29,289
	Total Personnel	\$75,496
Travel		
Mileage Reimbursement	2500 miles @ \$0.44/mile	\$1,100
5 Overnight stays ^C	5* \$150/night	\$750
Per diem (includes extended days)	(5 overnights + 5 extended days) * \$65/day	\$650
	Total Travel	\$2,500
Supplies		
Filing Supplies	folders, folder labels, year labels	\$300
Other		
Printing and binding of dealer report forms	500 logbooks * \$2.50 per logbook	\$1,250
Postage for logbooks	Mail 500 logbooks * \$4.00 per logbook	\$2,000
Postage for info packets and letters	(\$0.50*600 compliance letters)	\$300
Technology (computer programs, equipment)		\$250
Telecommunication charges ^D	4 phones * \$40/mo * 12 mo	\$1,920
	Total Supplies	\$6,020
Contractual		
Trip Ticket 1 yr maintenance	\$850/mo fee * 12 mo	\$10,200
(Software support and upgrades)	Total Contractual	\$10,200
	Subtotal	\$18,720
Total Direct Costs		\$94,216
Indirect Costs (30%)		\$28,265
Total Award to DMR		\$122,480

A: Cost includes salary and benefits, which are dictated by contract with State of Maine and are non-negotiable.

B: All state agencies must rent vehicles through state's Central Fleet Agency which is non-negotiable. Vehicle costs include the following services and costs: maintenance, repairs, insurance, and gasoline.

C: DMR staff meet with and train dealers how to electronically report to DMR and/or NMFS.

D: One cell phone for each of the two specialists and one each for the two scientists working on the project.

Partner Contribution For ACCSP Purposes

Scientist IV (7% time)	\$9,115
Scientist III (50% time)	\$51,837
Scientist II (50% time)	\$57,484
Specialist II (75% time)	\$59,364
Office Associate I (15% time)	\$11,704
Office Associate II (100%)	\$78,417
Elver Mobile Swipe Card Project	\$21,900

\$289,821

Text in bold indicate where proposal hit on ranking criteria.

Budget Narrative for FY-2020 proposal:

Personnel and Fringe Benefits: The Specialist I named in the grant is Eileen Greenleaf. The position is funded full time (100%) by this award and are a Department of Marine Resources' employee. Salary and benefits for this employee are dictated by contract with the State of Maine and are non-negotiable. Benefits include retirement benefits, FICA, health insurance, dental insurance, workers compensation and life insurance. The benefits are determined by a formula the state uses which is variable dependent upon the position classification, the pay grade of the employee (e.g. the number of years the person has been employed by the State of Maine) and type of coverage the employee selects.

Travel: The Specialists are the employees who will be travelling. The travel is for visiting dealers to install reporting software, training dealer staff how to electronically report or troubleshooting reporting problems. Staff provide dealers with one-on-one training on these reporting systems and help troubleshoot electronic reporting problems. Travel occurs throughout the coast of Maine, although trips to the interior are not unusual if the dealer headquarters is located inland. These dealers must be trained in the use of electronic reporting and in some cases given reporting software to submit their landings information.

The mileage reimbursement rate is set by the State of Maine and are not negotiable.

Occasional extended day travel or overnight stays are necessary. If multiple dealer appointments to these remote areas are made for the same day, or appointments are made for consecutive days, overnight travel may be necessary. The rates were calculated through the GSA website for posted rates.

Supplies: Filing supplies are needed each year. The MEDMR does not require paper dealers to use the supplied bound logbook. Many of our paper dealers download the electronic version of their form from our website. We do accept forms via email, fax or U.S. mail. The bound logbook includes a carbon copy that dealers use for their records, or to resend should the original gets lost in the mail. Many dealers like this carbon copy feature, which is one of the main reasons why we choose to continue to purchase these bound logbooks.

Contract: The Trip Ticket reporting software is custom-made software only available from Bluefin Data LLC and was purchased in a previous grant. This is the only vendor that can provide the software support and maintenance and this is the only outside vendor providing these services to ACCSP and NMFS as well as MEDMR. In this grant segment, this award will pay for a maintenance contract for Bluefin Data LLC to provide backup support, to be available for troubleshooting software problems and provide program upgrades as needed. This program is essential, as seafood dealers in Maine use the software to comply with MEDMR regulations. The information is used by MEDMR, National Marine Fisheries Service and other state agencies for fisheries management.

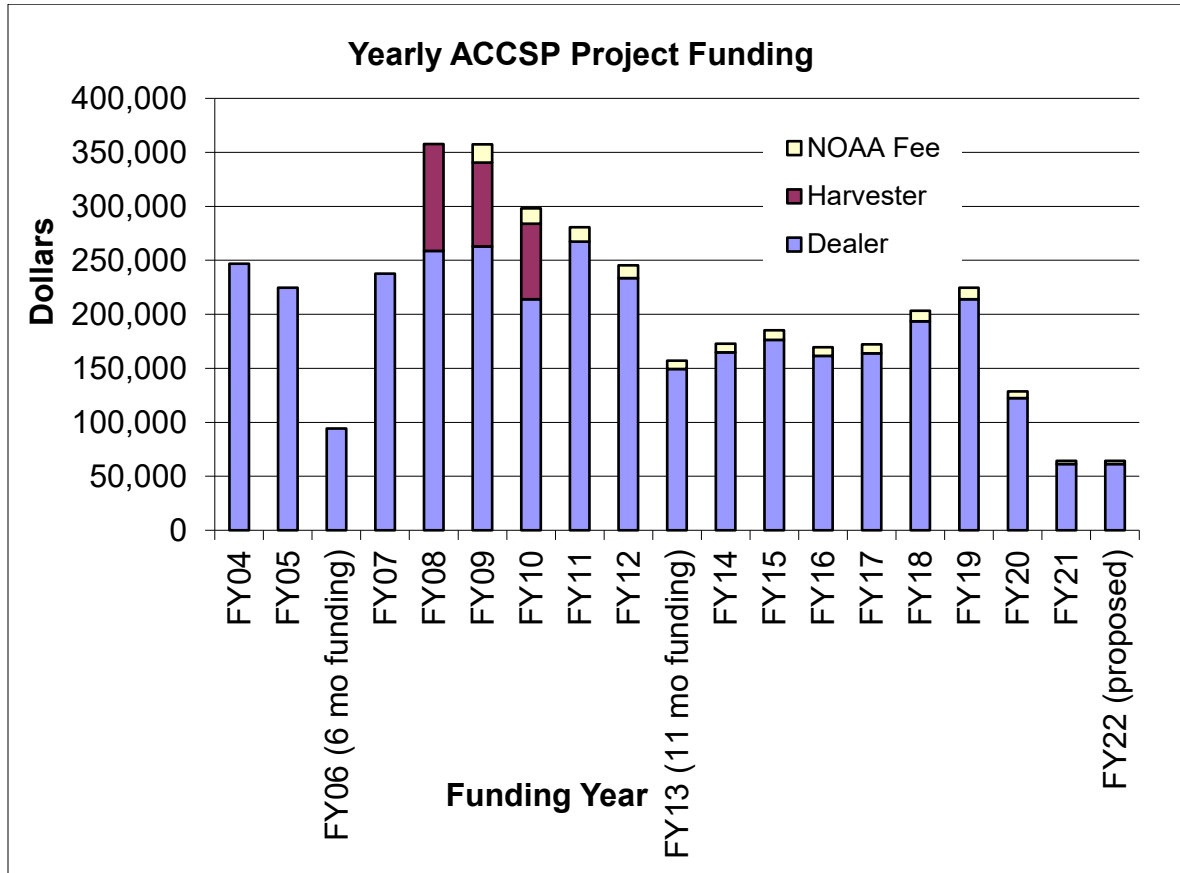
Other: Cell phones for the Specialists and the Scientists are necessary for communication and safety when on travel to dealer locations. The Scientist positions are not mentioned in the personnel costs because the positions are paid for with state money (not grant money), although staff members travel while working on this grant award. Staff often needs to call NMFS or Bluefin Data LLC when installing software or troubleshooting reporting issues at the dealer locations. Dealer reporting logbooks are printed every year and distributed to those who opt to report on paper. Some dealers use many logbooks per year, depending on the logbook type they choose and the number of harvesters with which they do business.

Indirect costs: The Department of Marine Resources has an indirect cost rate of 30%. See Attachment 3 for the Negotiated Indirect Cost Agreement.

Attachment 1: Project History

Fund Year	Title	Cost	Extension through	Actual dates funding covered	Results
2004	Implementation of a Mandatory Dealer Reporting System for Maine Commercial Landings According to ACCSP Standards	\$246,965	Apr-06	Jul 2004-Apr 2006 (extension required when Ops Committee asked MEDMR not to hire Office Associate I with this grant and salary savings when Specialist I quit)	Established Reporting Advisory Committee; drafted trip level reporting regulation; extensive outreach with industry including 10 state-wide meetings and 11 industry-specific meeting; worked with SCBI to develop and deploy "Trip Ticket" to state dealers; 1174 dealer visits; recruited dealers to report voluntarily; defeated a legislative bill to stop MEDMR's reporting program; see Completion Report for more info.
2005	Continuation of Implementation of a Mandatory Dealer Reporting System for Maine Commercial Landings According to ACCSP Standards	\$224,749	Jun-07	May 2006-Jun 2007 (extension required because FY04 was extended and a Specialist I was promoted in MEDMR, leaving vacant position for a number of months)	Worked with ACCSP to make SAFIS usable for Maine state dealers; began file uploading voluntary dealer data; began collecting voluntary paper trip tickets; 380 dealer visits; 67 dealers actively reporting; worked to modify report options in "Trip Ticket" software to benefit dealers; began phasing out duplicative reporting by dealers; passed comprehensive trip level reporting regulation for all dealers in June 2007 which will give momentum to project.
2006	Interim Support for Mandatory Dealer Reporting in Maine	\$94,093	Dec-07	Jun 2007-Dec 2007	Worked to get remaining 404 dealers set up with a trip level reporting method. Notified dealers to begin reporting trip level data as of Jan 1, 2008. Began uploading harvester license & vessel data weekly to SAFIS.
2007	FY07 – Mandatory Dealer Reporting for Maine Commercial Landings	\$237,548	8-Oct	Jan 2008 -Oct 2008	Began enforcing trip level reporting; begin audit dealer data; began monthly compliance calls to delinquent dealers; encouraged more electronic reporting; staff entering paper data from 433 dealers and uploading electronic data from 58 dealers.
2008	FY08- Managing Mandatory Dealer and Harvester Reporting in Maine	\$357,574	9-Oct	Nov 2008-Sept 2009	Complete 1 st year of mandatory dealer reporting regulation; enter, audit and transmit data to ACCSP; year 1 of 10% lobster and dogfish harvester reporting; begin to implement scallop harvester reporting.
2009	FY09 – Managing Mandatory Dealer and Harvester Reporting in Maine	\$357,415	10-Nov	Oct 2009-Sept 2010	Complete 2 nd year of mandatory dealer reporting; enter, audit and transmit data to ACCSP; year 2 of 10% lobster and dogfish harvester reporting; year 2 of scallop harvester reporting. Enter, audit and transmit data to ACCSP.
2010	FY10- Managing Mandatory Dealer and Harvester Reporting in Maine	\$298,129	11-Nov	Oct 2010-Oct 2011	Complete 3 rd year of mandatory dealer reporting; enter, audit and transmit data to ACCSP; year 3 of 10% lobster and dogfish harvester reporting; year 3 of scallop harvester reporting. Enter, audit and transmit data to ACCSP.
2011	FY11- Managing Mandatory Dealer Reporting in Maine	\$280,605	12-Nov	Aug 2011 – July 2012	Complete 4 th year of mandatory dealer reporting; enter, audit and transmit data to ACCSP. Work on more audits, including dealer data vs. harvester data submitted.
2012	FY12 – Managing Mandatory Dealer Reporting in Maine	\$245,303	13-Nov	Aug 2012-July 2013	Complete 5 th year of mandatory dealer reporting; enter, audit and transmit data to ACCSP. Expanding audits, including dealer data vs. harvester data submitted.
2013	FY13- Managing Mandatory Dealer Reporting in Maine	\$156,966	14-Oct	Aug 2013-June 2014	Complete 6 th year of mandatory dealer reporting; enter, audit and transmit data to ACCSP. Expanding audits, including dealer data vs. harvester data submitted for different fisheries.
2014	FY14- Managing Mandatory Dealer Reporting in Maine	\$164,663		July 2014 – Sep 2015	Complete 7 th year of mandatory dealer reporting; enter, audit and transmit data to ACCSP. Enforce timely reporting with license suspension and implement new swipe card program for elver dealers.
2015	FY15- Managing Mandatory Dealer Reporting in Maine	\$176,373		Oct 2015 – Sep 2016	Complete 8th year of mandatory dealer reporting; enter, audit and transmit data to ACCSP. Enforce timely reporting with license suspension and help develop new swipe card program for multiple fisheries.
2016	FY16- Managing Mandatory Dealer Reporting in Maine	\$161,558		Oct 2016 – Sep 2017	Complete 9th year of mandatory dealer reporting; enter, audit and transmit data to ACCSP. Enforce timely reporting with license suspension and implement new swipe card program for sea urchin dealers.
2017	FY17- Managing Mandatory Dealer Reporting in Maine	\$161,001		Oct 2016 – Sep 2017	Complete 10th year of mandatory dealer reporting; enter, audit and transmit data to ACCSP. Enforce timely reporting with license suspension and continue swipe card reporting for sea urchin and elver dealers.
2018	FY18- Managing Mandatory Dealer Reporting in Maine	\$193,516		Oct 2017 – Sep 2018	Complete 11th year of mandatory dealer reporting; enter, audit and transmit data to ACCSP. Enforce timely reporting with license suspension and continue swipe card reporting for sea urchin and elver dealers.
2019	FY19- Managing Mandatory Dealer Reporting in Maine	\$213,951		Oct 2018 – Sep 2019	Complete 12th year of mandatory dealer reporting; enter, audit and transmit data to ACCSP. Enforce timely reporting with license suspension and continue swipe card reporting for sea urchin and elver dealers.
2020	FY20- Managing Mandatory Dealer Reporting in Maine	\$122,480		Oct 2019 – Sep 2020	Complete 13th year of mandatory dealer reporting; enter, audit and transmit data to ACCSP. Enforce timely reporting with license suspension and continue swipe card reporting for sea urchin and elver dealers.
2021	FY21- Managing Mandatory Dealer Reporting in Maine	\$61,263		Oct 2020 – Sep 2021	Complete 14th year of mandatory dealer reporting; enter, audit and transmit data to ACCSP. Enforce timely reporting with license suspension and continue swipe card reporting for sea urchin and elver dealers.

Attachment 2: Yearly Breakdown of ACCSP Funding



Attachment 3: Negotiated Indirect Cost Agreement and Letter of Acknowledgement

U.S. Department of Commerce
Office of Acquisition Management – Grants Management Division
1401 Constitution Ave., NW, HCHB Rm 6412
Washington, DC 20230, Attn: Indirect Cost Program

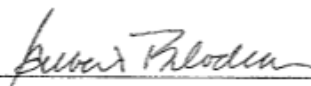
CERTIFICATE OF INDIRECT COSTS

This is to certify that I have reviewed the indirect cost rate proposal prepared and maintained herewith and to the best of my knowledge and belief:

- (1) All costs included in this proposal dated 3/18/20 to establish indirect cost billing rates for July 1, 2019 through June 30, 2020 are allowable in accordance with the requirements of the federal awards to which they apply and 2 CFR Part 200, "Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards". This proposal does not include any costs which are unallowable as identified in the applicable federal cost principles. For example, advertising contributions and donations, bad debts, entertainment costs or fines and penalties.
- (2) All costs included in this proposal are properly allocable to federal awards on the basis of a beneficial or causal relationship between the expenses incurred and the agreements to which they are allocated in accordance with applicable requirements. Further, the same costs that have been treated as indirect costs have not been claimed as direct costs. Similar types of costs have been accounted for consistently and the Federal Government will be notified of any accounting changes that could affect the rate.
- (3) The indirect cost rate calculated within the proposal is 34.30%, which was calculated using an indirect cost rate base type of Modified Total Direct Costs. The calculations were based on actual costs from fiscal year July 1, 2018 thru June 30, 2019 to obtain a federal indirect cost billing rate for fiscal year beginning July 1, 2019.

Subject to the provisions of the Program Fraud Civil Remedies Act of 1986, (31 USC 3801 et seq.), the False Claims Act (18 USC 287 and 31 USC 3729); and the False Statement Act (18 USC 1001), I declare to the best of my knowledge that the foregoing is true and correct.

Organization Name: State of Maine, Department of Marine Resources

CFO Signature:  Date: 3/18/2020

Name/Title Authorized Official: Gilbert M. Bilodeau, Director, Natural Res Ser Ctr

Dept Head Signature:  Date: 03/18/2020

Name/Title Authorized Official: Patrick Keliher, Commissioner



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
ACQUISITION AND GRANTS OFFICE

August 10, 2020

Mr. Brandon Flint
Managing Staff Accountant
Natural Resources Service Center
155 State House Station
Augusta, ME 04333

Dear Mr. Flint:

This letter supersedes the previous letter dated May 1, 2020 concerning this subject, and confirms that no further action is required under Department of Commerce Financial Assistance Standard Term & Condition A.05, Indirect Costs. Pursuant to OMB regulation 2 CFR Part 200, your organization is not required to submit an indirect cost allocation proposal or plan narrative to its cognizant agency. These plans are to be prepared and retained at the local government level. OMB regulation 2 CFR Part 200, Appendix V Il, par. D states, in part:

All department or agencies of the governmental unit desiring to claim indirect costs under Federal awards must prepare an indirect cost rate proposal and related documentation to support the costs. The proposal and related documentation must be retained for audit in accordance with the records retention requirements contained in the Common Rule.

When actual costs are known at the end of your fiscal year, you are required to account for differences between estimated and actual indirect costs by means of either: a) making an adjustment to the next year's indirect cost rate calculation to account for carry-forward (the difference between the estimated costs used to establish the rate and the actual costs of the fiscal year covered by the rate); or b) making adjustments to the costs charged to the various programs based on the actual charges calculated. Since OMB regulation 2 CFR Part 200 requires the independent auditor to determine the allowability of both direct and indirect costs, the organization's indirect cost charges will be subject to audit.

It is important to note that your organization is still required to submit to the Grants Management Division of the National Oceanic and Atmospheric Administration (NOAA) an annual Certificate of Indirect Costs. NOAA acknowledges receipt of your most recent certificate, submitted March 18, 2020 pertaining to your rate of 34.30% for Fiscal Year 2020. Additionally, your request to move to a two-year fixed rate with carry-forward schedule, is approved. Given this, the aforementioned indirect cost rate of 34.30% is also applicable for Fiscal Year 2021.

The submission of the Certificate of Indirect Costs is due to our office within six (6) months after the close of your fiscal year.

A copy of this letter will be retained in your official award file. If you have any questions, please contact Lamar Revis at 301.628.1308 or at lamar.revis@noaa.gov. Thank you.

Sincerely,

Lamar Dwayne Revis

Arlene Simpson Porter
Director, Grants Management Division



Department of Marine Resources

INTEROFFICE MEMORANDUM

TO: FILE
FROM: PATRICK KELIHER, COMMISSIONER
SUBJECT: RATE USED FOR COST ALLOCATION
DATE: 5/17/21

In accordance with OMB Circular A-87, the Department of Marine Resources has submitted to the U.S. Department of Commerce a departmental cost allocation plan for use during state fiscal year 2019 ending June 30, 2019. The indirect cost rate proposal is 34.30%. I am authorizing the use of the lesser rate of 30% to be used during this period.

ACCSP
"FY22: Managing Mandatory Dealer Reporting in Maine"
(Oct 1, 2022 – Sept 30, 2023)


Patrick Keliher, Commissioner
5/26/21

Attachment 4: Authority to Suspension Licenses for Delinquent Reporters

An Act to Improve the Quality of the Data Used in the Management of Maine's Fisheries

Be it enacted by the People of the State of Maine as follows:

Sec. 1. 12 MRSA §6301, sub-§6 is enacted to read:

6. Ownership identified. If a license issued under chapter 625 is issued to a firm, corporation or partnership, the individual who owns the highest percentage of that firm, corporation or partnership must be identified on the license application. When 2 or more individuals own in equal proportion the highest percentages of a firm, corporation or partnership, each of those owners must be identified.

Sec. 2. 12 MRSA §6412 is enacted to read:

§ 6412. Suspension of license or certificate for failure to comply with reporting requirements

1. Authority to suspend. The commissioner, in accordance with this section, may suspend a license or certificate issued under this Part if the holder of the license or certificate fails to comply with reporting requirements established by rule pursuant to section 6173. A license or certificate suspended under this section remains suspended until the suspension is rescinded by the commissioner. The commissioner shall rescind a suspension when:

A. The commissioner determines and provides notice to the holder of the suspended license or certificate that the holder has come into compliance with the reporting requirements established by rule pursuant to section 6173; and

B. The holder pays to the department a \$25 administrative fee.

When a suspension is rescinded, the license or certificate is reinstated. Until the suspension is rescinded, the holder of the suspended license or certificate is not eligible to hold, apply for or obtain that license or certificate.

2. Process for suspension for failing to comply with weekly reporting. If the commissioner determines that a person who holds a license or certificate under this Part has failed to comply with a weekly reporting requirement established by rule pursuant to section 6173, the commissioner shall notify the person at the telephone number provided on the application for the license or certificate and by e-mail if an e-mail address is provided on the application. If the license or certificate holder has not complied with the reporting requirements within 2 days after the commissioner has provided the notice, the commissioner shall mail a notice of suspension to the license or certificate holder by certified mail or the notice must be served in hand. The notice must:

A. Describe the information that the license or certificate holder is required to provide pursuant to this Part that the department has not received; and

B. State that, unless all the information described in paragraph A is provided to the department or the license or certificate holder requests a hearing, the license or certificate will be suspended in 3 business days after the license or certificate holder's receipt of the notice.

If the license or certificate holder has not complied with the reporting requirements or requested a hearing within 3 business days after receipt of the notice, the commissioner shall suspend the license or certificate.

3. Process for suspension for failing to comply with monthly reporting. If the commissioner determines that a person who holds a license or certificate under this Part has failed to comply with a monthly reporting requirement established by rule pursuant to section 6173, the commissioner shall notify the person at the telephone number provided on the application for the license or certificate and by e-mail if an e-mail address is provided on the application. If the license or certificate holder has not complied with the reporting requirements within 45 days after the commissioner has provided the notice,

the commissioner shall mail a notice of suspension to the license or certificate holder by certified mail or the notice must be served in hand. The notice must:

A. Describe the information that the license or certificate holder is required to provide pursuant to this Part that the department has not received; and

B. State that, unless all the information described in paragraph A is provided to the department or the license or certificate holder requests a hearing, the license or certificate will be suspended in 3 business days after the license or certificate holder's receipt of the notice.

If the license or certificate holder has not complied with the reporting requirements or requested a hearing within 3 business days after receipt of the notice, the commissioner shall suspend the license or certificate.

4. **Hearing.** A license or certificate holder receiving a written notice of suspension pursuant to this section may request a hearing on the suspension by contacting the department within 3 business days of receipt of the notice. If a hearing is requested, the suspension is stayed until a decision is issued following the hearing. The hearing must be held within 3 business days of the request, unless another time is agreed to by both the department and the license or certificate holder. The hearing must be conducted in the Augusta area. The hearing must be held in accordance with:

A. Title 5, section 9057, regarding evidence, except the issues are limited to whether the license or certificate holder has complied with reporting requirements established by rule pursuant to section 6173;

B. Title 5, section 9058, regarding notice;

C. Title 5, section 9059, regarding records;

D. Title 5, section 9061, regarding decisions, except the deadline for making a decision is one business day after completion of the hearing; and

E. Title 5, section 9062, subsections 3 and 4, regarding a presiding officer's duties and reporting requirements, except that notwithstanding Title 5, section 9062, subsection 1, the presiding officer must be the commissioner or the commissioner's designee.

Summary of Proposal for ACCSP Ranking

Proposal Type: Maintenance

Primary Program Priority and Percentage of Effort to ACCSP modules:

Catch and Effort (10 points): 100% of licensed dealers must report trip level information on 100% species they purchase from harvesters.

Social and Economic (2 points): The data collected by 100% of licensed dealers collects the majority of fields required for commercial fisheries.

Data Delivery Plan (2 Points): All electronic data are submitted into SAFIS daily. All data reported on paper reports are entered into MEDMR's MARVIN database and will be sent to the ACCSP Data Warehouse on at least a bi-annual basis after all data have been thoroughly audited.

Project Quality Factors:

Regional Impact (5 Points): all partners will benefit, as all the data collected will be uploaded to ACCSP. Regional management organizations, such as ASMFC, will benefit from the trip level information from Maine. Partners may also benefit from the technologies/procedures tested in the elver swipe card/mobile app reporting project. MEDMR contracted to have a mobile app built for dealers to use in conjunction with swipe card technology and required elver dealers to use since the 2014 season. MEDMR paid for all start-up costs associated with this project and shared findings with ACCSP.

Funding transition plan (4 Points): through MEDMR's reorganization, the cost of two positions was absorbed by state and MEDMR is no longer asking for funding for salary and benefits. MEDMR also funds the Office Associate II that is responsible for license suspensions for those who fail to report, and all costs associated with that additional position. MEDMR paid for the development of a "limited species" version of the Trip Ticket software and a mobile app that will be used in conjunction with harvester swipe cards for elver dealers to report with swipe card technology. MEDMR will pay for the ongoing monthly maintenance fee associated with this program. Currently, the MEDMR does not have any plans to require electronic reporting for all fisheries. Geographical restrictions prevent all dealers from having reliable high-speed internet access at this time.

In-kind Contribution (4 Points): the partner contribution is listed on page 12.

Improvement in Data Quality/Timeliness (4 Points): MEDMR can audit data at a more detailed level, including checking dealer reported data against harvester reported data. MEDMR encourages reporting timeliness through outreach with dealers and is working with Marine Patrol to ensure industry understands the importance of submitting accurate and timely information. The Maine State Legislature also passed a new law that authorizes license suspensions for those who fail to report on time which will improve the timeliness and quality of the data submitted. MEDMR mandated electronic reporting through a swipe card system for the elver fishery starting with the 2014 season and in 2015 started requiring dealer to dealer transactions. In 2016 MEDMR required sea urchin dealers to report through swipe cards, which improved timeliness and data quality.

Potential secondary module as a by-product (in program priority order) (3 points): This project has led to the development of swipe card reporting which has proven to be a great data collection tool. This project helped develop eDR mobile which was used to successfully collect timely data and change how the MEDMR manages a fishery.

Impact on Stock Assessment (3 Points): Regional management organizations which carry out stock assessments will benefit from the detailed landings data reported from Maine. This information is used in stock assessments for many species that are managed by regional agencies.

Properly Prepared (1 Points): MEDMR followed ACCSP guidelines and pertinent documents when preparing this proposal.

Merit (3 points): This proposal allows MEDMR to comply with mandatory ASMFC requirements. The MEDMR currently provides more data to the data warehouse than any other state and accounts for over 31% of all records landed in the Data Warehouse. MEDMR are always looking for ways to collect data in a timely and efficient manner.

Summary of Proposal for ACCSP Ranking (Abridged Ranking Process)

Properly Prepared (1 Points): MEDMR followed ACCSP guidelines and pertinent documents when preparing this proposal.

Merit (3 points): This proposal allows MEDMR to comply with mandatory ASMFC requirements. The MEDMR currently provides more data to the data warehouse than any other state and accounts for over 21% of all records landed in the Data Warehouse. MEDMR are always looking for ways to collect data in a timely and efficient manner.

Achieved Goals (3 points): The MEDMR has always achieved the goals they have outlined in their proposals. Current goals for this grant cycle have been clearly outlined and how MEDMR intends to achieve have been discussed within this proposal.

Data Delivery Plan (2 Points): All electronic data are submitted into SAFIS daily. All data reported on paper reports are entered into MEDMR's MARVIN database and will be sent to the ACCSP Data Warehouse on at least a bi-annual basis after all data have been thoroughly audited.

Level of Funding (1 Point): The MEDMR are asking for the exact amount of the mandated 33% cut. The decrease was achieved by removing two thirds of a full-time position from the grant. The MEDMR still has a larger in-kind contribution than what is being asked for in this grant proposal.

Robert B. Watts II
Maine Department of Marine Resources
(207) 633-9412
rob.watts@maine.gov

June, 2021

PROFILE:

- Knowledge of Maine and federal regulations pertaining to commercial fishing and associated reporting requirements through working with the Department of Marine Resources and the National Marine Fisheries Service.
- Knowledgeable of Maine's fishing industries and how they operate.

EDUCATION:

B.S. Marine Science, Maine Maritime Academy, Castine, ME 2002

EMPLOYMENT EXPERIENCE:

May 2016 – Present **Marine Resource Scientist III**
Maine Department of Marine Resources
West Boothbay Harbor, ME

- Manages daily operations of Maine's Commercial Landings Program, which collects, compiles and distributes commercial fishery statistics for Maine's commercial fisheries.
- Supervises Landings Program personnel.
- Maintain Microsoft Access databases for licensing information, compliance and data entry.
- Communicates with industry regarding reporting requirements, monitors reporting compliance and works with the licensing division in order to ensure all mandatory reporting requirements are met and licenses are issued accordingly.
- Oversees DMR's landings suspension authority and process.
- Oversees DMR's swipe card reporting program.
- Oversees MEDMR's MARVIN database.
- Maintains dealer and harvester auditing databases.
- Oversaw Maine's Interactive Voice Response (IVR) reporting program (IVR reporting ended in 2019)
- Serves as key contact for Maine commercial landings information.
- Promotes Maine's partnership with Atlantic Coastal Cooperative Statistical Program (ACCSP), serving on the Operations Committee, Commercial Technical Committee, Information Systems Technical Committee, Standard Codes Committee and Outreach Committee; working to bring the Landings Program into compliance with ACCSP standards.

Jan 2014 – Jan 2016 **Marine Resource Scientist III (Acting Capacity)**

June 2015 – Apr 2016 **Marine Resource Scientist II**
Maine Department of Marine Resources
West Boothbay Harbor, ME

- Manages daily operations of Maine's Commercial Landings Program, which collects, compiles and distributes commercial fishery statistics for Maine's commercial fisheries.
- Supervises Landings Program personnel.
- Maintain Microsoft Access databases for licensing information, compliance and data entry.
- Communicates with industry regarding reporting requirements, monitors reporting compliance and works with the licensing division in order to ensure all mandatory reporting requirements are met and licenses are issued accordingly.

- Oversees DMR's landings suspension authority and process.
- Oversees DMR's swipe card reporting program.
- Maintains dealer and harvester auditing databases.
- Oversees Maine's Interactive Voice Response (IVR) reporting program.
- Serves as key contact for Maine commercial landings information.
- Promotes Maine's partnership with Atlantic Coastal Cooperative Statistical Program (ACCSP) through serving on the Commercial Technical Committee, Information Systems Technical Committee and Outreach Committee; working to bring the Landings Program into compliance with ACCSP standards.

Feb 2012 – Apr 2015 Marine Resource Scientist I
Maine Department of Marine Resources

- Manages daily operations of Maine's Commercial Landings Program, which collects, compiles and distributes commercial fishery statistics for Maine's commercial fisheries.
- Supervises five Landings Program personnel.
- Maintain Microsoft Access databases for licensing information, compliance and data entry.
- Communicates with industry regarding reporting requirements, monitors reporting compliance and works with the licensing division in order to ensure all mandatory reporting requirements are met and licenses are issued accordingly.
- Oversees outreach to industry.
- Maintains dealer and harvester auditing databases.
- Oversees Maine's Interactive Voice Response (IVR) reporting program.
- Serves as key contact for Maine commercial landings.

Oct 2007 – Jan 2012 Marine Resource Specialist II
Maine Department of Marine Resources

- Oversee daily operations of the harvester landings program.
- Notify new harvesters about reporting requirements.
- Maintain databases used for data audits and data entry.
- Monitor reporting compliance database and notifies harvesters if they are delinquent.
- Supervise two Landings Program personnel.
- Oversees IVR reporting.
- Prepare data requests from various sources

Jul 2005 – Oct 2007 Marine Resource Specialist I
Maine Department of Marine Resources

- Interviewed marine recreational anglers all over the Maine coast to help determine fish stocks. Identified, weighed, measured and recorded fish caught by anglers.
- Created publications, updated regulation handouts and updated the recreational fishing website as needed.

May 2001 – Jun 2005 Conservation Aid
Maine Department of Marine Resources

- Interviewed marine recreational anglers all over the Maine coast to help determine fish stocks. Identified, weighed, measured and recorded fish caught by anglers.
- Acted as a liaison between the State of Maine and the recreational anglers, answered anglers questions about fishing regulations.

Lessie White Jr.
Maine Department of Marine Resources
(207) 633-9509
lessie.l.white@maine.gov

June, 2021

PROFILE:

- Knowledge of tracking systems and applications to retrieve fishing intensity.
- Knowledge of and working relationship with many fishing industries in Maine.

EDUCATION:

M.S. Marine Biology, University of Maine/Orono Campus, Orono, ME 2000

B.S. Marine Science/Biology, Long Island University/Southampton Campus, Southampton, NY 1997

EMPLOYMENT EXPERIENCE:

Jul 2016 – Present **Marine Resource Scientist II**
Maine Department of Marine Resources
West Boothbay Harbor, ME

- Manages daily operations of Maine’s Commercial Landings Program, which collects, compiles and distributes commercial fishery statistics for Maine’s commercial fisheries.
- Supervises Landings Program personnel.
- Maintain Microsoft Access databases for licensing information, compliance and data entry.
- Communicates with industry regarding reporting requirements, monitors reporting compliance and works with the licensing division in order to ensure all mandatory reporting requirements are met and licenses are issued accordingly.
- Oversees DMR’s landings suspension authority and process.
- Oversees DMR’s swipe card reporting program.
- Maintains dealer and harvester auditing databases.
- Oversees Maine’s Interactive Voice Response (IVR) reporting program.
- Serves as key contact for Maine commercial landings information.

Jul 2000 – Jul 2016 **Marine Resource Scientist I**
Maine Department of Marine Resources
West Boothbay Harbor, ME

- Implemented the RockSeven tracker project; Tracked boats using GPS trackers to determine fishing activity; Worked with Rock Seven to develop application to show fishing intensity at different speed ranges; Managed the funds;
- Participated in Locus Traxx project; Tracked boats using GPS trackers to determine daily movement and fishing activity; Checked for daily trip reports of fishing activity; Called fishermen to confirm fishing activity; Constructed a spreadsheet to show the performance of the on board reporting system.
- Responsible for implementation of the sea urchin and shrimp port sampling programs; Coordinating sampling schedule; Supervised employee during winter months; Conduct interviews; Collect samples; Process samples in the field and in the lab; Run data quality checks; Maintaining sampling gear; Train other scientists in urchin and shrimp procedures for working up sample; Data analysis on Maine, Massachusetts and New Hampshire’s shrimp data; Participate in the stock assessment for shrimp.

- Participated in scallop, quahog and sea cucumber port sampling program; Sample catches at the docks; Interview the vessel captains for fishing and effort information; Process samples.
- Participated in a Fishing Gear Technology Working Group trying to look at all gear technology advancements for all fisheries; my primary focus was shrimp and lobsters.
- Participated in a Trawl Gear Workshop entitled “Working Together to Improve Fishing Technology”. This workshop looked at different ways to improve otter trawl selectivity through technological advances in materials and trawl designs.
- Participated in Bycatch in Northeast Fisheries: Moving Forward Workshop, where I participated at observing the roadblocks facing researchers and fishermen in trying to get new gear technology into fisheries management.
- Was responsible for shrimp logbook program; Distributing logbook forms; Developing a database to track compliance; Direct contact with fishermen to obtain correct entries; Answer any question the fishermen may have related to the logbook program.
- Participate in lobster sea sampling and ventless survey trips; Measure carapace length; Determine sex; Determine cull code; Determine V notch code; Determine egg classification code; Determine molt; Determine shell disease prevalence; Interviewing the vessel captains for fishing and effort information; Enter data into database.
- Participate in the summer shrimp trawl survey as lead shrimp biologist to assess the status of the stock; Train other scientists in shrimp identification, sex and stage identification, and procedures for working up samples; Work on a limited basis with FSCS (Fisheries Scientific Computing System).
- Implemented whiting gear research; supervised two contract positions; Observed and sorted the catch; Processed catch; analyzed data.
- Acted as DMR liaison and lead scientist on the NEC New Generation Trawl groundfish gear project. This included supervising four contract positions and two observer positions, overseeing data collection, collecting data, data entry, data checking, data analysis and writing the final report.
- Implemented the shrimp combination grate and cod end research; Sorted, identified, and measured the catches; Data analysis; Partial report writing; used underwater camera to video shrimp grate in action. Supervised one contract position.
- Participated as a member of the New England Fishery Management Council’s Plan Development Team for deep-sea red crabs; Assisting in the initial development of a Fishery Management Plan for deep-sea red crabs.
- Participated as an observer in the experimental Atlantic halibut fishery; conducted a literature search on the tagging methods in the halibut fishery.
- Implemented a green crab trapping experiment looking at catchability, retention and cost of five different traps; Looked at converting current gear with the least amount of effort and cost; Set up sampling schedule and area; obtained the equipment; ran the experiments; partial data analysis.

Oct 1997 – Dec 2000

**Graduate Student Research
University of Maine/Orono Campus
Orono, ME**

- Graduate research project on cod energetics; Ran a small closed water aquaculture system; Raised larval and juvenile cod; Raised live food for larval cod; Conducted water quality tests; Gave presentations; Analyzed data; Did minor repairs and cleaned system; Gave tours.

Erin L. Summers
Maine Department of Marine Resources
(207) 633-9556
erin.l.summers@maine.gov

June, 2021

Profile:

- Work collaboratively with state, federal, academic, conservation, and industry partners to reduce whale entanglements and mortality in marine mammals and sea turtles through bodies such as the Atlantic Large Whale Take Reduction team and Atlantic Large Whale Disentanglement Network.
- Build research programs to provide baseline data on large whale life history, ecology, and habitat use in Maine's coastal rocky bottom habitats. Design new and emerging methodologies to inform management decisions.
- Oversee research and monitoring programs within the Division of Biological Monitoring at DMR, including the lobster programs, surveys for scallops, sea urchin, shrimp, and herring, recreational fisheries program, inshore trawl survey, and the landings and reporting group.
- Represent the Department of Marine Resources in stakeholder meetings, including those for wind energy permitting, Natural Resource Damage Assessments, department wide research and priority setting, etc.
- Member of the Atlantic Scientific Review Group advising NOAA Fisheries on marine mammal stock assessments

Education:

MA Biology: Boston University Marine Program Woods Hole, Ma. 5/02
BA Biology, Spanish minor: Truman State University Kirksville, Mo. 5/00

Employment:

Jan 2017 – present: **Marine Resource Scientist IV**
 Maine Department of Marine Resources
 West Boothbay Harbor, Me

- Oversee Division of Biological Monitoring, including Commercial Landings Program, Benthic group (lobster, scallops, urchins), and Pelagic group (herring, groundfish, shrimp, and recreational fishing)
- Lead Scientist for DMR's Large Whale Conservation Program
- Member of the Atlantic Large Whale Take Reduction Team

Feb 2006 – Jan 2017: **Marine Resource Scientist II**
 Maine Department of Marine Resources

- Lead scientist for DMR's Large Whale Conservation Program
- Secured grant funding, wrote reports, tracked budgets to support research projects
- Completed projects to support management decisions for the Atlantic Large Whale Take Reduction Plan, including tagging humpback whales, right whale habitat surveys, passive acoustic surveys, gear density surveys, testing alternative fishing gear, characterizing fishing practices, etc.
- Oil Spill Response Coordinator
- Assist with GIS coordination

Jan 2010 – May 2010: **Adjunct Faculty**
Unity College
Unity, Me

- Taught upper level course in the biology of Marine Mammals

Feb 2004 – Feb 2006: **Marine Mammal Research Specialist**
University of New England
Biddeford, Me

- Lead Research technician on project to track and predict right whale habitat use and distribution
- Analysis of remotely sensed data and right whale sightings in the Bay of Fundy Critical Habitat
- Assisted with report writing and budget tracking
- Completed project and published paper analyzing right baleen using stable isotope analysis
- Completed project and published papers satellite tagging and tracking basking sharks off the coast of New England

Sept 2002 – Feb 2004: **Research Technician**
Cetacean and Sea Turtle Team, NOAA Fisheries Service
Beaufort, NC

- Lead technician tracking and analyzing movements of satellite tagged dolphins
- Perform field work including fishing gear and dolphin aerial surveys, boat-based dolphin biopsy and photo-identification surveys, satellite tagging dolphins, responding to standings, etc.
- Participate in necropsies as needed

Oct 2000 – June 2002: **Laboratory Technician**
Marine Biological Laboratories
Woods Hole, Ma

- Manage daily operations of the laboratory of marine veterinarian, Roxanna Smolowitz
- Run experiments and document methodologies and results
- Prepare media, samples, histology slides, and other lab bench work



STATE OF MAINE
DEPARTMENT OF
MARINE RESOURCES
MARINE RESOURCES LABORATORY
P.O. BOX 8, 194 MCKOWN POINT RD
W. BOOTHBAY HARBOR, MAINE 04575-0008

JANET T. MILLS
GOVERNOR

PATRICK C. KELIHER
COMMISSIONER

Atlantic Coastal Cooperative Statistics Program
Operation and Advisory Committee
1050 N. Highland Street, Suite 200A-N
Arlington, VA 22201

August 16, 2022

We are pleased to submit the revised proposal entitled **“Portside commercial catch sampling and comparative bycatch sampling for Atlantic herring (*Clupea harengus*), Atlantic mackerel (*Scomber scombrus*), and Atlantic Menhaden (*Brevoortia tyrannus*) fisheries”**

This is a maintenance proposal that has not changed its scope from the previously funded project in 2021. The top priority is the biological sampling of the Atlantic herring and Atlantic menhaden commercial fishery because the information derived has critical value on the health of herring and menhaden populations.

We have addressed all the general comments and have had no specific comments for this year. We did, however, add a paragraph for clarity in the Need section. Changes from the original proposal are highlighted in yellow as directed.

Dr. Matthew Cieri and Erin Summers

Proposal for Funding made to:
Atlantic Coastal Cooperative Statistics Program
1050 N. Highland Street, Suite 200A-N
Arlington, VA 22201

Portside commercial catch sampling and bycatch sampling for Atlantic herring (*Clupea harengus*), Atlantic mackerel (*Scomber scombrus*), and Atlantic Menhaden (*Brevoortia tyrannus*) fisheries

Total Cost: \$26,253.50

Submitted by:

Dr. Matthew. Cieri
Maine Department of Marine Resources
P.O. Box 8, McKown Point Road
West Boothbay Harbor, ME 04575
matthew.cieri@maine.gov
(207) 633-9520

Erin L. Summers
Maine Department of Marine Resources
P.O. Box 8, McKown Point Road
West Boothbay Harbor, ME 04575
Erin.L.Summers@maine.gov
(207) 633-9556

Applicant Name: Maine Department of Marine Resources (MEDMR)

Principal Investigator: Matthew Cieri, Marine Resource Scientist

Project Title: Portside commercial catch sampling and bycatch sampling for Atlantic herring (*Clupea harengus*), Atlantic mackerel (*Scomber scombrus*), and Atlantic Menhaden (*Brevoortia tyrannus*) fisheries

Project Type: Maintenance Project

Requested Award Period: One year after receipt of funds

Change in Scope/Cost from Previous Year Project:

This is a maintenance proposal that has not changed its scope from the previously funded project in 2021. The overall cost is slightly more than the FY21 final award amount due to projected increased costs in mileage and vehicle costs.

Objectives:

To maintain and expand the biological sampling of primarily the Atlantic herring commercial fishery including Atlantic menhaden and mackerel and other incidentally retained species of interest.

A secondary objective is to continue the portside bycatch sampling for trips targeting Atlantic herring.

Need:

Atlantic herring and Atlantic menhaden are important forage and bait species with fisheries from Maine to North Carolina in the US. A recent benchmark for Atlantic herring found declining stock size and an overfished designation which resulted in much lower quotas through 2022 when compared to recent history. Each of the focus pelagic fisheries has recently become the subject of management action because of their status as forage species and because of potential bycatch problems associated with the directed fishery. In particular, Atlantic herring and Atlantic menhaden have been the focus of the emerging trend towards ecosystem management. Additionally, the commercial catch sampling portion of this project covers four important species: River herring (*Alosa sp.*), Atlantic menhaden (*Brevoortia tyrannus*), Spiny dogfish (*Squalus acanthias*), and Shad (*Alosa sapidissima*)

Atlantic herring (*Clupea harengus*), Atlantic menhaden (*Brevoortia tyrannus*), and Atlantic mackerel (*Scomber scombrus*) are three of the most ecologically and economically important fish species in the western Atlantic. All three are high volume, low-value species utilized for bait, reduction, or human consumption. The three species are oceanic plankton-feeding fish that occur in large schools, inhabiting coastal and continental shelf waters from Labrador to Florida. These species provide a significant forage base for other fish species, marine mammals, and birds. Atlantic herring landings in 2020 (the last year that NMFS data was available) were reported at approximately 9,368.5 mt with an estimated value above \$2.3 million; the result of drastically reduced quotas. In addition to the direct economic contribution of herring landings, this fishery supports a domestic value-added industry worth approximately \$15 million, and the North Atlantic lobster fishery which is estimated at over \$500 million. Atlantic mackerel landings in 2020 were reported as approximately 8,215 mt with an estimated value above \$9 million. The domestic value-added industry (frozen whole fish) for mackerel, based in Cape May, NJ, and Fall River, New Bedford, and Gloucester, MA, is estimated at \$14 million. The Atlantic menhaden 2020 catch was ~191,000 mt valued at ~\$90 million. Generally, 35-40% of all menhaden are landed for bait.

This study will continue the biological commercial catch sampling of Atlantic herring, Atlantic mackerel, and Atlantic menhaden. Additionally, other species of interest, such as dogfish, both river herring species, and shad will be sampled as they are routinely encountered in this study.

This proposal will also continue to survey bycatch during trips targeting Atlantic herring using the protocols developed over the last decade of sampling. Approximately seventy percent (70%) of project resources are needed

to carry out the first and prime objective (or module) of the sampling portion of the project while thirty percent (30%) of resources are needed for the bycatch module.

Since this proposal was first submitted, we have carried over the FY 2020 award to FY 2021. We anticipate that all of the FY 2021 award and unspent FY 2020 carried over into FY 2021 will be spent before the start of the FY 2022 sampling season. In the event a resurgence in COVID-19 prevents full utilization of these funds, we anticipate extending any unspent award from FY 2021 into FY 2022. As FY 2022 is the final year of this project, any unspent FY 2022 award will be either returned to ACCSP or be used to sample the summer-autumn sampling spawning season for herring and menhaden, at ACCSP's discretion. Given the recent activity in fishing effort targeting menhaden in the Gulf of Maine over the past two years and the projected increase in herring landings in FY 2022, we do not anticipate any remaining award at the end of FY 2022.

Commercial catch sampling of Atlantic herring, Atlantic mackerel, and Atlantic menhaden

MEDMR has collected and processed Atlantic herring commercial catch samples since 1960. A significant focus of this proposal is a continuation of the commercial catch sampling program for Atlantic herring along the east coast. MEDMR maintains primary responsibility for the fishery-dependent sampling of the east coast Atlantic herring fishery. Duties include processing biological samples, compiling catch data, and constructing the catch at age matrix for the age-structured model. Currently, staffing and financial limitations prevent MEDMR from providing adequate commercial catch sampling coverage without ACCSP support. Furthermore, NMFS has reduced port agents and other staff, such that biological sampling of herring has become a lower priority. To improve the commercial catch sampling program, MEDMR has supported a dedicated northeast herring sampler who covers fishery landings from NJ through Maine.

The Atlantic herring fishery has recently undergone significant management changes as a result of federal action through Amendment 8. Also, a large reduction in both quotas and stock status was implemented in 2019. A recent update to the Atlantic herring benchmark assessment has also revealed a potential re-emergence of a retrospective pattern. Such a pattern for Atlantic herring tends to overestimate spawning stock biomass and underestimate fishing mortality in the terminal year. While changes to selectivity and natural mortality may be the cause of this pattern, age discrepancies between fishery dependent and commercial catch sampling may also play a role. As such, continued commercial catch sampling will be vital in the potential resolution of this issue

Without ACCSP support, samples would not be collected or aged, resulting in no catch-at-age information for the assessment. Atlantic herring would move from an age-structured stock assessment to one developed for data-poor species and would be categorized as a data-poor species in need of sampling. Because ACCSP has funded this project, however, Atlantic herring are currently adequately sampled and are not scored by ACCSP. Given the most recent management changes, changes in the most recent stock assessment, ongoing litigation, and the importance to both state and federal partners, Atlantic herring would have scored very high in the process had it been part of the scoring.

Although ACCSP has not identified Atlantic mackerel as a priority, commercial catch sampling should be important given recent changes to the Squid, Mackerel, and Butterfish Plan as implemented by the Mid-Atlantic Council. Further mackerel has transitioned to an age-structured assessment, further increasing the importance of fishery-dependent sampling for this stock. Like Atlantic herring, fleet behavior may change markedly, as a result of bycatch quotas recently implemented for River herring and ongoing discussions between Mid-Atlantic and New England Councils on incidental catch limits of Atlantic herring. Traditionally the commercial mackerel catch was sampled by NMFS; however, due to the closure of port offices and limited personnel, current mackerel sampling is limited. With the existing and predicted growth in the domestic mackerel harvest, additional sampling is necessary to adequately cover the fishery.

Since 2016 Atlantic menhaden have been increasing in numbers in Maine state waters. As a result of this, and a lack of herring being landed from all areas, Maine landings have increased for this important baitfish. Because of this, Maine has increased its biological sampling program for this species to both fulfill ASMFC sampling objectives and to provide valuable fishery-dependent data for the stock assessment.

Continued commercial catch sampling has been put forth as imperative research need in the most recent menhaden assessment. Further importance has been placed on increased commercial catch sampling in the northern portions of the

stock's range and the bait fishery in general. This is particularly important as the menhaden assessment team analyzes changes in selectivity resulting from changes in state-by-state allocation of the resource.

As the Atlantic herring, Mackerel, and Menhaden fisheries encounter bycatch, this project also samples all species encountered during either the bycatch or commercial catch sampling modules. Four species River herring (*Alosa sp.*), Atlantic menhaden (*Brevoortia tyrannus*), Spiny dogfish (*Squalus acanthias*), and Shad (*Alosa sapidissima*), are routinely encountered and samples for length, weight, and otolith/scales are forwarded to other institutions for age analysis.

Continued bycatch sampling

During at-sea operations NMFS observers use basket sampling to document the occurrence of other species during targeted Atlantic herring and mackerel trips. These non-target species are then included in the data as retained or "Kept" (http://www.nefsc.noaa.gov/fsb/manuals/2013/NEFSC_Observer_Program_Manual.pdf). Normally, ten 50 lb. basket sub-samples are taken at regular intervals during the pumping process from the net to hold. These samples are then checked for bycatch and the results expanded. Because the Atlantic herring fishery is a high volume fishery much of the bycatch is retained during the pumping process, particularly for co-occurring pelagic species such as river herring.

Until the spring of 2011 MEDMR port sampling procedure measured bycatch using a "lot" (~40,000 lbs.) approach. Lot sampling involves looking intensively at a portion of a vessel's landings and then extrapolating those results to the entire offload. This sort of sampling contrasts that done by NMFS and MADMF, which takes regularly spaced basket subsamples during pumping.

Analysis of more than ten years (2005-2014) of both portside and at sea bycatch data and results from the DMR, DMF, and NMFS databases revealed that "lot" sampling, as MEDMR had been conducting it, was not useful when comparing the portside and at-sea programs. The reasoning behind this stems from the variability of catch composition in vessels with multiple fish holds. Fish being partitioned into separate holds may be from the same, different, or a mixture of multiple tows or sets. While lot sampling has provided valuable spatial and temporal insights to bycatch distribution and frequency, it is unable to resolve variability between vessel holds. Sampling entire vessel offloads allows that variability to be reflected in the data.

In an attempt to more closely align our data with both the at-sea observer data and DMF portside data, we (DMR) have moved away from the practice of "lot" sampling in 2011 and instead now use a protocol similar to DMF and NMFS.

In 2012 MEDMR, with ACCSP funding, implemented concurrent sampling of Atlantic herring trips portside that had also been sampled by at-sea observers. After 4 years, MEDMR had the required number of trips, by gear, area season, and year, to analyze the data and statistically determine if portside and at-sea sampling give similar results. Further analysis was provided upon request during the FY 2019 proposal process as a result of a request by the reviewers and will be included in the 5-year report During Sept 2019. That said the summary of the findings suggests results between portside and at-sea sampling are statistically similar for small-bodied species in high volume fisheries.

Given the results, MEDMR is now using this newly revamped protocol and during routine portside bycatch monitoring of the Atlantic herring fishery. DMR's efforts, coupled with ongoing work by MA DMF and the NEFOPS program will help to increase sample sizes for determining bycatch amounts in the Atlantic herring fishery. Data from both MEDMR and MA DMF portside programs are used to monitor bycatch quotas for haddock or River herring, data from both programs were also used to set the River herring quotas by gear type (<https://s3.amazonaws.com/nefmc.org/NEFMC-Adopts-2021-2023-Herring-Specifications-Adjusts-Herring-Measures-to-Facilitate-Mackerel-Harvest.pdf>)

Results and Benefits:

Commercial catch sampling

This program collects all the Atlantic herring-directed samples from the U.S East coast fishery and a portion of all the collected mackerel and menhaden samples use in assessments of the stocks and management of the fisheries. Regarding the need for the work as stated above, if this project was not funded there are currently no other resources that would or could be shifted to collect samples of Atlantic herring, Atlantic mackerel, or Atlantic menhaden. There are also limited resources to perform Atlantic herring, Atlantic mackerel, or Atlantic menhaden bycatch studies. The catch at age analysis for all three species would lack coverage for the full range of the fishery without this project.

Annually collected samples of Atlantic herring from the commercial fishery provide the cohort catch at age data for the SARC's periodic assessment of the herring population and are used to predict and define the ASMFC's (Atlantic States Marine Fisheries Commission) rolling spawning area closures and give evidence of overall health of the Coastal Stock Complex. All Atlantic herring sample data is uploaded to the ACCSP data warehouse. Commercial catch sampling can also provide insight into the biological and management processes that drive the stock and fishery. Recently an analysis was performed to examine changes in length at spawning for Atlantic herring. Results were presented to the ASMFC Atlantic Herring Section that is in the process of finalizing spawning relationship changes to account for a decrease in herring length at full maturation.

Maine DMR processes all commercial catch herring samples for the east coast fishery. DMR maintains a lab facility with the equipment and staffing necessary for processing more than 200 commercial herring samples a year. Also, DMR provides staff oversight of the field sampling program and scientific analysis of the data generated from the program which is then fed directly into the assessment. Without the ACCSP funded program, samples would not be collected or aged, resulting in no catch-at-age information to inform the assessment. As such, Atlantic herring would move from an age-structured stock assessment to one developed for data-poor species and would be categorized as a data-poor species in need of sampling. Because ACCSP has funded this project, however, Atlantic herring are current adequately sampled and are not scored by ACCSP. This may change, however, as this is the last year this project is eligible for funding through ACCSP.

In addition to sampling Atlantic herring and mackerel to develop catch-at-age matrices, this program has provided biological samples for multiple research projects. Herring have been collected for the Gulf of Maine Research Institute acoustics project, the NEFSC's (North East Fishery Science Center) morphometrics study, genetics studies, and most recently stomach and fat content samples have been provided to various organizations to examine the role of climate change in the nutritional content of herring. The commercial catch samples also provide the basis for determining the start date for the three Atlantic States Marine Fisheries Commission herring spawning closure areas (two along the Maine coast and one along the NH/MA coast).

Atlantic menhaden were added as a sample species in 2010. Menhaden can be collected as bycatch during herring operations as well as from a growing purse seine directed fishery for lobster bait in the Northeast. While the bulk of this fishery occurs in the Mid-Atlantic, there is a growing interest in menhaden as a result of recent management changes in the Atlantic herring fishery. Bait landings of menhaden in Southern New England and the Mid-Atlantic have tripled in the past two years. Even more recently, Maine landings have risen sharply as the stock has entered the state of Maine waters. Because menhaden stratify in latitude by age, a more complete sampling of the menhaden catch in the northern parts of its range may improve our understanding of the population dynamics of this important forage species.

The commercial catch sampling program funded historically by ACCSP has proven extremely successful and has provided important information to the fishery managers. The biological information on size, age, and maturation of herring feeds directly into the stock assessments for Atlantic herring, Atlantic mackerel, and Atlantic menhaden. ASMFC has routinely used the data collected from this project to implement management changes to herring spawning regulations, as well as to make other decisions with regards to the allocation of quota among management areas.

Bycatch sampling

The data collected through the bycatch survey supplements the federal at-sea observer coverage program, as well as the MA DMF River Herring Avoidance Program, which has vastly increased the amount of information available on bycatch in the herring fishery. This project will maintain and expand an effective and scalable method for the long-term

monitoring of bycatch in the Atlantic herring fishery. A portside bycatch sampling methodology has been developed and tested and has demonstrated the ability to observe high volumes of landed herring catch. Portside efforts will complement but not replace the NMFS at-sea observer coverage. This proposed bycatch survey represents a unique opportunity to collect data in an inexpensive but efficient and accurate way. Given this, in 2018 NMFS started the process of incorporating Maine DMR and MA DMF portside sampling into the quota monitoring system for Haddock and river herring bycatch quotas. This effort is now fully implemented with data from Maine DMR and MA DMF being incorporated fully into the process of quota monitoring

Beyond the immediate benefit to the NMFS, MA DMF, and MEDMR bycatch sampling in this fishery, the proposed project may guide other bycatch sampling programs in other fisheries. More importantly, DMR's proposed portside sampling will augment the MA DMF and NEFOP efforts allowing for better estimation of River herring, haddock, and potentially other species caught as bycatch in the directed Atlantic herring fishery

Review of Previous Results:

This proposal is a continuation of an ACCSP funded herring sampling and combined portside bycatch survey. The project has evolved over the past several years to maximize the use of funds. Project history is shown in Attachment 2 and explains the evolution of the project, including the transition to an emphasis on portside bycatch sampling in conjunction with biological sampling along with a review of project costs. The Project for FY 2020 has just ended so full analysis has yet to be completed, but the most recent semi-annual report is in Attachment 3. This report concluded that the data collected from both the and Commercial Catch Sampling Program were useful for the Atlantic herring stock assessment as well as for mackerel. Additionally, Portside Bycatch Program quantified incidental catch particularly River herring; and that these dates are starting to be used to monitor the River herring/Shad bycatch quotas for the Atlantic herring fishery.

Approach:

It should be noted that for both bycatch and biological sampling, ME DMR expects the continuation of full sampling effort despite lower Atlantic herring quotas. While herring quotas have and will continue to decline, the number of trips should be only slightly less. This in part, due to ASMFC imposed effort controls, as well as the sampling frame. The sampling frame is designed on a trip basis, rather than by volume landed. Thus, it is anticipated that the number of trips is likely to remain similar to 2020 levels, but that the volume of each trip might decline. As such, any reduction in herring bycatch and biological sampling is expected to be offset by increased sampling effort in menhaden and mackerel. In particular menhaden landings have increased dramatically in the state of Maine over the past few years, requiring more effort to sample effectively. Additionally, depending on the New England Fishery Management Council (NEFMC) actions later this year, it is expected that quotas for Atlantic herring may increase starting in 2022 if only marginally.

As of June 2021, this project is being completed under the Spring 2021 social distancing guidelines as per the Governor's Office for the State of Maine. Because it is anticipated that these measures will be relaxed in the coming months, no impact on sampling in 2022 is anticipated

Commercial catch sampling of Atlantic herring, Atlantic mackerel, and Atlantic menhaden

Commercial catch sampling will be conducted at herring and mackerel pumping and processing sites along the east coast. As a general rule commercial catch sampling occurs such that there is at least one sample per statistical area, per week, per gear type and generally meets NMFS protocols of one sample per 500 mt.

The samplers will follow the existing protocol developed for commercial catch sampling of Atlantic herring (Attachment 4). This protocol complies with the guidelines laid out by ACCSP. Samples will be processed and aged by in-house staff, primarily Lisa Pinkham. Samples are processed for length; weight, maturity, and aged per NMFS (National Marine Fisheries Service) protocols (please see www.nefsc.noaa.gov/publications/crd/crd0406/crd0406.pdf Page 22). This information is uploaded to the ACCSP warehouse and is used for the assessment of Atlantic herring.

The same vessels that harvest Atlantic herring primarily pursue Atlantic mackerel on the east coast. Traditionally, when markets are available the pelagic fishing fleet transfers some of their effort from herring to mackerel in the winter and early spring. The samplers funded by this grant can easily collect mackerel by keeping in touch with the herring vessels that enter the mackerel fishery. Most of the ports where significant mackerel landings occur overlap with major herring ports; this is largely because herring processing facilities are also capable of freezing mackerel. Sampling will follow the existing NMFS protocol for mackerel and the guidelines established by ACCSP (Attachment 4).

Atlantic menhaden sampling

Support for port sampling for Atlantic menhaden (*Brevoortia tyrannus*) is also requested. Currently, there have been increased menhaden catches in the New England Area, particularly Maine, when compared to previous years. This trend is expected to continue for the next several years. National Marine Fisheries Service in Beaufort, North Carolina has requested commercial samples from the northern extent of this stock's range (north of Cape Cod). Such sampling of the "snapper rig bait fishery" (Northeast purse seine) is also listed as a priority research initiative in the most recent menhaden assessment. Such samples are critical to the assessment process for Atlantic menhaden and inaccurately estimating the catch at age. During our normal sampling of the Atlantic herring bait fishery, we will collect Atlantic menhaden samples primarily from purse seines using the protocols outlined by NMFS, Beaufort (Attachment 4), and forward scales and measurements for use in the next assessment.

ASMFC sample requirements state "One 10-fish sample (age and length) per 300 metric tons landed for bait purposes for ME, NH, MA, RI, CT, NY, NJ, and DE. While minimums have been met, a more rigorous sampling design by gear, time, and fishing area is planned at the end of this year. This sort of analysis has been delayed in part due to personnel changes and COVID restrictions.

Bycatch sampling

The herring industry has changed tremendously resulting in a much more centralized distribution structure. Generally, the herring used for bait goes through a wholesale dealer to smaller dealers and lobster wharves along the coast. The wholesale dealers have facilities where they sort, barrel, freeze, and store bait for redistribution. It is at these sites where effective bycatch surveys can also be done, thereby including the bait sector in this study. Herring is also landed at larger centralized processing plants which may process for a food-grade market for export or direct sale into the regional bait market.

The sampling takes place at centralized processing plants and bait dealers. A goal of observing 2 trips per month from January through May and one or two trips per week during the June-Oct period (when the fishery is most active) is proposed. Trip selection will be haphazard, with an overall goal of sampling multiple gears and management areas each month and to scale bycatch sampled trips with the activity of the fishery.

The samplers will quantify bycatch from individual off-loadings that enter the processing and bait plants according to a NMFS specified protocol. The total weight of any observed bycatch will be recorded along with species identification, total species weight, individual lengths, and weights of all fish or a representative sub-sample. The total estimated bycatch weight by species will then be compared to census sampling by MA DMF and/or at sea basket sampling conducted by NEFOP as appropriate.

Using existing MEDMR protocols (Attachment 5) and in close concert with NMFS observers and MA DMF portside samplers, staff will directly target trips that have been observed by either of those two programs. Where possible, and as practicable, staff will also conduct a full census of landed bycatch from full offloading events (trips) which have also been sampled at-sea; thereby allowing a direct analysis and validation of current at-sea bycatch monitoring methods. Particular emphasis will be placed on sampling those trips, using current MEDMR methods that had both NMFS and MA DMF bycatch sampling.

Once the data are collected, they will be housed and archived in a MEDMR relational database. Data requests and queries will be performed to assist in monitoring quotas, as well as to provide bycatch information to the NEFMC Plan

Development Team, NMFS, and other interested parties. Data on River herring/Shad as well as Haddock are routinely provided to the Regional Office at NOAA for use in quota monitoring activities.

Geographic Location and Temporal Distribution of Effort:

Sampling will occur in ports from Prospect Harbor, ME to Cape May, NJ, and reflect landings and effort from NC, through ME. Efforts will be coordinated with the NMFS NEFSC in Woods Hole, NMFS, Beaufort, NC, NJ, MA, MA DMF, NH F&G, and RI, DEM, and other state agencies throughout the range of the herring and mackerel fisheries. Staff will be based out of the MEDMR Boothbay Harbor lab facility. Because of herring and mackerel availability to the fishery, market conditions, and other factors, it is difficult to pinpoint where the fleet may be landing at any given time. Sampling will thus occur after direct contact with vessel captains and plant managers to identify where sampling should take place.

In general herring, biological and bycatch sampling is primarily conducted spring, summer, and fall, with some effort during the winter months. Mackerel sampling occurs primarily in the winter months, and it's anticipated that menhaden sampling will occur in the late summer to early fall. Bycatch sampling and commercial sampling become more infrequent in the winter months, while travel to get to the landing sites increases. Report writing and data analysis occur between regular commercial and bycatch sampling.

Data Management:

Data collected through this study are regularly entered into the MARVIN biological database housed at MEDMR. Data are first entered into MARVIN and run through Quality Assurance/ Quality Control (QA/QC) routines to ensure accurate reporting. Data can then be utilized for running analyses and/or stored until needed for the assessment or use by managers.

Metadata will be created with ArcCatalog to conform to the (Federal Geographic Data Committee (FGDC)) standards and specifications. Created metadata will be available in text and XML formats.

Milestone Schedule:

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Catch Sampling-HERR	x	x	x	x	x	x	x	x	x	x	x	x
Catch Sampling-MACK	x	x	x	x	x							x
Bycatch Sampling-co-occurring NMFS	x	x	x	x	x	x	x	x	x	x	x	x
Analysis	x	x	x	x	x	x	x	x	x	x	x	x

* - Upon request, MEDMR will provide bycatch sampling data on a state-by-state basis three times a year.

Project Accomplishment Measurement

**Commercial Catch
Sampling**

Atlantic herring

At Least 10% sampled trips by gear type
and month

Atlantic mackerel

At Least 10% sampled trips by gear type
and month

Bycatch Sampling

Atlantic herring

At least 40 trips sampled by area, gear type
and quarter

FY 2022 Budget & Narrative

FY2021 Budget (State FY22) 7/1/22 - 6/30/23		
Cost Summary: Portside bycatch sampling		
<u>Personnel Services</u>	Description	ACCSP
None		
<u>All Other</u>		
Travel Expenses		
PROJECT VEHICLE 12 months	\$300/mo	\$ 3,600.00
Mileage fee	31000 @ \$.22/mi	\$ 6,820.00
Toll allowance		\$ 150.00
35 Overnight stays	\$105/night	\$ 3,675.00
Per diem (includes extended days)	\$50/day	\$ 2,750.00
		\$ 16,995.00
Office Supplies & Minor Equipment		
2 Cell Phones	2 @ \$50/month	\$ 1,200.00
1 air card	1 @ \$75/month	\$ 900.00
Sampling Gear		\$ 500.00
Lab Supplies		\$ 600.00
		\$ 3,200.00
Total Direct Costs		\$ 20,195.00
Indirect Costs (30%)		\$ 6,058.50
Award to DMR		\$ 26,253.50

Partner Contribution – For ACCSP Purposes

Scientist IV (10% time)	\$10,000
Scientist III (25% time)	\$15,000
Scientist I (100% time)	\$90,000
<u>Specialist I (25%)</u>	<u>\$12,000</u>
Total	\$127,000

Future Project Needs:

This project is designed to benefit all states from Maine to New Jersey, ASMFC, and federal management agencies including the NEFMC, NMFS, and the Mid-Atlantic Fishery Management Council (MAFMC). While accessory funding is available for FY 22 to cover all personnel costs, MEDMR continues to pursue long-term and permanent funding for this project through a commitment made by the participating states and the federal government. Given that this is the last year of ACSP funding for this project and should a funding solution not be found, this project will terminate at the end of FY 2022.

Budget Narrative:

Personnel and Fringe Benefits: Because of state funding resources, we are not requesting to fund either Scientist I (Chris Ura-neck) or Specialist I (Lisa Pinkham).

Travel and vehicles

Travel is requested for 35 overnight trips and an additional 20 extended days. The exact number and length of trips will depend on the fleet activity and port of landing. A small utility 4x4 truck is proposed for safety reasons during winter sampling in remote locations, as well as to haul equipment from time to time. Central fleet for the State of Maine stipulates rates, and private rentals are prohibited by state policies. The current request reflects a recent policy change by Central Fleet to charging less per month but increasing the mileage rate for trucks.

Office Supplies & Minor Equipment

Two cell phones and an “Air Card” are requested. One cell phone is for the sampler to contact vessels and to coordinate with NEFOP and MA DMF personnel. A second phone is requested for the supervisor to provide direction if needed and to allow for communication in case of an emergency. An air card is also requested which allows the user to connect to the State network from any location with cell phone coverage. Air cards allow for the efficient entry of data while waiting for vessels to land, along with allowing access to the VMS system to better pinpoint landing events. While tethering to a state phone for access is possible, negating the need for an air card, the change in plan required would increase the cell phone costs beyond the total cost of the air card.

Other Lab and Sampling supplies include baskets for sampling, scale calibration, rain gear, waterproof paper, sample boxes, safety equipment, and other items. These have been reduced in part to offset the increase in vehicle costs.

Indirect costs: The Department of Marine Resources has an indirect cost rate of 30%. See Attachment 6 for the Negotiated Indirect Cost Agreement.

Attachment 1: FY 2021 Budget & Narrative

FY 2021 Budget & Narrative

FY2021 Budget (State FY22) 7/1/21 - 6/30/22		
Cost Summary: Portside bycatch sampling		
<u>Personnel Services</u>	Description	ACCSP
None		
<u>All Other</u>		
Travel Expenses		
PROJECT VEHICLE 12 months	\$295/mo	\$ 3,540.00
Mileage fee	31000 @ \$.21/mi	\$ 6,510.00
Toll allowance		\$ 150.00
35 Overnight stays	\$102/night	\$ 3,570.00
Per diem (includes extended days)	\$50/day	\$ 2,750.00
		\$ 16,520.00
Office Supplies & Minor Equipment		
2 Cell Phones	2 @ \$50/month	\$ 1,200.00
1 air card	1 @ \$75/month	\$ 900.00
Sampling Gear		\$ 500.00
Lab Supplies		\$ 800.00
		\$ 3,400.00
Total Direct Costs		\$ 19,920.00
Indirect Costs (30%)		\$ 5,976.00
Award to DMR		\$ 25,896.00

Partner Contribution – For ACCSP Purposes

Scientist IV (10% time)	\$10,000
Scientist III (25% time)	\$15,000
Scientist I (100% time)	\$90,000
Specialist I (25%)	\$12,000
Total	\$127,000

Budget Narrative: 2021

Personnel and Fringe Benefits: Because of state funding resources, we are not requesting to fund either Scientist I (Chris Uraneck) or Specialist I (Lisa Pinkham). Since the last proposal, the Specialist II position occupied by James Becker has been occupied by Chris Uraneck and upgraded to a Scientist I. This change to State funding of personnel is a shift in the project which reduces overall costs to ACCSP.

Travel and vehicles

Travel is requested for 35 overnight trips and 20 extended days. The exact number and length of trips will depend on the fleet activity and port of landing. A small utility 4x4 truck is proposed for safety reasons during winter sampling in remote locations, as well as to haul equipment from time to time. Central fleet for the State of Maine stipulates rates, and private rentals are prohibited by state policies. The current request reflects a recent policy change by Central Fleet to charging less per month but increasing the mileage rate for trucks.

Office Supplies & Minor Equipment

Two cell phones and an “Air Card” are requested. One cell phone is for the sampler to contact vessels and to coordinate with NEFOP and MA DMF personnel. A second phone is requested for the supervisor to provide direction if needed and to allow for communication in case of an emergency. An air card is also requested which allows the user to connect to the State network from any location with cell phone coverage. Air cards allow for the efficient entry of data while waiting for vessels to land, along with allowing access to the VMS system to better pinpoint landing events.

Other Lab and Sampling supplies include baskets for sampling, scale calibration, rain gear, waterproof paper, sample boxes, safety equipment, and other items

Attachment 2: Project history

YEAR	TITLE	COST	Rational/Emphasis	RESULTS
2001	Commercial catch sampling of Atlantic herring	\$52,299	catch sampling, herring	expanded sampling of herring
2002	Commercial catch sampling of Atlantic herring	\$67,168	catch sampling, herring	herring and mackerel sampling
2003	Commercial catch sampling of Atlantic herring and other northeast fisheries	\$67,168	catch sampling, herring	herring, mackerel, and halibut
2004	Commercial catch sampling and bycatch survey of the northeast Atlantic herring fishery	\$70,441	catch sampling, herring and mackerel	herring, halibut, mackerel and pilot portside bycatch sampling
2005	Commercial catch sampling and bycatch survey of two pelagic fisheries	\$69,949	catch sampling, herring and mackerel	herring, halibut, mackerel and pilot portside bycatch sampling
2006	Portside bycatch sampling and commercial catch sampling of the Atlantic herring and Atlantic mackerel fisheries	\$104,633	portside bycatch survey herring and mackerel catch sampling	herring and mackerel portside bycatch at 5% level and catch sampling
2007	Portside bycatch sampling and commercial catch sampling of the Atlantic herring and Atlantic mackerel fisheries	\$108,891	portside bycatch survey herring and mackerel catch sampling	herring and mackerel portside bycatch at 5% level
2008	Portside bycatch sampling and commercial catch sampling of the Atlantic herring and Atlantic mackerel fisheries	\$116,300	portside bycatch survey herring and mackerel catch sampling	herring and mackerel portside bycatch at 5% level
2009	Portside bycatch sampling and commercial catch sampling of the Atlantic herring, Atlantic mackerel, and Atlantic menhaden fisheries	\$105,985	portside bycatch survey herring menhaden and mackerel catch sampling	herring and mackerel portside bycatch and commercial catch sampling and bycatch at 5% level
2010	Portside bycatch sampling and commercial catch sampling of the Atlantic herring, Atlantic mackerel, and Atlantic menhaden fisheries	\$84,451	portside bycatch survey herring menhaden and mackerel catch sampling	herring menhaden and mackerel portside bycatch and commercial catch sampling and bycatch at 5% level
2011	Portside bycatch sampling and commercial catch sampling of the Atlantic herring, Atlantic mackerel, and Atlantic menhaden fisheries	\$174,778	portside bycatch survey herring menhaden and mackerel catch sampling	herring menhaden and mackerel portside bycatch and commercial catch sampling and bycatch at 5% level
2012	Portside commercial catch sampling and comparative bycatch sampling for Atlantic herring (<i>Clupea harengus</i>), Atlantic mackerel (<i>Scomber scombrus</i>), and Atlantic Menhaden (<i>Brevoortia tyrannus</i>) fisheries	\$0	portside bycatch survey herring menhaden and mackerel catch sampling	Funds were not requested because of previous cost-saving measures; allowing for the continuation of the previous work with no added costs.
2013	Portside commercial catch sampling and comparative bycatch sampling for Atlantic herring (<i>Clupea harengus</i>), Atlantic mackerel (<i>Scomber scombrus</i>), and Atlantic Menhaden (<i>Brevoortia tyrannus</i>) fisheries	\$113,774	portside bycatch survey herring menhaden and mackerel catch sampling	herring menhaden and mackerel portside bycatch and commercial catch sampling and bycatch at 5% level
2014	Portside commercial catch sampling and comparative bycatch sampling for Atlantic herring (<i>Clupea harengus</i>), Atlantic mackerel (<i>Scomber scombrus</i>), and Atlantic Menhaden (<i>Brevoortia tyrannus</i>) fisheries	\$130,599	portside bycatch survey herring menhaden and mackerel catch sampling	herring menhaden and mackerel portside bycatch and commercial catch sampling and bycatch at 5% level
2015	Portside commercial catch sampling and comparative bycatch sampling for Atlantic herring (<i>Clupea harengus</i>), Atlantic mackerel (<i>Scomber scombrus</i>), and Atlantic Menhaden (<i>Brevoortia tyrannus</i>) fisheries	\$136,306	portside bycatch survey herring menhaden and mackerel catch sampling	herring menhaden and mackerel portside bycatch and commercial catch sampling and bycatch at a 5% level.

2016	Portside commercial catch sampling and comparative bycatch sampling for Atlantic herring (<i>Clupea harengus</i>), Atlantic mackerel (<i>Scomber scombrus</i>), and Atlantic Menhaden (<i>Brevoortia tyrannus</i>) fisheries	\$23,606	portside bycatch survey herring menhaden and mackerel catch sampling	herring menhaden and mackerel portside bycatch and commercial catch sampling and bycatch at a 5% level.
2017	Portside commercial catch sampling and bycatch sampling for Atlantic herring (<i>Clupea harengus</i>), Atlantic mackerel (<i>Scomber scombrus</i>), and Atlantic Menhaden (<i>Brevoortia tyrannus</i>) fisheries	\$24,975	portside bycatch survey herring menhaden and mackerel catch sampling	herring menhaden and mackerel portside bycatch and commercial catch sampling and bycatch at a 5% level.
2018	Portside commercial catch sampling and bycatch sampling for Atlantic herring (<i>Clupea harengus</i>), Atlantic mackerel (<i>Scomber scombrus</i>), and Atlantic Menhaden (<i>Brevoortia tyrannus</i>) fisheries	\$25,974	portside bycatch survey herring menhaden and mackerel catch sampling	herring menhaden and mackerel portside bycatch and commercial catch sampling and bycatch at a 5% level.
2019	Portside commercial catch sampling and bycatch sampling for Atlantic herring (<i>Clupea harengus</i>), Atlantic mackerel (<i>Scomber scombrus</i>), and Atlantic Menhaden (<i>Brevoortia tyrannus</i>) fisheries	\$25,974	portside bycatch survey herring menhaden and mackerel catch sampling	herring menhaden and mackerel portside bycatch and commercial catch sampling and bycatch at a 5% level. Final analysis Ongoing
2020	Portside commercial catch sampling and bycatch sampling for Atlantic herring (<i>Clupea harengus</i>), Atlantic mackerel (<i>Scomber scombrus</i>), and Atlantic Menhaden (<i>Brevoortia tyrannus</i>) fisheries	\$26,116	portside bycatch survey herring menhaden and mackerel catch sampling	ongoing
2021	Portside commercial catch sampling and bycatch sampling for Atlantic herring (<i>Clupea harengus</i>), Atlantic mackerel (<i>Scomber scombrus</i>), and Atlantic Menhaden (<i>Brevoortia tyrannus</i>) fisheries	\$25,896	portside bycatch survey herring menhaden and mackerel catch sampling	Not yet started

Proposed ACCSP Ranking

Proposal Type: Maintenance

Primary Program Priority and Percentage of Effort to ACCSP modules:

Biological Sampling (8 Points): Although Atlantic herring is missing from the top quartile of the Biological Matrix, a correct scoring would certainly adjust it to that level. The score would rise to the top of the matrix with the elimination of biological sampling. Additionally, River herring and shad, caught as bycatch in the Atlantic herring and menhaden fisheries are near the top of the Biological Matrix.

Bycatch/Species Interaction (6 Points): Mid-Water trawl gear targeting Atlantic herring and mackerel is currently the most scrutinized for bycatch of river herring and groundfish. Amendment 7 of the Atlantic herring FMP is calling for an added increase in bycatch monitoring via portside sampling for the Mid-water trawl fleet. It is ranked 9th out of 18 on the “Quartile of Bycatch Matrix”.

Metadata (2 Points): will be created with ESRI ArcCatalog 10 to conform to the FGDC standards and specifications. Created metadata will be submitted to ACCSP in text and XML formats.

Project Quality Factors:

Regional Impact (5 Points): all partners will benefit, as all data collected will be uploaded to ACCSP. Regional management organizations, such as ASMFC, will benefit from the biological and bycatch information from the proposed project.

Funding transition plan (4 Points): MEDMR will continue to seek alternative sources of funding to further transition from ACCSP grant money.

In-kind Contribution (4 Points): the partner contribution is listed below the budget.

Improvement in Data Quality/Timeliness (4 Points): Data collected through this study are regularly entered into the MARVIN biological database housed at MEDMR. Data are first entered into MARVIN and run through QA/QC routines to ensure accurate reporting. The biological sampling data is uploaded to the ACCSP data warehouse regularly.

Potential secondary model (4 Points) Data collected through this proposed project is used in the assessment and management of river herring, Atlantic herring, Mackerel, and menhaden as outlined to the expected benefits section

Impact on Stock Assessment (3 Points): Regional management organizations that carry out stock assessments would benefit from the detailed biological sampling and bycatch data. This information could be used in stock assessments for many species that are managed by regional agencies.

Properly Prepared (5 Points): MEDMR followed ACCSP guidelines and pertinent documents when preparing this proposal.

Attachment 3: FY2020 semi Report



**DEPARTMENT OF COMMERCE
RESEARCH PERFORMANCE PROGRESS REPORT (RPPR)**

For instructions, please visit

[http://www.osec.doc.gov/oam/grants_management/policy/documents/RPPR%20Instructions%20and%20Privacy%20State
ment.pdf](http://www.osec.doc.gov/oam/grants_management/policy/documents/RPPR%20Instructions%20and%20Privacy%20Statement.pdf)

AWARD INFORMATION	
1. Federal Agency: Department of Commerce / NOAA	2. Federal Award Number: NA19NMF4740097
3. Project Title: Portside Commercial catch sampling and comparative bycatch sampling for Atlantic herring (<i>Clupea harengus</i>)	
4. Award Period of Performance Start Date: 07/01/2019	5. Award Period of Performance End Date: 06/30/2021
PRINCIPAL INVESTIGATOR/PROJECT DIRECTOR	
6. Last Name and Suffix: Uranek , null	7. First and Middle Name: Christopher ,
8. Title: Marine Resource Scientist I	
9. Email: chris.b.uranek@maine.gov	10. Phone Number: 207-350-6040
AUTHORIZING OFFICIAL	
11. Last Name and Suffix: Nutting , null	12. First and Middle Name: Rochelle ,
13. Title: Resource Administrator	
14. Email: rochelle.nutting@maine.gov	15. Phone Number: 207-624-6556
REPORTING INFORMATION	
Signature of Submitting Official: N/A	
16. Submission Date and Time Stamp:	17. Reporting Period End Date: 12/31/2020
18. Reporting Frequency: Annual Semi-Annual Quarterly	19. Report Type: Not Final Final
RECIPIENT ORGANIZATION	
20. Recipient Name: MARINE RESOURCES, MAINE DEPARTMENT OF	

21. Recipient Address:

32 BLOSSOM LN, AUGUSTA, ME 04330-5780 USA

22. Recipient DUNS: 809045826

23. Recipient EIN: 016000001

ACCOMPLISHMENTS

24. What were the major goals and objectives of this project?

1. Continuation of the portside bycatch survey
 - a. Expand the coverage of landed herring and menhaden monitored for bycatch.
 - b. Increase the percentage of unobserved at-sea sampling offloads.
2. Continuation of commercial catch sampling and species collection upon request.

25. What was accomplished under these goals?

Due to COVID-19 and changes in staff only one bycatch sampling event was performed. Since March staff have been unable to leave the state as part of ongoing efforts to prevent the spread of COVID-19 and protect the health of staff. Some sampling and landings do occur in NH, MA and RI during this reporting period.

Additionally, James Becker moved to another position on March 9th at DMR and has been replaced on the team with Chris Uraneck. Chris started June 1st with the herring and menhaden group but only worked part-time on the project until a replacement could be found for his previous job in Recreational fisheries. This did not happen in full until November 1.

Despite these issues, the project was still able to secure 17 herring, 0 mackerel, and 37 menhaden samples. One portside bycatch trip was also sampled shore-side. Additionally, while the data have been collected and uploaded, analysis has been slowed for the reasons mentioned above.

It is anticipated that both sampling and analysis will be caught up to usual levels, once the new staff member is fully trained, and more normal operations are resumed in the wake of COVID-19 restrictions.

ACCOMPLISHMENTS (cont'd)

26. What opportunities for training and professional development has the project provided?

N/A

27. How were the results disseminated to communities of interest?

In general, the herring spawn data gathered from the commercial catch samples are shared with the Atlantic States Marine Fishery Commission (ASMFC) for spawn monitoring for Maine, NH, and MA <http://www.massmarinefisheries.net/herring/>. The herring and menhaden data are used for each of their stock assessments <http://www.asmfc.org/species/atlantic-herring>. The herring bycatch data are used for bycatch quota monitoring for ASMFC and NMFS https://www.greateratlantic.fisheries.noaa.gov/ro/fso/reports/reports_frame.htm. Data from the one portside bycatch study was uploaded to our federal partners, but biological sample data is not due to ASMFC or NOAA until during the next reporting period.

ACCOMPLISHMENTS (cont'd)

28. What do you plan to do during the next reporting period to accomplish the goals and objectives?

N/A

PRODUCTS

29. Publications, conference papers, and presentations

Nothing to Report

PRODUCTS (cont'd)
30. Technologies or techniques Nothing to Report
31. Inventions, patent applications, and/or licenses Nothing to Report

PRODUCTS (cont'd)
32. Other products Nothing to Report

PARTICIPANTS & OTHER COLLABORATING ORGANIZATIONS

33. What individuals have worked on this project? Name: Chris Uraneck Total Number of Months: (6) Project Role: Marine Resource Scientist I Contribution to Project: Collects and coordinates collection of samples in Maine and other states where the fisheries occur. Conducts portside bycatch studies and writes reports. Name: Lisa Pinkham Total Number of Months: No change Project Role: Marine Resource Specialist I Contribution to Project: Conducts all lab analysis of herring samples. Processes menhaden samples and sends scale samples to the NOAA lab for ageing. Name: Matt Cieri Total Number of Months: No Change Project Role: Contribution to Project: No Change Name: Erin Summers Total Number of Months: No Change Project Role: Contribution to Project: Name: Carl Wilson Total Number of Months: No Change Project Role: Contribution to Project: Name: Amy Dumeny Total Number of Months: No Change Project Role:

PARTICIPANTS & OTHER COLLABORATING ORGANIZATIONS (cont'd)

34. Has there been a change in the active other support of the PD/PI(s) or senior/key personnel since the last reporting period?

Nothing to Report

35. What other organizations have been involved as partners?

The state agencies in New Hampshire, Massachusetts and Rhode Island have assisted in collecting and storing portside biological samples of herring when there has been landings in those states. These samples will be collected and then processed at the ME DMR lab when COVID travel restrictions are lifted.

NMFS combines our portside bycatch data with their at-sea observer program to estimate bycatch and discards for both the herring and mackerel quota monitoring systems. Data are also used for herring, mackerel and menhaden stock assessments.

The Atlantic Coastal Cooperative Statistics Program (ACCSP) use our herring spawn data, gathered from the commercial catch samples to overlook, monitor and administer the spawn forecast model used for the corresponding closures within the GoM.

PARTICIPANTS & OTHER COLLABORATING ORGANIZATIONS (cont'd)

36. Have other collaborators or contacts been involved?

Herring sample data are shared with the Gulf of Maine Research Institute (GMRI) to be applied for spawn monitoring and future regulation.

IMPACT

37. What was the impact on the development of the principal discipline(s) of the project?

The bycatch program for herring and mackerel plays a significant role in not only establishing a monitoring system to protect bycatch and incidental species but influences herring and mackerel fishing landings throughout the year. For example, when a certain amount of river herring (Alewife and Blueback herring) are landed and a set quota for these is surpassed, portions of these directed fisheries are closed until the quota resets in the following year. This protects these nontargeted species from overharvesting but impacts the revenues generated for these directed fisheries.

Also, the biological data collected via the commercial catch sampling program of herring, mackerel, and menhaden are directly used for their stock assessments and catch-at-age matrices. These data are used to estimate the size and age structure, 2020-2023 fishing quotas, recruitment, and ultimately the health of their population.

IMPACT (cont'd)
38. What was the impact on other disciplines? Nothing to Report
39. What was the impact on the development of human resources? Nothing to Report

IMPACT (cont'd)
40. What was the impact on teaching and educational experiences? Nothing to Report
41. What was the impact on physical, institutional, and information resources that form infrastructure? Nothing to Report

IMPACT (cont'd)
42. What was the impact on technology transfer? Nothing to Report
43. What was the impact on society beyond science and technology? Bycatch data collection and biological sampling have influenced fishing behaviors. With catch cap monitoring of river herring, shad and haddock in two directed fisheries, implemented partly by our sampling program, fishing locations can be chosen accordingly. To prevent closing areas of these fisheries due to choke species, the fishing spatial activity can shift to areas where the cumulative bycatch is lower and less likely to shut down landings. For example, if it is known that portside sampling is to occur on a certain herring or mackerel offload, the captain may decide to fish an area that typically contains less haddock, to prevent closing the fishery. A similar spatial shift occurs during the rolling spawn closures within the GoM. As that herring typically spawn from north to south, harvesters move out of the areas that are approaching peak spawning as to not land significant amounts of ripening females, to halt samples that may trigger a closure. Harvesters may also fish a certain spawn closure, providing DMR with spawn samples and a real-time look at the status of the ovaries in an effort to close the area as soon as possible. Bycatch quotas and spawn closures can reduce harvest and directly impact revenue as well as income for captain and crew. This can have indirect effects on dealers and other businesses.

Attach a separate document if more space is needed for #6-10, or #24-50.

IMPACT (cont'd)
44. What percentage of the award's budget was spent in foreign country(ies)? 0 , null
CHANGES/PROBLEMS
45. Changes in approach and reasons for change Due to COVID related travel and health restrictions we relied on other state agencies collecting and storing samples this year when herring were landed out of state.

CHANGES/PROBLEMS (cont'd)
46. Actual or anticipated problems or delays and actions or plans to resolve them Due to COVID related travel and health restrictions there has been a delay in getting some herring samples back to the ME DMR lab for processing. We plan to pick up the samples and process them as soon as we are able.
47. Changes that had a significant impact on expenditures In a normal year there is a lot of out-of-state travel associated with this project to collect biological samples and conduct bycatch studies. There has been a significant decline in this activity due to the COVID travel and health restrictions. This directly effects expenditures.

CHANGES/PROBLEMS (cont'd)
48. Significant changes in use or care of human subjects, vertebrate animals, biohazards, and/or select agents Nothing to Report
49. Change of primary performance site location from that originally proposed Nothing to Report

Attach a separate document if more space is needed for #6-10, or #24-50.

PROJECT OUTCOMES

50. What were the outcomes of the award?

All objectives and goals were met for this report period. The portside bycatch survey has continued to prove very successful since its inception in August of 2003. The results of this survey have revealed extremely small levels of bycatch in the directed herring fishery, and minor levels of bycatch in the mackerel and menhaden fisheries for all gear types sampled. The results of this project are useful in quantifying and understanding the extent of retained bycatch in the herring, mackerel, and menhaden fisheries. However, the species encountered as bycatch varied spatially by NMFS Statistical Area, and conclusions drawn regarding the spatial nature of the bycatch encountered should be interpreted cautiously due to the small sample sizes. It is important to remember that bycatch in these fisheries can be episodic and can be isolated to one fishing event in one specific spatial location during only handful of trips.

Herring, mackerel, and menhaden are harvested as large volume fisheries, which results in mass handling techniques like pumping the catch from the nets into the vessel holds and again into the processing facilities. Because of the nature of these fisheries, there are limited opportunities to observe and/or sample bycatch at-sea. However, vessels can discard some or all of the catch at-sea and there are some methods of sorting out large bycatch i.e. mammals before or during the pumping process. For these reasons the portside component is not designed to quantify all bycatch in these fisheries, but only retained and landed bycatch.

Since the spring of 2011, the portside bycatch sampling protocol shifted towards analyzing entire boatloads only and eliminating partial boat or lotsampling. This change in approach and the results of the co-occurring trip analyses have revealed that aligning portside data between DMR, MA DMF, and the NEFOP at-sea program offer more statistically sound estimates of bycatch and allows for the increase of sampling coverage across these fisheries. These efforts will complement and supplement, but not replace the NEFOP at-sea observer program. This bycatch survey represents a unique opportunity to collect data in an inexpensive but efficient and accurate way.

The data collected from both the Portside Bycatch Program and Commercial Catch Sampling Program were useful for the herring stock assessment update in 2020. In-particular the herring samples used for the catch-at-age matrix helped to determine spawning stock biomass, the 2019 - 2021 area fishing quotas and specifications, and spawn closure regulations. Data from Commercial Catch Sampling is also used in menhaden stock assessments to calculate the catch-at-age matrix. This is used to determine spawning stock biomass and develop fishing quotas. In addition, portside bycatch data from this project was used in conjunction with the at-sea data to calculate the river herring and haddock bycatch quotas for the 2019/2020 herring and mackerel fisheries.

DEMOGRAPHIC INFORMATION FOR SIGNIFICANT CONTRIBUTORS (VOLUNTARY)

<p>Gender:</p> <p style="text-align: center;">Male</p> <p style="text-align: center;">Female</p> <p style="text-align: center;">Do not wish to provide</p>	<p>Ethnicity:</p> <p style="text-align: center;"><input type="radio"/> Hispanic or Latina/o Not</p> <p style="text-align: center;"><input type="radio"/> Hispanic or Latina/o Do not</p> <p style="text-align: center;"><input type="radio"/> wish to provide</p>
--	---

<p>Race:</p> <p>American Indian or Alaska Native Asian</p> <p>Black or African American</p> <p>Native Hawaiian or other Pacific Islander</p> <p>White</p> <p>Do not wish to provide</p>	<p>Disability Status:</p> <p><input type="radio"/> Yes</p> <p>[] Deaf or serious difficulty hearing</p> <p>[] Blind or serious difficulty seeing even when wearing glasses</p> <p>[] Serious difficulty walking or climbing stairs</p> <p>[] Other serious disability related to a physical, mental, or emotional condition</p> <p><input type="radio"/> No</p> <p><input type="radio"/> Do not wish to provide</p>
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Attach a separate document if more space is needed for #6-10, or #24-50.

Attachment 4

Instructions for Sampling Atlantic Menhaden from the Maine Bait Fisheries

Acquiring the 'Sample'

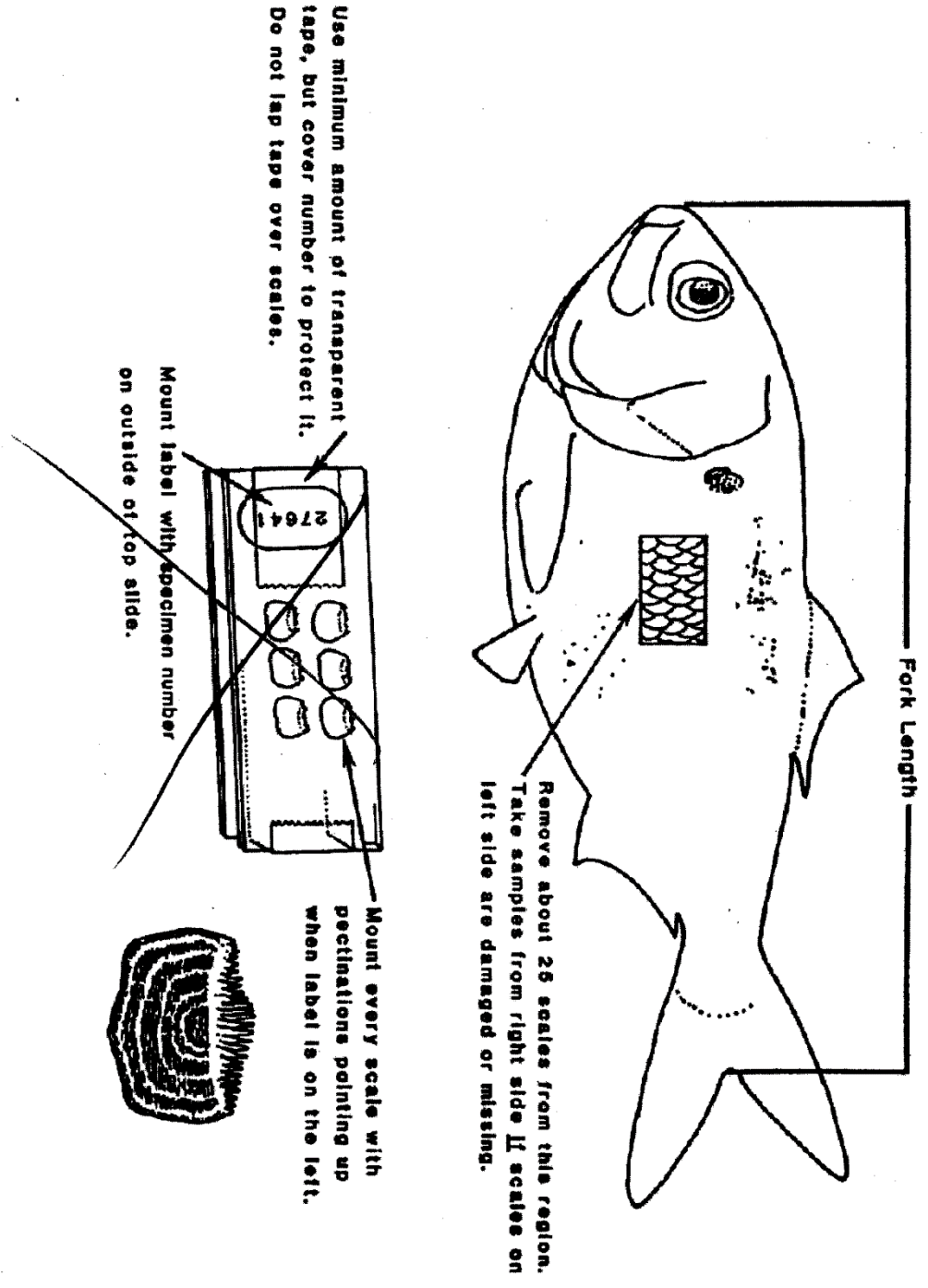
- Ideally, scoop a bucket of menhaden at random from the top of the fish hold.
- If the menhaden have already been packed out in flats or fish boxes, take 15-20 fish at random from the container.
- If available, record date of capture, location of capture, and vessel name. Usually we write this info on a waterproof tag and toss it in with the bagged menhaden sample.

Processing the 'Sample'

- Select a data sheet from the top of the pile. Write-in pertinent sample info on left half of data sheet:
 - Year Caught - last two digits
 - Vessel Name - just a name; we'll assign a vessel number at Beaufort
 - Location Caught - write location above the boxes; we'll assign a location code at Beaufort
 - Month and Day
 - LEAVE BLANK - Species and Scale Reader
 - Initial the data sheet (bottom right), and write any miscellaneous comments in the 'Remarks' box of the data sheet, eg, gear type, port of landing.
- Before you begin to handle the fish for lengths and weights, lay out ten coin envelopes on the counter-top and label each on the back with the unique 5-digit 'Specimen Number' found on the right side of the data sheet.
- From the plastic bag, bucket, etc. holding the menhaden sample, randomly draw out 10 fish. Process each of these 10 fish for fork length (in mm), weight (to the nearest whole gram), and remove a scale patch. Write fork lengths and weights for each of the 10 sample fish in the appropriate boxes on the right side of the data sheet.
- Scale patches are removed from mid-body, just below the start of the dorsal fin. See illustration in sampling manual.
 - Place scale patches in the appropriately labeled coin envelope, ie, scale patch from the first fish in the sample goes in the coin envelope labeled with the specimen number ending in '1'; scales from second fish go in coin envelope ending with specimen number ending in '2', etc.
- Re-bind ten coin envelopes with a rubber band. Paper-clip the coin envelopes to the top of the data sheet.
- Mail data sheets and coin envelopes to Beaufort via Dr. Matt Cieri.

Questions?? - Call Joseph W. Smith, NMFS Beaufort, 252-728-8765

FIGURE 2



Attachment 5

**COMMERCIAL
PORTSIDE BYCATCH
SURVEY PROTOCOL**



EXPLANATION:

The bycatch survey represents a unique opportunity to collect data in an inexpensive but efficient and accurate way. The program takes advantage of normal processing plant operations by quantifying bycatch that enters the facilities. Processing plants have to manually remove other species from the production line before the fish are sorted and cut or frozen. In normal operations, bycatch removed from the product is segregated into xactix bins or totes and removed from the processing floor at the end of each lot. Plants process one lot (fish caught by one vessel on a particular trip, delivered by truck or boat) at a time and then reset the plant in preparation for the next lot. Therefore, the bycatch removed from each lot can be documented and assigned to a catch location, gear type, date and a total lot amount. Additionally, the plants generally buy herring from vessels throughout the fishery and therefore cover multiple gear types, vessel sizes and individual fishing practices.

The bait industry has changed tremendously in the last five years resulting in a much more centralized distribution structure. Generally the herring used for bait goes through a large wholesale dealer to smaller dealers and lobster wharfs along the coast. The wholesale dealers generally have facilities where they sort, barrel, freeze and store bait for redistribution. It is at these sites where effective bycatch surveys can also be done, thereby including the bait sector in this study.

The sampling takes place at processing plants and bait dealers in Maine, New Hampshire, Massachusetts, Rhode Island and New Jersey. Sampling sites are selected by targeting Tier 1 locations first and then relying on Tier 2 locations to meet weekly goals. A sampling level of five percent of the entire herring fishery is targeted (Table 1). The mackerel fishery will be sampled if the target levels for the herring fishery are being reached or when herring samples are not available. This scenario is most likely to occur in the winter months when many of the herring vessels switch to the mackerel fishery. The samplers quantify bycatch from individual lots that enter the processing and bait plants according to a NMFS specified protocol. The total weight of any observed bycatch are recorded along with species identification, total species weight, individual lengths and weights of all fish or a representative sub-sample.

From 2004 thru 2008 the average annual herring landings were 91,803 metric tons. Over this five year period, April averaged the lowest landings of 2,033 metric tons, yielding about 2% of the annual landings (Figure 1). August averaged the highest landings of 13,438 metric tons, and yielded about 15% of the annual landings.

Table 1: Target sampling levels for herring

Month	5% Herring landings
January	319.82
February	270.91
March	144.92
April	101.63
May	346.8
June	355.3
July	544.18
August	671.9
September	502.18
October	646.28
November	386.65
December	299.61
Totals MT	4590.18

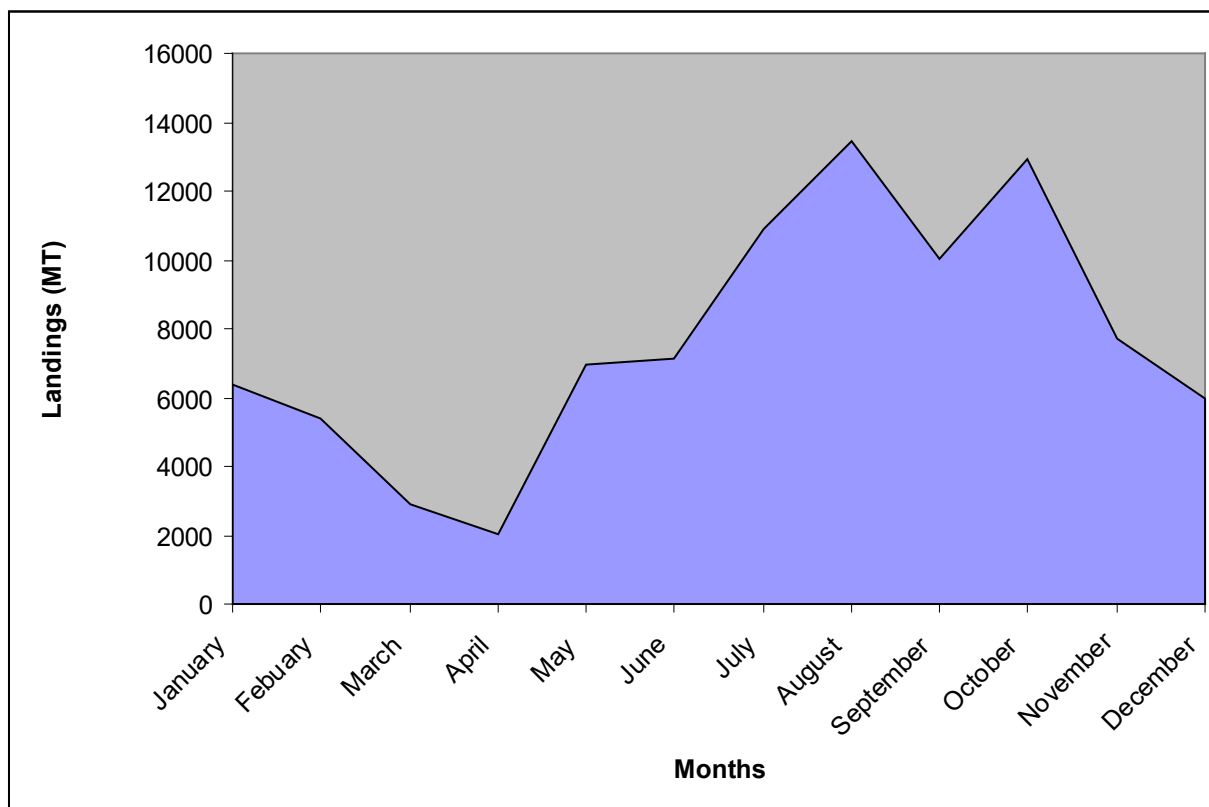


Figure 1: Five year average (2004-2008) of monthly herring landings

COMPLETE SAMPLING PROTOCOL:

The samplers collect and quantify all bycatch from individual lots of fish (transported by trucks or vessels) that enter the processing facilities. Samplers position themselves at the point of entry into the facility along an assembly line or at the base of the hoppers where the fish are unloaded. Sampling is conducted before grading or sorting of the catch occurs. All bycatch is removed from the assembly line or hopper and placed in bushel baskets or buckets specific to each species. Species identification is accomplished by examination and the use of identification keys when appropriate as outlined in NMFS and NEFOP protocols. The total weight of any observed bycatch is recorded along with species identification, total species weight, individual lengths and weights of all fish according to a NMFS and ACCSP specified protocol. If there is a large amount of one species, the total weight is recorded and then length frequencies and weight are gathered from a sub sample of n=50. The information collected for each bycatch study is recorded on the data sheets (see “Data Sheets” section of packet) and entered into the MEDMR biological database.

SUB-SAMPLING PROTOCOL:

A sub-sampling protocol is utilized when sampling a large volume of catch, determined as greater than 80,000 lbs. (~40 mt). Instances where this is likely to occur include sampling sites where vessels land an entire catch (as much as one million pounds) to a single facility. Sub-sampling is also appropriate in instances when there is an overwhelming amount of bycatch and/or non-targeted species mixed in with the lot of fish. In these cases it can be impossible to use the complete sampling protocol regardless of the amount inspected (< 80,000 lbs.). These situations are likely to occur when vessels are fishing mixed groups of herring and mackerel, some of which have a 50-50 composition.

Sub-samples are to be collected using bushel baskets at timed intervals during the pumping or unloading process following the NMFS at-sea observer sampling protocol. To accomplish this type of sub-sampling one needs to know the total lot weight and the duration of time it will take to unload the catch. After sampling the bushel basket of fish should be sorted by species, and total weight of each species and length frequencies should be recorded (sub sample n=50, for length frequencies if more than fifty of any species occurs).

Example:

Lot size = 120,000 lbs. (3 Trucks)

Pumping or unloading time = 3 hours (180 minutes)

If a sample basket is to be collected for every 10,000 lbs. of fish, then **12 sample baskets** need to be collected over the entire pumping or unloading process.

$120,000 \text{ lbs.} / 10,000 \text{ lbs.} = 12$

If the entire pumping or unloading process takes an estimated 180 minutes, than **a basket sample needs to be taken every 15 mins.**

If the catch composition from the bushel baskets is 99% Atlantic herring, than one can extrapolate that out of the 120,000 lbs. unloaded, then 118,800lbs is Atlantic herring.

$99\% \text{ Atlantic herring} = 120,000 \text{ lbs.} \times 0.99 = 118,800\text{lbs}$ of Atlantic herring

If the remaining 1% of the catch composition is Atlantic mackerel, then one can extrapolate that out of the 120,000 lbs. unloaded, 1,200lbs is Atlantic mackerel

$1\% \text{ Atlantic mackerel} = 120,000\text{lbs} \times 0.01 = 1,200\text{lbs}$ of Atlantic mackerel

Attachment 6: Negotiated Indirect Cost Agreement



Department of Marine Resources

INTEROFFICE MEMORANDUM

TO: FILE
FROM: PATRICK KELIHER, COMMISSIONER
SUBJECT: RATE USED FOR COST ALLOCATION
DATE: 6/3/2021

In accordance with OMB Circular A-87, the Department of Marine Resources has submitted to the U.S. Department of Commerce a departmental cost allocation plan for use during state fiscal year 2019 ending June 30, 2019. The indirect cost rate proposal is 34.30%. I am authorizing the use of the lesser rate of 30% to be used during this period.

ACCSP

“Portside commercial catch sampling and comparative bycatch sampling for Atlantic herring (*Clupea harengus*), Atlantic mackerel (*Scomber scombrus*), and Atlantic Menhaden (*Brevoortia tyrannus*) fisheries”

(July 1, 2022 – June 30, 2023)

A handwritten signature in black ink, appearing to read "P. Keliher", is written over a horizontal line. Below the line, the text "Patrick Keliher, Commissioner" is printed, followed by the date "6/4/21" written in black ink.

Patrick Keliher, Commissioner 6/4/21

MATTHEW D. CIERI
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EDUCATIONAL EXPERIENCE

B.S.	Marine Science, Stockton College of New Jersey	1993
M.S.	Biology (Marine Ecology), Rutgers University	1995
Ph.D.	Oceanography, University of Maine	1999

PROFESSIONAL EXPERIENCE

Marine Resource Scientist , Maine Department of Marine Resources	2/01-present
Post-Doctoral Scientist , The Ecosystem Center, Marine Biological Laboratory	9/99-2/01
Graduate Research Assistant , School of Marine Science, University of Maine	5/95-9/99
Research Technician , Cranberry/Blueberry Research Laboratory, Rutgers /USDA	5/95-9/95
Graduate Teaching Assistant , Department of Biology, Rutgers University	9/93-9/95
Graduate Research Assistant , Institute of Marine Sciences, Rutgers University	10/93-4/94
Animal Laboratory Technician , Department of Natural Sciences, Stockton College	10/92-9/93

CURRENT DUTIES

Atlantic Herring: New England Fishery Management Council (NEFMC) and Atlantic States Marine Fisheries Commission (ASMFC)

- Oversee catch and landings reporting. Use of VTR (Vessel Trip Reports), Dealer Reports, & IVR (Interactive Voice Reports) to analyze and report landings and catch data to NMFS (National Marine Fisheries Service) regional office, NEFMC, and ASMFC
- Monitor IVR system: Query IVR database and report landing weekly to interested parties. Design and execution of a catch and effort model to predict appropriate “Days Out” needed to extend the fishery in some areas
- Commercial and Bycatch Sampling: Oversee the collection, inventorying, processing, and ageing of herring samples, also verify data entry. Make data available to interested parties. Supervise two full-time and one part-time technician. Produce compliance reports for ASMFC
- Monitor Herring spawning condition: Analyze biological sample data to determine spawning activity status. Indicate when areas should be closed to fishing to protect spawning herring
- Herring PDT (Plan Development Team) & Stock Assessment Subcommittee member (NEFMC & ASMFC): Participate in Stock assessments and analysis of catch and landings statistics for the Herring SAFE report. Develop the catch at age matrix for use in Virtual Population Analysis (VPA) and Age Structure Assessment Program (ASAP) models. Provide technical advice to management; Current Technical Committee Chair (ASMFC)

Whiting and Small mesh Multispecies (NEFMC):

- PDT & Stock Assessment Subcommittee member (NEFMC): Participated in stock assessment activities; Revision of overfishing and biomass reference points; Analysis of catch and landings statistics; Provide technical advice to management.

Spiny Dogfish (ASMFC):

- Participated in stock assessment activities and management analysis; Revision of overfishing and biomass reference points; Analysis of catch and landings statistics; Provide technical advice to management.

Assessment Science Committee (ASMFC):

- Provide stock assessment and technical advice to ASMFC Policy board including; Sampling targets for fishery independent and dependent sampling; Workload and scheduling for ASMFC stock assessment and participating scientists; coordinate Advanced Stock assessment training workshops

Multispecies Technical Committee Chair (ASMFC):

- Provide stock assessment and technical advice to ASMFC Policy on predator/prey relationships; Update and Expand MS-VPA (Multispecies Virtual Population Analysis) model as appropriate; Assist in incorporating Predator/prey and natural mortality estimates in the Atlantic Menhaden Assessment. Current Chair

Atlantic Menhaden (ASMFC)

- **Stock Assessment Subcommittee:** Provide estimates of natural mortality and participate in general assessment activities.

Biological Review Panel (ACCSP):

- Provide recommendations of priority and scope of fishery dependent and independent sampling for East Coast Fisheries

PREVIOUS DUTIES

Monkfish

- **PDT & Stock Assessment Subcommittee member (NEFMC):** Participated in stock assessment activities; Revision of overfishing and biomass reference points; Analysis of catch and landings statistics; Provide technical advice to management.

Atlantic Menhaden (ASMFC)

- **Technical Committee Chair:** Writing consensus documentation from technical meetings; Provide analysis of catch and landings data; Analyze current assessment methods; Present findings to the Menhaden Management Board. Produced compliance reports for the state of Maine
- **Multispecies Subcommittee Chair:** Provide technical guidance on conceptualization and implementation of the Menhaden Multispecies ecosystem model; Report progress to the Menhaden Management Board.

American Eel (ASMFC)

- **Stock Assessment Subcommittee Chair:** Organized and lead meetings with both scientific and stakeholder participants. Writing consensus documentation from technical meetings. Provided analysis of catch and landings data. Analyzed assessment methods for use in the stock assessment. Presented results during ASMFC external peer review and Eel Management Board.

Erin L. Summers
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Profile:

- Work collaboratively with state, federal, academic, conservation, and industry partners to reduce whale entanglements and mortality in marine mammals and sea turtles through bodies such as the Atlantic Large Whale Take Reduction team and Atlantic Large Whale Disentanglement Network.
- Build research programs to provide baseline data on large whale life history, ecology, and habitat use in Maine's coastal rocky bottom habitats. Design new and emerging methodologies to inform management decisions.
- Oversee research and monitoring programs within the Division of Biological Monitoring at DMR, including the lobster programs, surveys for scallops, sea urchin, shrimp, and herring, recreational fisheries program, inshore trawl survey, and the landings and reporting group.
- Represent the Department of Marine Resources in stakeholder meetings, including those for wind energy permitting, Natural Resource Damage Assessments, department wide research and priority setting, etc.
- Member of the Atlantic Scientific Review Group advising NOAA Fisheries on marine mammal stock assessments

Education:

MA Biology: Boston University Marine Program	Woods Hole, Ma. 5/02
BA Biology, Spanish minor: Truman State University	Kirksville, Mo. 5/00

Employment:

Jan 2017 – present: Marine Resource Scientist IV
Maine Department of Marine Resources
West Boothbay Harbor, Me

- Oversee Division of Biological Monitoring, including Commercial Landings Program, Benthic group (lobster, scallops, urchins), and Pelagics group (herring, groundfish, shrimp, and recreational fishing)
- Lead Scientist for DMR's Large Whale Conservation Program
- Member of the Atlantic Large Whale Take Reduction Team

Feb 2006 – Jan 2017: Marine Resource Scientist II
Maine Department of Marine Resources

- Lead scientist for DMR's Large Whale Conservation Program
- Secured grant funding, wrote reports, tracked budgets to support research projects
- Completed projects to support management decisions for the Atlantic Large Whale Take Reduction Plan, including tagging humpback whales, right whale habitat surveys, passive acoustic surveys, gear density surveys, testing alternative fishing gear, characterizing fishing practices, etc.
- Oil Spill Response Coordinator
- Assist with GIS coordination

Jan 2010 – May 2010: Adjunct Faculty
Unity College
Unity, Me

- Taught upper level course in the biology of Marine Mammals

Feb 2004 – Feb 2006: Marine Mammal Research Specialist
University of New England
Biddeford, Me

- Lead Research technician on project to track and predict right whale habitat use and distribution
- Analysis of remotely sensed data and right whale sightings in the Bay of Fundy Critical Habitat
- Assisted with report writing and budget tracking
- Completed project and published paper analyzing right baleen using stable isotope analysis
- Completed project and published papers satellite tagging and tracking baskings sharks off the coast of New England

Sept 2002 – Feb 2004: Research Technician
Cetacean and Sea Turtle Team, NOAA Fisheries Service
Beaufort, NC

- Lead technician tracking and analyzing movements of satellite tagged dolphins
- Perform field work including fishing gear and dolphin aerial surveys, boat based dolphin biopsy and photo-identification surveys, satellite tagging dolphins, responding to strandings, etc.
- Participate in necropsies as needed

Oct 2000 – June 2002: Laboratory Technician
Marine Biological Laboratories
Woods Hole, Ma

- Manage daily operations of the laboratory of marine veterinarian, Roxanna Smolowitz
- Run experiments and document methodologies and results
- Prepare media, samples, histology slides, and other lab bench work

Proposal for Funding made to:
Atlantic Coastal Cooperative Statistics Program
Operations and Advisory Committees
1050 N. Highland Street, Suite 200 A-N
Arlington, VA 22201

Advancing Fishery Dependent Data Collection for Black Sea Bass (*Centropristis striata*) in the Southern New England and Mid-Atlantic Region Utilizing Modern Technology and a Fishing Vessel Research Fleet Approach

Submitted by:

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and

Thomas Heimann, MSc
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Applicant Name: Rhode Island Department of Environmental Management (RI DEM) and the Commercial Fisheries Research Foundation (CFRF)

Project Title: Advancing Fishery Dependent Data Collection for Black Sea Bass (*Centropristis striata*) in the Southern New England and Mid-Atlantic Region Utilizing Modern Technology and a Fishing Vessel Research Fleet Approach

Project Type: Maintenance

Requested Award Amount: \$132,005

Requested Award Period: August 1, 2022 – July 31, 2023

Principal Investigators: Jason McNamee, PhD, Deputy Director of Natural Resources, Rhode Island Department of Environmental Management, David Bethoney, PhD, Executive Director, Commercial Fisheries Research Foundation; Thomas Heimann, MSc, Research Biologist, Commercial Fisheries Research Foundation

Date Submitted: June 11, 2021

Objective:

This proposal is a request for financial support for an additional 12 months of biological catch, effort, and bycatch sampling by the Black Sea Bass Research Fleet, which was successfully piloted in 2016 with support from ACCSP and has been in continuous operation since. Since the first year of funding provided by the ACCSP, the Research Fleet has sampled 29,741 black sea bass from 1,949 locations throughout the inshore and offshore fishing grounds of southern New England and the Mid-Atlantic. The Research Fleet will continue data collection through July 31, 2022 (Year 5 of funding from ACCSP). All biosamples data collected by this project during previous years of funding have been communicated to and accepted by ACCSP bi-annually. The project team will continue to deliver data to ACCSP in this manner throughout Year 5 of funding, and the proposed project will allow for the continued delivery of black sea bass biosamples data to ACCSP at six-month intervals through July 31, 2023.

The goal of the proposed project is to continue the Research Fleet's sampling efforts to develop a year-round, long-term time series of black sea bass (*Centropristis striata*) catch, bycatch, and biological data for five different gear types (trawl, lobster/crab pot, fish pot, gillnet, rod and reel) throughout the Southern New England (SNE) region and reaching into the Mid-Atlantic (MAB) region. The continuation of this project is critical to the evolution of black sea bass assessment and management efforts by the Atlantic States Marine Fisheries Commission, Mid-Atlantic Fisheries Management Council, Northeast Fisheries Science Center, and Atlantic Coastal Cooperative Statistics Program as the Black Sea Bass Research Fleet produces spatially

and seasonally distinct catch data for numerous commercial and recreational gear, which is currently lacking for this species.

Project components include: 1) Continue the existing fishery dependent data collection program that utilizes fishing vessels and a custom designed sampling application to collect and relay biological catch and bycatch data (number, length, sex, disposition) and fishery characteristics (location, gear type, effort, habitat) for black sea bass from across the SNE/MAB region throughout the year; 2) Internal data analysis to address research questions about spatiotemporal patterns in black sea bass biological and fishery characteristics and gear-specific selectivity; and 3) Communication of project data and results to the Atlantic Coastal Cooperative Statistics Program (ACCSP), black sea bass stock assessment scientists, managers, and members of fishing industry.

In summary, the general goals of the proposed project are:

- 1) Collect and communicate critically needed fishery dependent black sea bass data (catch and effort, bycatch, and biological) in a cost-effective way using modern electronic technology and fishermen's time on the water;
- 2) Contribute to the evolution of the northern Atlantic black sea bass stock assessment and associated management measures;
- 3) Demonstrate a model for fishery dependent data collection, management, analysis, and utilization that can be duplicated in a cost-effective way in other regions of the black sea bass range and in other fisheries.

Specific objectives include the following:

- Continue the Black Sea Bass Research Fleet for an additional 12 months to further refine seasonal characterizations of northern Atlantic black sea bass biology and distribution;
- Collect fishery dependent black sea bass data from five gear types (trawl, lobster/crab pot, fish pot, gillnet, rod and reel) across the SNE/MAB region to characterize the size and sex distributions of black sea bass catch and bycatch and investigate the spatial and temporal trends of the fishery;
- Maintain and evolve the On Deck Data application to meet the data needs of scientists and the logistical needs of participant fishermen;
- Communicate black sea bass biosamples data to ACCSP every six months;
- Ensure all project data is available to Northeast Fisheries Science Center (NEFSC) scientists for inclusion in the Black Sea Bass Research Track Assessment scheduled for November 2022
- Conduct internal analyses of the project database to: 1) Assess the selectivity and CPUE of five gear types in the SNE/MAB region and explore temporal variability, and 2) Further monitor and assess spatial and temporal trends in species' catch and bycatch composition and fishery characteristics;

- Further refine gear-specific fishery dependent indices that utilize different data error structures, standardization techniques, and Bayesian applications;
- Communicate to a broad audience the benefits and inherent value in this type of collaborative data collection program.

Need:

As asserted in the ACCSP Biological Review Panel’s biological sampling priority matrix, black sea bass is identified as a top priority species for data collection, receiving the highest total priority ranking for inadequate biological sampling (ACCSP 2021), and the species remains a high priority for managing stakeholders (ASMFC, NMFS, and state agencies). In recent decades, the distribution and center of biomass of black sea bass has been experiencing a northward shift, likely due to climate change (Bell et al. 2014). As a result, the lack of adequate data for northern Atlantic black sea bass in particular is an issue of regional importance, as this highly valuable stock ranges from Cape Hatteras to the Gulf of Maine (Musick & Mercer 1977, Moser & Shepherd 2009). In part due to the dearth of data throughout the black sea bass range, assessment and management efforts have been slow to react to the shifting distribution of the species and growing abundance of the northern stock (Bell et al. 2014, NEFSC 2017). As stated by ASMFC (2019), high priority data needs for black sea bass include increased sampling of commercial landings and sample size of observed charter trips. The Black Sea Bass Research Fleet has, and will continue to with additional funding, provide precisely this information. Ultimately, cost-effective sampling programs, such as the Black Sea Bass Research Fleet, are needed to collect these data on regional scales and inform and evolve the stock assessment to consider the complex life history and ever evolving spatial structure of black sea bass.

Fishery dependent data has become an important source of information that is used as a term of reference for many stock assessments, but in the case of the northern Atlantic black sea bass stock, the data generated by the Black Sea Bass Research Fleet serves as the only systematically collected fishery dependent data source with a focus on the data being used in the assessment process. Thus, this project seeks to strengthen the fishery dependent data for this population to provide better information from across the temporal and spatial distribution of the northern stock.

The limited coverage of optimal black sea bass habitat and semi-seasonal (spring/winter) sampling schedule of the NEFSC trawl survey may limit the suitability of the survey data for the stock assessment (ASMFC 2013) and require the addition of new data streams to improve the information available to assessment. Recent stock assessments for the southern Atlantic black sea bass stock have adapted sampling and analytical techniques to better fit the life history and habitat associations of black sea bass. These stock assessments rely heavily on fishery-dependent data collected from multiple commercial and recreational fleets representing multiple gear types to inform the stock assessment model using data such as annual length compositions of landings and discards, gear selectivity curves, and indices of abundance (SEFSC 2013; SEDAR 2018). Such fishery-dependent parameters, however, have not yet been developed for the northern Atlantic black sea bass stock due to insufficient data, but will

become possible if the Black Sea Bass Research Fleet is able to amass a robust time series of data. This project aims to address this need by maintaining the existing Black Sea Bass Research Fleet to conduct year-round biological sampling of black sea bass fishing effort, catch composition, and bycatch composition within the trawl, lobster/crab, fish pot, gillnet, and rod and reel fisheries in the SNE/MAB region.

Ultimately, the proposed project will help meet ACCSP's mission of improving data quality for fisheries science. In addition, this project, and its integration with the ACCSP data housing program, will lend to the other mission of the ACCSP, namely by contributing to a single data management system that will meet the needs of fishery managers, scientists, and fishermen. Collecting timely scientific data across a species range is imperative for successful fisheries management, as more robust data enables fisheries science to be as comprehensive as possible, which in turn supports informed and efficient decision making by managers. Furthermore, stock assessment scientists rely on robust biological, catch and effort, and bycatch data to help improve the quality of stock assessments. In these ways, the proposed project meets all the main elements of the mission of ACCSP.

Results and Benefits:

The results of the proposed project include:

- Improved quality, quantity, and timeliness of biological, catch and effort, and bycatch data for the northern Atlantic black sea bass, made available via the ACCSP;
- A vetted source of year-round black sea bass data that can be used to inform the stock assessment and management of this data poor species;
- Coordinated data transmission procedures with the ACCSP that follow the CFRF's existing data communication practices with ACCSP;
- A demonstrated, cost effective, method to collect data for a commercially and recreationally important species from areas and times of year not accessed by existing survey programs;
- Improved collaboration and trust between fishermen, scientists, and managers;
- Improved accuracy and credibility of the stock assessment and management plan for the northern Atlantic black sea bass stock;

The benefits of the proposed project are:

- Address priorities of ACCSP by providing critically needed black sea bass data from the SNE/MAB region to support assessment and management efforts that reflect the current state of the resource;
- Provide an efficient and constructive way for fishermen to be involved in the scientific process by using modern technology to collect quantitative black sea bass data during routine fishing practices;
- Fill black sea bass data gaps in areas, habitats, and times of year not covered by standard survey techniques;

- Evolve and improve the black sea bass stock assessment by providing expanded biological data from retained and discarded black sea bass from a variety of gear types;
- Support regional science and management agencies, including ACCSP, ASMFC, MAFMC, and state agencies in their efforts to sustainably manage the black sea bass resource;
- Support diversification and resilience of fishing communities in the many states across the Atlantic coast with a black sea bass fishery;
- Provide a model for cost-effective fishery dependent data collection efforts in other regions and fisheries.
- Build strong working partnerships between fishermen, scientists, and managers that will contribute to the sustainable management of the nation's living marine resources;
- Build confidence in the efficacy of the northern Atlantic black sea bass stock assessment and management process.

Data Delivery Plan:

An important component of the proposed project is the compilation and communication of fishery and biological data to the ACCSP, participant fishermen, stock assessment scientists, and management teams, which will allow this project to have the greatest impact on black sea bass management as possible. The CFRF will maintain the black sea bass database for internal project analyses (described below) but will also regularly share the project data with other users, regardless of any internal publication endeavors.

Copies of the black sea bass database will continue to be sent bi-annually (every six months) to the ACCSP. These data will be compiled in a format that is compatible with the ACCSP database to encourage data be readily used in the black sea bass stock assessment and other analyses. Data submissions to the ACCSP will build upon the established procedures from the first four years of the project. All data provided to the ACCSP will match ACCSP data collection standards and any requested and available metadata will be provided. At the end of the project, data will also be made available to fishery scientists at the NMFS Northeast Fisheries Science Center. A vessel ID system will be used to maintain the confidentiality of participant fishing vessels. The CFRF will maintain open communication with the ACCSP data coordinator and will remain available to provide any necessary metadata along with data submissions.

To provide regular feedback to fleet participants, the project team will compile and distribute individual data reports to vessel captains every three months (quarterly). Vessel-specific data reports will include the raw data collected by that vessel during the reporting period as well as the following summary statistics: number of catch sampling sessions, amount of effort sampled (number of trawls, hooks, traps, etc.), average depth of sampling, percentage of black sea bass catch retained for sale, percentage of black sea bass catch discarded, number of black sea bass biologically sampled, sex distribution of black sea bass sampled, minimum/maximum length of black sea bass sampled, and average length of black sea bass sampled. Additional summary statistics will be available upon request. Data reports were compiled and distributed to

Research Fleet participants following the above-mentioned quarterly time frame and content guidelines throughout the entirety of past project sampling.

Completed Data Delivery to ACCSP:

During the first funding year of the project, the CFRF and RI DEM worked with the ACCSP Data Coordinator, Julie Defilippi Simpson, to coordinate data formats, metadata, and delivery procedures for the Research Fleet's black sea bass biosamples data. In addition, in year 4 of the project, the project team worked with the ACCSP data coordinator to update the Black Sea Bass Research Fleet data submission to follow the updated ACCSP biosamples data format. As a result of these efforts, all black sea bass biosamples data collected to date through the funded project have been incorporated into the ACCSP black sea bass biosamples database. The CFRF has maintained the bi-annual data submission to the ACCSP and submits data in June and December of each sampling year. The project team will maintain a bi-annual data delivery schedule to ACCSP throughout the proposed project following the same data formats and standards previously established, as well as any requested updates from ACCSP.

Currently, the Research Fleet collects a suite of additional effort data beyond that which is included in the biosamples data (Table 1). To present, this effort data has not been included with past data submissions as the biosamples database at ACCSP is not set up for its inclusion. Continued efforts will be made by the CFRF and RI DEM to incorporate and share all effort data, including retroactively, with the ACCSP.

Approach:

The proposed project seeks to collect, communicate, and analyze critically needed catch, bycatch, and biological data for incorporation into the ACCSP biosamples database and ultimate application in the northern Atlantic black sea bass stock assessment. Project components include: 1) Maintenance of the current Black Sea Bass Research Fleet; 2) Collection of fishery-dependent biological (catch and bycatch) black sea bass data and fishery characteristics for 12 months in the SNE/MAB region; 3) Internal data analysis to address research questions about spatiotemporal patterns in the black sea bass population and fishery; 4) Compilation and communication of project data and results to ACCSP, stock assessment scientists, and fisheries managers; and 5) Outreach and education activities to share findings. Methodological details are outlined below.

Maintenance of Black Sea Bass Research Fleet and Data Collection App:

During the first funding year of this project, the CFRF and RI DEM were successful in developing the Black Sea Bass Research Fleet for fishery dependent data collection, including the development of a Project Steering Committee, solicitation and selection of participant fishing vessels, development of the On Deck Data application and SQL database, refinement of sampling protocols, construction of sampling equipment, training of Research Fleet

Rhode Island Department of Environmental Management & Commercial Fisheries Research Foundation
ACCSP Funding Proposal (Maintenance Project – Project Year 6, Maintenance Year 4): Fishery Dependent Sampling for Black Sea Bass (*Centropristis striata*)

Proposal components that address the ranking criteria are underlined and a summary is provided on pages 30-33.

participants, on-time initiation of data collection, data delivery to ACCSP and professional and industry outreach. The project was implemented by the PIs, CFRF staff, and a Project Steering Committee, which consists of members of the fishing industry as well as state and federal fisheries scientists and managers. Currently the project is run by the PIs and CFRF staff, and the project steering committee serves in an advisory role and provides feedback on project progress and major milestones as needed. More information about project accomplishments is available on the project website: www.cfrfoundation.org/black-sea-bass-research-fleet.

If funded, during the sixth year of the project, the CFRF and RI DEM will maintain all active fishing vessels supported through year-5 funding from ACCSP. It is important to maintain the current members of the Research Fleet for as long as possible. Ultimately, when data will be applied to the stock assessment or validated in regards to other sources of black sea bass data, having participation from the same vessels throughout the time series will allow project staff to investigate potential vessel effects evident in the data. The sampling rate of the Research Fleet is dictated by the highly seasonal variation of black sea bass catch and bycatch in various fisheries across southern New England and the Mid-Atlantic. As a result, the sampling rate by the Research Fleet fluctuates from year to year. If funds become available due to normal fluctuations in Research Fleet sampling, project Co-PIs will evaluate the possibility of expanding the Fleet to include more vessels. Thus, when possible, and if funds permit, the Research Fleet may be expanded during the proposed project through an open application call for new vessels.

The black sea bass data collection application, On Deck Data, was developed during the first year of the project to enable Research Fleet participants to collect standardized black sea bass data as well as day-to-day observations. On Deck Data prompts participant fishermen to record a suite of session data (location, depth, etc.) and biological data (length, sex, disposition) while at sea. To account for the multi-gear nature of the black sea bass fishery, On Deck Data prompts gear-specific data entry for Research Fleet participants (Table 1). On Deck Data was originally launched during the first year of the project and has received various improvements and quality of life updates in each funded year to streamline data collection.

Table 1. Summary of fishing effort data collected by the Black Sea Bass Research Fleet.

Trawl	Gillnet	Commercial Rod & Reel	Charter	Lobster/Crab Traps	Fish Pot
Mesh Size (inches)	Number of Net Panels Per String	Time Spent Fishing (hours)	Time Spent Fishing (hours)	Soak Time (days)	Soak Time (days)
Tow Time (hours.decimal)	Length of Net Panels (feet)	Number of Rods Fished	Number of Rods Fished	Number of Traps	Number of Traps
Sweep Length (feet)	Mesh Size (inches)	Number of Hooks Used	Number of Hooks Used	Escape Vent Size (inches)	Escape Vent Size (inches)
	Soak Time (days)			Escape Vent Shape	Entrance Size (inches)
	Net Height (feet)				
	Tie Downs (inches)				

On Deck Data will be maintained throughout the proposed project to allow for efficient data collection and wireless data submission by Research Fleet participants. The CFRF and RI DEM will continue to work with an application developer to address any issues that arise and to update On Deck Data to maintain functionality. Application maintenance is a constant task, as tablets regularly receive operating system updates that may impact On Deck Data functionality. On Deck Data has to receive regular updates to specifically allow for compatibility with accessing and uploading data via wireless internet on new versions of the Android operating system. Further, as tablet models receive minor hardware changes between annual models, reformatting screens of On Deck Data to display properly across tablet models is anticipated.

The Black Sea Bass Research Fleet will continue to follow the fishery-dependent sampling protocols implemented during the first year of the project to collect catch and effort, biological, and bycatch data from the SNE/MAB region. The percentage of project effort devoted to each of these modules is as follows: Catch and Effort 25%, Biological 50%, Bycatch 25%. The estimated project effort devoted to biological sampling reflects the collection of black sea bass length and sex data by participant vessels during three trips per month for 12 months. The intention of data collection is to provide a biological characterization of the catch and discards of black sea bass from a variety of gear types in the SNE/MAB regions. The estimated effort devoted to the catch and effort module is based upon sampling during the open black sea bass fishing season, sub periods open to commercial fishery exist nearly year-round. Further due to the multi-gear nature of the Research Fleet, every vessel interacts with black sea bass as targeted catch or bycatch differently even during open periods. Finally, the project effort allocated to the bycatch module reflects sampling efforts conducted while the commercial black sea bass fishing season is closed and while participant vessels are targeting other species. Due to the low daily allocation through the summer and fall seasons in Rhode Island, there is still a large portion of bycaught black sea bass sampled after vessels have hit their daily limits.

Fishery-Dependent Data Collection:

The Black Sea Bass Research Fleet started collecting data on November 30, 2016 and, if this proposal is funded, will continue to do so utilizing the established sampling protocols and procedures through at least July 31, 2022 (through Year 6 of ACCSP funding). The Black Sea Bass Research Fleet currently consists of seventeen active fishermen based in Rhode Island and New Jersey, chosen strategically to provide data coverage from across the SNE/MAB region, throughout the year, from a variety of gear types. In 2020, two fleet members, F/V Lady Clare (lobster pot), and F/V Excalibur (offshore trawl), retired from commercial fishing as well as the Fleet. The other original vessels, F/V Johnny B (fish pot, rod & reel, lobster pot), F/V Laura Lynn (fish pot, rod & reel, lobster pot), F/V Matrix and F/V Lucy Rose (same captain; lobster/crab pot), F/V Nancy Beth (gillnet), F/V Priority Too (rod & reel, charter), F/V Second Wind (offshore trawl), F/V Sweet Misery and F/V More Misery (same captain; gillnet, lobster pot), F/V Debbie Sue (trawl), F/V Harvest Moon (fish pot, lobster pot), F/V X-Terminator (fish pot, gillnet), F/V Blue Label and Virginia Bae (fish pot, gillnet), and F/V Brooke C (Lobster/crab pot, fish pot, scallop dredge) have been maintained since previous years' funding. Despite the retirement of

two vessels, the Research Fleet expanded during the most recent project year adding the F/V Catherine Ann (fish pot, lobster pot), F/V New Hope (fish pot), F/V Ragged Edge (fish pot), F/V Savannah Paige (fish pot), and F/V Saturn (fish pot). The expansion targeted fish pot vessels based on communication with the Mid-Atlantic Fisheries Council and their priority to better understand discards by this gear type. The F/V Savannah Paige and F/V Saturn are based out of New Jersey, which has significant black sea bass fish pot effort. The vessels and port were identified with the aid of Rutgers Cooperative Extension and New Jersey Department of Environmental Protection. They represent the first inclusion of vessels based outside of Rhode Island to the Research Fleet.

The majority of samples have originated from statistical areas 537 and 539 as these two statistical areas exclusively cover the fishing grounds of the F/V Johnny B, F/V Laura Lynn, F/V Matrix, F/V Priority Too, and now F/V Catherine Ann, all of which are either seasonal fishing vessels or do not interact with black sea bass in the winter. The majority of inshore lobster, fish pot, rod and reel and gillnet samples come from the end of spring through the end of the fall when black sea bass are in highest abundances inshore in statistical areas 537 and 539. The F/V Brooke C fishes offshore and interact with black sea bass heavily in the winter and spring months, however this vessel encounters black sea bass less frequently through the summer and fall. The F/V X-Terminator and F/V Blue Label both fish seasonally and mostly inshore in stat area 537 and were brought into the Fleet to expand the number of gear replicates in the gillnet and fish pot fisheries. The F/V Debbie Sue fishes further south than most of the Rhode Island based Research Fleet members and consistently completes trips into the MAB region south of Hudson Canyon. Two new vessels, F/V Savannah Paige and F/V Saturn, are both based in New Jersey and have already begun sampling in two new statistical areas (620 and 621) not previously covered by the Black Sea Bass Research Fleet. In total, the Black Sea Bass Research Fleet has sampled black sea bass from 13 distinct statistical areas, 525, 533, 537, 538, 539, 611, 613, 615, 616, 621, 622, 626, and 632.

Participant fishermen will use Samsung Tab A tablets pre-programmed with On Deck Data, described above, to efficiently and accurately record and transmit fishery dependent data. As such, the proposed project will advance the use of electronic technology in at-sea biological data collection, management, and analysis efforts. The goal for each participant is to conduct at-sea catch sampling sessions during three fishing trips each month (Nelson 2014). Thus, across the 17 active vessels, the Black Sea Bass Research Fleet will aim to sample up to 51 trips per month, resulting in as many as 612 trips over twelve months. Given the population inferences implied in the project objectives and the aggregating nature of black sea bass, a biological sampling (length/sex) minimum of 50 black sea bass per location will be the required (Zhang & Cadrin 2012). With a goal of sampling three locations per month, the Research Fleet may sample up to 30,600 black sea bass over the course of the year.

The realized sampling frequency, however, will be dependent on a variety of factors, including weather, seasonal black sea bass distribution, and fishery closures. Further, due to the high seasonality of a large portion of the Black Sea Bass Research Fleet, fishery sampling frequency

exhibits high seasonal fluctuations. Due to the multi-gear nature of the Research Fleet, the proposed sampling targets do not adequately represent the fishing schedules for each gear type. For example, due to the low daily catch limit (50 pounds per day per vessel for most of the year) in Rhode Island for black sea bass if a fishing vessel is only targeting black sea bass on a day trip and the limit is caught, all fishing ceases. This leads to instances where sampling 50 black sea bass per location becomes unfeasible as fishing may have already stopped prior to landing 50 black sea bass. Further, many of the larger trip vessels are mainly retaining their daily or trip limits of black sea bass from bycatch while targeting other species, which again leads to instances of fishing ceasing prior to 50 black sea bass caught. However, the goal of sampling 150 black sea bass per month remains to ensure statistical power. Vessels may sample fewer fish from more than three locations to reach the 150 fish per month target. Further, the same scenario occurs in highly mobile fishing gears, such as charter and commercial rod and reel, which will often change locations prior to catching 50 black sea bass. Both instances may lead to the potential for more numerous sampling locations with fewer fish from each location. Finally, the maximum target of 27,000 black sea bass would only be achievable if all Research Fleet participants operated year-round. Since many of the gear types represented within the Research Fleet stop fishing for the winter months, the realized sampling numbers are lower.

At each sampling location, participant fishermen will use On Deck Data to record the date, time, location, statistical area, depth, habitat type, target species, gear type, effort deployed (see Table 1), total number or pounds of black sea bass retained and discarded, and length, sex, and disposition of at least 50 black sea bass. Sampling date, time, and location will be automatically recorded by the internal tablet GPS. Standardized fish measuring boards will be used across the Research Fleet to ensure a consistent measure of fish length to the nearest centimeter. Data will be wirelessly uploaded to a MySQL database once a vessel returns to port and continually monitored by the project team. This data communication, review, management, and storage process was established and vetted during the first year of the project and has been implemented in each year since.

Scientific collector's permits, issued by RI DEM, will be obtained for vessels fishing within Rhode Island state waters to allow for black sea bass collection for laboratory sampling. These permits were successfully acquired multiple times during the first funding years of the project and will be extended through subsequent years of data collection and expanded to cover new Research Fleet participants. During the 2020 sampling year, it was decided to no longer obtain an Exempted Fishing Permit for Research Fleet sampling. The exemptions allowed for recreational retention regardless of closure periods and exempted commercial rod and reel and charter vessels from minimum size limits for sampling purposes. Neither of these exemptions were necessary for Research Fleet operation as no black sea bass are retained for laboratory sampling from federal waters. They also allowed for participant to keep undersized fish onboard longer than the time needed for sampling.

Internal Data Analysis:

As described above, the Black Sea Bass Research Fleet was able to operate effectively and deliver data in an efficient manner during the first four+ years of data collection, sampling over 29,741 black sea bass from 1,949 sampling sessions conducted from coastal Rhode Island into the MAB and east to George’s Bank from November 30, 2016 to May 1, 2021 (Figure 1). These data are summarized in Table 2. The ultimate application of these data will be the black sea bass stock assessment. To achieve this goal, the project team has worked directly with steering committee members and black sea bass stock assessment scientists (Gary Shephard, NEFSC; Steve Cadrin, SMAST) since the beginning of the project to ensure that Research Fleet data is of the necessary quality and structure for utilization in the stock assessment. Communication with the above listed stock assessment scientists will continue with the proposed project. Work with the stock assessment scientists will be focused on directly incorporating the Research Fleet data into the stock assessment, creating in depth gear selectivity models for the gear types represented within the Research Fleet and exploring the creation and incorporation of CPUE indices of abundance (including gear specific indices), both of which could be directly utilized in the stock assessment. Further, the proposed work will include gear specific discard characterizations describing the length frequencies of discarded black sea bass from each gear type through both time and space, with the intention of providing a more accurate black sea bass discard rate for the stock assessment.

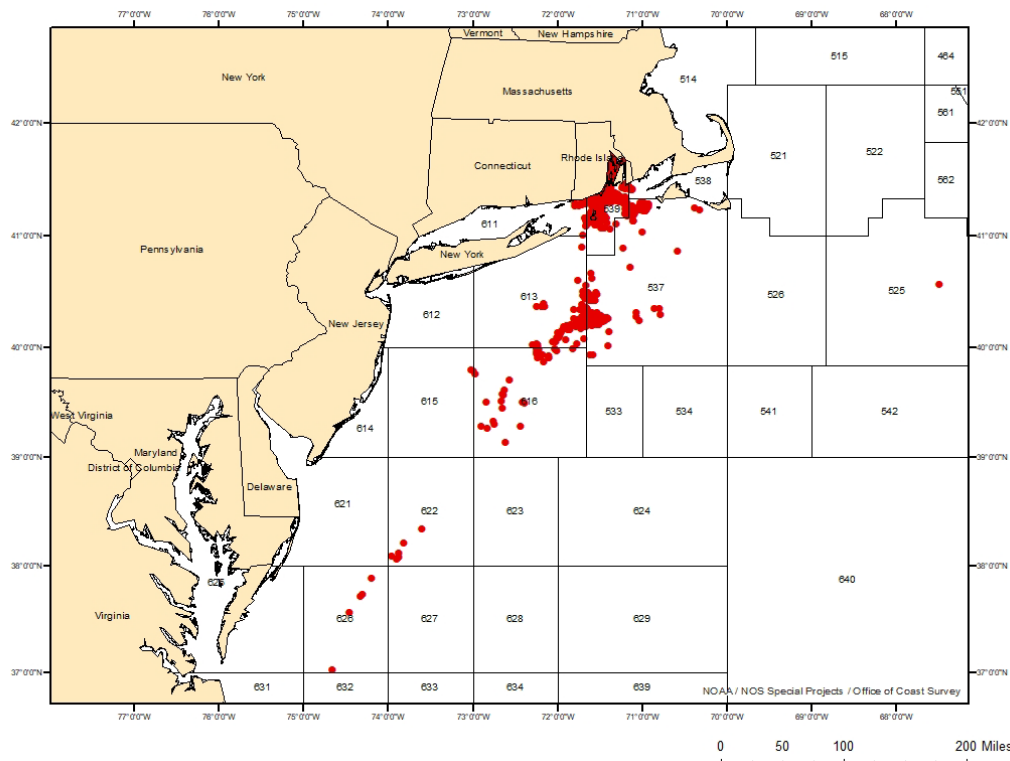


Figure 1. Black Sea Bass Research Fleet sampling locations (red dots) and associated statistical areas in the Southern New England and Mid-Atlantic region of the United States East Coast.

Table 2. Summary of data collected by the Black Sea Bass Research Fleet as of May 1, 2021.

Total Black Sea Bass Sampled	29,741
Percent Male	28%
Percent Female	44%
Percent Unknown	28%
Minimum Size (cm)	1
Maximum Size (cm)	68
Average Size (cm)	30.9
Percent Discarded	70%
Percent Retained	30%

In addition to the application of biological black sea bass data to the stock assessment, the data derived from the Black Sea Bass Research Fleet could also be used to characterize the catch, bycatch, and other characteristics of black sea bass in the SNE/MAB region, including gear selectivity and spatiotemporal patterns in catch composition. An additional 12 months of sampling by the Research Fleet will provide a better understanding of these seasonal and spatial dynamics as the data will now become the first multi-gear, multi-year, time series for the species.

The data collected during the previous funding years of the project exhibit interesting biological and fishery trends that will continue to be monitored in subsequent years of sampling for the proposed project. As expected, the average length of retained fish (39.6 cm) is larger than that of discarded fish (27.1 cm). However, the high frequency of legal-sized (>27.94 cm) discarded black sea bass suggests black sea bass are primarily being discarded due to seasonal closures and/or low daily limits, rather than the minimum size limit (Figure 2). The range of lengths of discarded fish further supports this, showing that even the largest of sampled black sea bass (receiving the highest market value) are often discarded.

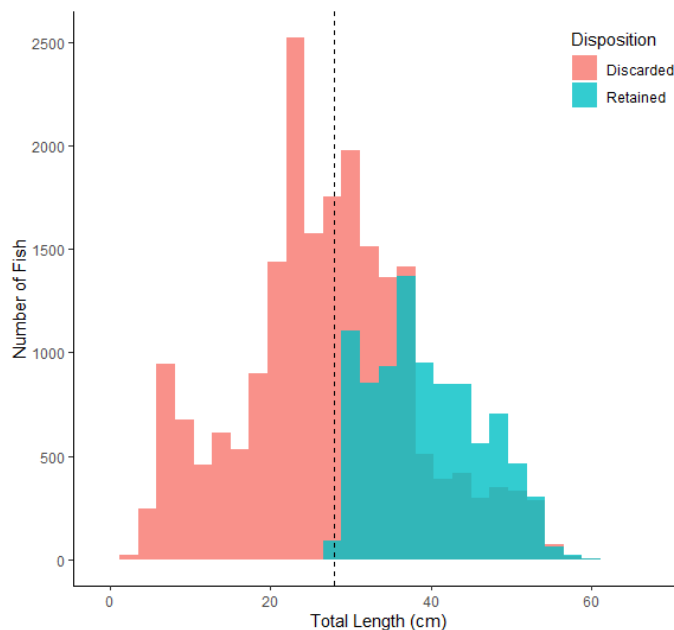


Figure 2. Size spectra of black sea bass sampled by the Research Fleet from November 30, 2016 to May 1, 2021. Red bars indicate discarded (D) fish. Blue bars indicate retained (R) fish. The black dashed line represents the Rhode Island minimum legal size of 11 inches (27.94 cm).

When comparing gear selectivity between the different gear types represented within the Research Fleet, trends between discarded and retained black sea bass are apparent (Figures 3 and 4). Trawl gear regularly interacts with the largest size range of black sea bass of all the gear types represented. Rod and reel (commercial and charter), fish pot, and lobster pot all exhibited nearly as wide a range of size interaction with black sea bass as trawl gear types, however did not interact with the smallest of size classes of black sea bass as frequently and therefore had higher mean total length. Of the three gear types previously mentioned, rod and reel exhibited less variance in size interaction due to relative lower presence of smaller size classes of black sea bass. Gillnet appears to be in a distinct grouping of its own and exhibits the highest selectivity amongst all represented target gear types, as this gear exclusively interacts with the largest size classes of black sea bass. Conch pot and oyster aquaculture are similarly selective compared to gillnet gear however interact primarily with the smallest size classes of black sea bass. Interestingly, black sea bass of legal size (>27.94 cm) are still sometimes captured in conch pots and have been retained for sale during sampling events.

These trends, which have become apparent from just the first several funding years of sampling, suggest there is gear-specific size selectivity occurring in the black sea bass fisheries in the SNE/MAB regions. The proposed project will continue to track these trends as the time series builds with subsequent years of sampling. This type of information could have important ramifications to the stock assessment as it could help inform the selection of fleets modeled within the assessment.

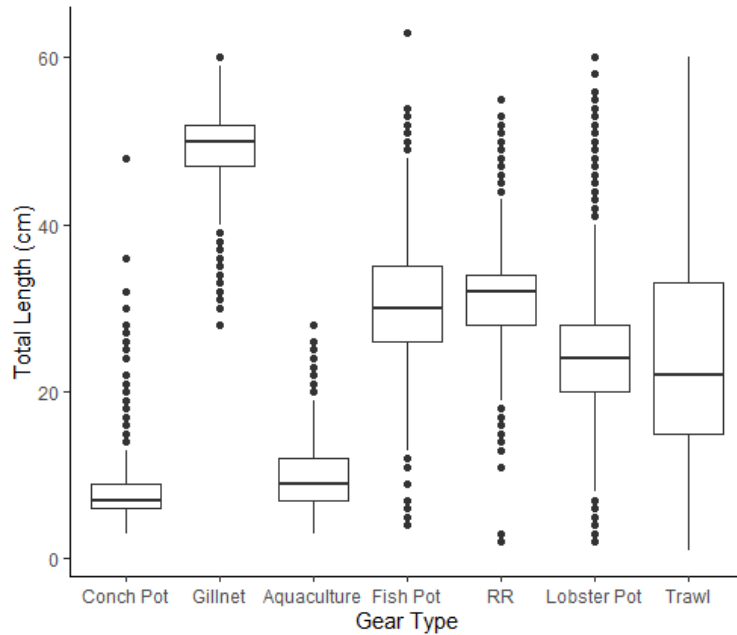


Figure 3. Size selectivity of discarded black sea bass sampled by each gear type represented within the research fleet as of May 1, 2021. From left to right, gear types are as follows: conch pot, gillnet, oyster aquaculture, fish pot, rod and reel (charter and commercial), lobster pot, and trawl.

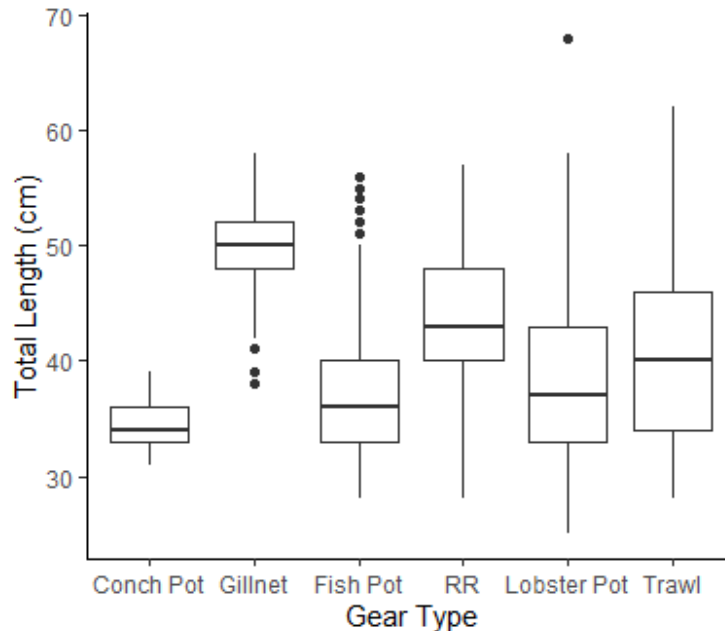


Figure 4. Size range of retained black sea bass sampled by each gear type represented within the research fleet as of May 1, 2021. Note, oyster aquaculture gear type is absent from this graph because no black sea bass have been retained from this gear type.

During the proposed year of the project, the project team will focus on the refinement and expansion of analyses previously established for application to the stock assessment including: size spectra, sex ratios, catch per unit effort (CPUE), black sea bass retention and discard structure, seasonal activity of Research Fleet, and gear selectivity. Specifically, internal data analysis questions proposed during the past funded year of the project were: 1) Are there spatial (latitudinal) patterns in the length frequency or sex ratio of black sea bass?, 2) Are there seasonal differences in black sea bass catch composition (length frequency and sex ratio)?, 3) Are different life stages of black sea bass apparent in commercial fisheries catch in specific areas or at different times of year?, and 4) What is the selectivity (min, max, mean length) of different gear types (trawl, fish pots, gillnet, lobster/crab pot, rod and reel) that harvest black sea bass? Year-6 analyses will build upon the initial results from exploration of these questions and will begin to explore temporal trends in the dataset. The project team will aim to publish a manuscript containing results from internal analyses in a peer-reviewed journal as time allows. The establishment of gear type selectivity curve models comparing different gear types as well as multiple years of Research Fleet data will serve as the potential direct input to the next black sea bass stock assessment.

The open-source statistical software package R will be used for data analysis. Length frequencies, black sea bass length gear selectivity, spatial and seasonal sex ratio regression models, and catch rate patterns will all be updated based on the protocols established in prior years of the project to further analyze seasonal trends as well as compare data from year to year. Data and code will be made available to others upon reasonable request.

In addition to further addressing the aforementioned research questions, the project team will also explore novel fishery dependent indices for the black sea bass stock assessment, as time permits. Building upon the analytical techniques established in prior years, data will continue to be standardized from the disparate gear types represented within the Research Fleet through generalized linear modeling approaches and/or hierarchical modeling techniques to allow for more direct communication into the black sea bass stock assessment.

Outreach and Education

Education, outreach, and ongoing communication are an integral part of the overall work plan for the proposed project. These components of the proposed project support the goal of fostering collaborative working partnerships among scientists, managers, and members of the fishing industry through all phases of research, from the fine-tuning of sampling strategies through the analysis and sharing of data and results.

The primary outreach/education goal of the proposed project is to share and disseminate information on two topics: 1) the lessons learned from the collaborative Research Fleet approach for fishery dependent data collection; and 2) the findings from analysis of the black sea bass catch, bycatch, and biological databases derived from this project.

A secondary goal is to share and disseminate project information to a variety of interest groups including: 1) commercial fishing industry members; 2) fisheries scientists and managers based

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(*Centropristis striata*)

Proposal components that address the ranking criteria are underlined and a summary is provided on pages 30-33.

in various state, regional, and federal agencies; 3) outside researchers who will utilize this information to inform their own research efforts in the region; and 4) other interested parties seeking information on new data collection/ocean monitoring techniques and approaches, and/or trends in black sea bass abundance and distribution in the SNE/MAB region.

There are several work elements embedded in the project work plan that are aimed at specifically addressing outreach and education goals, including:

1. Ongoing communication with project team members, including the members of the Black Sea Bass Research Fleet through personal meetings, group meetings, e-mail briefings, and phone conversations. Annual Research Fleet meetings have been held during previous years of funding, with the exception of FY20 which was canceled due to the COVID-19 pandemic. During annual meetings, the CFRF hosts all Research Fleet members, PIs, project staff, and steering committee members to receive feedback on the data collection process and present trends and analyses of the past year's data. These Fleet meetings have been invaluable for receiving project feedback and as well as forming relationships between the fishing industry, managers, and scientists. The project team is currently planning a Fleet meeting for summer 2021, and additional annual meetings will be held for the proposed project if granted continued funding through FY22. If time and funds permit, a workshop regarding this project will also be held with the RI DEM Division of Marine Fisheries staff.
2. Periodic project briefings to key individuals outside the project team, including ASMFC, MAFMC, NMFS NEFSC, and NMFS GARFO staff, members of the black sea bass fishing fleet, and interested others through direct e-mail/mail correspondence, including periodic newsletters describing the project progress.
3. Regular postings of project information on the CFRF website, including descriptions of the fishermen involved, the equipment being used, the type of data being collected, and findings, as this information becomes available over the course of the project (www.cfrfoundation.org/black-sea-bass-research-fleet).
4. Organization of a research session at the end of the project involving managers, scientists, and members of the commercial and recreational fishing industries to share project findings and discuss experiences and results.
5. Issuance and distribution of a written summary report.
6. Participation in professional conference(s) to share project methods and results.

Geographic Location:

At-sea sampling will be conducted within the northern Atlantic black sea bass stock area (SNE/MAB region), potentially including statistical areas 521 to 631. The final distribution of at-sea data collection will depend on the fishing locations selected by participant fishermen. Project administration, and data management and analyses will be conducted at the Commercial Fisheries Research Foundation office in Kingston, Rhode Island and the RI DEM marine laboratory in Jamestown, Rhode Island.

Milestone Schedule:

Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13-15
Research Fleet data collection and Fleet support	Research Fleet data collection and Fleet support	Research Fleet data collection and Fleet support	Research Fleet data collection and Fleet support	Research Fleet data collection and Fleet support	Research Fleet data collection and Fleet support	Research Fleet data collection and Fleet support	Research Fleet data collection and Fleet support	Research Fleet data collection and Fleet support	Research Fleet data collection and Fleet support	Research Fleet data collection and Fleet support	Research Fleet data collection and Fleet support	Final report writing and submission of report and all project data to ACCSP
				Apply for RI DEM Permits	Distribute RI DEM Permits to Fleet							
Maintain sampling gear and buy new sets	Maintain sampling gear	Maintain sampling gear	Maintain sampling gear	Maintain sampling gear	Maintain sampling gear	Maintain sampling gear	Maintain sampling gear	Maintain sampling gear	Maintain sampling gear	Maintain sampling gear	Maintain sampling gear & collect after sampling	
Maintain ODD, server, and database	Maintain ODD, server, and database	Maintain ODD, server, and database	Maintain ODD, server, and database	Maintain ODD, server, and database	Maintain ODD, server, and database	Maintain ODD, server, and database	Maintain ODD, server, and database	Maintain ODD, server, and database	Maintain ODD, server, and database	Maintain ODD, server, and database	Maintain ODD, server, and database	
Data QA/QC, review, and analysis	Data QA/QC, review, and analysis	Data QA/QC, review, and analysis	Data QA/QC, review, and analysis	Data QA/QC, review, and analysis	Data QA/QC, review, and analysis	Data QA/QC, review, and analysis	Data QA/QC, review, and analysis	Data QA/QC, review, and analysis	Data QA/QC, review, and analysis	Data QA/QC, review, and analysis	Data QA/QC, review, and analysis	
		Quarterly reports to Fleet Members			Quarterly reports to Fleet Members			Quarterly reports to Fleet Members			Quarterly reports to Fleet Members	
				Submit data to ACCSP		Write progress report and submit to ACCSP				Submit data to ACCSP		
Maintain project website and project outreach	Maintain project website and project outreach	Maintain project website and project outreach	Maintain project website and project outreach	Maintain project website and project outreach	Maintain project website and project outreach	Maintain project website and project outreach	Maintain project website and project outreach	Maintain project website and project outreach	Maintain project website and project outreach	Maintain project website and project outreach	Maintain project website and project outreach	

Project History Table:

<u>Funding Year</u>	<u>Title</u>	<u>Original Project Dates</u>	<u>Funded Amount</u>	<u>Total Project Cost</u>	<u>Description</u>
2016 New	Advancing Fishery Dependent Data Collection for Black Sea Bass (<i>Centropristis striata</i>) in the Southern New England and Mid-Atlantic Region Utilizing Modern Technology and a Fishing Vessel Research Fleet Approach	September 1, 2016 – August 31, 2018	\$137,827.00	\$203,072.00	Piloted the research fleet technique for collection of fishery dependent catch, effort, bycatch, and biological data in the multi-gear black sea bass fishery
2018 New	Advancing Fishery Dependent Data Collection for Black Sea Bass (<i>Centropristis striata</i>) in the Southern New England and Mid-Atlantic Region Utilizing Modern Technology and a Fishing Vessel Research Fleet Approach	May 1, 2018 – May 31, 2019	\$135,648.00	\$187,949.00	Maintained the research fleet fishery dependent data collection of catch, effort, bycatch, and biological data in black sea bass fishery and expanded Research Fleet by two fishing vessels
2019 Maintenance	Advancing Fishery Dependent Data Collection for Black Sea Bass (<i>Centropristis striata</i>) in the Southern New England and Mid-Atlantic Region Utilizing Modern Technology and a Fishing Vessel Research Fleet Approach	June 1, 2019 – May 31, 2020	\$132,749.00	\$169,033.00	Maintained the Research Fleet data collection of catch, effort, bycatch, and biological data in the black sea bass fishery in the SNE/MAB region and expanded the Research Fleet by two fishing vessels
2020 Maintenance	Advancing Fishery Dependent Data Collection for Black Sea Bass (<i>Centropristis striata</i>) in the Southern New England and Mid-Atlantic Region Utilizing Modern Technology and a Fishing Vessel Research Fleet Approach	August 1, 2020 – July 31, 2021	\$132,097.00	\$157,735.00	Maintained the Research Fleet data collection of catch, effort, bycatch, and biological data in the black sea bass fishery in the SNE/MAB region and expanded the Research Fleet by one fishing vessel
2021 Maintenance	Advancing Fishery Dependent Data Collection for Black Sea Bass (<i>Centropristis striata</i>) in the Southern New England and Mid-Atlantic Region Utilizing Modern Technology and a Fishing Vessel Research Fleet Approach	August 1, 2021 – July 31, 2022	\$132,064.00	\$154,537.00	Will maintain the Research Fleet data collection of catch, effort, bycatch, and biological data in the black sea bass fishery in the SNE/MAB region and expand the Research Fleet by two fishing vessels

Project Accomplishments Measurement (Metrics and *Achieved Goals*):

Project Goal	Metric 1	Metric 2	Metric 3	Metric 4	Metric 5	Metric 6	Metric 7
Collection & communication of biological and fishery data for BSB	Upkeep of ODD, CFRF server, and MySQL database <i>Achieved in Years 1-4 + In progress Year 5</i>	Support of 14 Research Fleet Members <i>Achieved in Years 1-4 + In progress Year 5</i>	Twelve months of biological BSB and fishery data collection by Fleet <i>Achieved in Years 1-4 + In progress Year 5</i>	Collection of up to 27,000 BSB records, 540 record of catch/discards, and 540 session/effort data by Research Fleet <i>Achieved in Years 1-4 + In progress Year 5</i>	Transfer of collected data into MySQL database <i>Achieved in Years 1-4 + In progress Year 5</i>	Distribution of quarterly reports to Fleet Members <i>Achieved in Years 1-4 + In progress Year 5</i>	Submission of biological and fishery data to ACCSP and other managers <i>Achieved in Years 1-4 + In progress Year 5</i>
Reduce uncertainties in BSB stock assessment	Increase number of gear replicates in non-trawl fishery <i>Achieved in Years 2-4</i>	Provide BSB data from areas and times of year currently under sampled <i>Achieved in Years 1-4 + In progress Year 5</i>	Distribution of project data to managing stakeholders at federal, region, and local level <i>Achieved in Years 1-4 + In progress Year 5</i>	Utilization of data by BSB stock assessment working group <i>In progress</i>	Explore fishery dependent index of abundance for BSB using Fleet data <i>In progress</i>		
Asses spatial & temporal patterns in BSB fishery and catch	Analyze catch trends between years, gear types, and locations of Fleet sampling <i>Achieved in Years 1-4 + In progress Year 5</i>	Monitor discard structure between years within Fleet sampling <i>Achieved in Years 1-4 + In progress Year 5</i>	Monitor size and sex structure of retained BSB between sampling years <i>Achieved in Years 1-4 + In progress Year 5</i>	Monitor trends in length frequencies within gear types, locations and times of year <i>Achieved in Years 1-4 + In progress Year 5</i>	Add additional years of data to explore inter annual differences in length frequency <i>Achieved in Years 1-4 + In progress Year 5</i>	Update of BSB sex ratio logistic regression models from prior years <i>Achieved in Years 1-4 + In progress Year 5</i>	Develop manuscript for publication utilizing biological or fishery data from Fleet <i>In progress</i>
Demonstrate model approach for cost efficient fishery dependent data collection	Usage of collaborative approach established in previous years <i>Achieved in Years 1-4 + In progress Year 5</i>	Presentations of Fleet design at scientific conferences <i>Achieved in Years 1-4 + In progress Year 5</i>	Develop manuscript to validate Fleet design through peer review <i>In progress</i>				

Cost Summary and Funding Transition Plan:

This proposal represents a cost reduction from Year 5's proposal of a similar scope. Although the reduction in cost is small, the Research Fleet costs outside of vessel stipends were streamlined to allow for the continued support of the two vessels originally brought into the Research Fleet through support from the Sarah K De Coizart Charitable Fund. The drop is due primarily to a reduction in CFRF personnel costs. These changes are reflected in the CFRF sub-contract (section F of the Budget Table).

The CFRF and RI DEM have pursued funding from a variety of sources for the Black Sea Bass Research Fleet and will continue to do so to ensure the longevity and utility of the data collected to the management of this data poor species. In previous funding years, the CFRF has been successful in securing partial funding from the Sarah K. de Coizart Tenth Perpetual Charitable Trust to support the Research Fleet. Further, the CFRF has been successful in the past, most recently in regards to the other collaborative Research Fleet for Lobster and Jonah crab, in securing congressional funding directly for the project. These recently awarded funds represent a willingness for the CFRF and RI DEM to search for external sources of funds to support the Research Fleet as well as an agreement by the management representatives on the steering committee and the industry collaborators that the project addresses important issues. The Senate Appropriations Committee recently announced the return of Congressionally Directed Spending which will allow for Rhode Island Senators to potentially fund Rhode Island focused projects. This could be a source of transition funding as ACCSP contributions decline. The CFRF and RI DEM will continue to look for outside, continued, sources of funding to support the Research Fleet and the valuable work it produces into the future.

The CFRF no longer has internal funds to cover research projects or issue requests for proposals, as the multi-year NOAA awards that enabled the CFRF to operate such programs expired in December 2015. Since then, the CFRF has relied exclusively on competitive research awards such as this one offered from the ACCSP to support all of its operations, collaborations, and research projects.

Budget Table:

		Year 6 (Maintenance - Year 4)		
		Proposal	In-Kind	Total
TOTAL		\$ 132,005	\$ 22,473	\$ 154,478
% Contribution by Funding Source		85%	15%	100%
Object Class Category		Proposal	In-Kind	Total
A Personnel				
- RI DEM - Jason McNamee			\$ 5,347	\$ 5,347
- RI DEM - Contractor			\$ 4,547	\$ 4,547
- RI Dem - Intern			\$ 2,500	\$ 2,500
Total RI DEM Personnel Costs		\$ -	\$ 12,394	\$ 12,394
B Fringe Benefits		\$ -	\$ 4,214	\$ 4,214
C Travel		\$ -	\$ -	\$ -
D Equipment		\$ -	\$ -	\$ -
E Supplies		\$ -	\$ -	\$ -
F Contractual - CFRF				
a. Personnel				
- Executive Director - N. David Bethoney		\$ 12,100		\$ 12,100
- Research Scientists		\$ 28,392		\$ 28,392
- Business Manager		\$ 3,604		\$ 3,604
Total CFRF Personnel Costs		\$ 44,096	\$ -	\$ 44,096
b. Fringe Benefits		\$ 3,969	\$ -	\$ 3,969
c. Travel		\$ 3,000	\$ -	\$ 3,000
d. Equipment		\$ -	\$ -	\$ -
e. Supplies				
- Research Supplies		\$ 1,000		\$ 1,000
- Office Supplies		\$ 1,000		\$ 1,000
Total Supplies		\$ 2,000	\$ -	\$ 2,000
f. Contractual				
- Programmer for On-Deck Data database		\$ 1,500	\$ -	\$ 1,500
Total Contractual		\$ 1,500	\$ -	\$ 1,500
g. Construction		\$ -	\$ -	\$ -
h. Other Costs				
- Fishing Vessel Stipends		\$ 55,440	\$ -	\$ 55,440
- Executive Assistance		\$ -	\$ 2,500	\$ 2,500
Total Other Costs		\$ 55,440	\$ 2,500	\$ 57,940
i. Total Direct Charges		\$ 110,005	\$ 2,500	\$ 112,505
j. Indirect Charges				
- Proposed at 20% of CFRF Direct Charges		\$ 22,000	\$ 500	\$ 22,500
Total Indirect Charges		\$ 22,000	\$ 500	\$ 22,500
k. Total CFRF Costs		\$ 132,005	\$ 3,000	\$ 135,005
G Construction		\$ -	\$ -	\$ -
H Other Costs		\$ -	\$ -	\$ -
I Total Direct Costs		\$ 132,005	\$ 19,608	\$ 151,613
J Indirect Charges		\$ -	\$ 2,865	\$ 2,865
K Total Proposal Costs		\$ 132,005	\$ 22,473	\$ 154,478

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 (*Centropristis striata*)

Proposal components that address the ranking criteria are underlined and a summary is provided on pages 30-33.

Budget Justification – Year 6 (Maintenance Year 4 Project, Proposed):

The total proposed federal budget requested by the Rhode Island Department of Environmental Management (RI DEM) and the Commercial Fisheries Research Foundation (CFRF) for all components of the work is \$132,005 for 12 months. The voluntary non-federal match funds provided by the RI DEM and CFRF is \$22,473. The total proposal value is \$154,478. The proposed timeframe is August 1, 2022 to July 31, 2023.

The proposed budget justification for object class category items includes the following:

- A. Personnel: \$12,394 In-Kind (RI DEM). RI DEM staff will play an advisory/support role in the proposed project, providing guidance on research protocols, assisting with statistical analyses as needed, exploring gear-specific indices of abundance and alternative modeling approaches as time permits, support in the procurement and storage of samples, and communicating project results to fishery governance system via existing participation in technical committees and working groups.

- B. Fringe Benefits: \$4,214 In-Kind (RI DEM). Fringe costs are charged on RI DEM FTEs only. RIDEM Annual Fringe benefit rates are:

Retirement 24%	Deferred Compensation 0.4%
FICA 6.2%	Medicare 1.45%
Health care \$21,937/year	Dental \$1,132/year
Vision Mercer \$165/year	Assessed Fringe 4.25%
Retiree Health 6.75%	

- C. Travel: There are no direct travel charges.

- D. Equipment: There are no direct equipment charges.

- E. Supplies: There are no direct supplies charges.

- F. Contractual: The CFRF will conduct most of the work involved in this project, with administrative and technical assistance provided by RI DEM as In-Kind. These services will be charged to the grant as contractual costs and are outlined below to provide more detail as to how the funding will be used:
 - a) Personnel: \$44,096 federal. This includes the wages for the following CFRF personnel for time spent working directly on the project:
 - 1. Executive Director – Proposed at 10% of time for 12 months = \$12,100.
D. Bethoney, CFRF Executive Director, will oversee the administration, team communication/coordination, and outreach aspects of the project. He will also assist with data analysis, report and outreach material development, and communication of project progress to the client, fishing industry and management communities.

2. Research Scientist – Proposed at 50% of time for 12 months = \$28,392.
T. Heimann and another CFRF Research Scientist will be the primary individuals responsible for fleet organization, maintenance, and support, as well as data management, communication, and analysis.
 3. Business Manager – Proposed at 7.5% of time for 12 months = \$3,604.
T. Winneg, CFRF Business Manager, will carry out all the finance related aspects of the project including research budget tracking, invoice processing, and administrative support tasks, including purchasing supplies.
- b) Fringe Benefits: \$3,969 federal. This includes a percentage for payroll taxes and worker's compensation insurance prorated in accordance with % of salary paid from program. Benefits proposed at 9% of personnel costs based on 2020 benefits and historical analysis.
 - c) Travel: \$3,000 federal. Travel costs include travel support (mileage) for project staff to provide support at docks to Research Fleet participants, to participate in meetings with the Research Fleet, stock assessment scientists, and managers, and to participate in one industry/professional conference for two personnel to share and disseminate project methods, findings, and conclusions.
 - d) Equipment: \$0. There will be no equipment costs on this project.
 - e) Supplies: \$2,000 federal. This category includes research supplies and project office supplies.
 1. Research Supplies: \$1,000 - Costs of tablets, waterproof cases, stylus & fish measuring board. Proposed at \$500 per set x 2 vessels for the duration of the project. The two sets of sampling equipment for existing Research Fleet vessels are replacements for equipment that is damaged or lost.
 2. Office Supplies: \$1,000 – Costs to cover database storage and website fees (\$50/month), project office and meeting supplies, etc.
 - f) Contractual: \$1,500 federal. This includes costs associated with:
 1. Programmer (\$1,500 - federal) - CFRF hiring an outside computer programmer to maintain the OnDeckData application and database coding for data relay and storage, to address any issues that arise, and to update the app to maintain functionality.
 - g) Construction: There are no construction costs.
 - h) Other Costs: \$55,440 federal + \$2,500 match = \$57,940. This includes:
 1. Fishing vessel stipends (\$55,440 - federal) for 14 vessels for 12 months at \$600 per month. A fleet of 14 vessels will be utilized each month to obtain the proposed biological samples. The total stipend is computed at 55% due to fluctuations in

vessel sampling associated with weather, vessel maintenance, and seasonal black sea bass distribution.

2. Executive Assistance (\$2,500 - in-kind match) covers the administration assistance for the project (including, review of fleet applications and invoices, work agreements, progress/final reports) by the CFRF President and Vice President, who provide these services at no cost. Costs proposed at \$250 per day for 5 days for 2 people over the duration of the project.

- i) Total Direct Charges: \$110,005 federal + \$2,500 in-kind = \$112,505 total. This is the total direct charges for cost items a-h.
- j) Indirect Charges: \$22,000 federal + \$500 in-kind = \$22,500 total. Indirect general and administrative costs are calculated as 20.0% of Total Direct Charges. Indirect general and administrative costs are used to cover costs associated with the general operations of the CFRF including accounting services, legal services, maintenance of office space, liability insurance, payroll fees, phone/fax lines, internet service, board member participation, etc. The CFRF's FY2021 Indirect Cost Rate Authorization Letter dated 1/22/21 is for 22.0% based on FY2020 actual costs.

k) Total Proposal Costs: \$132,005 Federal + \$3,000 In-Kind = \$135,005 Total.

G. Construction. There are no construction costs on this grant

H. Other Costs. There are no other costs associated with this grant.

I. Total Direct Charges: \$132,005 Federal + \$19,608 In-Kind = \$151,613 total. This is the total direct charges for cost items A-H.

J. Indirect Charges: \$3,099 In-Kind (RIDEM). Indirect charges are charged on RIDEM Salaries only. The Negotiated Indirect Cost Rate for FY2017 is 25%. (Total personnel is \$12,394 x 25% = \$3,099.)

K. Total Proposal Costs: \$132,005 Federal + \$22,473 In-Kind = \$154,478 Total.

Previous Year's Budget Narrative – Year 5 (Maintenance Year 3 Project, Funded FY21):

The total proposed federal budget requested by the Rhode Island Department of Environmental Management (RI DEM) and the Commercial Fisheries Research Foundation (CFRF) for all components of the work is \$132,064 for 12 months. The voluntary non-federal match funds provided by the RI DEM and CFRF is \$22,473. The total proposal value is \$154,537. The proposed timeframe is August 1, 2021 to July 31, 2022. The proposed budget justification for object class category items includes the following:

- A. Personnel: \$12,394 In-Kind (RI DEM). RI DEM staff will play an advisory/support role in the proposed project, providing guidance on research protocols, assisting with statistical analyses as needed, exploring gear-specific indices of abundance and alternative modeling approaches as time permits, support in the procurement and storage of samples, and communicating project results to fishery governance system via existing participation in technical committees and working groups.
- B. Fringe Benefits: \$4,214 In-Kind (RI DEM). Fringe costs are charged on RI DEM FTEs only. RIDEM Annual Fringe benefit rates are:
- | | |
|---------------------------|----------------------------|
| Retirement 24% | Deferred Compensation 0.4% |
| FICA 6.2% | Medicare 1.45% |
| Health care \$21,937/year | Dental \$1,132/year |
| Vision Mercer \$165/year | Assessed Fringe 4.25% |
| Retiree Health 6.75% | |
- C. Travel: There are no direct travel charges.
- D. Equipment: There are no direct equipment charges.
- E. Supplies: There are no direct supplies charges.
- F. Contractual: The CFRF will conduct most of the work involved in this project, with administrative and technical assistance provided by RI DEM as In-Kind. These services will be charged to the grant as contractual costs and are outlined below to provide more detail as to how the funding will be used:
- a) Personnel: \$44,140 federal. This includes the wages for the following CFRF personnel for time spent working directly on the project:
 1. Executive Director – Proposed at 10% of time for 12 months = \$11,440.
Bethoney, CFRF Executive Director, will oversee the administration, team communication/coordination, and outreach aspects of the project. He will also assist with data analysis, report and outreach material development, and communication of project progress to the client, fishing industry and management communities.
 2. Research Scientist – Proposed at 50% of time for 12 months = \$28,125.
T. Heimann, CFRF Research Scientist, is the primary individual responsible for fleet organization, maintenance, and support, as well as data management, communication, and analysis.
 3. Business Manager – Proposed at 10% of time for 12 months = \$4,575.
T. Winneg, CFRF Business Manager, will carry out all the finance related aspects of the project including research budget tracking, invoice processing, and administrative support tasks, including purchasing supplies.
 - b) Fringe Benefits: \$3,973 federal. This includes a percentage for payroll taxes and worker's compensation insurance prorated in accordance with % of salary paid from program.

Benefits proposed at 9% of personnel costs based on 2019 benefits and historical analysis.

- c) Travel: \$3,000 federal. Travel costs include travel support (mileage) for project staff to provide support at docks to Research Fleet participants, to participate in meetings with the Research Fleet, stock assessment scientists, and managers, and to participate in one industry/professional conference for two personnel to share and disseminate project methods, findings, and conclusions.
- d) Equipment: \$0. There will be no equipment costs on this project.
- e) Supplies: \$2,000 federal. This category includes research supplies and project office supplies.
 - 1. Research Supplies: \$1,000 - Costs of tablets, waterproof cases, stylus & fish measuring board. Proposed at \$500 per set x 2 vessels for the duration of the project. The two sets of sampling equipment for existing Research Fleet vessels are replacements for equipment that is damaged or lost.
 - 2. Office Supplies: \$1,000 – Costs to cover database storage and website fees (\$50/month), project office and meeting supplies, etc.
- f) Contractual: \$1,500 federal. This includes costs associated with:
 - 1. Programmer (\$1,500 - federal) - CFRF hiring an outside computer programmer to maintain the OnDeckData application and database coding for data relay and storage, to address any issues that arise, and to update the app to maintain functionality.
- g) Construction: There are no construction costs.
- h) Other Costs: \$55,440 federal + \$2,500 match = \$57,940. This includes:
 - 1. Fishing vessel stipends (\$55,440 - federal) for 14 vessels for 12 months at \$600 per month. A fleet of 14 vessels will be utilized each month to obtain the proposed biological samples. The total stipend is computed at 55% due to fluctuations in vessel sampling associated with weather, vessel maintenance, and seasonal black sea bass distribution.
 - 2. Executive Assistance (\$2,500 - in-kind match) covers the administration assistance for the project (including, review of fleet applications and invoices, work agreements, progress/final reports) by the CFRF President and Vice President, who provide these services at no cost. Costs proposed at \$250 per day for 5 days for 2 people over the duration of the project.
- i) Total Direct Charges: \$110,053 federal + \$2,500 in-kind = \$112,553 total. This is the total direct charges for cost items a-h.
- j) Indirect Charges: \$22,011 federal + \$500 in-kind = \$22,511 total. Indirect general and administrative costs are calculated as 20.0% of Total Direct Charges. Indirect general and administrative costs are used to cover costs associated with the general operations of the CFRF including accounting services, legal services, maintenance of office space, liability insurance, payroll fees, phone/fax lines, internet service, board member participation, etc. The CFRF's FY2020 Indirect Cost Rate Proposal dated 12/30/19 is for 20.0% based on FY2019 actual costs.

- k) Total Proposal Costs: \$132,064 Federal + \$3,000 In-Kind = \$135,064 Total.
- G. Construction. There are no construction costs on this grant
- H. Other Costs. There are no other costs associated with this grant.
- I. Total Direct Charges: \$132,064 Federal + \$19,608 In-Kind = \$151,672 total. This is the total direct charges for cost items A-H.
- J. Indirect Charges: \$3,099 In-Kind (RIDEM). Indirect charges are charged on RIDEM Salaries only. The Negotiated Indirect Cost Rate for FY2017 is 25%. (Total personnel is \$12,394 x 25% = \$3,099.)
- K. Total Proposal Costs: \$132,064 Federal + \$22,473 In-Kind = \$154,537 Total.

Summary of Proposal for Ranking Purposes

Type: Maintenance

Primary Program Priorities:

This project follows fishery-dependent sampling protocols to collect black sea bass catch and effort, biological, and bycatch data from the SNE/MAB region. The percentage of project effort devoted to each of these modules is as follows: 50% Biological, 25% Catch and Effort, 25% Bycatch. Thus, Biological sampling is the primary program priority. The estimated project effort devoted to biological sampling reflects the collection of black sea bass length and sex data by participant vessels during three trips per month for twelve months (up to 504 trips and 25,200 black sea bass total).

Data Delivery Plan:

All biosamples data collected from this project to date has been bi-annually submitted to and accepted by the ACCSP biosamples database. With additional funding for the proposed project, the project team will continue to work closely with ACCSP to ensure data is in the correct format to be incorporated into the ACCSP biosamples database. Data will continue to be submitted bi-annually in June and December of the proposed project period.

Project Quality Factors

Multi-Partner/Regional impact including broad applications:

The results of the proposed project have regional impacts and broad applications, as black sea bass are expanding to inhabit, and potentially be harvested from, the majority of the US east coast. Furthermore, the social and economic implications of this work could be extensive, as project data contributes to the improvement of the northern Atlantic black sea bass stock assessment and potentially the creation of new economic opportunities. From a collaboration perspective, this project provides a unique opportunity for the RI DEM and CFRF to maintain a fisherman-based research fleet to address ACCSP priorities, drawing upon networks of partners in industry, fisheries research, and management. This project will help RI DEM and CFRF demonstrate that, with support from ACCSP, they have the ability to bring stakeholders together, outside of a contentious management environment, to collect, communicate, and analyze critically needed data to address the data needs of the data poor northern Atlantic black sea bass.

Greater than year 2 contains funding transition plan and justification for continuance:

This proposal is for a one-year study to continue an industry-based research fleet approach to biological, catch, and bycatch sampling for northern Atlantic black sea bass. The project has been successful through the first four years of funded work and has sampled over 27,000 black sea bass. Year 5 funding is expected to result in increased sampling rates and coverage as the

Research Fleet has expanded while reducing overall costs. An additional year of funding would bolster the first year-round, multi-year database for this biologically data poor species. Ultimately, long term maintenance of this project will provide invaluable data to the ACCSP, ASMFC, and MAFMC, and improve the assessment and management of the northern Atlantic black sea bass resource. The CFRF and RI DEM have continued to apply for funding for this project through external sources and have secured supplemental funding to partially support the Research Fleet as described above. Obtaining long-term funding for the Research Fleet is a top and ongoing priority for project PIs and staff.

In-kind contribution: The total project cost is \$154,478. In-kind contributions provided by RI DEM and CFRF total \$25,638. Thus, RI DEM and CFRF will provide 15% of total project costs.

Improvement in data quality/quantity/timeliness:

The proposed project addresses the critical need to improve the quality, quantity, and timeliness of biological, catch and effort, and bycatch data for the northern Atlantic black sea bass, which the ACCSP Biological Review Panel identified as having inadequate biological sampling and high stakeholder priority, resulting in the highest-ranking priority score. Ultimately, the proposed project will help to meet ACCSP's mission of improving data quality for fisheries science by contributing to a single data management system that will meet the needs of fishery managers, scientists, and fishermen.

Potential secondary modules as by-products:

The potential secondary modules are catch and effort (25%) and bycatch sampling (25%). The project effort allocated to the catch and effort module refer to the sampling that occurs while the fishery is open. Although the fishery is open for a large portion of the year, black sea bass is often caught and retained as a non-target species. The project effort allocated to the bycatch module reflects sampling efforts conducted while the commercial black sea bass fishing season is closed and while participant vessels are targeting other species but still interacting with black sea bass as bycatch.

Impact on stock assessment:

The northern Atlantic black sea bass stock assessment new model requires spatially and temporally comprehensive data that is currently lacking. Thus, the proposed project aims to provide critically needed biological data from retained and discarded black sea bass, and fishery data from a variety of gear types to continue to evolve and improve the black sea bass stock assessment. The project team will also explore novel fishery dependent indices for the black sea bass stock assessment, as time permits.

The Research Fleet collected data has the potential to directly improve the federal stock assessment in a number of ways including reducing the uncertainty in recruitment rates, gear type specific selectivity, and gear (and location) specific discard characterizations.

Currently, the indices of abundance relied upon in the black sea bass stock assessment come primarily from the NEFSC winter and spring trawl survey, Northeast Area Monitoring and Assessment Program (NEAMAP) survey trawls, recreational catch per effort, and is supplemented with various state trawl survey indices of abundance (NEFSC 2017). The utility of the Research Fleet data in this respect is to inform the management about catch and discard structure from a variety of gear types. Whereas the stock assessment currently only delineates between trawl and non-trawl gear types, after building a multiple-year time-series the Research Fleet data could potentially be utilized to create a variety of CPUE indices of abundance (trawl, gillnet, lobster pot, rod & reel, fish pot, and multigear). Further, the Research Fleet data has the potential to be directly used to create a discard characterization for the northern stock sub-unit and reduce uncertainties in the annual total fishery removals. Finally, due to the nature of the Research Fleet being comprised of commercial and recreational fishing vessels, from a variety of gear types, the data collected is spatially and temporally expansive across the northern black sea bass sub unit in locations and times of year not covered by any of the federal or state survey programs utilized in the stock assessment. Therefore, there is the potential to reduce the uncertainties in recruitment rates within the northern sub unit as the Research Fleet is able to record presence and absences of juvenile and young of the year black sea bass in entirely unsampled locations and times of year.

Innovative:

The innovative and cost-effective nature of the proposed project, which relies upon collaboration between a Program partner and the fishing industry, can provide an opportunity for fishermen to constructively engage in the data collection process for black sea bass and provide a model for future data collection efforts in other regions and fisheries. In addition to demonstrating a novel sampling approach, the proposed project also leverages modern technology to improve the efficiency of data collection and communication.

Properly Prepared:

This proposal follows the guidelines provided in the ACCSP Funding Decision Document.

Principal Investigators:

The co-Principal Investigators of the proposed project are: Jason McNamee (Chief, RI DEM Marine Fisheries), David Bethoney (Executive Director, CFRF), and Thomas Heimann (Research Biologist, CFRF). Curriculum vitae are provided in the following pages.

Jason McNamee will play an advisory/support role in this project, given his existing commitments at the RI DEM Division of Marine Fisheries. More specifically, Jason will provide advice for sampling protocols, act as a liaison to the existing black sea bass assessment/management infrastructure and assist with data analysis as his time permits (data review/analysis will primarily be the role of the CFRF Research Biologist). In his role as both a technical committee member, and having been a member of the contracted stock assessment

team for the MAFMC, Jason McNamee will be able to help the project with capturing the correct information and making sure this information is formatted appropriately for inclusion in future northern Atlantic black sea bass stock assessment projects.

Dr. N. David Bethoney, Executive Director of the CFRF, will serve as the lead Co-PI for the proposed project. Dr. Bethoney will be responsible for overall projection direction and progress towards completing proposed objectives. Dr. Bethoney will be primarily responsible for overseeing proposed data analysis as well as dissemination of project results to the MAFMC and ASMFC. He will also assist in at-sea related research on an as-needed basis.

Thomas Heimann, CFRF, will serve in an advisory/support role working with the CFRF Research Biologist responsible for Research Fleet maintenance and support, as well as data management, communication, and analysis. Heimann was the primary researcher for the Black Sea Bass Research Fleet since its first year of funding starting in September 2016. Heimann has gained extensive experience with the work involved in initiating and supporting an industry-based research fleet and has formed a relationship with the current Fleet Members.

Jason Earl McNamee, PhD
519 Congdon Hill Rd
Saunderstown, RI 02874
Day Phone: 401-423-1943
Email: jason.mcnamee@dem.ri.gov

WORK EXPERIENCE

RI Department of Environmental Management 12/2002 - Present
Jamestown, RI US

Chief, Marine Resource Management

Duties:

- Management of the Marine Fisheries program for the RI Dept. of Environmental Management
- Management of a staff of 20 professionals in the field of marine fisheries
- Manage operating budgets for multiple federal grants and state accounts
- Creation of grant proposals for marine fisheries projects
- Management of the Ft Wetherill Marine Laboratory building and research vessels
- Membership on several technical panels: the New England Council Science and Statistics Committee (Chair), Atlantic States Marine Fisheries Commission Menhaden (chair), Tautog (chair), and Summer Flounder/Scup/Black Sea Bass technical and stock assessment committees, Biological and Ecological Reference Point committee
- Support to the RI Marine Fisheries Council
- Creation and administration of the RI Marine Fisheries Institute
- Principal investigator (PI) on the Narragansett Bay juvenile seine survey
- PI for the Narragansett Bay Menhaden monitoring program
- Small vessel operation
- Production and review of multiple annual technical and grant completion reports
- Perform stock assessment analyses

Skills developed: Personnel and budget management experience; Supervisory experience; Good statistical and computer skills (ADMB, R, Microsoft software, ADAPT, JMP, ASAP, Oracle Discoverer, web design); Species identification experience; Experience using water quality instrumentation (DO meter, pH meter, Gas Chromatograph, Conductivity meter, flow meter); GIS Experience (Arcview and R); Field work experience; Experience in the construction and maintenance of technical research equipment; Seine, fyke net, trawl net, gillnet, fish pot, and electroshock surveying; Small boat handling (State of Rhode Island and Coast Guard certified)
Supervisor's Name: Janet Coit
Supervisor's Phone: 401-222-4700 ext. 2409

RI Department of Environmental Management 4/2000 - 12/2002
Providence US

Senior Natural Resource Specialist

Duties: My duties were to perform all tasks necessary to conduct and complete a Total Maximum Daily Load reports including field work, data collection and processing, and writing of the report. I also participated with other staff to help in the completion of their reports.

Skills developed: Good statistical and computer background (Microsoft software), Experience designing and implementing a personal research project, Experience preparing a federally approved Quality Assurance Protection Plan, Experience using water quality instrumentation (DO meter, pH meter, Conductivity meter), Experience in the collection of water samples for testing (biological and metals), GIS Experience (Arcview) Field work experience, Small boat handling (State of Rhode Island and Coast Guard certified), Experience in the preparation of a federally approved Total Maximum Daily Load report, Experience disseminating information to the public

Supervisor's Name: Christian Turner

Supervisor's Phone: unsure, no longer employed at RIDEM

EDUCATION

University of Rhode Island – Graduate School of Oceanography

Narragansett, RI US

PhD – 8/2018

Major: Biological Oceanography

Doctoral Dissertation Topic: Multispecies Statistical Catch-At-Age Model for a Mid Atlantic Species Complex

University of Connecticut

Groton, CT US

Masters of Science Degree - 6/2006

38 Semester Hours

Major: Biological Oceanography

University of Rhode Island

Kingston, RI US

Bachelor's Degree - 5/1996

136 Semester Hours

Major: Zoology

PROFESSIONAL PUBLICATIONS

- ASMFC Lobster stock assessment (2015), ASMFC Menhaden stock assessment (2004, 2012, 2015), ASMFC Tautog stock assessment (2006, 2011, 2015), NEFSC Summer flounder stock assessment (2011, 2013), NEFSC Scup stock assessment (2011, 2015), NEFSC Black sea bass stock assessment (2004, 2016), Interactions between the introduced Asian shore crab, *Hemigrapsus sanguineus*, and three common rocky intertidal littorine gastropods in Southern New England (MS Thesis).
- Taylor, DL, J McNamee, J Lake, CL Gervasi , and DG Palance. 2016. Juvenile winter flounder (*Pseudopleuronectes americanus*) and summer flounder (*Paralichthys dentatus*) utilization of Southern New England nurseries: Comparisons among estuarine, tidal river, and coastal lagoon shallow-water habitats. *Estuaries and Coasts*. 39:1505-1525.

Dr. NAIFF DAVID BETHONEY
Executive Director
Commercial Fisheries Research Foundation
P.O. Box 278
Saunderstown, RI
401-515-4662, dbethoney@cfrfoundation.org

EDUCATION:

University of Massachusetts at Dartmouth School for Marine Science and Technology

PhD Dissertation: Understanding and avoiding River herring and American shad bycatch in the Atlantic herring and mackerel mid-water trawl fisheries.

Cum. GPA: 3.92

PhD Received 2013

MA Thesis: Association between diet and epizootic shell disease in the American lobster (*Homarus americanus*) around Martha's Vineyard

Cum. GPA: 3.93

M.S. Received 2010

Colby College - Waterville, ME

Major: Biology with Concentration in Environmental Science

Cum. GPA: 3.41, Cum Laude

B.A. Received 2008

SEA Education Association of Woods Hole, MA

Study Abroad: Fall 2006

Documenting Change in the Caribbean: Designed and implemented an original biological research project with practical application while at sea. Studied at Woods Hole, and sailed from St. Croix, USVI to Key West, Florida with research stops at Montserrat, Dominican Republic, and Jamaica.

RECENT WORK EXPERIENCE:

- Commercial Fisheries Research Foundation Spring 2020-Present

Executive Director: Responsible for overseeing foundation business manager, scientific staff, interns, and consultants to carry out all tasks associated with ongoing projects and general administration. In addition, responsible for pursuing new partnerships and projects, including proposal development and submission, under the advisement of the foundation Board of Directors.

- UMASS-Dartmouth School for Marine Science and Technology Fall 2008-Spring 2020

Research Assistant Professor, Fall 2014-Spring 2020: All responsibilities of research associate position related to drop camera and herring work with the ability to be lead principle investigator on research proposals and serve on student committees. Served on the New England Fishery Management Council's Scallop Plan development team from March 2017-April 2020

Research Associate, Summer 2013-Summer 2014: All responsibilities of research assistant position described below with management and development responsibilities for scallop drop camera and groundfish video surveys. Management responsibilities include equipment purchasing and maintenance and oversight of all technical operations and student involvement.

Research Assistant, Summer 2010- Spring 2013: Major responsibilities included coordinating River Herring bycatch avoidance program, assisting the Massachusetts Division of Marine Fisheries port side sampling program, and scallop drop camera survey at-sea data collection and analysis.

JOURNAL PUBLICATIONS IN LAST 3 YEARS:

1. Chen C, Zhao L, Gallager S, Ji R, He P, Davis C, Beardsley RC, Hart D, Gentleman WC, Wang L, Li S, Lin H, Stokesbury KDE, Bethoney ND. Impact of larval behaviors on dispersal and connectivity of sea scallop larvae over the northeast U.S. shelf. Progress in Oceanography. 2021 May 11; 195. DOI: 102604
2. Harper DL, Bethoney ND, Stokesbury KDE, Lundy M, McLean MF, Stokesbury MJW. 2020. Standard Methods for the Collection of Morphometric Data for the Commercially Fished Sea Cucumber *Cucumaria frondosa* in Eastern Canada. Journal of Shellfish Research 39(2):481-489
3. Bethoney, ND. 2020. Investigating uncertainties created by camera improvement in an optical survey. Limnology and Oceanography: Methods. doi: 10.1002/lom3.10365

Rhode Island Department of Environmental Management & Commercial Fisheries Research Foundation

ACCSP Funding Proposal (Maintenance Project – Project Year 6, Maintenance Year 4): Fishery Dependent Sampling for Black Sea Bass (*Centropristis striata*)

Proposal components that address the ranking criteria are underlined and a summary is provided on pages 30-33.

1. Stokesbury KDE and Bethoney ND. 2020. How many sea scallops are there and why does it matter? *Frontiers in Ecology and the Environment*. doi:10.1002/fee.2244.
2. Bethoney ND and Stokesbury KDE. 2019. Implications of extremely high recruitment: crowding and reduced growth within spatial closures. *Marine Ecology Progress Series* 611:157-165.
3. Bethoney ND, Cleaver C, Asci SC, Bayer SR, Wahle RA, Stokesbury KDE. 2019. A comparison of drop camera and diver survey methods to monitor Atlantic sea scallops (*Placopecten magellanicus*) in a small fishery closure. *Journal of Shellfish Research* 38(1):43-51.
4. Stokesbury KDE, Bethoney ND, Georgianna D, Inglis S, Keiley EF. 2019. Convergence of a disease and litigation leading to increased scallop discard mortality and economic loss in the Georges Bank, USA fishery. *North American Journal of Fisheries Management* 39(2):299-306.

RELEVANT GRANTS RECEIVED AS A PRINCIPAL INVESTIGATOR IN LAST 3 YEARS:

1. "Empowering fishermen to collect essential data; Piloting the Research Fleet approach in the Atlantic Sea scallop fishery" April 2021
Awarded from: National Oceanic and Atmospheric Administration
Value: \$121,260
2. "Catalyzing the restoration and conservation of the Bay scallop" January 2021
Awarded from: The Sarah de Coizart Charitable Trust
Value: \$52,463
3. "Supplement to Piloting a Low-Bycatch Commercial Squid Jig Fishery in Southern New England" December 2020
Awarded from: Mid-Atlantic Fisheries Management Council
Value: \$22,500
4. "Piloting Underwater Video to Improve Ghost Gear Removal" November 2020
Awarded from: 11th Hour Racing/The Schmidt Family Foundation
Value: \$32,000
5. "Piloting a Low-Bycatch Commercial Squid Jig Fishery in Southern New England" September 2020
Awarded from: National Oceanic and Atmospheric Administration
Value: \$196,256
6. "South Fork Wind Farm Fisheries Monitoring Plans" August 2020
Awarded from: Deepwater Wind South Fork LLC
Value: \$2,528,044
7. "American lobster and Jonah crab Research Fleet: A Collaborative Fishing Vessel Approach to Addressing Data Needs for the American lobster and Jonah crab fisheries" August 2020
Awarded from: Atlantic States Marine Fisheries Commission
Value: \$285,714
8. "Assessing Vulnerability of the Atlantic Sea Scallop Social-Ecological System in the Northeast Waters of the US" July 2020
Awarded from: National Oceanic and Atmospheric Administration
Value: \$159,526
9. "CFRF's Lobster and Jonah Crab Research Fleet: A Collaborative Fishing Vessel Approach to Addressing Data Needs for the American Lobster and Jonah Crab Fisheries" June 2020
Awarded from: National Oceanic and Atmospheric Administration
Value: \$194,983
10. "Cooperative Marine Research Projects" May 2020
Awarded from: The Campbell Foundation
Value: \$90,000

Rhode Island Department of Environmental Management & Commercial Fisheries Research Foundation
ACCSP Funding Proposal (Maintenance Project – Project Year 6, Maintenance Year 4): Fishery Dependent Sampling for Black Sea Bass (*Centropristis striata*)

Proposal components that address the ranking criteria are underlined and a summary is provided on pages 30-33.

Thomas E. Heimann

114 Olney Street Unit 1
Providence, RI 02906
(508)728 3401
theimann@cfrfoundation.org

EDUCATION

NORTHEASTERN UNIVERSITY

Master's: Marine Biology, Jan 2016

Boston, MA

PRESCOTT COLLEGE

B.A. Marine Science, May 2013

Prescott, AZ

RELATED WORK EXPERIENCE

Commercial Fisheries Research Foundation

Research Biologist

South Kingston, RI

Sep 2016 – Present

- Research project management position working collaboratively with the Rhode Island fishing industry as well as state and federal fisheries management bodies. Responsible for management of both Black sea bass Research Fleet and Quahog Research Fleet as well as lead at-sea sampler for the Southern New England Cooperative Ventless Trap Survey. Duties include Fleet support and training, sampling protocol development, database management, data manipulation and statistical analysis, report writing, at-sea sampling on lobster vessels, grant writing, and outreach.

Northeastern University

Diving Research Methods Teaching Assistant

Nahant, MA

Sep 2015 – Oct 2015

- Employed by Northeastern University to be a teacher's assistant for an intensive American Academy of Underwater Sciences diving research methods course. Duties included demonstrating underwater research and diving skills, minor SCUBA gear maintenance and repair, and supervision of student divers.

Mote Marine Laboratory

Research Experience for Undergrads, National Science Foundation Intern

Sarasota, FL

May 2012 – Jul 2012

- Highly competitive National Science Foundation funded internship at Mote Marine Laboratory in Florida. Worked closely with a postdoctoral fellow on an independent research project in sensory biology and behavior of the common snook, a local sportfish. Project dealt specifically with the impacts of the hatchery rearing environment on the survival of released fish in the wild. Worked extensively with Microsoft Excel for data analysis.

Sheriff's Meadow Foundation

Ecological Stewardship Intern

Vineyard Haven, MA

May 2010 – Aug 2010

- Summer Intern position on Martha's Vineyard. Responsibilities included property management, boundary mapping, invasive species control, vegetation identification, and tour guide.

SCIENTIFIC PUBLICATIONS

Malek Mercer, A.J., Ellertson, A., Spencer, D., and **Heimann, T.** 2018. Fishermen fill data gaps for American lobster (*Homarus americanus*) and Jonah crab (*Cancer borealis*) in the Northeast USA. Bulletin of Marine Science, 94:3, pp 1121-1135.

SELECTED PRESENTATIONS

Heimann, T., McManus, C., Leavitt, D., Malek Mercer, A.J. 2018. Methods for Establishing a Quahog (*Mercenaria mercenaria*) Industry-Based Research Fleet for expansion of Fishery Dependent Data Sources. National Shellfisheries Association Annual Meeting. Seattle, Washington.

Heimann, T., McManus, C., Leavitt, D., Malek Mercer, A.J. 2018. Engaging Fishermen to Address Data Gaps and Evolve Management of the Quahog in Narragansett Bay. Southern New England Chapter of the American Fisheries Society Winter Meeting. New Bedford, MA.

Heimann, T., Malek Mercer, A.J., and McNamee, J. 2018. Advancing Fishery Dependent Data Collection for Black Sea Bass (*Centropristis striata*) in Southern New England and Mid-Atlantic Region Using a Fishing Vessel Research Fleet Approach. American Fisheries Society 148th Annual Meeting. Atlantic City, New Jersey.*

Heimann, T., Malek Mercer, A.J., and McNamee, J. 2019. Using Fishermen-Collected Data to Explore the Black Sea Bass (*Centropristis striata*) Population and Construct Gear-Specific Discard Characterizations. Southern New England Chapter of the American Fisheries Society Winter Meeting. Storrs, Connecticut.

Heimann, T., McManus, C., Leavitt, D., Malek Mercer, A.J. 2019. Quantifying Quahogs (*Mercenaria mercenaria*) in Narragansett Bay: Insights from a Collaborative Sampling Program. Southern New England Chapter of the American Fishery Society Winter Meeting. Storrs, Connecticut.

Heimann, T., Malek Mercer, A.J., and McNamee, J. 2019. Using Industry Collaboration to Improve Black Sea Bass Management. Wakefield Fisheries Symposium. Anchorage, Alaska.

CERTIFICATIONS AND SKILLS

- Statistical Language R (Commonly used packages; ggplot, shiny, sp)
- MySQL
- ArcGIS
- American Academy of Underwater Sciences Scientific Diver Certificate
- PADI Rescue Diver Certificate
- At-Sea Safety Training Certificate
- Experienced in Small Boat Operations

References:

- Atlantic Coastal Cooperative Statistics Program (ACCSP). 2021. Biological Sampling Priority Matrix. 4 p.
- Atlantic States Marine Fisheries Commission (ASMFC). 2013. Research Priorities and Recommendations to Support Interjurisdictional Fisheries Management. Special Report # 89. ASMFC, Arlington, VA. 58pp.
- Bell, R. J., Richardson, D.E., Hare, J.A., Lynch, P.D., and Fratantoni, P.S. 2014. Disentangling the effects of climate, abundance, and size on the distribution of marine fish: an example based on four stocks from the Northeast US shelf. ICES Journal of Marine Science: fsu217.
- Drohan, A. F., J. P. Manderson, and D. B. Packer. 2007. Essential fish habitat source document: Black sea bass, *Centropristis striata*, life history and habitat characteristics. 2nd Edition. NOAA Technical Memo. NMFS-NE-200, 78 p.
- Moser, J., and G. R. Shepherd. 2009. Seasonal distribution and movement of black sea bass (*Centropristis striata*) in the Northwest Atlantic as determined from a mark-recapture experiment. Journal of Northwest Atlantic Fishery Science 40: 17-28.
- Nelson, G.A. 2014. Cluster Sampling: A Pervasive, Yet Little Recognized Survey Design in Fisheries Research. Transactions of the American Fisheries Society 143 (4): 926-938.
- Northeast Fisheries Science Center (NEFSC). 2011. 53rd Northeast Regional Stock Assessment Workshop (53rd SAW) Assessment Report. US Department of Commerce, Northeast Fish Science Center Reference Document 12-05; 559 p.
- Northeast Fisheries Science Center (NEFSC). 2017. 62nd Northeast Regional Stock Assessment Workshop (62nd SAW). Assessment Summary Report. US Department of Commerce, Northeast Fish Science Center Reference Document 17-01; 37 p.
- Musick, J. A., and L. P. Mercer. 1977. Seasonal distribution of black sea bass, *Centropristis striata*, in the Mid-Atlantic Bight with comments on the ecology of fisheries of the species. Transactions of the American Fisheries Society. 106: 12-25.
- Southeast Fisheries Science Center (SEFSC). 2013. Stock Assessment of Black Sea Bass off the Southeastern United States: SEDAR Update Assessment. 102 p.
- SEDAR. 2018. SEDAR 56 – South Atlantic Black Seabass Assessment Report. SEDAR, North Charleston SC. 164 pp.
- Steimle, F. W., C. A. Zetlin, P. L. Berrien, and S. Chang. 1999. Essential fish habitat source document: Black sea bass, *Centropristis striata*, life history and habitat characters. NOAA Technical Memorandum NMFS-NE-143: 1-42.
- Waltz, W., Roumillat, W.A., and P. K. Ashe. 1979. Distribution, age structure, and sex composition of the black sea bass, *Centropristis striata*, sampled along the southeastern coast of the United States. Marine Resources Research Institute, South Carolina Wildlife and Marine Resources Department. Technical Report Number 43, December 1979.

Zhang, Y. and S.X. Cadrin .2013. Estimating Effective Sample Size for Monitoring Length Distributions: A Comparative Study of Georges Bank Groundfish, Transactions of the American Fisheries Society 142 (1): 59-67.



SOUTH ATLANTIC FISHERY MANAGEMENT COUNCIL

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Melvin Bell, Chair | Stephen J. Poland, Vice Chair
John T. Carmichael, Executive Director

August 13, 2021

Atlantic Coastal Cooperative Statistics Program
1050 N. Highland St. Ste. 200 A-N
Arlington, VA 22201

We are pleased to submit the proposal titled, “FY22: SAFIS Expansion of the SciFish Customizable Fisheries Citizen Science Data Collection Application.” This proposal is being submitted as a Year 2 maintenance proposal. It was initially funded as a new project in FY20: SAFIS Expansion of “SAFMC Release” and “NC DMF Catch U Later” Discard Reporting Applications”. In FY21 it was then funded as a Year 1 maintenance project: SAFIS Expansion of Customizable Fisheries Citizen Science Data Collection Application.

The FY22 proposal builds on work that will be completed through the FY20 and FY21 projects but also incorporates new objectives. Additionally, a new objective was added to the proposal since the initial submission in June 2021 that incorporates the addition of two new projects in SciFish to help pilot the policy and procedure development and serve as prototypes for the expandability of the platform. A summary of the FY22 proposal objectives is below, highlighting the changes in scope of work and the new objective added since the proposal’s initial submission:

- Continue data collection under the ACCSP citizen science application, SciFish, via the *SAFMC Release* and *NCDMF Catch U Later* projects and expand the species that can be reported.
- Continue the development and construction of SciFish, a customizable ACCSP fisheries data collection application. This application will standardize data collection, increase data availability, and reduce the need for future and existing projects to invest additional costs in individual applications. The FY22 project will move the SciFish platform prototype (application and project builder interface) developed in the FY21 project into production and explore the incorporation of features that could help with participant recruitment and retention.
- Include a new objective to develop policies and procedures needed for partners to build and support projects within the SciFish mobile application.
- Include a new objective to add two new projects, *NCDMF Tagging Program* and University of New England’s (UNE) *Mail-A-Scale*, to the SciFish platform to pilot the policy and procedure development and serve as prototypes for the expandability of the platform. The project managers for these programs will be augmenting existing citizen science programs by moving from paper data collection to electronic data collection.
- The FY22 proposal’s primary program priority remains biological sampling (90%). However, the secondary module has changed back to catch and effort (10%) like the initial FY20 proposal.
- The FY22 proposal is being submitted by SAFMC and NCDMF like the initial FY20 proposal.

This proposal has been revised based on the reviewers' questions and recommendations. In the original proposal, committee members asked that we address the following questions and recommendations. We have addressed them below (see red text) and within the proposal where applicable.

Questions

- *Are there any results since this project started, would like to see the value added.*

The initial FY20 project is wrapping up now and the FY21 project will begin in late summer 2021. A summary of FY20 project results and the FY21 project objectives are below and can be found within the proposal in Table 3. Additional details on the FY20 project results will be included in the final grant report available in September 2021.

The FY20 project combined two similar released fish reporting applications (SAFMC *Release* and NCDMF's *Catch U Later*) into a new ACCSP customizable citizen science application, SciFish, that will be available to other partners. It also expanded the application to increase the species that can be reported through the *SAFMC Release* project. Beta testing for both projects in SciFish is wrapping up now and SciFish production will launch in August 2021.

Additionally, a series of scoping meetings were held in Spring 2021 to outline a framework for the continued development of the ACCSP customizable citizen science data collection application (SciFish) that can support multiple project types. The scoping meetings consisted of an online questionnaire, two virtual town hall meetings, and three half day microlab workshops. Just under 200 individuals completed the questionnaire and just under 60 people attended the town halls. There was a total of 46 microlab participants representing fishermen, scientists, and managers from 23 organizations across 15 states. The microlabs focused on identifying data gaps and deficiencies that could be addressed through a citizen science approach; the data needed to fill these gaps that could be reasonably collected; and app or platform usability.

Using the information gained through the FY20 scoping meetings, the FY21 project will focus on building the customizable citizen science app prototype which will include the expansion of the app to support the project types and data fields prioritized through the FY20 scoping meetings, as well as the development of a project builder interface. Additionally, it will continue data collection in *SAFMC Release* on shallow water grouper releases and flounder releases in *NCDMF Catch U Later*. The FY21 project will begin in late summer 2021.

- *Applying for 3rd year, wasn't this originally a 1-year proposal?*

New objectives have been added within each proposal submission that build on the work done the previous year. The FY21 project will use the information gained through the FY20 scoping meetings to build the customizable citizen science app prototype and project builder interface which will allow ACCSP partners to develop projects within the SciFish platform at little to no cost. The FY22 project will move the SciFish platform into production; develop policies and procedures for project creation; add two projects into SciFish to pilot the policy development and serve as prototypes for the expandability of the platform; and expand species included in *SAFMC Release* and *NCDMF Catch U Later*. The project PIs anticipate that SciFish will transition to ACCSP ownership and be available to all partners at the end of this FY22 project.

Please let us know if you have any questions or would like any additional information.

Best,

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Applicant Name: South Atlantic Fishery Management Council (SAFMC)
North Carolina Division of Marine Fisheries (NCDMF)

Project Title: **FY22: SAFIS Expansion of the SciFish Customizable Fisheries
Citizen Science Data Collection Application**

Project Type: Maintenance

Requested Award Amount: \$116,182

Requested Award Period: One year upon receipt of funds

Submission Date: August 13, 2021

FY22 Atlantic Coastal Cooperative Statistics Program (ACCSP) Proposal for the SAFMC and NCDMF

OBJECTIVES:

- Continue data collection under the ACCSP citizen science app, SciFish, via the *SAFMC Release* and NCDMF *Catch U Later* projects and expand the species that can be reported.
- Continue development and construction of SciFish, a customizable fisheries data application, to standardize data collection, increase data availability, and reduce the need for future and existing projects to invest additional costs in individual applications.
- Develop policies and procedures needed for partners to build and support projects within the SciFish mobile application.
- Pilot policy and procedure development with two additional projects: 1) the North Carolina Division of Marine Fisheries *Tagging Program* which seeks to better evaluate the migration, growth, habitat use, and population status of multiple species and 2) University of New England (UNE) *Mail-a-Scale* which seeks to expand current data collection of recreationally caught striped bass in Maine.

NEED:

Fishery managers often consider the biology and sustainability of a fish stock alongside socio-economic values of the resource and fishery when developing fishery management plans.

Despite substantial efforts there are long-standing data gaps which, if addressed, could be useful in developing improved management strategies. Data that are self-reported by fishermen show great promise to alleviate these data limitations and citizen science approaches are currently being investigated to address state and federal management needs. Examples of this can be seen in recent efforts by the South Atlantic Fishery Management Council's (SAFMC) *SAFMC Release* project and North Carolina Division of Marine Fisheries' (NCDMF) *Catch U Later* project. These projects work with recreational and commercial fishermen to collect information to better characterize Scamp Grouper and flounder discards, respectively, via the use of mobile applications.

Discard mortality has been an increasing component of the total mortality experienced by many stocks and is a major source of mortality for Red Drum (SEDAR 44¹) and Red Snapper (SEDAR 73²). Released fish are not available for sampling by typical dockside monitoring programs and observer coverage ranges from limited in commercial and for-hire fisheries to non-existent in private recreational fisheries in the South Atlantic region. As such, there is often no or limited information available to characterize these losses for stock assessment modeling. Improving information on released fish is a common stock assessment research recommendation

¹ SEDAR. 2015. SEDAR 44 – Atlantic Red Drum Stock Assessment Report. SEDAR, North Charleston SC. 890 pp. available online at: <http://sedarweb.org/sedar-44>.

² SEDAR. 2021. SEDAR 73 – South Atlantic Red Snapper Assessment Report. SEDAR, North Charleston SC. 194 pp. available online at: <http://sedarweb.org/sedar-73>.

and is often a top priority in agency research plans. In the ACCSP request for 2022 proposals, information on releases and discards as well as APAIS/MRIP independent biological sampling for recreational fisheries are the #2 and #4 priorities, respectively. During the August 2022 ACCSP Coordinating Council meeting, “Citizen Science” was one of three additional suggested recreational priorities for the 2022-2026 implementation period. Discard characterization and information on discard reduction practices are priorities in the South Atlantic Fishery Management Council’s (SAFMC) Research and Monitoring Plan for 2021-2025 and for the SAFMC’s Citizen Science Program.

In North Carolina, flounders, Red Drum, Spotted Seatrout, and Weakfish are among the most targeted recreational species. As fisheries management implements creel and size limits, as well as seasonal closures, the ratio of discarded fish to legal harvest has continued to grow. Indeed, between 2012 and 2017 discard ratios have ranged between 84-90% for flounder species, 77-97% for Red Drum, 77-95% for Spotted Seatrout, and 77-93% for Weakfish. Despite high angler preference for flounder and trout, ambiguity exists concerning correct identification within both genera. This confusion presents a unique challenge for fisheries management because discard information provided by the recreational angling community may be inadvertently errant. To date, the partitioning of discarded catch for these species is accomplished by applying the ratio of species within the observed harvest. However, this methodology is not ideal due to the assumption that discarded individuals share the same spatiotemporal distribution as those harvested. The ability to characterize ambiguous discarded fish (e.g. flounders) to species and obtain associated biological data is perennially highlighted as a research priority by the NCDMF Biological Review Team Research Priority Subcommittee.

The SAFMC developed the reporting application *SAFMC Release* through its Citizen Science Program to provide information on released Scamp Grouper to be considered for use in an upcoming stock assessment and future management. *SAFMC Release* provides a streamlined approach for fishermen to provide a picture of discarded fish along with additional details such as length, release location and depth, condition, and use of barotrauma mitigation techniques. Because there is a severe lack of details on discarded fish across all fishery sectors, this app was developed for and is being promoted to all sectors - commercial, for-hire, and private recreational fisheries. The NCDMF has developed *Catch U Later*, a reporting app for recreational discards to enable the separation of generic flounder discards into individual species, to collect information on the size of released fish, and information on capture location. Data collected from the *Catch U Later* application will be used to determine the ratio of constituent flounder species within generic flounder discards thereby increasing the reliability of discard information used in stock assessment models.

ACCSP and Harbor Light Software have been key partners in the development of both projects. ACCSP provides a portal for data submission and warehousing, and Harbor Light Software developed programming for both applications. While both the SAFMC and NCDMF projects are quite different, there is a strong similarity in the tools – the apps – used by each. The FY20 ACCSP project combined these two apps under a new ACCSP citizen science mobile

application, SciFish, providing a single discard reporting tool that can be adapted by other partners in the future. It also expanded the species that can be reported through the application to all shallow-water grouper (Red, Gag, Black, Scamp, Yellowfin and Yellowmouth Groupers; Red Hind; Rock Hind; Coney and Graysby) for the *SAFMC Release* project. This proposal will continue data collection under the *SAFMC Release* and *Catch U Later* projects expanding the species collected within each project. *SAFMC Release* will begin collecting data on Red Snapper in addition to all shallow water grouper. NCDMF's *Catch U Later* will begin collecting data for Red Drum, kingfish, Spotted Seatrout, and Weakfish in addition to flounder.

Importantly, the implementation of NCDMF's *Catch U Later* was substantially delayed due to the COVID-19 pandemic. Specifically, the original methodology had budgeted for a series of in-person workshops to train participants on using the mobile application and identification of flounder. This COVID-related delay realigned the timeline to better coincide with the merger of both applications into SciFish. The *SAFMC Release* and NCDMF *Catch U Later* projects in the SciFish application are nearing completion of beta testing. SciFish will move into the production phase in August 2021, and data collection will begin in NCDMF *Catch U Later* and expand to include all shallow water groupers for *SAFMC Release*. One focus of the FY22 proposal will be on the expansion of the application to include the aforementioned species that were not completed in FY2020. **The *Catch U Later* funding earmarked in the FY20 proposal for a temporary data QA/QC technician was reallocated to assist in paying for an outside facilitator for the customizable citizen science app scoping meetings held in spring 2021.**

Collecting information on released fish is just one of the challenges ACCSP partners face that can be addressed through innovative electronic tools. The astounding proliferation of smartphone applications impacts nearly all aspects of people's lives. **The willingness of the public to openly share information and experiences supports smartphone applications as a promising approach for collecting fisheries data.** Electronic applications offer obvious benefits to the challenge of collecting fisheries data not available to traditional sampling efforts and can be customized to address nearly any fisheries data collection need. Additionally, applications reduce data entry errors, improve timeliness, and lower labor demands as has been demonstrated in the transition of MRIP APAIS from paper to electronic data collection. The relative ease with which applications can be developed may be good for finding innovative solutions to gather data, but it carries the risk of excessive "stovepiping" that results in unique data streams that are difficult to coordinate with other data streams. There is also the risk that a multitude of highly specific applications will impose excessive maintenance costs and lead to confusion amongst the fishing and scientific communities. Therefore, oversight and intentional design are required to ensure that applications collect valid information and that the data collected can be used in management, both of which are core elements in the SAFMC's Citizen Science Program. The SAFMC Citizen Science Program is uniquely situated to address design and data quality concerns through its existing structure to review and support citizen science project development, and to provide coordination through its regional partnerships and infrastructure.

The SAFMC's Citizen Science Program was developed over the course of several years with guidance from a wide array of stakeholders and partners. The program's overall approach is to support projects that fill data gaps and address research needs; to complement existing programs and partnerships; to foster fishermen and scientist collaboration; and to implement intentional project design so there is a direct application of the data for use in management or stock assessments. As part of this intentional design, projects supported by the program are encouraged to form a design team of diverse stakeholders (e.g. fishermen, scientists, managers, etc.) to provide guidance throughout the development and implementation of a project. Scientific input is critical to ensure projects are designed so that data collected can meet its intended use. Fishermen and other stakeholders' input helps ground projects in reality to ensure data collection methods are feasible. Through the development of its Citizen Science Program, the Council worked with stakeholder driven action teams to create Standard Operating Policies and Procedures (SOPPS), which include program and project support resources available through the SAFMC's website.

Funding for citizen science is often limited and developing a comprehensive and flexible app that can be used to collect information from a variety of sources would be extremely helpful in reducing costs for different projects, reducing time needed to create an app from the ground up, and increasing consistency in data fields and structure. The SAFMC and NCDMF's FY20 ACCSP project began planning for the development of a comprehensive and flexible reporting tool that could be applied to a variety of fisheries data issues. **The long-term goal is to develop a menu-driven tool administered through ACCSP that partners could use to easily create a customized app or 'project' by selecting specific data fields, without the need to develop stand-alone apps for each new project or data challenge.**

Through FY20 project funding, a series of scoping meetings was held in spring 2021 bringing together fishermen, scientists, and managers along the Atlantic coast to share their knowledge and perspectives on the development of a customizable citizen science application. An organizing committee with representatives from SAFMC, NCDMF, ACCSP, Harbor Light Software, Georgia Department of Natural Resources (GADNR), and Rhode Island Department of Environmental Management (RIDEM) helped plan, coordinate and conduct these meetings. The scoping meetings initially explored the needs of the broader fisheries community by gathering information through an online questionnaire and two town hall meetings. Next a series of three half-day workshops was held with a core group of individuals who participated in the questionnaire or town halls or were identified through earlier outreach efforts. There was a total of 46 microlab participants representing fishermen, scientists, and managers from 23 organizations across 15 different states. The workshops focused on identifying data gaps and deficiencies that could be addressed through a citizen science approach; the data needed to fill these gaps that could be reasonably collected; and app usability (i.e. how to make the app as user friendly as possible and what positive feedback loops could help with recruitment and retention). Using the information gained through these scoping meetings, SAFMC's FY21 ACCSP project will focus on building the customizable citizen science app prototype which will

include the expansion of the app to support the project types and data fields prioritized through the FY20 scoping meetings, as well as the development of a project builder interface.

Through this proposal, the SciFish platform prototype (application and project builder) developed during the FY21 project will move from beta testing into production, making it available to all ACCSP partners. A secondary focus will be to incorporate features into the application identified through the FY20 scoping meetings that could help with participant recruitment and retention (e.g. weather, regulations, etc.). Additionally, it became clear through the FY20 scoping meetings that more work would be needed to develop policies and procedures for project managers who want to utilize the SciFish platform. To address these issues, this proposal will work with ACCSP leadership and partners to develop guidelines for the SciFish platform which will include:

- Standards for the development of projects within SciFish
- Processes for project managers to build and test projects before launching
- Processes for adding new data fields into the application and project builder
- Standards for SciFish branding, accessibility, transparency, confidentiality and privacy, and create template user agreements
- Training materials for the project builder interface and resources to assist with citizen science project development
- Clarifying next steps as the SciFish app transitions to ACCSP ownership and becomes available to all partners

This proposal will also pilot the policy and procedure development by collaborating with two additional project managers through the NCDMF *Tagging Program* and the UNE *Mail-A-Scale* program to build two new projects within the SciFish app. Project managers for these programs requested to be part of the SciFish beta testing, helping provide further ‘proof of concept’ that the application can be adapted to fit different partners’ projects and data collection needs. The primary objective of the project managers for NCDMF *Tagging Program* and UNE *Mail-a-Scale* is to augment existing citizen science data collection programs. The NCDMF *Tagging Program* seeks to allow fishermen to report tag returns more quickly than current protocols (i.e. filling out paper forms, reporting tags physically at NCDMF offices) as well as collect additional biological data (i.e. length). Similarly, the UNE *Mail-a-Scale* project seeks to expand and enhance the Gulf of Maine Research Institute’s (GMRI) *Snap-a-Striper* Project. Currently, the GMRI *Snap-a-Striper* protocol involves recreational anglers submitting a photograph of recreationally harvested striped bass that includes a paper reporting card as well as biological data (i.e. otoliths) from legally harvested fish. Importantly, UNE *Mail-a-Scale* uses the same reporting card as GRMI *Snap-a-Striper* and seeks to develop an electronic reporting application in lieu of the paper reporting card. Additionally, UNE *Mail-a-Scale* seeks to collect non-lethal biological data (scales) from recreationally discarded Striped Bass. Advantages of developing a reporting application through the SciFish project builder interface will allow anglers to report data more quickly and accurately, allow staff to QA/QC and process data more efficiently, and archive data into the database sooner. These benefits serve to streamline data collection while

simultaneously reducing associated costs. More details on the NCDMF *Tagging Program* and *UNE Mail-A-Scale* projects can be found in Appendix 1.

The SAFMC's Citizen Science Program and NCDMF are in a position to lead and coordinate efforts with other partners in the continued development of this flexible fisheries citizen science application. The SAFMC's Citizen Science Program has experience working with stakeholders as well as state and federal partners in developing programmatic level policies and procedures through the development of its own SOPPS which can be used as a starting point and adapted when developing policies for the SciFish platform.

RESULTS AND BENEFITS:

This project will continue developing the ACCSP customizable citizen science app, SciFish, moving the platform into production and enhancing the features available in the app and project builder; developing the policies and procedures needed to guide and support partners' use of this innovative platform; and expanding data collection within the *SAFMC Release* and NCDMF *Catch U Later* projects.

The role of citizen science is an evolving and potentially powerful tool that can be used to better understand marine fish populations and fisheries along the Atlantic coast. The SciFish platform is flexible and scalable to meet different partner and management needs and will be able to support multiple projects that can be configured to address specific questions across fisheries sectors and jurisdictions. This approach is similar to the Cornell Lab of Ornithology's eBird that supports multiple projects to collect information on bird distribution and abundance through one platform. Although the individual projects in eBird may appear different, they feed into one database and use consistent data fields. This will reduce costs and the time needed to develop a new app to collect important data, will improve consistency across apps from multiple agencies for data fields, and enable researchers to focus on recruitment and retention of project participants. The diverse participation in and success of the FY20 customizable app scoping meetings demonstrate the interest of ACCSP partners in the continued development of the SciFish platform. Project partners are also engaging with other groups who have developed similar citizen science data collection platforms, like eBird and citsci.org, to learn from their experiences. Rick Bonney, Director Emeritus of the Public Engagement in Science Program at the Cornell Lab of Ornithology and a co-founder of eBird, participated in one of the FY20 scoping meetings giving a presentation which shared insights on the development of eBird. Additionally, SAFMC and ACCSP staff had a call with a co-founder of citsci.org, a platform that supports data collection for a variety of citizen science projects. Developing a customizable platform with ACCSP, an established data management leader on the Atlantic coast, will help increase accessibility to the data for a variety of partners.

This proposal will build on the work done in the FY20 and FY21 projects. The FY20 project was envisioned as the first step in the development of the customized data collection tool. It built an innovative released fish information platform (SciFish), consisting of a core application used by anglers with iOS and Android functionality for both phones and tablets, and specific profiles, created by the Project Builder interface, tailored to two unique projects (*SAFMC*

Yellow highlighted comments indicate sections that help with the ranking process.
Green highlighted text indicates changes from initial submission.

Release and NCDMF's *Catch U Later*). Additionally it worked with ACCSP partners and other interested parties through a series of scoping meetings to outline a framework for the continued development of the application by identifying key data gaps that could be addressed through a citizen science approach and the corresponding data fields that would help meet those gaps. The FY21 project will create a project builder application prototype that works with the expanded list of data collection fields identified and prioritized through the FY20 scoping meetings to build partner project-specific data collection interfaces. The intent of this project will be to move the SciFish prototype developed into production, to work towards incorporating features that could help with recruitment and retention, and to develop the corresponding policies and procedures needed to guide and support use of the SciFish platform. The development of these policies is critical to help ensure projects are designed to answer specific research questions and meet identified data gaps; are developed with intentional design so data collected are fit for purpose and meet their intended use; and to provide general oversight for use of the platform. The ability to identify and communicate these policies to potential users will increase the efficacy of subsequent SciFish projects by mitigating potential limitations and deficiencies on the front end. Importantly, onboarding the NCDMF *Tagging Program* and UNE *Mail-A-Scale* projects will better inform the development of these procedures and policies while simultaneously addressing two of the data needs, "Fish Distribution and Movement" and "Life History", identified during the scoping meetings conducted during the FY20 project.

Additionally, this project would continue the collection of data on released fish via *SAFMC Release* and *Catch U Later* and expand the species that can be reported through each project. Observer funding across most fisheries along the Atlantic Coast has never been adequate. Many fisheries, such as the private recreational or the commercial snapper grouper hook and line, are challenging to sample through conventional observer techniques due to their sheer volume of participants and small vessels which could present safety concerns. Although a few specific fisheries are highlighted in this project, the proportion of catch attributed to releases is increasing in many popular fisheries along the Atlantic Coast, indicating that other ACCSP partners likely share the needs and could benefit from the SciFish platform developed through this project. For example, the Atlantic States Marine Fisheries Commission's Bluefish Technical Committee recently received a presentation on the *SAFMC Release* and *Catch U Later* projects to explore whether a project like this could be developed for Bluefish to help meet data gaps to characterize the size of released fish.

Partners would benefit by being able to create and use an electronic tool without incurring extensive development costs which hinders citizen science or other voluntary data collection programs where resources are often limited. Reducing the development cost means more of the limited funds would be available for volunteer engagement which is critical for project success and is labor intensive. It would also give partners more flexibility in responding to timely research and management needs by allowing them to build and deploy project specific apps quickly with standardized data fields. ACCSP would benefit by reducing the need for continual Application Programming Interface (API) and report development. A generic tool of this type could prove particularly useful as ACCSP moves from the traditional catch and effort data

sources and into warehousing the next tier of fisheries data - biological and socio-economic. Project partners anticipate this platform will be further improved and expanded through future projects. Developing the SciFish platform within the SAFIS system will ensure it meets ACCSP data quality and accessibility standards, is compatible with existing data collection programs, available to all partners, and kept up to date. ACCSP staff were involved in the development of this proposal. If funded, database structures will be built or modified in SAFIS and the Data Warehouse, as needed, and adequate storage is available to support this project. See Appendix 2 for a memo describing the ACCSP staff workload for this proposed project.

Primary Program Priority Addressed by this Project

The SciFish customizable reporting application and the supporting project builder developed as part of this project will continue to further expand a tool to collect biological information on the component of catch that is released, addressing the ACCSP FY22 Request for Proposal priority 1b and Recreational Technical Committee priority 2. The SAFMC Release and NCDMF Catch U Later projects within SciFish will continue to collect biological and fishery data that is independent of APAIS/MRIP, addressing Recreational Technical Committee priority 4. The onboarding of the NCDMF Tagging Program and UNE Mail-A-Scale projects will also address ACCSP FY22 Request for Proposal priority 1b and Recreational Technical Committee priority 2.

The specific benefits to each data type and the rank of the target species within priority matrices included in the app are addressed below for each project.

Primary Program Priority: Biological Sampling: 90%

For the SAFMC portion, biological information from both the commercial and recreational fisheries will continue to be collected on released shallow-water groupers (Red, Gag, Black, Scamp, Yellowfin and Yellowmouth Groupers; Red Hind; Rock Hind; Coney and Graysby) and expanded to include Red Snapper. Scamp, Gag, Red Grouper, and Red Snapper are in the top 25% of the ACCSP biological sampling priority matrix. The commercial snapper-grouper hook and line fleet is #5 in the ACCSP bycatch priority matrix. The SAFMC Release portion includes:

- Data collected for each trip: trip type (commercial, recreational, headboat, charter), date, user (ACCSP ID)
- Data collected for each fish released: species (user's determination), length (based on ACCSP standards), location, depth, time, fate (dead or alive release), hook type, hook location, use of barotrauma mitigation (descending device, venting, line cut), shark predation, and photograph (to validate and evaluate user IDs and lengths)
- Users may also file a 'no fish released' report

For the NCDMF Catch U Later portion, biological information will continue to be collected on recreational releases for three species of flounder (Summer, Gulf, and Southern) and be expanded to include Red Drum, Kingfish, Spotted Seatrout, and Weakfish. The NCDMF Catch U Later portion includes:

Yellow highlighted comments indicate sections that help with the ranking process.
Green highlighted text indicates changes from initial submission.

- Data collected for each trip: trip type (private boat, headboat, charter, manmade structure, bank/shore), date, user (ACCSP ID)
- Data collected for each fish released: species (user's determination), area fished, length (based on ACCSP standards), location, fate (dead or alive release), hook type, hook location, and photograph (to validate and evaluate user IDs and lengths)

For the NCDMF *Tagging Program* portion biological information will be collected for a variety of species including Cobia, Spotted Seatrout, Striped Bass, Southern Flounder, and Red Drum. Cobia is in the top 25% of the ACCSP biological priority matrix.

- Data collected for each trip: trip type (private boat, headboat, charter, manmade structure, bank/shore), date, user (ACCSP ID)
- Data collected for each fish: species, area fished, length (based on ACCSP standards), location, fate (dead or alive release), hook type, hook location, and photograph(s) (tag ID and fish).

For the UNE *Mail-A-Scale* portion biological information will be collected on recreationally caught Striped Bass.

Secondary Module as a by-product: Catch and Effort: 10%

A ratio of Southern, Summer, and Gulf flounder to total flounder by year, wave, and area fished will be determined from a statistically drawn and trained panel of NC *Catch U Later* users. These proportions will be applied to the estimates of left-eyed flounder released catch to produce estimates of discards for each of the specific flounder species. Similar data limitations and associated methodologies are applied to other ambiguous species including kingfish (Northern, Southern, Gulf) as well as Spotted Seatrout and Weakfish. As the application is expanded to include these species, their specific contributions to unobserved catch records will be evaluated.

Stock Assessment and Management Benefits and Impact:

By continuing data collection on released fish through the *SAFMC Release* and *Catch U Later* projects, as well as expanding the opportunity for other partners to collect data on released fish, the positive impact of this project to stock assessments could be substantial and realized by many ACCSP partners. Stock assessments rely upon accurate information on total catch and removals from the stock and accurately allocating those removals to year classes. For fish that are landed, these requirements can be addressed through straightforward methods such as catch reporting or creel surveys to estimate removals and dockside sampling to collect length measurements and age samples. Surveying and dockside sampling approaches cannot work when the fish are released on the water. Using the South Atlantic as an example that is in no way unique, very limited information is available to classify the size composition of released fish in the commercial snapper grouper hook and line fleet, the private recreational fleet, or the charter fleet. In some areas, fisheries observers are used to collect information on released fish. Observer coverage is limited due to high cost. Moreover, even if funding were available, logistics and liabilities remain a concern for some fisheries. Examples include the commercial

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hook and line snapper grouper fishery, which is prosecuted mostly by small vessels, and private recreational fisheries. Limited observer coverage is available for the headboat fleet, but changes in fleet size and behavior raise concerns about the validity of such data to characterize removals from other fishery sectors. This lack of information is a major source of stock assessment uncertainty, as assumptions must be made to assign released and discarded fish into length and thus age classes.

In years past the lack of accurate information on discarded fish was not a major assessment concern or source of uncertainty as landed fish generally accounted for the majority of stock removals. However, this is changing as regulations and fishing behavior are leading to increased discarding. For example, in the recent assessment of Red Drum (SEDAR 44³), the Review Panel noted catch and release fishing was increasing and as a result estimated total removals from the stock was increasingly sensitive to discard mortality rates and discard losses. The Panel also questioned the validity of an assumption that the length frequency of discarded fish was similar to tagged fish. The assumption was necessary due to the lack of any data on the size of released fish that could be used to assign mortalities from release to appropriate length classes. There are several reasons why such an assumption may be invalid and a source of bias in the assessment results, but the total lack of data precludes even an effort to determine the direction of bias or magnitude of uncertainty. The Review Panel considered this data lack significant and an important issue in the Red Drum assessment. The addition of the NCDMF Tagging Program will provide critical Red Drum data including migration patterns, growth, and habitat use. Finally, the expansion of NCDMF Catch U Later to include Red Drum can be used in concert with the NCDMF Tagging Program to address the aforementioned data limitations thereby increasing the reliability of stock assessment models and associated management measures.

Consider other examples of the target fish in this study. The most recent assessment (SEDAR 53⁴) indicated that over fifty percent of the fishing mortality experienced by Red Grouper is due to discard losses. Given that this stock was found to be overfished and overfishing was occurring, these discard removals are significant, and therefore the assumptions made regarding their size and composition are critical. In this instance, the length composition and selectivity for the discard losses was based on observer records from the headboat fishery and it was assumed these data were representative of all fishery sectors. As noted above, there is no data to test this assumption so its impact on assessment uncertainty and bias is unknown. In SEDAR 73, the most recent South Atlantic Red Snapper assessment, the stock was found to be overfished and undergoing overfishing. In recent years, discards have accounted for over 90% of removals so characterizing their size is critical. Length compositions and selectivity for discards were based on limited commercial, headboat, and charter (Florida only) observer data. Sampling recommendations in the report noted that it remains important to monitor discards year-round

³ SEDAR. 2015. SEDAR 44 – Atlantic Red Drum Stock Assessment Report. SEDAR, North Charleston SC. 890 pp. available online at: <http://sedarweb.org/sedar-44>.

⁴ SEDAR. 2017. SEDAR 53 – South Atlantic Red Grouper Assessment Report. SEDAR, North Charleston SC. 159 pp. available online at: <http://sedarweb.org/sedar-53>.

and any potential methodological or sampling improvements should be implemented if possible. Having additional information to help characterize the substantial discards could help meet this critical need.

A similar lack of information exists to classify the depth where fish are captured and released and the use of barotrauma reducing actions such as venting or descending. Fishing depth and barotrauma are positively correlated with release mortality rates for most species. However, it is difficult to incorporate depth and barotrauma into the overall release mortality rate applied for a stock assessment without additional information on released fish.

Small improvements in estimates of discard mortality, based on data rather than assumption, can result in large changes in the estimated removals from a fish stock. Based on the results of ACCSP-funded headboat observer studies, as cited in the 2019 Recreational Technical Committee proposal, the Red Snapper release mortality was reduced from 37% to 28.5% due to the use of circle hooks. Applying this percentage change to the estimated 2018 MRIP discards reduced the discard losses to the population by 274,000 fish. This is quite a difference when compared to the 2018 recreational annual catch limit of 29,656 fish. This is also relevant for species such as flounder, kingfish, Spotted Seatrout, and Weakfish given the current method applies a ratio of observed landings, which may not be an accurate representation of released fish. The ability to accurately characterize discards could substantially improve stock assessments and management decisions.

The SAFMC's Snapper Grouper Regulatory Amendment 29, which requires descending devices on-board vessels fishing for or possessing snapper grouper species, was recently implemented in July 2020. Federal law requires comparing the No Action alternative (not requiring) with proposed management actions. Having information on usage of descending devices would have benefited the analysis for impacts of requiring a descending device both in the cost to anglers and for estimating changes in the estimate of discard mortality. Luckily, most stakeholders regarded this as a positive management action. But quantitative information on fishing practices that can be collected through a flexible data collection app could be used to make more informed decisions on the impact of management actions. When reviewing the SEDAR 73 (South Atlantic Red Snapper) assessment at their April 2021 meeting, the SAFMC's Science and Statistical Committee raised concerns about the level of descender device usage due to the lack of information on how widespread usage is in the fishery. This is of note since the assumed level does have an impact on management quantities - highlighting the need for this type of information.

In 2019, stock assessments determined that North Carolina's Southern Flounder stock is overfished, and overfishing is occurring. State law requires management actions be taken to end overfishing within 2 years and recover the stock from an overfished condition within 10 years. To meet these legal requirements, the NCDMF determined that significant reductions in harvest were necessary. As such the North Carolina Marine Fisheries Commission adopted Amendment 2 to the Southern Flounder Fishery Management Plan and included a 62% reduction in total

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removals in 2019 and 72% reduction in total removals in 2020 across recreational and commercial fishing sectors. To achieve these management measures, no flounder can be harvested outside of the open season and gears targeting Southern Flounder are removed from waters outside of the season. The adoption of Amendment 2 was predicated on the immediate development of Amendment 3 which would include better characterizing the fishery and exploring alternate management strategies. Information collected through the *Catch U Later* app will be invaluable for the development of Amendment 3 by providing species specific discard length data to better inform stock assessment models. Additionally, the application will help researchers evaluate self-reported discard data from dockside interviews and help educate the angling public on flounder identification.

Data Delivery Plan:

Data collection projects will be defined by the project builder application and will be stored in SAFIS, where they can be downloaded and interpreted by the fisherman application to a phone or tablet. The fisherman application for all projects will collect and deliver data directly to ACCSP through an API, building on the existing API that currently accepts data from *SAFMC Release* and *Catch U Later*. Data can be entered by fishermen when no internet connection is available and later uploaded to SAFIS when a connection exists.

APPROACH:

Task A: Move the SciFish platform prototype (application and project builder interface) developed from the FY21 project from beta test into production. Explore the incorporation of additional features identified during FY20 project scoping meetings that could help with participant recruitment and retention (e.g. weather).

Harbor Light Software

- Productize the technology incorporated into the Project Builder application development during the FY21 project into a package which can be distributed as a fully supported Production-level application. This will include the creation of project templates and documentation to assist new project developers. Additional work is expected to address feedback from users during both the FY21 and FY22 timeframes to improve the performance, usability, and functionality of the application, including incorporating support for participant recruitment and retention features.
- Continue to update the client angler application as needed to support new features for application functionality, project management and reporting based on feedback from end users and project creators/managers.
- Add additional identified species and data fields that were not supported during the FY21 project.
- Incorporate analytics data to gain insights into usage patterns of the application such as geographic usage or ease of use of particular features. Similarly, incorporate error reporting

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features to proactively be alerted to reliability issues with the application after it has been deployed.

- QA/QC the application before release.
- Manage the deployment of the application directly to beta users, maintaining a presence in the Google Play Store and Apple App Store.
- Provide second-tier technical support for issues found with the application, including correcting errors found in the implementation of the required feature.
- Investigate features and or modifications which increase the continued use of the application by the citizen science community.

SAFMC, NCDMF, & UNE

- Add additional species to the *SAFMC Release* (Red Snapper) and NCDMF *Catch U Later* (Red Drum, kingfish, Spotted Seatrout, and Weakfish) projects via the Project Builder.
- Develop new projects within SciFish via the Project Builder for the NCDMF *Tagging Program* (Cobia, Red Drum, Spotted Seatrout, Striped Bass, and Southern Flounder) and *UNE Mail-A-Scale* (Striped Bass).
- QA/QC and test application.

ACCSP

- Build appropriate API or modify existing API as needed.
- Update and/or build procedures, database objects, and reports as needed, and allow easy access to photos that are linked to the trip records.

Task B: Public Outreach (SAFMC and NCDMF)

- Recruit new participants in the existing projects, *SAFMC Release* and NCDMF's *Catch U Later* and expand participation for the new species.
- Apply engagement strategies to retain current participants in both projects.
- Notify ACCSP partners when new versions of SciFish are available.

Task C: SAFIS Application Deployment (ACCSP)

- SAFIS SciFish application will be deployed by this time.
- Reports are currently available in Data Warehouse to view/download data.

Task D: Data collection, QA/QC, and analysis (SAFMC, NCDMF, & UNE)

- Data successfully submitted via app to SAFIS/Data Warehouse.
- SAFMC, NCDMF, & UNE provide QA/QC for data collected through their projects; edit/correct as necessary.
- Data made available for assessment and management, as necessary.
- Continue to explore long term solutions for addressing QA/QC and validation needs of the data (e.g. photographic and species identification), considering volunteers and citizen science approaches.

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Task E: Development of policies and procedures for use of the ACCSP SciFish Platform

- Engage ACCSP leadership to outline a process to develop policies and procedures for partners who want to utilize the SciFish platform.
- Organize a design team including SAFMC, NCDMF, UNE, ACCSP, Harbor Light Software, ACCSP committee representatives, and other interested parties to develop policies and procedures via a series of virtual meetings. The NCDMF *Tagging Program* and UNE *Mail-A-Scale* projects will be used to inform and pilot the procedures developed.

GEOGRAPHIC LOCATION:

The SAFIS application will collect data in NC inshore and coastal waters via the NCDMF *Catch U Later* and *Tagging Program* projects and collect data in coastal South Atlantic waters from North Carolina through the East Coast of FL to the FL Keys via the SAFMC *Release* project. The UNE *Mail-A-Scale* project will collect data in ME inshore and coastal waters. The geographic scope of the proposal includes all ACCSP partners in all regions, as they will be able to use or modify the SciFish application to meet specific project needs. The Rhode Island Division of Marine Fisheries has provided a letter for support for this proposal (see Appendix 3).

FUNDING TRANSITION PLAN:

Project contains a defined end point. This is a one-year project. PIs anticipate that SciFish will transition to ACCSP ownership and be available to all partners at the end of this FY22 project.

MILESTONE SCHEDULE:

Table 1. Milestone Schedule

Task	Month											
	1	2	3	4	5	6	7	8	9	10	11	12
Create app enhancements to existing base code and project builder	x	x	x	x	x	x	x	x	x	x	x	x
Update API and reports	x	x	x	x	x	x						
Testing & feedback from users; incorporating changes/fixes in application				x	x	x	x	x	x	x	x	x
Development of new test projects in SciFish			x	x	x	x	x	x	x	x		
Public/Partner Outreach	x	x	x	x	x	x	x	x	x	x		
SAFIS Application Deployment								x				
Data Collection, QA/QC & Analysis	x	x	x	x	x	x	x	x	x	x		
Development of SciFish policies and procedures		x	x	x	x	x	x	x	x	x		
Semi and Annual Report Writing						x				x	x	x

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PROJECT ACCOMPLISHMENTS MEASUREMENTS:

Table 2. Project Accomplishments Measurements

Project Component	Goal	Measurement
Add enhancements to SciFish application and project builder	Migrate prototyped functionality into a fully supportable production status	SciFish application and project builder modified to incorporate additional features not addressed in FY21 project; updated application tested and ready for deployment
Public Outreach	Continue to promote <i>SAFMC Release</i> and <i>NCDMF Catch U Later</i> projects	New users recruited and current users retained for <i>SAFMC Release</i> and <i>NCDMF Catch U Later</i> projects
SAFIS Application Deployment	Have application easily accessible and available	Application accessible through app stores
Data Collection, QA/QC, and Analysis	Users continue to submit data on the targeted species using the application	QA/QC completed; data available for management and stock assessment, as needed
Development of SciFish platform policies and procedures	Describe the standards and processes needed to support the use of the SciFish platform by ACCSP partners	Policies and procedures document created for the SciFish platform
New projects created in SciFish platform	SciFish platform supports development of new projects by ACCSP partners	NCDMF <i>Tagging Program</i> and UNE <i>Mail-A-Scale</i> projects built and deployed within the SciFish platform

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FY22 COST SUMMARY (BUDGET):

Item	ACCSP Share	Partner Share	Total
PERSONNEL COSTS			
SAFMC Personnel Julia Byrd, Citizen Science Program (15%) Chip Collier, Deputy Director (5%)		\$12,357 \$5,713	\$18,070
SAFMC Project Coordinator	\$45,760		\$45,760
NCDMF Personnel Ami Staples, Biologist II (15%) Drew Cathey, Biologist Supervisor (5%)		\$7,426 \$3,000	\$7,951
UNE Personnel John Mohan, Assistant Professor (3.7%)		\$3,683	\$3,683
CONTRACT			
Contractor Software Development	\$55,000		\$55,000
TRAVEL			
Support for travel to support outreach and promotional opportunities for <i>SAFMC Release</i>	\$3,500		\$3,500
SUPPLIES			
Recruitment/Retention Promotional Items	\$6,000		\$6,000
Virtual meeting facilitation tools	\$360		\$360
Indirect Costs (10% of non-contract costs)	\$5,562		\$5,562
TOTAL	\$116,182	\$32,179	\$148,361
Percentage	78%	22%	100%

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FY22 BUDGET NARRATIVE:

Personnel (\$45,760): Personnel funds of \$45,760 will be used by SAFMC to hire a Project Coordinator to help oversee the *SAFMC Release* project and help coordinate the continued development of the SciFish platform and the creation of SciFish policies and procedures. Personnel cost is estimated at \$22/hour for a year (2080 hours).

Contractual (\$55,000): Harbor Light Software will provide software development services to enhance the *Release + Catch U Later* application developed in FY20, and to build a “Project Builder” application. The latter app allows project owners to create customizable data collection applications. Harbor Light Software will test the software prior to release and manage the applications in the app stores. Costs are based on estimates of 270 hours of software development at \$170/hour and 180 hours of QA/QC at \$50/hour.

Travel (\$3,500): Travel by the project coordinator will be used to promote SciFish and recruit users to participate in *SAFMC Release* by visiting tackle shops, fishing clubs, fish houses, charter operations, and other related venues to allow for distribution of outreach and promotional materials.

Supplies (\$6,360): Partners will utilize funds to print promotional materials (e.g. wallet cards, postcards, rack cards, etc.) to promote SciFish and its existing projects (*SAFMC Release* and *Catch U Later*), as well as to recruit *SAFMC Release* users. Cost for print materials range from wallet cards (~\$0.05 each) to rack cards (~\$0.30 each). Using an average cost of ~\$0.23 per item, \$1000 will allow us to print ~4,400 items for distribution. Funds will also be used to purchase small promotional items (e.g. fishing towels, measuring tapes, stickers, etc.) to help increase recruitment and retention of participants. Cost for promotional items range between stickers (~\$1.50 each) to towels (~\$4.50 each). Using an average cost of \$3.00 per item, \$5,000 will allow us to distribute ~1,665 items to participants.

Virtual meeting facilitation tools will be used for the series of meetings held to develop SciFish policies and procedures. Costs are estimated at \$30/month for 12 months for a total of \$360.

Indirect charges of 10% are applied to the non-contract budget items for a total of \$5,562. The Harbor Light Software contract will be administered through ACCSP, so was excluded from the indirect calculations.

FY21 COST SUMMARY (BUDGET):

Item	ACCSP Share	Partner Share	Total
PERSONNEL COSTS			
SAFMC Personnel Julia Byrd, Citizen Science Program (10%) Chip Collier, Deputy Director (5%)		\$8,156 \$5,656	\$8,156 \$5,656
SAFMC Project Coordinator	\$45,760		\$45,760
Graduate student to conduct survey work	\$2,400		\$2,400
CONTRACT			
Contractor Software Development	\$55,000		\$55,000
TRAVEL			
Support for travel to support outreach and promotional opportunities for SAFMC Release	\$4,200		\$4,200
SUPPLIES			
Recruitment/Retention Promotional Items	\$2,000		\$2,000
Indirect – 10% of non-contract costs	\$5,432		\$5,432
TOTAL	\$114,792	\$13,812	\$128,604
Percentage	89.3%	10.7%	100%

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FY21 BUDGET NARRATIVE:

Personnel (\$48,160): Personnel funds of \$45,760 will be used by SAFMC to hire a Project Coordinator to help oversee the *SAFMC Release* project and help develop and implement the new project identified during the FY20 scoping meetings. Personnel cost is estimated at \$22/hour for a year (2080 hours).

Additionally, \$2,400 will be used to contract with a graduate student to conduct a survey of *SAFMC Release* participants to get their feedback on the overall app and the transition to the customizable ACCSP release app. Survey results will help inform the expansion of the customizable app in this proposal and be used to better design the app and improve volunteer engagement. Costs are estimated for 120 hours of work at \$20/hour.

Travel (\$4,200): Travel by both the project coordinator and the graduate student will be used to educate the public, partners, and meeting attendees about the *SAFMC Release* project. Promoting the program by visiting tackle shops, fish houses, charter operations and other related venues that will allow for the distribution of outreach and promotional materials will also be used to raise awareness of the project.

Contractual (\$55,000): Harbor Light Software will provide software development services to enhance the *Release + Catch U Later* application developed in FY20, and to build a “Project Builder” application, which allows project owners to create customizable data collection applications. Harbor Light Software will test the software prior to release and manage the applications in the app stores. Costs are based on estimates of 270 hours of software development at \$170/hour and 180 hours of QA/QC at \$50/hour.

Supplies (\$2,000): SAFMC will utilize supply funds to print promotional materials (e.g. wallet cards, postcards) to recruit users for the *SAFMC Release* project and the new project identified during the FY20 scoping meetings. Funds will also be used to purchase small promotional items (e.g. fishing towels, measuring tapes) to help increase recruitment and retention of participants.

Indirect charges of 10% are applied to non-contract charges for a total of \$5,432.

FY20 COST SUMMARY (BUDGET):

Item	ACCSP Share	Partner Share	Total
PERSONNEL COSTS			
SAFMC Personnel Julia Byrd, Citizen Science Program (10%) John Carmichael, Deputy Director (5%)		\$7,800.00 \$6,961.20	\$14,761.20
SAFMC QA/QC process part time position	\$24,000		\$24,000.00
NC DMF Personnel Drew Cathey, Biologist II (10%) Chris Wilson, Biologist Supervisor (5%)		\$4,710.10 \$3,277.80	\$7,987.90
NC DMF QA/QC process part time position	\$24,000		
CONTRACT			
Contractor Software Development	\$45,000		\$45,000
SUPPLIES			
Recruitment/Retention Promotional Items	\$500	\$1000	\$1500
TRAVEL			
In-person meeting	\$25,000		\$25,000
TOTAL	\$118,500	\$23,749	\$142,249
Percentage	83%	17%	100%

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FY20 BUDGET NARRATIVE:

Personnel (\$48,000): Personnel funds will be used by SAFMC and NC DMF to each hire QA/QC process part time position. Personnel cost is estimated at \$20/hour for a total of 1200 hours for each position. The positions will assist with Task D: Data Collection, QA/QC, and Data Analysis. Job duties will include assisting with QA/QC and exploring long term solutions for addressing QA/QC and validation needs of the photographic and species identification data, considering volunteers and citizen science approaches.

Supplies (\$500): SAFMC will utilize supply funds to print promotional materials (e.g. wallet cards, postcards) to inform users of transition to new SAFIS application and recruit new users. Funds will also be used to purchase small promotion items (e.g. fishing towels, measuring tapes, etc.) to help increase recruitment and retention rates of participants.

Contractual (\$45,000): Harbor Light Software will develop the application software, using the software written for the existing *SAFMC Release* and NC DMF *Catch U Later* applications as core reference with enhancements for branding, additional species, modifications to the ACCSP API and flexibility for supporting different data collection profiles. Harbor Light will also provide second-tier technical support, management of the deployment of the application through respective app stores, perform technical feasibility analysis of image-based length determination technologies and identify architectural enhancements to support a wider range of data collection applications.

Travel (\$25,000): Travel funds will be used for the in-person workshop associated with Task E to develop needs and objectives for an integrated, flexible application. Workshop will be two days with approximately 20 participants. Estimated costs include meeting space (\$5000), participant travel (\$10,000) and lodging, per diem, and miscellaneous participant costs (\$10,000).

Table 3. Maintenance Project History

Fiscal Year	Title	Cost	Results
2020	SAFIS Expansion of “SAFMC Release” and “NC DMF Catch U Later” Discard Reporting Applications	\$118,500	<p>This project combined two similar released fish reporting applications (SAFMC Release and NC DMF’s Catch U Later) into a new ACCSP customizable citizen science application, SciFish, that will be available to other partners and expanded the application to increase the species that can be reported through the SAFMC Release project. Beta testing for both projects in SciFish is wrapping up now and SciFish production will launch in August 2021.</p> <p>Additionally, a series of scoping meetings were held in Spring 2021 to outline a framework for the continued development of the ACCSP customizable citizen science data collection application that can support multiple project types. The scoping meetings consisted of an online questionnaire, two virtual town hall meetings, and 3 half day microlab workshops. Just under 200 individuals completed the questionnaire and just under 60 people attended the town halls. There was a total of 46 microlab participants representing fishermen, scientists, and managers from 23 organizations across 15 states. The microlabs focused on identifying data gaps and deficiencies that could be addressed through a citizen science approach; the data needed to fill these gaps that could be reasonably collected; and app or platform usability.</p> <p>Additional details on the FY20 project results will be included in the final grant report available in September 2021.</p>
2021	SAFIS Expansion of Customizable Fisheries Citizen Science Data Collection Application	\$114,792	<p>Using the information gained through the FY20 scoping meetings, the FY21 project will focus on building the customizable citizen science app prototype which will include the expansion of the app to support the project types and data fields prioritized through the FY20 scoping meetings, as well as the development of a project builder interface. Additionally it will continue data collection in SAFMC Release on shallow water grouper releases. The FY21 project will begin in late summer 2021.</p>

Yellow highlighted comments indicate sections that help with the ranking process.
 Green highlighted text indicates changes from initial submission.

Summary of Proposal for Ranking

Proposal Type: Maintenance

Primary Program Priority: Biological Sampling - 90%

- The released fish reporting application incorporated in SAFIS will provide a tool for collecting biological information on the component of catch that is released, addressing ACCSP FY22 Request for Proposals priority 1b and Recreational Technical Committee priority 2. The application will collect biological and fishery data that is independent of APAIS/MRIP, addressing Recreational Technical Committee priority 4.
- For the SAFMC **portion**, biological information will be collected on released shallow water groupers and expanded to collect data on Red Snapper, in both commercial and recreational fisheries. Scamp, Gag, Red Grouper, and Red Snapper are in the top 25% of the biological sampling priority matrix. The commercial snapper-grouper hook and line fleet is #5 in the bycatch priority matrix.
- For the NCDMF *Catch U Later* **portion**, biological information will be collected on recreational releases for three species of flounder (Summer, Gulf, and Southern) and expanded to collect data on Kingfish, Spotted Seatrout, Weakfish, and Red Drum.
- For the NCDMF *Tagging Program* **portion**, biological information will be collected on tagged fish including Cobia, Red Drum, Spotted Seatrout, Striped Bass, and Southern Flounder. Cobia is in the top 25% of the biological sampling matrix.
- For the UNE *Mail-A-Scale* **portion**, biological information will be collected on recreational Striped Bass.

Data Delivery Plan:

- Data collection projects will be defined by the project builder application and will be stored in SAFIS, where they can be downloaded to a phone or tablet. The fisherman application for **all projects** will collect and deliver data directly to ACCSP through an API, building on the existing API that currently accepts data from *SAFMC Release* and *NCDMF Catch U Later*. Data can be entered by fishermen when no internet connection is available and later uploaded to SAFIS when a connection exists.

Project Quality Factors:

- **Multi-partner/Regional impact including broad applications:** This project will continue the development of the ACCSP customizable citizen science application, SciFish, moving the platform into production and enhancing the features available in the app and project builder, as well as, developing the policies and procedures needed to guide and support partners' use of this platform into the future. The geographic scope of the project includes all ACCSP partners in all regions, as they will be able to modify the application to meet specific project needs. The *SAFMC Release* component collects data through the South Atlantic and across all sectors for species with significant release mortality concerns. The *NCDMF Catch U Later* component collects data from North Carolina's recreational sector for species with acute data needs. **Two additional projects, NCDMF *Tagging Program* and**

Yellow highlighted comments indicate sections that help with the ranking process.
Green highlighted text indicates changes from initial submission.

UNE *Mail-A-Scale*, will be built in SciFish to pilot the policy and procedure development. The NCDMF *Tagging Program* component collects life history and movement data for a variety of state and federally managed species. The UNE *Mail-A-Scale* component collects data from Maine's recreational sector. The Rhode Island Division of Marine Fisheries provided a letter of support for this proposal (see Appendix 3).

- **Contains funding transition plan:** Project contains a defined end point. This is a one-year project. Pls anticipate that SciFish will transition to ACCSP ownership and be available to all partners at the end of this FY22 project.
- **In-kind contribution: 22%**
- **Improvement in data quality/quantity/timeliness**
 - Provides improvement in data quality and quantity.
 - There are currently no data available to assign released shallow water groupers to length classes other than limited commercial and for-hire observer effort. *SAFMC Release* collects data on the length of released shallow-water grouper for commercial, for-hire, and recreational fishermen.
 - There is limited information available to classify the depth where fish are captured and released and the use of barotrauma reducing actions such as venting or descending. Depth and barotrauma reduction are significantly correlated with release mortality rates. The data collected through *SAFMC Release* provides finer scale information on released fish which can help refine the overall release mortality rate applied for a stock assessment.
 - There are currently no data available to assign recreational generic left-eye flounder discards to species (Summer, Southern, Gulf). NCDMF *Catch U Later* collects species-specific discard data as well as associated biological data (e.g. length). These data will better characterize North Carolina's recreational flounder fishery and improve the reliability of stock assessment models.
 - Significant data gaps exist in characterizing migration, growth, and habitat use for multiple commercially and recreationally valuable species. The NCDMF *Tagging Program* will collect these critical data for Cobia, Red Drum, Spotted Seatrout, Striped Bass, and Southern Flounder to better inform stock assessment models and associated management actions.
 - The continued development of the SciFish platform would allow partners to create and use an electronic tool without extensive development costs which would be helpful for citizen science or other voluntary data collection programs where resources are often limited. It would allow more funds to be available for volunteer engagement which can improve data quality and is critical for project success.
- **Potential secondary module as a by-product: Catch and Effort - 10%.** A ratio of Southern, Summer, and Gulf flounder to total flounder by year, wave, and area fished will be determined from a statistically drawn and trained panel of NC *Catch U Later* users. These proportions will be applied to the estimates of left-eyed flounder discarded catch to

Yellow highlighted comments indicate sections that help with the ranking process.
Green highlighted text indicates changes from initial submission.

produce estimates of discards for each of the specific flounder species. Similar data limitations and associated methodologies are applied to other ambiguous species including kingfish (Northern, Southern, Gulf) as well as Spotted Seatrout and Weakfish. As the application is expanded to include these species, their specific contributions to unobserved catch records will be evaluated.

- **Impact on stock assessment**

Stock assessment impacts are significant. Assessments rely upon accurate catch data for individual species, accurate assignment of catches to length and thus age classes, and accurate accounting of total population removals including release mortality. Additionally, assessments incorporate a variety of life history data including growth, migration, habitat use, and natural mortality among others. This project will help provide such information for multiple fisheries that are currently lacking.

Other Factors:

- **Properly prepared**

This proposal follows the guidelines under the ACCSP Funding Decision Process Document.

- **Merit**

The project is continuing the development of an ACCSP innovative, customizable citizen science platform, SciFish. This proposal will move the SciFish platform from beta testing into production, making it available to all ACCSP partners and will develop the policies and procedures needed to guide and support partners' use of the platform into the future. Partners would benefit from being able to create and use an electronic tool without incurring extensive development costs, and it would give partners more flexibility in responding to timely research and management needs by allowing them to build and deploy project specific apps quickly.

Summary of Proposal for Ranking – Abridged Version

- **Achieved Goals:** The FY20 project will: combine two similar released fish reporting applications (*SAFMC Release* and NC DMF *Catch U Later*) into a new ACCSP citizen science application, SciFish, and expand the *SAFMC Release* project to all shallow water grouper species. Currently, the *SAFMC Release* and *Catch U Later* projects in the SciFish application are nearing completion of beta testing. SciFish will move into the production phase in August 2021, and data collection will begin in *Catch U Later* and expand to include all shallow water grouper for *SAFMC Release*. Additionally, a series of scoping meetings was held in Spring 2021 bringing together fishermen, scientists, and managers along the Atlantic coast to share their knowledge and perspectives on the development of a customizable citizen science application. An organizing committee with representatives from SAFMC, NCDMF, ACCSP, Harbor Light Software, Georgia Department of Natural Resources (GADNR), and Rhode Island Department of Environmental Management (RIDEM) helped plan, coordinate and conduct these meetings. The scoping meetings initially explored the needs of the broader fisheries community by gathering information through an online questionnaire and two town hall meetings. Next a series of three half-day workshops was held with a group of 46 core group members representing fishermen, scientists, and managers from 23 organizations across 15 different states. The workshops focused on identifying data gaps and deficiencies that could be addressed through a citizen science approach; the data needed to fill these gaps that could be reasonably collected; and app usability (e.g. how to make the app as user friendly as possible and what positive feedback loops could help with recruitment and retention). A report synthesizing the information gathered through the scoping meetings is in progress. Additional details on the FY20 project results will be included in the final grant report available in September 2021.

Using the information gained through the FY20 scoping meetings, the FY21 project will focus on building the customizable citizen science app prototype which will include the expansion of the app to support project types and data fields prioritized through the FY20 scoping meetings, as well as the development of a project builder interface. Additionally, it will continue data collection in *SAFMC Release* on shallow water grouper releases. The FY21 project will begin in late summer 2021.

The FY22 project will continue the development of the customizable citizen science app, SciFish, moving the platform into production and enhancing the features available in the app and project builder; develop the policies and procedures needed to guide and support partners' use of this platform. Two new projects will be onboarded to provide perspective on the development of policies and procedures. These projects are the NCDMF *Tagging Program* and UNE *Mail-A-Scale*. There will be continued and expanded data collection within the *SAFMC Release* and NCDMF *Catch U Later* projects.

- **Data Delivery Plan:** Data collection projects will be defined by the project builder application and will be stored in SAFIS, where they can be downloaded to a phone or tablet. The fisherman application for all projects will collect and deliver data directly to ACCSP

Yellow highlighted comments indicate sections that help with the ranking process.
Green highlighted text indicates changes from initial submission.

through an API, building on the existing API that currently accepts data from *SAFMC Release* and *NCDMF Catch U Later*. Data can be entered by fishermen when no internet connection is available and later uploaded to SAFIS when a connection exists.

- **Level of Funding:** This is a Year 2 maintenance proposal. Funding for the FY22 proposal increased from the FY21 proposal by 1% but remains below the initial FY20 proposal by 2%.
- **Properly Prepared:** This proposal follows the guidelines under the ACCSP Funding Decision Process Document.
- **Merit:** The project is continuing the development of an innovative, customizable citizen science platform, SciFish. This proposal will move the SciFish platform from beta testing into production, making it available to all ACCSP partners and will develop the policies and procedures needed to guide and support partners' use of the platform into the future. Partners would benefit from being able to create and use an electronic tool without incurring extensive development costs, and it would give partners more flexibility in responding to timely research and management needs by allowing them to build and deploy project specific apps quickly.

Appendix 1: NCDMF's Tagging Program and UNE's Mail-A-Scale Objectives

UNE *Mail-a-Scale* objectives:

- Engage Maine's recreational anglers as citizen scientists to expand collection of biological data on striped bass through digital images as part of the ongoing *Snap-a-Striper* project and support a proposed project in review with Maine Sea Grant called *Mail-a-Scale* that incorporates non-lethal scale sample collection of released stripers and otolith collection of legally harvested stripers.
- Build upon existing user-friendly mobile applications that were developed with support from ACCSP to be customizable (*SAFMC Release* and *NC DMF Catch U Later*) to expand data collection of recreational caught striped bass in Maine. Currently, *Snap-a-Striper* and the proposed *Mail-a-Scale*, use paper data cards, so a digital application could expand angler participation and data collection.
- Utilize scale chemistry and digital images provided from the application to assess morphological features that could distinguish if striped bass captured in recreational fisheries are from Maine (Kennebec River) or sourced from outside stocks (i.e. Hudson, Delaware, Chesapeake).

NCDMF Multi-species *Tagging Program*

- The North Carolina Division of Marine Fisheries Multi-Species Tagging Program is seeking ways to increase angler tag return reporting and accuracy of data through novel approaches. Currently, anglers can report their tagged fish by calling our 1-800 phone number, filling out a tag return form on our website, or visiting one of our six Division offices. Information collected from tag returns is very similar to data collected through the Catch U Later (CUL) Flounder Discard application.
- Through this grant, we would like to create an easy-to-use tagged fish reporting application based on CUL. Modifications to CUL would include the addition of data collection fields (e.g., fish species, tag color, tag number, type of angler, angler contact information, reward, etc.) and new branding of the tagged fish reporting application.
- The tagged fish reporting application allows anglers to report tag returns more quickly (in the boat while fishing), report more accurate data (reporting the fish right after it is caught instead of multiple day or week-long delays), allows Division staff to process tag returns more efficiently, and enter data into the Division's database sooner.
- Development of the tagged fish reporting application provides a framework for the Division to pursue additional citizen science research initiatives related to the Multi-species Tagging Program. These initiatives include volunteer tagger reporting, verification of species identification and capture location, and citizen science projects that address data gaps (e.g., discard lengths, effort and catch from private docks, etc.).
- Promotion of the application allows for increased public outreach for the Multi-species Tagging Program and a modernized method to distribute educational materials to the public.
- The Division is willing to give in-kind support through staff time to develop and test the application, and to assist in the development of the policies and procedures for the customizable SciFish mobile application.



Atlantic Coastal Cooperative Statistics Program

1050 N. Highland Street, Suite 200A-N | Arlington, VA 22201
703.842.0780 | 703.842.0779 (fax) | www.accsp.org

TO: ACCSP Operations and Advisors Committee Members

FROM: Julie DeFilippi Simpson, ACCSP Deputy Director

DATE: June 10, 2021

SUBJECT: ACCSP Staff Workload for Proposed Project

Project Title:

FY22: SAFIS Expansion of the SciFish Customizable Fisheries Citizen Science Data Collection Application

Project Type: Maintenance Project

Principal Investigators: Julia Byrd (SAFMC), Dr. Andrew M. Cathey (NCDMF)

ACCSP Staff Workload Comments: *

In order to achieve the project objectives listed below, ACCSP staff will be need to be dedicated to these tasks.

- Continue development and construction of SciFish, a customizable fisheries data application, to standardize provide more efficient data collection, increase data availability, and reduce future needs for future and existing projects to invest additional costs in individual applications.
- Develop policies and procedures needed for partners to build and support projects within the SciFish mobile application.
- Continue data collection under the ACCSP citizen science app, SciFish, via the SAFMC Release and NCDMF Catch U Later projects and expand the species that can be reported.

Tasks A and E, outlined in the proposal and associated with these objectives, would require ACCSP staff time. Specifically, ACCSP staff would be responsible for building/modifying an API and updating and/or build procedures, database objects, and reports as needed to allow easy access to trip records and linked photos. Additionally, ACCSP staff would be actively involved in scoping exercises and the development of policies and procedures. This workload would be assumed by the Software Team and Deputy Director. Much of the technical work will build on existing APIs and database procedures and objects. As such the overall workload to the ACCSP is expected to be moderate (~200 person-hours). It is the opinion of the ACCSP leadership that this project is feasible.

* Comments and opinions are based on evaluation of this project individually as opposed to all proposed projects as all projects have yet to be submitted.

Our vision is to produce dependable and timely marine fishery statistics for Atlantic coast fisheries that are collected, processed, and disseminated according to common standards agreed upon by all program partners.



RHODE ISLAND
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
DIVISION OF MARINE FISHERIES
Three Fort Wetherill Road
Jamestown, Rhode Island 02835

Julia Byrd
4055 Faber Place Dr. Suite 201.
North Charleston, SC 29405

Dear Ms. Byrd,

Please accept this letter of support from the Rhode Island Division of Marine Fisheries for your proposal entitled “FY22: SAFIS Expansion of the SciFish Customizable Fisheries Citizen Science Data Collection Application” The creation of a smart device modular application for citizen science is a great approach and will foster more engagement with citizen scientists in all partner states including Rhode Island.

Rhode Island has always valued projects promoting electronic data reporting. Rhode Island’s recreational community is very supportive of initiatives that aim to improve data collection and collaboration with fisheries managers. As of this year, we are partnering with our large recreational fishing organization, the Rhode Island Saltwater Angler Association (RISAA) to develop a volunteer angler data collection application. This application will collect fishery dependent data from recreational anglers which will be shared with managers to contribute to stock assessment. When complete RIDMF wants to make this data available to other entities as well as foster other ways to further our understanding of recreational fishing. Our application is being developed by the same software company (Harbor Light Software) as the proposed citizen science application and should be compatible with this project. This proposal represents a potential avenue for the data from our app to be disseminated into a broader community as well as create a platform to initiate other citizen science projects with participating anglers.

Industry buy in to electronic reporting is essential to its success. The outreach already conducted in the first phase of this project is a sound approach for promoting buy in and sustained use by recreational anglers and should lead to a successful project.

We look forward to continued collaboration with you on the project.

Sincerely,

A handwritten signature in black ink, appearing to read 'Conor McManus', with a horizontal line extending to the right.

Conor McManus
Chief RIDEM, Division of Marine Fisheries

Telephone 401.423.1923 | www.dem.ri.gov | Rhode Island Relay 711

JULIA ISOBEL BYRD

1489 Littlerock Blvd.
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Hometown: Asheville, NC

Work: (843)302-8439
Cell: (828)215-1414
Email: juliabyrd@hotmail.com

EDUCATION: UNIVERSITY OF CHARLESTON, SC, Charleston, SC
-**Masters of Environmental Studies**, focus on environmental and marine biology,
December 2004

WAKE FOREST UNIVERSITY, Winston-Salem, NC
-**Bachelor of Science in Biology**, Minor in **Environmental Studies**, Cum Laude, May 2000

WORK EXPERIENCE:

Citizen Science Program Manager, South Atlantic Fishery Management Council (SAFMC; March 2019 – present)

- Provide programmatic leadership and support for the SAFMC's Citizen Science Program. Duties include project development and management, strategic planning, problem solving, brainstorming strategies, and facilitation.
- Foster collaboration between researchers, scientists, and fishermen to support citizen science projects
- Develop grant proposals for citizen science projects and assist program partners in developing grants
- Serve as PI or co-PI on grant supported citizen science projects addressing SAFMC research priorities
- Assist in developing and delivering outreach materials and training related to the Citizen Science Program and projects
- Work with partners and advisory committees to develop and implement strategic plan for Citizen Science Program, including development of goals, objectives, strategies, indicators, and evaluation plan.
- Conduct presentations for advisory committees, the general public, fishermen, and scientists on the SAFMC's Citizen Science Program and projects
- Communicate scientific, technical issues to a variety of audiences
- Build relationships with fishery professionals and stakeholders throughout the Southeast U.S. to develop program partnerships and help engage more people in the SAFMC's Citizen Science Program
- Staff lead for Citizen Science Projects Advisory Committee and Operations Committee
- Supervise Citizen Science personnel (staff and students) working on citizen science projects
- SAFMC Outreach Team member providing input and participating in Council related outreach activities
- Represent the SAFMC on various citizen science related working groups

Southeast Data Assessment and Review (SEDAR) / SAFMC SEDAR Coordinator (August 2012 – February 2019)

- Plan, coordinate and manage SEDAR stock assessment projects and procedural workshops. Duties include project management, work planning, timeline development, brainstorming strategies, problem solving, event planning, and facilitation.
- Chair and/or facilitate SEDAR stock identification, data, assessment and procedural workshops. Experience includes facilitating variety of group discussions engaging scientists, managers, fishermen, and other stakeholders in order to lead groups through productive discussions and explore different points of view.
- Build relationships with fishery professionals and stakeholders throughout the Southeast U.S. to help engage more people in the SEDAR Stock Assessment Program.

- Communicate scientific, technical issues to a variety of audiences
- Lead re-design of the SEDAR website and serve as SEDAR webmaster.
- Assist with coordination and facilitation of SAFMC's Snapper Grouper Visioning Project
- Assist with the development of the SAFMC's Citizen Science Program. Duties included helping coordinate and facilitate SAFMC's Citizen Science Workshop, helping develop SAFMC's Citizen Science Blueprint, and assisting the Citizen Science Program Manager in developing infrastructure for the Program.
- Atlantic Coastal Cooperative Statistics Program Operations Committee
- Instructor for Marine Recreational Education Program, Southeast – Science Workshop 2017
- Participate in SCDNR's in-water sea turtle regional abundance and health assessment survey as Chief Scientist or Scientific Crew

TRAINING:

- Management Assistance Team (MAT) Leader as Communicator Training
- Smithsonian's Communication & Facilitation Skills for Conservation Managers Course
- Technology of Participation (TOP) Facilitation Methods
- NOAA Coastal Service Center Planning and Facilitating Collaborative Meetings
- NOAA Coastal Service Center Project Design and Evaluation Workshop
- NOAA Coastal Service Center Public Issues and Conflict Management Workshop
- University of Maryland's Communicating Science Effectively Workshop
- Atlantic States Marine Fisheries Commission Stock Assessment Training Workshop Series

PROFESSIONAL MEMBERSHIPS:

- Citizen Science Association
- American Fisheries Society
- ACCSP Operations Committee (2015-present)

SELECTED PUBLICATIONS AND PRESENTATIONS:

- Bonney, R., J. Byrd, J. T. Carmichael, L. Cunningham, L. Oremland, J. Shirk, and A. Von Harten. 2021. Sea Change: Using Citizen Science to Inform Fisheries Management. *BioScience*: 71(5): 519-530.
- Byrd, J. C. Collier, and A. Iberle. 2020. The SAFMC's Citizen Science Program: Designing a program to support fisheries science and management decision making. American Fisheries Society Annual Meeting (held virtually). (Oral presentation)
- Brown, S.K., M. Shivani, R. Koenke, D. Agnew, J. Byrd, M. Cryer, C. Dichmont, D. Die, W. Michaels, J. Rive, H. Sparholt, and J. Weiberg. 2020. Patterns and practices in fisheries assessment peer review systems. *Marine Policy*: 117,103880.
- Byrd, J., J. Carmichael, and J. Neer. 2017. The Importance of Peer Review in SEDAR Stock Assessments. American Fisheries Society Annual Meeting, Tampa, FL. (Oral presentation)
- VonHarten, A. and J. Byrd. 2016. Building a Fishery Citizen Science Program in the U.S. South Atlantic to Improve Management and Policy. 4th International Marine Conservation Congress. (Oral presentation and helped facilitate focus group.)
- Carmichael, J., A. VonHarten, and J. Byrd. 2016. Efforts to Develop a South Atlantic Fishery Management Council Citizen Science Program. NOAA Fisheries Quantitative Ecology and Socioeconomics Training Program Webinar Series. (webinar presentation)
- SEDAR. 2015. SEDAR Procedural Workshop 7: Data Best Practices. SEDAR, North Charleston, SC. 151pp. (editor)

Andrew M. Cathey
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Tel: (252)-948-3876
Mobile:(252)-558-3404
E-mail: Andrew.Cathey@ncdenr.gov

Personal:

Birth date: 30 May, 1981
Birth place: Asheville, North Carolina
Citizenship: United States of America

Professional Preparation:

East Carolina University, PhD, Interdisciplinary Biological Sciences, 2013
Appalachian State University, BS, Ecology and Environmental Biology, 2004

Professional Experience:

Program Supervisor, Coastal Angling Program, North Carolina Division of Marine Fisheries: Jan 2021-present
Chief Data Analyst/Coastal Angling Program, North Carolina Division of Marine Fisheries: Nov 2017-Dec 2020
Statistician/Coastal Angling Program, North Carolina Division of Marine Fisheries: Jul 2014-Nov 2017
PhD Candidate, East Carolina University: Oct 2011-Dec 2013
Graduate Research Assistant, East Carolina University: June 2007-Oct 2011
Research Specialist, Brody School of Medicine, East Carolina University: 2005-2007

Research:

Area of professional expertise:

Recreational Fisheries, Statistics, Fisheries Management, Bivalve Larval Ecology, Benthic Ecology

Awards:

“Best Graduate Student Oral Presentation” Southeastern Estuarine Research Society; Semiannual Meeting, Morehead City and Beaufort, North Carolina. April 11-13, 2012.

“National Shellfisheries Association Sandra Shumway Best Student Paper in the Journal of Shellfish Research Award” In Volume 33: Spatiotemporal Stability of Trace and Minor Elemental Signatures in Early Larval Shell of the Northern Quahog (Hard Clam) *Mercenaria mercenaria*.

Publications and Technical Reports:

Cathey AM (2016). Evaluating an Ongoing Recreational Flounder Giggling Mail Survey using Dockside Intercepts. North Carolina Division of Marine Fisheries Final Project Report. Grant Number 2007-F206

Cathey AM (2015). Assessing Electronic Mobile Devices for the Collection of Recreational Fishing Data. NOAA Final Project Report, Task Title: Assessing the Use of Electronic Mobile Devices in Recreational Angling Data, Grant Number EA-133F-12-BA-0034

Cathey AM, Miller NR, Kimmel DG (2014). Spatiotemporal Stability of Trace and Minor Elemental Signatures in Early Larval Shell of the Northern Quahog (Hard Clam) *Mercenaria mercenaria*. *Journal of Shellfish Research* 33(1):247-255

Cathey AM, Miller NR, Kimmel DG (2012) Microchemistry of Juvenile *Mercenaria mercenaria* shell: Implications for Modeling Larval Dispersal. *Marine Ecology Progress Series* 465:155-168

Contracts and Grants Awarded:

\$118,500. Standard Atlantic Fisheries Information System (SAFIS) Expansion of “SAFMC Release” and “NC DMF Catch U Later” Discard Reporting Applications. National Marine Fisheries Service/Atlantic Coast Cooperative Statistics Program. 10/30/2019 Co-PI: Cathey AM, Co-PI: Julia Byrd

\$199,340. Annual surveys of recreational license holders. North Carolina Division of Marine Fisheries Coastal Recreational Fishing License Grant. 07/01/2018 06/30/2023. PI: Cathey AM

\$72,500. Determination of species specific size compositions of recreationally discarded finfish species. North Carolina Division of Marine Fisheries Coastal Recreational Fishing License Grant. 07/01/2018 06/30/2020. PI: Cathey AM.

\$142,000. Evaluating an Ongoing Recreational Flounder Giggling Mail Survey using Dockside Intercepts. North Carolina Division of Marine Fisheries Coastal Recreational Fishing License Grant. 01/01/2016 11/30/2016. PI: Cathey AM

\$29,042. Assessing Electronic Mobile Devices for the Collection of Recreational Fishing Data. National Marine Fisheries Service. 08/01/2013 12/15/2014. PI: Cathey AM

Presentations:

Cape Hatteras Surf Fishing Heritage Celebration - Cape Hatteras National Seashore (U.S. National Park Service), November 2, 2019. Oral Presentation: Trends in Recreational Surf Fishing on the Northern Outer Banks.

American Fisheries Society, 145th Annual Meeting. Portland Oregon, August 16-20, 2015.
Oral Presentation: Assessing Electronic Mobile Devices for the Collection of Recreational Fishing Data.

Coastal and Estuarine Research Federation, The Changing Coastal and Estuarine Environment a Comparative Approach. Mar Del Plata Argentina, November 11-14, 2012.
Oral Presentation: Shell Microchemistry of Juvenile and Larval *Mercenaria mercenaria*: Implications for modeling Larval Dispersal.

South Eastern Estuarine Research Society. Morehead City and Beaufort North Carolina, April 11-13, 2012.
Oral Presentation: Shell Microchemistry of Juvenile *Mercenaria mercenaria*: Spatiotemporal Patterns and Implications for Modeling Larval Dispersal.

Coastal and Estuarine Research Federation, Society, Estuaries, and Coasts: Adapting to Change. Daytona Beach Florida, November 6-10, 2011.
Poster Presentation: Shell Microchemistry of Juvenile *Mercenaria mercenaria*: Spatiotemporal Patterns and Implications for Modeling Larval Dispersal.

Professional Memberships:

Coastal and Estuarine Research Federation
South Eastern Estuarine Research Society
American Fisheries Society
Sigma Xi

Teaching:

08/01/12-05/06/13 Instructor of Record-East Carolina University, Greenville, North Carolina, Ecology
08/01/08-05/06/11 Teaching Assistant-East Carolina University, Greenville, North Carolina, Introduction to Biology Laboratory



Geoff White, Director
Atlantic Coastal Cooperative Statistics Program
1050 N. Highland Street, Suite 200 A-N
Arlington, VA 22204

June 12, 2021

Dear Mr. White,

The Rhode Island Division of Marine Fisheries and the Georgia Department of Natural Resources Law Enforcement Divisions, through partnership with Harbor Light Software, are pleased to submit the proposal titled “*Continued development of a mobile application to assist Maritime Law Enforcement personnel with Fisheries Enforcement tasks*” for your review. We believe this proposal is an important next step in bringing much needed technology to the Marine Resource Officers. The FY22 proposal builds upon work that was completed in FY19 and FY20 projects by incorporating additional modules at the request of Living Marine Resource Officers.

Please address questions jointly to John Mercer of the Rhode Island Division of Marine Fisheries and Sgt. Cindy Miller of the Georgia Department of Natural Resources Enforcement Division.

Sincerely,

Sgt. Cindy Miller	Officer Jeff Mercer
GADNRLE	RIDEM Fish and Wildlife Division
1 Conservation Way	235 Promenade Street
Brunswick, GA 31520	Providence, RI 02908
404-695-6767	401-222-2284
cindy.miller@dnr.ga.gov	jeff.mercer@dem.ri.gov

Enclosures:

ACCSP Proposal: “*Continued development of a mobile application to assist Maritime Law Enforcement personnel with Fisheries Enforcement tasks*”

Proposal for Funding made to:
Atlantic Coastal Cooperative Statistics Program
Operations and Advisory Committees
1050 N. Highland Street, Suite 200 A-N
Arlington, VA 22204

Continued development of a mobile application to assist maritime law enforcement
personnel with fisheries enforcement tasks

Submitted by:

Officer Jeff Mercer
Rhode Island Department of Environmental Management
Fish and Wildlife Enforcement Division
235 Promenade Street
Providence, RI 02908

Sergeant Cindy Miller
Georgia Department of Natural Resources

Page 2

ACCSP Funding Proposal: Continued development of a mobile application to assist Maritime Law Enforcement Personnel with fisheries enforcement tasks.

Sections of the proposal identified to help with the ranking process are highlighted in **green** with a summary on pages 29 & 30. Changes made to the proposal are highlighted in **yellow**.

Law Enforcement Division
1 Conversation Way
Brunswick, GA 31520

Page 3

ACCSP Funding Proposal: Continued development of a mobile application to assist Maritime Law Enforcement Personnel with fisheries enforcement tasks.

Sections of the proposal identified to help with the ranking process are highlighted in **green** with a summary on pages 29 & 30. Changes made to the proposal are highlighted in **yellow**.

Applicant Name: Rhode Island Department of Environmental Management
Fish Wildlife Enforcement Division and Georgia Department
of Natural Resources Law Enforcement Division

Project Title: **Continued development of a mobile application to assist Maritime
Law Enforcement Personnel with fisheries enforcement tasks.**

Project Type: Maintenance

Principal Investigators: Officer Jeff Mercer, RI DEM LE
Sgt. Cindy Miller, GADNRLE
Lt. James Bruce, USCG

Requested Award Amount: **\$ 50,000**

Requested Award Period: One year upon receipt of funds

Date Submitted: **August 15, 2021**

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ACCSP Funding Proposal: Continued development of a mobile application to assist Maritime Law Enforcement Personnel with fisheries enforcement tasks.

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FY22 Atlantic Coastal Cooperative Statistics Program (ACCSP) Proposal for the Rhode Island Department of Environmental Management Fish Wildlife Enforcement Division and Georgia Department of Natural Resources Law Enforcement Division

OBJECTIVES:

This proposal is a request for continued support to modify and enhance the existing Fisheries Enforcement compliance applications, named “Fisheries Enforcement” developed for shrimp enforcement in the Southeast and “Scallops Enforcement” for scallop fisheries in the Northeast. The original project was funded through a **FY19** proposal entitled “*Development of a mobile application to assist Maritime Law Enforcement Personnel with fisheries enforcement tasks*”. Specifically, this **FY22** proposal seeks to fund:

- Continued development and maintenance of Fisheries Enforcement, an interactive mobile application to assist Living Marine Resource Officers while boarding shrimp vessels in the Southeast.
- Extend the functionality of the Scallops Enforcement application by adding support for Monkfish and American Lobster/Jonah Crab in the Northeast.
- Testing of applications in the field and receiving feedback from Living Marine Resource Officers (LMROs).
- Research feasibility and demand for merging both the Scallops Enforcement and Fisheries Enforcement applications into a single application that contains regulatory guidelines for multiple FMPs.
- **Continue to research the cost effectiveness of building a backend application to allow updates to the applications as additional FMPs are supported.**

NEED:

Living Marine Resource (LMR) enforcement is a highly dynamic and ever-changing mission. LMROs are responsible for enforcing multiple FMPs, each of which can be very detailed. FMP rules factor in a variety of variables such as location, time of year, vessel configuration, gear types and permit types. LMROs must board a vessel and confidently enforce rules in a potentially contentious environment. Lack of confidence in being able to interpret FMP rules using a bulky paper-bound binder in this environment, when the LMRO might only board to investigate the FMP a couple times a year, can be a hurdle to effective enforcement activities. **To get an understanding of the differences between FMPs, and to view to the actual documents used by the LRMOs while boarding please review Figure Sets 3 and 4 on pages 17-31.**

BOJAK MANUAL



Using the BOJAK during a sample vessel boarding



Currently, both State and Federal LMROs receive in-depth training to understand the rules and regulations of fisheries law enforcement. Under the currently methodology used in Federal LMR enforcement activities, each student attends a five- or eight-day training course to learn the major objectives of the LMR mission. These regulations are published in a Boarding Officer Job Aid Kit or (BOJAK). Students are taught how to navigate through the 500+ page BOJAK, to be able to determine compliance with every Fishery Management Plan (FMP) for that specific region. Upon graduation, students are required to update the BOJAK when they receive specific paper update notifications mailed to them from the regional training center. However, with other mission critical demands placed on the officer, the BOJAK may not always be updated in a timely manner. Additionally, these updates may be mailed well after changes to the FMP are made.

State enforcement officers receive a one-day training class while in the academy for the state regulated fisheries. Some state officers have been through the USCG training described above, but it has been several years since the state of Georgia has been able to offer this training. Currently, the officer must be diligent enough to review and study the laws on his or her own.

State law enforcement agencies, such as the Georgia Department of Natural Resources Law Enforcement, GADNRLE, rely on state law books supplemented by federal websites which list federal laws and regulations. State law enforcement personnel, when determining applicable federal regulations, must reference different websites for different species or classes of species such as the snapper grouper complex, HMS species, and coastal migratory species.

Under today's compliance, tracking procedures and encounters with vessels are managed separately by every agency. Fisheries management plan compliance is difficult to coordinate between the separate tracking systems. Accessing this data is cumbersome and difficult to locate.

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ACCSP Funding Proposal: Continued development of a mobile application to assist Maritime Law Enforcement Personnel with fisheries enforcement tasks.

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Although there may be applications available for fishermen to provide minimal catch regulation data, these apps do not provide information about other items that the officer must identify, such as allowable gear types, closed locations or reefs, aggregate species rules, turtle mitigation gear rules etc.

The FY19 Initial Proposal entitled: Development of a mobile application to assist Maritime Law Enforcement Personnel with fisheries enforcement tasks, was funded as a 100% Catch and Effort project.

Under the initial FY19 proposal and project scope, the following objectives were met and completed in 2019 and 2020:

- Evaluated the efficiency of a mobile application compared to the current paper-training manuals while out at sea for determining compliance.
- Provided state and federal marine enforcement officers with current regulatory information for an initial-project-manageable subset of species in an easy-to-use application.
- Where possible, explored the concepts, approaches and usability/accuracy/timeliness issues of current consumer apps used by anglers to obtain current fishing regulations.

A few initial objectives of the project were changed based on feedback from the LMROs and their administrative staff. The LMRO's decided not to collect boarding data due to questions on data retention outside of LMRO systems. Additional efforts to sort through any policy and procedure changes needed to collect and retain boarding data were tabled. The current law enforcement applications are built as reference tools and do not save or transmit boarding data to the ACCSP, therefore no API work was needed on the part of the ACCSP.

Also, after researching the FMPs for Scallops and Shrimp, it was decided that due to the extreme differences between the two, it was more cost effective and intuitive if the interfaces for each were configured within their own apps.

The FMPs chosen as part of the 2019 funded project, Shrimp and Scallops, are expected to have regulation changes estimated at 1-2 changes per year. Designing and building a separate application for the officers to make these updates proved not to be cost effective at this time. The cost to build a "backend" to make these minor changes to the two current applications was estimated to equal approximately twenty-five years of support. For example: Estimated support for the two apps at \$1,000/year vs. building a \$25,000 backend application.

Instead, the LMROs/PIs of the project will send an email with the regulation update to the ACCSP, requesting the change to the application. Any change to the existing parameters of the FMP in the application should require very minor application changes and could have turnaround time as quick as same day as the request. The app would then be deployed to the mobile

application stores for download as an app update. This FY22 proposal would further evaluate the need for a backend as two additional FMPs are added to the Scallops Enforcement Application.

Testing of the initial applications in the field was delayed. Due to Covid 19, officers did not have a boarding schedule that they have in the past and therefore, full testing of the app was not completed during the initial project. Testing and feedback will continue the 2021 fishing season, and this project is designed to react to that feedback with updates and modifications during the FY22 timeframe.

After reviewing the current Scallops Enforcement application, LMROs in Rhode Island believe officers would benefit by the addition of two FMPs to the current tool. Monkfish and American Lobster / Jonah Crab FMPs were cited as FMPs that would be very useful to add to the app under the FY22 proposal.

The LMRO's in Rhode Island perform approximately 100 boardings of vessels holding Monkfish or Lobster Jonah Crab permits each year. Different officers may be assigned to these details so that officers may not board vessels often. Officers are admittedly weak on knowing and understanding the current in-depth regulations of the fisheries. Officers tend to shy away from these boardings due to being unconfident in the current regulations and or actions to take for violations. LMRO's stated having an electronic tool to walk them through the boarding process would greatly improve their confidence while on a vessel.

LMRO's in RI do not access a paper BOJAK while boarding the vessel. Instead, one officer may download the BOJAK onto a laptop so that they may review the regulations prior to the boardings. The laptop is not taken onto the vessel, but is left inside a vehicle at the dock. The FMPs can be complicated and may require math skills. Photos in the BOJAK guide assist officers with the regulations and not having access to these photos in the field may further complicate boardings.

The additional FMPs have been reviewed by development contractors and both seem to fit within the current structure and update timeline of the current Scallops application. It is anticipated the work of adding the additional FMPs of Monkfish and Lobster/Jonah Crab would be similar enough to the FY19 Scallops Enforcement project to warrant this a Maintenance Project.

RESULTS AND BENEFITS:

The form factor of a smart phone or tablet device, holding the regulatory information, versus using a large paper binder to flip back and forth to find regulation information will be easier for an officer to use. Allowing officers to focus on their interaction with personnel on a vessel provides safety benefits, as the officer is less distracted in what can be a contentious situation. The intelligence of mobile devices can be leveraged to simplify the boarding investigation process, utilizing features such as GPS to assist in determining if state or federal jurisdiction applies for any given encounter.

It is expected that officers, confident in possessing the latest regulatory information, will investigate an increased number of vessels, generating more boarding data to greater understand fisheries management plan compliance.

Currently, there is a three-to-four month lead time to get the federal BOJAKs printed at a cost of approximately \$10,000 per year, not including the time and costs of distributing the books to the officers. The mobile application can be updated quickly, more cost effectively than printing new BOJAKs, and new rules and inspection parameters can easily and quickly be delivered to officers via automatic application updates. By providing for consistent updates of regulatory information and status to the mobile application, enforcement personnel would have access to updated information while investigating vessels out on the water.

The Northeast, Mid-Atlantic and Southeast Fisheries Management Councils work closely with both state and federal law enforcement agencies when considering the implementation of fisheries regulations. An application that provides law enforcement with an improved method to determine compliance will provide the Councils with better data in which to make decisions.

This application would serve both State and Federal LMROs and give them access to current rules and regulations for both state and federal waters. This project addresses the ACCSP's catch and effort priority by providing marine enforcement officers with an electronic tool to determine catch compliance.

By utilizing new technology on the market to assist with compliance encounters and vessel boardings, this project will help LMROs determine catch and effort compliance. This tool would be available for use by both state and federal partners and their law enforcement divisions.

Primary Program Priority: Catch and Effort: 100%

Providing LMROs with a tool to utilize while boarding a vessel, helps determination of compliance within a particular FMP, and helps to insure accurate enforcement of the rules and regulations currently in place in both State and Federal waters.

LMROs board a vessel with the intentions of enforcing the current catch and effort regulations. The application helps them quickly determine the correct regulations. For example, a LMRO would want to know how the species were harvested, i.e.: gear used, turtle mitigation devices in place, or bycatch reduction devices needed for a particular FMP. This information is clearly spelled out within the app, offering pictures for the officers to use as reference. Although the app does not collect data on the actual catch, it does provide the officer with up-to-date information on regulations during the boarding process. The LMROs will use the app to help determine if the vessel is in compliance with catch and effort regulations. The LMROs original proposal from FY19 was funded as a 100% Catch and Effort project.

Data Delivery Plan:

The applications do not currently collect information on a boarding, but act as resource tools only. There is no additional API work needed on behalf of the ACCSP. The Scallops Enforcement application is freely available in the Apple AppStore and Google PlayStore, and can be downloaded and deployed to any compatible smartphone or tablet. The Fisheries Enforcement application is currently being tested with the USCG and GA DNR law enforcement division.

APPROACH:

A mobile application compatible with iOS and Android, capable of running on either smart phones or tablets, was created for officers to use in the field to manage their encounters with vessels and assist them in determining current regulation and compliance of those regulations. The application prompts the officer to gather specific data for selected species that the officer is examining. The input gathered by the officer is processed to determine if the vessel and/or captain complies with relevant regulations or not.

Each FMP is unique in many ways. Through the FY19 project it was determined that the ability to build a generic platform for all FMPs is not feasible. For example, within each FMP there are many areas in the data collection flow that will be custom or involve dependencies on prior input. In Shrimp, a lot of time and effort is spent examining various aspects of Turtle Excluder Devices (TEDs), which is primarily a task for just shrimp vessels.

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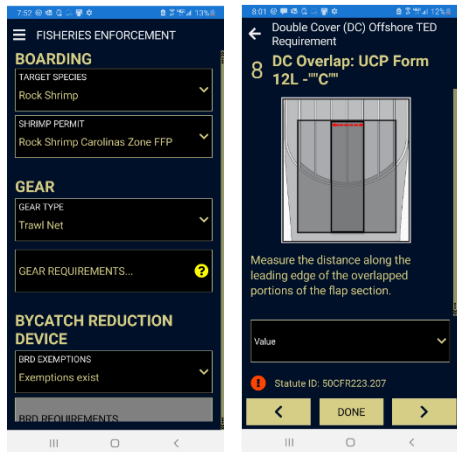
ACCSP Funding Proposal: Continued development of a mobile application to assist Maritime Law Enforcement Personnel with fisheries enforcement tasks.

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The current applications will not be used on a daily basis by the LRMO's. It is estimated each officer will use the application a handful of times throughout the year. Because of this, it is not assumed that the users will come to understand the application through repetitive use. Some may have difficulty with reading or math skills, so the application must complete any mathematical equations for the user. The BOJAK contains additional photos to guide the officers and these photos differ between the FMPs.

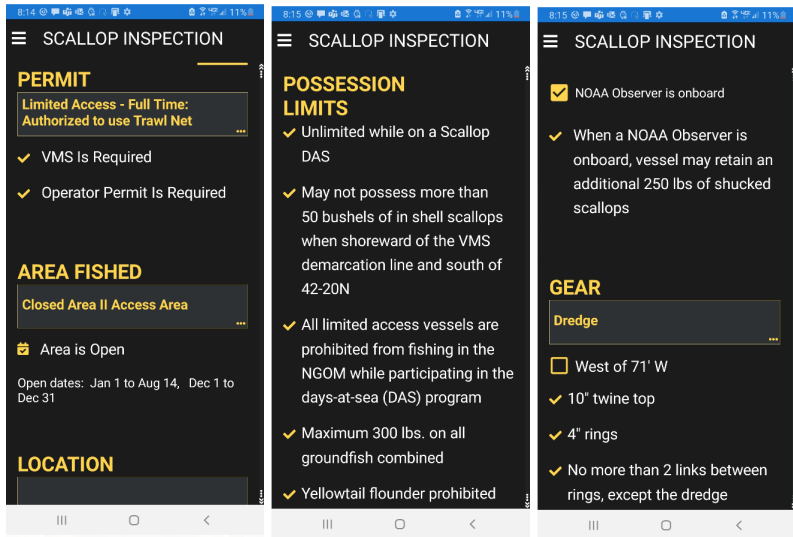
Enhancements will address requested modifications and updates already identified by users, and additional feedback gained through ongoing field testing, to make the existing applications more flexible, accurate and intuitive to use. Rules and logic for determining compliance with the additional FMPs of Monkfish and American Lobster/Jonah Crab will be added into the Scallops Enforcement application. Technical feasibility research will be performed, along with feedback from LMROs, to gauge demand for integrating functionality of both Scallops Enforcement and Fisheries Enforcement applications into a single law enforcement-targeted regulations application. This FY22 project will explore the possibility of multiple FMPs having enough similarities to utilize a generic view within an existing application.

Sample screenshots of enforcement applications:



Fisheries Enforcement is a compliance application tool for boarding shrimp vessels in the southeast.

Fisheries Enforcement (Shrimp)



Scallops Enforcement is a compliance application tool for boarding scallop vessels in the northeast.

Scallops Enforcement

Geographic Location:

It is expected that application field testing will take place primarily in Rhode Island and Georgia, along with adjacent state waters fished by Rhode Island and Georgia Captains. Utilizing State marine enforcement officers along with US Coast Guard marine enforcement, the potential geographic location and scope of this project would cover most of the East Coast waters.

Table 1. FY22 Milestone Schedule (start date dependent upon time of grant award)

Month	1	2	3	4	5	6	7	8	9	10	11	12
Task												
Complete requirements gathering	X	X										
Application enhancements and development			X	X	X	X	X					
Field testing of application	X	X	X	X	X	X	X	X	X	X	X	X
Software application modification based on end user feedback						X	X	X	X	X	X	X
Report writing						X						X

Table 2. Project History:

Funding Year	Title	Original Project Dates	Funded Amount	Total Project Cost	Description
2019 New	Development of a mobile application to assist Maritime Law Enforcement Personnel with fisheries enforcement tasks	June 1, 2019- December 31, 2020	\$59,875	\$80,078	Developed two applications to assist LMROs with regulations when boarding commercial vessels.

Project Accomplishments Measurement (Metrics and Achieved Goals):

Project Goal	Metric
Mirror the existing Job Aid manual on a mobile device	Breakdown of the BOJAK information to present the information on a mobile device <i>Achieved in Years 1-2</i>
Breakdown and understand the technical needs of the boarding officers in the field.	Analyze the uses and needs of boarding officers <i>Achieved in Years 1-2</i>
Side by side sea trials of vessel boardings, utilizing current method of paper manual lookup, contrasted with the smart phone application.	Conduct boardings during training classes and on live vessels to compare paper to electronic device. <i>Ongoing 2021</i>
Test the utility of the application with groups of law enforcement officers, gain feedback from in-field testing, and incorporate revisions based on end user feedback.	Limited, delayed testing was done due to Covid impact on boarding schedules. Feedback was received, and a subset of suggestions were able to be implemented. <i>Ongoing 2021</i>

FY22 Cost Summary and Funding Transition Plan:

This proposal represents a 12% (\$9,875) cost reduction from the originally funded proposal of a similar scope in FY19. The reduction is due primarily because the core elements of the application are already in place.

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Project contains a defined endpoint and is a one-year project. At the end of the project the applications will be available to all partners to use.

After the FMPs are completed, upkeep and changes are minimal and are expected to be funded as part of a current maintenance contract or funded through regular ACCSP application maintenance agreements.

Table 3. FY22 Cost Summary

Description	Calculation	ACCSP Request	Partner-in-Kind
Personnel (a)			\$20,203
RIDEM LEO	12.5% of LEO staff time		\$11,765
GA DNR LEO	12.5% of LEO staff time		\$8,438
Contractual (b)			
Contract Software Development	225 hrs@ \$175/hr	\$39,375	
Contractor Testing, Project Management and Onsite Support/Training/Outreach.	73 hrs @\$145/hr	\$10,625	
	Total Direct Charges	\$50,000	
	Total in-kind		20,203
	Total for Project	\$70,203	

FY22 Budget Narrative

- a. **Personnel (\$0 Requested; \$20,203 in-kind 28.5%)** RI DEM will use a small portion of co-PI, Jeff Mercer's salary as match for this application. Jeff Mercer is an officer for RI DEM, Fish and Wildlife Enforcement Division. He will be working with the software architect and project manager to provide input and testing of the application throughout the project. In-kind funding is derived from the calculation of 5 hours per week or 12.5% of J. Mercer's full-time salary that will be spent in support of the project.

GA DNR will use a small portion of co-PI, Sgt. Cindy Miller's salary as match for this application. Sgt. Miller is a Sergeant with the GA DNR, Office of Marine Fisheries. She will be working with the software architect and project manager to make certain the Job Aid manual she has put together is properly reflected by the application. She will also be

closely involved in testing the application with other officers in the field. In-kind funding is derived from the calculation of 5 hours per week or 12.5% of Sgt. Miller's full-time salary that will be spent in support of the project.

b. Contractor Personnel (\$50,000):

Harbor Light Software Inc. has an existing working relationship with ACCSP staff members and built the Fisheries Enforcement and Scallops Enforcement applications.

Software Development: 225 total development hours will be required to resolve known issues with the existing Fisheries Enforcement and Scallops Enforcement applications, and to add support for Monkfish and American Lobster/Jonah Crab FMPs.

Contractor Testing and Onsite Support/Training and Outreach: a total of 75 hours of testing and outreach will be required.

FY19 COST SUMMARY (BUDGET)

Table 4. FY 19 Cost Summary

Description	Calculation	ACCSP Request	Partner-in-Kind
Personnel (a)			\$20,203
RIDEM LEO	12.5% of LEO staff time		\$11,765
GA DNR LEO	12.5% of LEO staff time		\$8,438
Contractual (b)			
Contract Software Development	280 hrs@ \$175/hr	\$49,000	
Contractor Testing and Onsite Support/Training/Outreach. (Includes travel costs)	75 hrs @\$145/hr	\$10,875	
	Total Direct Charges	\$59,875	
	Total for Project	\$80,078	

FY19 BUDGET NARRATIVE:

Cost Details:

a. **Personnel Partner in kind (\$20,203)** RI DEM will use a small portion of co-PI, Jeff Mercer's salary as match for this application. Jeff Mercer is an officer for RI DEM, Office of Marine Fisheries. He will be working with the software architect and project manager to provide input and testing of the application throughout the project. In kind funding is derived from the calculation of 5 hrs per week at a rate of \$45.25 per hour, or 12.5% of J. Mercer's full-time salary that will be spent in support of the project.

GA DNR will use a small portion of co-PI, Sgt. Cindy Miller's salary as match for this application. Sgt. Miller is a Sergeant with the GA DNR, Office of Marine Fisheries. She will be working with the software architect and project manager to make certain the Job Aid manual she has put together is properly reflected by the application. She will also be closely involved in testing the application. In kind funding is derived from the calculation of 5 hours per week at a rate of \$36.36 per hour, or 12.5% of Sgt. Miller's full-time salary that will be spent in support of the project.

b. Contractor Personnel- (\$59,875)

Harbor Light Software Inc. has an existing working relationship with ACCSP staff members and the Fisheries Enforcement Compliance application. Using Harbor Light will reduce startup and training time associated with the project, allowing more effort to be focused on the development of the requested software and support of the product rollout.

Software Development - 280 total development hours will be required to create the applications to meet the needs of the project.

Contractor Testing and Onsite Support/Training and Outreach.- A total of 75 hrs of testing and outreach will be required along with a minimum of three onsite visits to each location, Rhode Island and Georgia. Travel costs are included in this figure.

Maintenance Project History

Fiscal Year	Title	Cost	Results
2019	Development of a mobile application to assist maritime law enforcement personnel with fisheries enforcement tasks	\$80,078	<ul style="list-style-type: none">• Evaluated the efficiency of a mobile application compared to the current paper-training manuals while out at sea for determining compliance.• Provided state and federal marine enforcement officers with current regulatory information for an initial-project-manageable subset of species in an easy-to-use application.• Where possible, explored the concepts, approaches and usability/accuracy/timeliness issues of current consumer apps used by anglers to obtain current fishing regulations

Figure 1. Example of a TED used in training



The plastic float on the left is too small and in violation.

Figure 2. While one or more officers are measuring items, one officer is preoccupied with reading a checklist, interpreting it and recording measurements.



Figure 3. BOJAK for shrimp. (Note: There are nine additional pages to the shrimp FMP that consist of approximately forty-five different pictures, each with helper texts and measurements. One of these pages is included to give the reader an understanding of the complexity of the FMPs)

Page1

COMMERCIAL SHRIMP SHRIMP COMMERCIAL INSPECTION DOCUMENTATION & GEAR	
Required Permits	<p>For a VSL to be eligible for commercial trip limits of rock shrimp or penaeid shrimp species in the South Atlantic EEZ, a valid FFP must be onboard in one of the below categories:</p> <ul style="list-style-type: none"> ▪ South Atlantic Penaeid Shrimp FFP or ▪ Rock Shrimp Carolinas Zone FFP * (NC & SC) or ▪ Rock Shrimp South Atlantic EEZ FFP * (GA & FL) <p>*A vessel with a Rock Shrimp FFP is also required to have:</p> <ul style="list-style-type: none"> ▪ A person with a valid NOAA Operators Permit must be onboard and must also have one other form of photo identification (driver's license, passport, etc.).
Allowable Gear	Trawl nets are the only authorized gear types in the fisheries for shrimp in the South Atlantic EEZ.
Net Mesh Restrictions	<p>The minimum mesh size for the cod end of a rock shrimp trawl net in the South Atlantic EEZ off Georgia and Florida is 1½" stretched mesh. This minimum mesh size is required in at least the last 40 meshes forward of the cod end drawstring.</p> <p>A vessel that has a trawl net on board that does not meet these requirements may not possess a rock shrimp in or from the South Atlantic EEZ off Georgia and Florida.</p>
BRD Requirements	<p>Unless exempt, a shrimp trawler in the South Atlantic EEZ must have a Bycatch Reduction Device installed on any net that is rigged for fishing.</p> <p>A trawl net is rigged for fishing if it is in the water, or if it is shackled, tied, or otherwise connected to a sled, door, or other device that spreads the net, or to a tow rope, cable, pole, or extension, either on board or attached to a shrimp trawler.</p> <p>See page 13-5 for vessels exempt from using BRD's.</p> <p>See UCP Forms 13L-17L for Bycatch Reduction Device requirements and inspection criteria.</p>
TED Requirements	<p>Unless exempt, a shrimp trawler in the South Atlantic EEZ must have a TED installed on any net that is rigged for fishing.</p> <p>A trawl net is rigged for fishing if it is in the water, or if it is shackled, tied, or otherwise connected to a sled, door, or other device that spreads the net, or to a tow rope, cable, pole, or extension, either on board or attached to a shrimp trawler.</p> <p>Specific TED requirements vary based on the vessels area of operation. See Turtle Excluder Device Regulations for requirements.</p> <p>See Gear Inspection page for Turtle Excluder Device requirements and inspection criteria.</p>
TED Exemptions	See page 13-6 for vessels exempt from using TED's.

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ACCSP Funding Proposal: Continued development of a mobile application to assist Maritime Law Enforcement Personnel with fisheries enforcement tasks.

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COMMERCIAL SHRIMP						
DOCUMENTATION & GEAR, continued						
VMS Requirements	To facilitate enforcement of shrimp fisheries, vessels with a Rock Shrimp FFP are required to install a NMFS-approved vessel monitoring system (VMS) on board the vessel.					
VMS Operating Requirements	VMS units must always be on, operating, and reporting position data when on a fishing trip in the South Atlantic. When a vessel's VMS is not operating properly, the owner or operator must immediately contact NMFS Office for Law Enforcement and report the errors.					
VMS models currently approved by NMFS						
	Skymate	Woods Hole Group		FariaWatchDog	Network Innovations	
	I1500 VMS	Triton Advanced	Thorium TST A2.0	Thorium LEO A2.0	F 750VMS	Sailor VMS Gold Plus
SPECIES REGULATIONS/RESTRICTIONS						
Penaeid Shrimp	The three species of penaeid shrimp are: white shrimp, pink shrimp, and brown shrimp.					
Season	Penaeid and rock shrimp are open year round, unless otherwise announced.					
Size Limits	There are no size limits for penaeid or rock shrimp.					
Trip Limits	There are no trip limits unless specified by weight on the FFP.					
Bycatch	May have a maximum of 200 lbs of snapper/grouper onboard, excluding wreckfish.					
Jurisdiction	Can be enforced in federal waters (MSFCMA). TED requirements can be enforced in state and federal waters (ESA).					
Enforcement	The enforcement action for these violations will be: FV. Contact OPCON before issuing any violations.					




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COMMERCIAL SHRIMP PENAEID & ROCK SHRIMP COMMERCIAL INSPECTION					
1	Commence BISS/EISS. Verify VSL registration(s) & markings per Boarding Procedures Checklist, & begin CFIVSA inspection of VSL.				
2	Verify FFP for compliance per Boarding Procedures Checklist. VSL must have a valid commercial FFP for shrimp onboard in one of the below categories:				
	<table border="1"> <thead> <tr> <th>Penaeid Shrimp</th> <th>Rock Shrimp</th> </tr> </thead> <tbody> <tr> <td> <ul style="list-style-type: none"> South Atlantic Penaeid Shrimp FFP </td> <td> <ul style="list-style-type: none"> Rock Shrimp Carolinas Zone FFP (NC/SC) and Operator Permit and Additional photo ID or Rock Shrimp South Atlantic EEZ FFP (GA/FL) and Operator Permit and Additional photo ID </td> </tr> </tbody> </table>	Penaeid Shrimp	Rock Shrimp	<ul style="list-style-type: none"> South Atlantic Penaeid Shrimp FFP 	<ul style="list-style-type: none"> Rock Shrimp Carolinas Zone FFP (NC/SC) and Operator Permit and Additional photo ID or Rock Shrimp South Atlantic EEZ FFP (GA/FL) and Operator Permit and Additional photo ID
Penaeid Shrimp	Rock Shrimp				
<ul style="list-style-type: none"> South Atlantic Penaeid Shrimp FFP 	<ul style="list-style-type: none"> Rock Shrimp Carolinas Zone FFP (NC/SC) and Operator Permit and Additional photo ID or Rock Shrimp South Atlantic EEZ FFP (GA/FL) and Operator Permit and Additional photo ID 				
3	Verify VSL is not in a managed area. See SECTOR Planning Guides or Managed Areas section for regulations and restrictions.				
Verify the VSL only uses below authorized fishing gears:					
4	<table border="1"> <thead> <tr> <th>Penaeid Shrimp</th> <th>Rock Shrimp</th> </tr> </thead> <tbody> <tr> <td> <ul style="list-style-type: none"> Bycatch Reduction Device Turtle Excluder Device </td> <td> <ul style="list-style-type: none"> Bycatch Reduction Device Turtle Excluder Device </td> </tr> </tbody> </table>	Penaeid Shrimp	Rock Shrimp	<ul style="list-style-type: none"> Bycatch Reduction Device Turtle Excluder Device 	<ul style="list-style-type: none"> Bycatch Reduction Device Turtle Excluder Device
	Penaeid Shrimp	Rock Shrimp			
<ul style="list-style-type: none"> Bycatch Reduction Device Turtle Excluder Device 	<ul style="list-style-type: none"> Bycatch Reduction Device Turtle Excluder Device 				
<ul style="list-style-type: none"> Trawl Net 					
5	ROCK SHRIMP VSL: If located in the EEZ off Georgia or Florida, inspect for 1 1/4" stretched mesh. This minimum mesh size is required in at least the last 40 meshes forward of the cod end drawstring.				
6	Ensure proper TED is used based of VSL's location of operation.				
7	Rock Shrimp VSL: Inspect that VMS is in proper working order and actively transmitting.				
8	Shrimp commercial fisheries are open year round unless otherwise announced.				
9	If snapper/groupers is retained as bycatch, ensure VSL does not retain more than 200 lbs onboard. Only recreational limits of wreckfish may be retained as bycatch.				
PENAEID & ROCK SHRIMP COMMERCIAL INSPECTION COMPLETE					

ACCSP Funding Proposal: Continued development of a mobile application to assist Maritime Law Enforcement Personnel with fisheries enforcement tasks.

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COMMERCIAL SHRIMP PENAIED AND ROCK SHRIMP VIOLATIONS TABLE		
	Engage in commercial fishing without obtaining required FFP(s) for penaiied/rock shrimp	50CFR622.200
	Failure to display/have onboard a valid commercial FFP(s) for penaiied/rock shrimp	50CFR622.200
	Failure to have required operator permit & additional photo ID onboard	50CFR622.200
	Missing or improperly marked official numbers	50CFR622.6
	Fishing or retaining shrimp in a managed or closed area	50CFR622.206
	Failure to have VMS energized on board a rock shrimp vessel	50CFR622.205
	Failure to have a Bycatch Reduction Device in trawl net or one that does not meet the specifications	50CFR622.207
	Use of unauthorized rock shrimp trawl net mesh size	50CFR622.208
	Failure to have a TED installed or a TED that does not meet required specifications	50CFR223.207
	Species retention during seasonal or announced closure	50CFR622.206
	Retention of over 200 lbs of snapper/grouper	50CFR622.188
	Retention of wreckfish (snapper/grouper complex)	50CFR622.188

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**COMMERCIAL SHRIMP
BYCATCH REDUCTION DEVICE (BRD) REQUIREMENTS
50CFR622.207**

The following BRD regulations are for permitted shrimp vessels fishing in the South Atlantic EEZ. Various BRD requirements also exist in state waters in the South Atlantic and are regulated by state authorities.

On a shrimp trawler in the South Atlantic EEZ, each net that is rigged for fishing must have a BRD installed. A trawl net is rigged for fishing if it is in the water, or if it is shackled, tied, or otherwise connected to a sled, door, or other device that spreads the net, or to a tow rope, cable, pole, or extension, either on board or attached to a shrimp trawler.

Exceptions to the BRD requirement for shrimp trawlers are listed below:

BRD EXEMPTIONS

- VSL is pulling a single test net (try net) with a headrope length of 12 ft or less and with a footrope length of 15 ft and the single try net is either pulled immediately in front of another net or is not connected to another net .
- VSL has a rigid-frame roller trawl with a trawl that has a mouth formed by a rigid frame and a grid of rigid vertical bars and has rollers on the lower horizontal part of the frame to allow the bottom to roll over any obstruction while being towed; and has no doors, boards, or similar devices attached to keep the mouth of the trawl open and has up to two rigid-frame roller trawls that are 16ft or less in length used or possessed onboard.
- VSL is participating in a certification testing phase or testing of a BRD in the EEZ for possible certification and has written authorization on board, and is conducting tests in accordance with the "Bycatch Reduction Device Testing Manual". The exemption from the BRD requirement is limited to those trawls that are being used in the certification trials.

The following BRDs are certified for use in the South Atlantic EEZ:

Fisheye	Gulf Fisheye	Jones-Davis	Modified Jones Davis
Expanded Mesh	Extended Funnel	Cone Fish Deflector Panel	Square mesh Panel

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ACCSP Funding Proposal: Continued development of a mobile application to assist Maritime Law Enforcement Personnel with fisheries enforcement tasks.





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**COMMERCIAL SHRIMP
TURTLE EXCLUDER DEVICE REGULATIONS**

The COLREGS demarcation line defines inshore and offshore waters for the purpose of TED requirements.

BO's shall use UCP Form 12-L when inspecting TED's and email the completed inspection form to NOAA regardless if a violation is found.

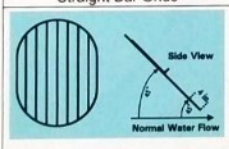
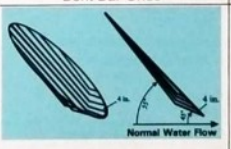

This shows TED requirements based on where the vessel is operating and the requirements based on inshore and offshore operations for the South Atlantic EEZ.

LOCATION	INSHORE WATERS	OFFSHORE WATERS
	44" TED	71" TED or DOUBLE COVER TED
	71" TED or DOUBLE COVER TED	
	71" TED or DOUBLE COVER TED	
	44" TED	71" TED or DOUBLE COVER TED

SHRIMP FISHERY SEA TURTLE CONSERVATION AREA (SFSTCA)

Georgia and South Carolina beaches have been designated as leatherback sea turtle critical habitats. Due to the increased number of leatherbacks in these areas, NOAA has designated all waters inshore and out to 10nm as (SFSTCA). The following regulations apply:

- Vessels required to have a TED installed must only use an offshore TED even if all fishing is conducted in inshore waters. These sizes may be found above.
- The bottom 4" of the hard grid bars must not exceed 45 degrees.
- Boone Big Boy TED is exempt from the SFSTCA requirement and may be a maximum angle of 55 degrees.



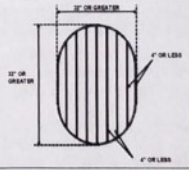
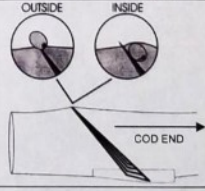

Straight Bar Grids	Bent Bar Grids	Weedless Grids
		

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Example of one of nine total pages of diagrams within the shrimp FMP.

COMMERCIAL SHRIMP 44" INSHORE TED	
<p>To inspect the TED, follow the step action table below, ensuring all inspection steps are completed accurately and recorded on UCP Form 12-L. Additionally, once TED inspection is completed, submit Form 12-L to the NOAA email address on the form, regardless if a violation is found or not.</p>	
1	<p>TED Grid Installation</p> <p>A TED grid must be sewn into the trawl net around the entire circumference of the grid with heavy twine or rope.</p> 
2	<p>Grid Bar Angle Measurement</p> <p>An angle indicator must be used to obtain the correct angle.</p> <p>Use the non-magnetic side of the indicator.</p> <p>With trawl net hanging, place the indicator on the center grid bar at the midpoint. The angle of the deflector bars shall be between 30° and 55° from normal horizontal flow.</p> 
3	<p>Grid Size & Bar Spacing Measurement</p> <p>The space between deflector bars shall not exceed 4" wide.</p> <p>The TED grid must have an outside horizontal and vertical measurement of at least 32". The required outside measurements must be at the center of the grid.</p> 
4	<p>Bottom Shooting Only: TED Float Placement</p> <ul style="list-style-type: none"> Floats must be attached to the top half of the TED grid on bottom shooting TEDs. The floats may be attached either outside or inside the net, but not to a flap. Floats attached inside the net must be behind the rear surface of the TED & attached with heavy twine or rope. Floats must be round and constructed of aluminum, hard plastic, or PVC. 
5	<p>Bottom Shooting Only: TED Float Requirements</p> <p>If outside circumference of the grid is:</p> <ul style="list-style-type: none"> Less than 120": one aluminum/hard plastic float no smaller than 9.8" diameter or one PVC float no smaller than 6.75" diameter & 8.75" length are required. More than 120": one aluminum/hard plastic float no smaller than 9.8" diameter or 2 PVC floats no smaller than 6.75" diameter by 8.75" length are required. <p>Aluminum/Hard plastic floats buoyance must be 14 lbs or greater. Each PVC float used must have buoyance of 10 lbs or more. Buoys must be stamped with buoyancy weight.</p> 

13-8

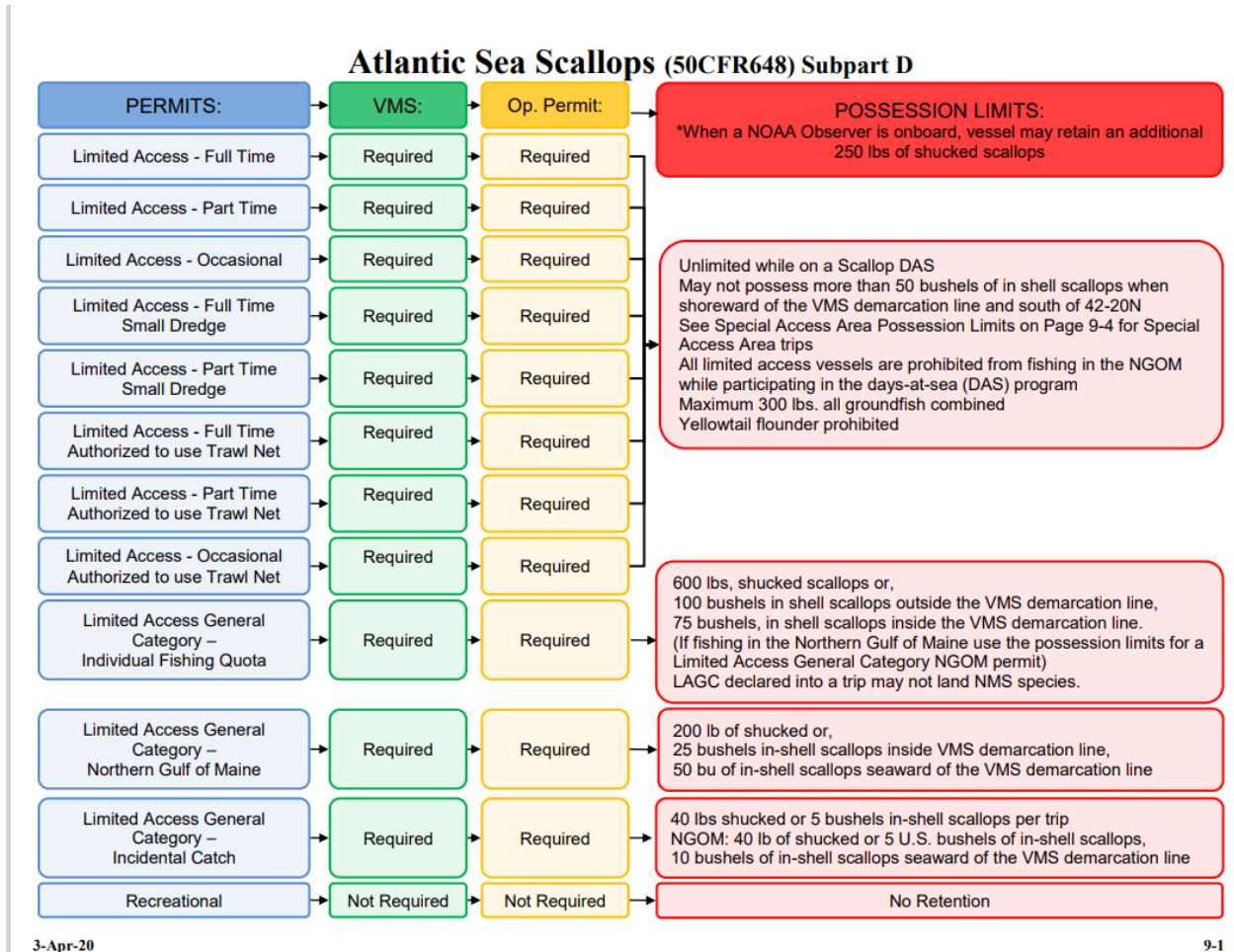
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Figure 4. BOJAK for Scallops

Page 1



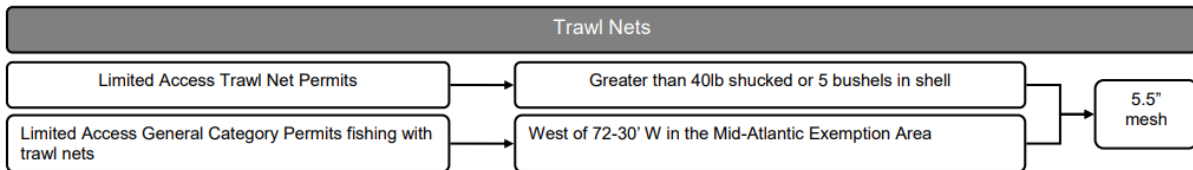
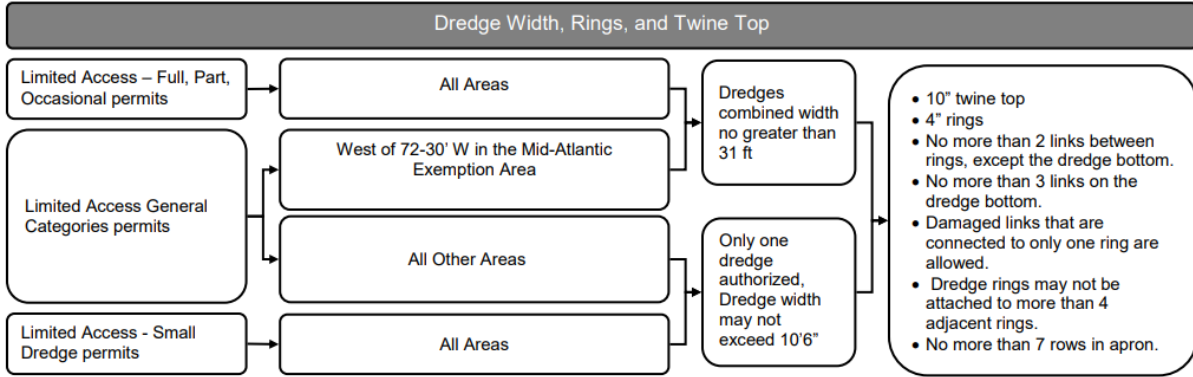
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Atlantic Sea Scallops (50CFR648) Subpart D

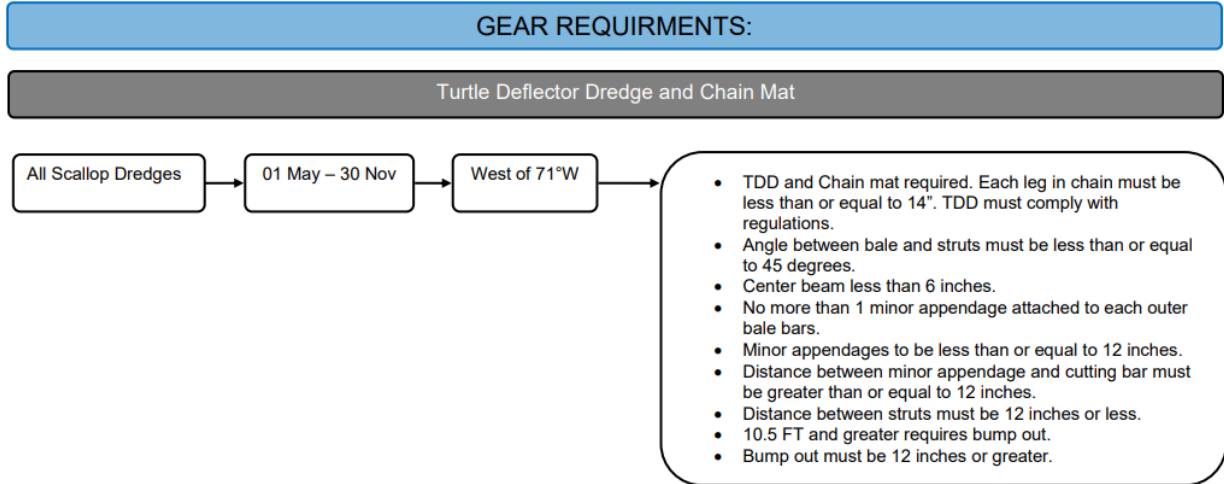
GEAR REQUIREMENTS:



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Atlantic Sea Scallops (50CFR648) Subpart D



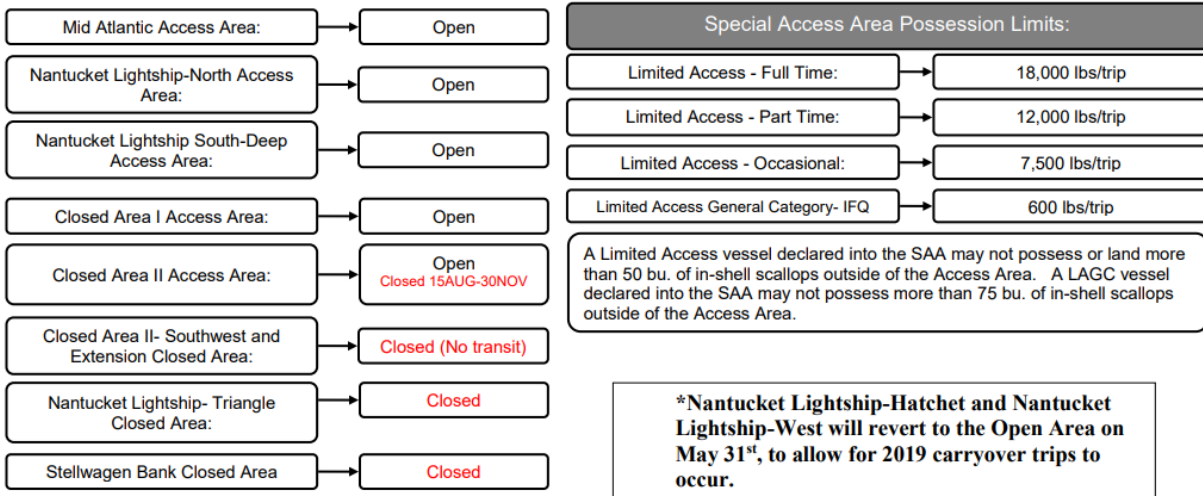
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Atlantic Sea Scallops (50CFR648) Subpart D

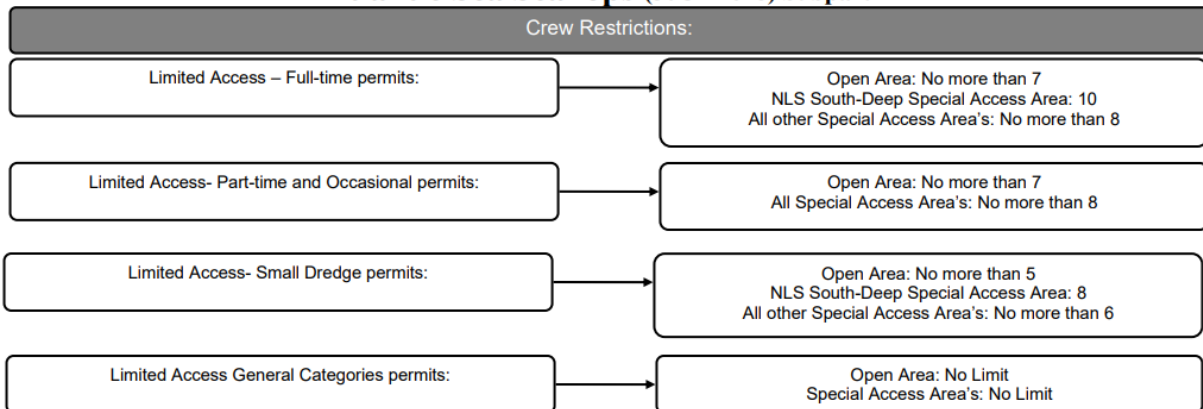
Special Access Area Programs: Always Refer to VMS Code



NMS Possession Limits on Access Area Trips:

- A Limited Access Scallop vessel that is declared into a trip and fishing within the Sea Scallop Access Areas and issued a valid NE multispecies permit may fish for, possess, and land, per trip, up to a maximum of 1,000 lbs. of all NE multispecies combined with the following exceptions:
- Vessels may possess only up to 100 lb. of Atlantic Cod per trip, provided such fish is intended for personal use only.
- Any vessel declared on a Special Access Trip is prohibited from possessing Haddock from January 1 through June 30.
- All Limited Access Permits Holders declared on a Scallop trip are prohibited from possessing Yellow Tail Flounder.
- LAGC declared into a trip may not land NMS species.

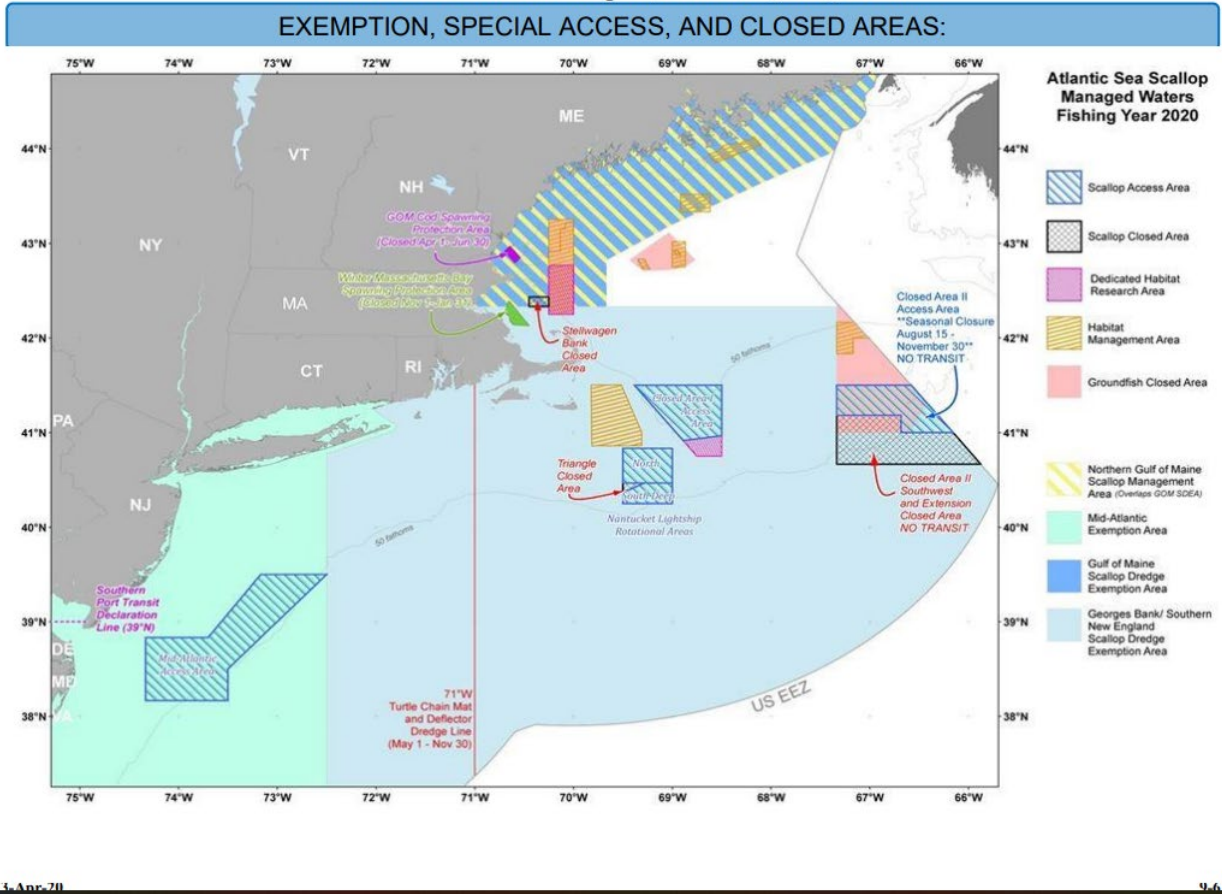
Atlantic Sea Scallops (50CFR648) Subpart D



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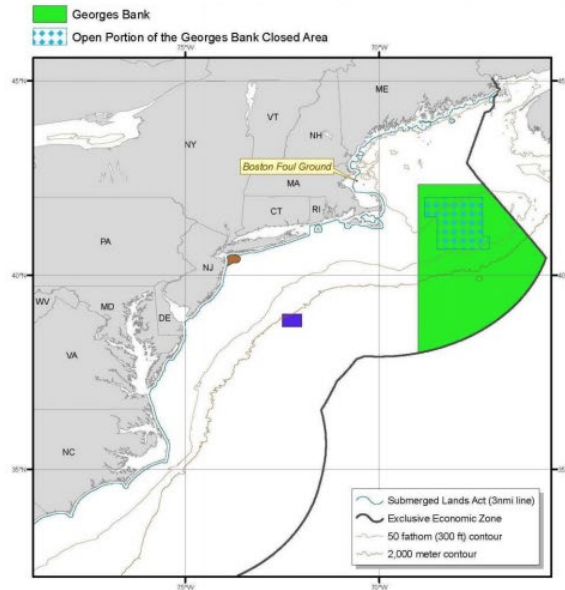


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Atlantic Sea Scallops (50CFR648) Subpart D

PSP Closure Areas



Vessels fishing in the Georges Bank paralytic shellfish poisoning (PSP) closure area may not retain in-shell scallops.

3-Apr-20

9-7

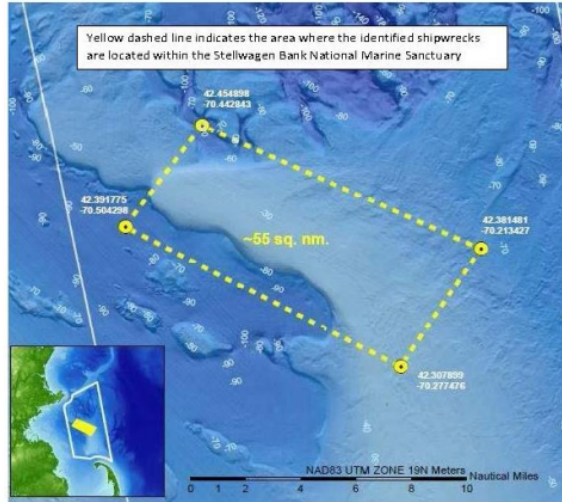
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Atlantic Sea Scallops (50CFR648) Subpart D

Chart of Area on Stellwagen Bank Where Shipwrecks are Located



In preparation for this year's Northern Gulf of Maine (NGOM) scallop fishery, NOAA Fisheries, in conjunction with NOAA Stellwagen Bank National Marine Sanctuary, requests that scallopers avoid shipwreck sites in the Sanctuary by keeping gear 360 feet away from each of the sites located in the table.

Historic and modern shipwrecks to avoid in Stellwagen Bank National Marine Sanctuary						
Vessel Name	Status	LatDecDeg	Deg.min.sec	Long DecDeg	Deg.min.sec	Depth
Unknown	Historic	42.395050	42° 23' 42.1794"	-70.489420	-70° 29' 21.9114"	48.5 fathom
Heroic	Historic	42.372439	42° 22' 20.7798"	-70.370489	-70° 22' 13.7604"	16 fathom
Unknown	Historic	42.421046	42° 25' 15.765"	-70.469577	-70° 28' 10.4772"	18 fathom
Unknown	Historic	42.439221	42° 26' 21.1956"	-70.412323	-70° 24' 44.3628"	47.5 fathom
Unknown	Historic	42.358948	42° 21' 32.2122"	-70.395870	-70° 23' 45.132"	46 fathom
North Star	Modern	42.383890	42° 23' 2.004"	-70.356027	-70° 21' 21.6966"	16 fathom
Patriot	Modern	42.404267	42° 24' 15.3606"	-70.453283	-70° 27' 11.8182"	16 fathom

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NOAA Fisheries | Atlantic Scallop Possession Limits and In-Shell Equivalents


Basket and Tote Equivalents

50 CFR 648.2 - Bushel (bu) means a standard unit of volumetric measurement deemed to hold 1.24 ft³ (35.24 L) of in shell Atlantic sea scallops.

Standard Fish Basket
1 Basket = 1.47ft³ (41.63 L)



Standard Fish Tote
1 Tote = 2.65ft³ (75.04 L)



Note: These Standard fish baskets and totes are the most commonly used containers and are used in the examples. If your fish baskets or totes differ from above standard sizes, the conversions in the examples will not apply. Check the manufacturers label for volume or review the appropriate volumetric measurement for each non-standard container. Containers must be flush to the top and not rounded over.

Conversion Example


1 Standard Basket of In-Shell Scallops = 1.2 bu
1 Standard Tote of In-Shell Scallops = 2.1 bu
8 lb of Scallop Meats = 1 bu

_____ Totes x 2.1 bu/tote = _____ bu	+	_____ bu
_____ Baskets x 1.2 bu/basket = _____ bu	+	_____ bu
_____ lb scallop meats ÷ 8 lb/bu = _____ bu	+	_____ bu
		= _____ Total bu

Example:

4 _____ Totes x 2.1 bu/tote = _____ bu	+	8.4 _____ bu
7 _____ Baskets = 1.2 bu/basket = _____ bu	+	8.4 _____ bu
400 lb scallop meats ÷ 8 lb/bu = _____ bu	+	50 _____ bu
		= 66.8 Total bu

For more information, call the Greater Atlantic Regional Office Sustainable Fisheries Division at 978-281-9315 or the Office of Law Enforcement at 978-281-9213.



U.S. Department of Commerce | National Oceanic and Atmospheric Administration | National Marine Fisheries Service

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Summary of Proposal for Ranking Purposes

Proposal Type: Maintenance Project

Primary Program Priority: 100% Catch and Effort

This project will improve determination of fishing compliance for catch and effort activities using an ACCSP approved application.

Data Delivery Plan: The applications do not currently collect information on a boarding, but act as resource tools only. There is no additional API work needed on behalf of the ACCSP.

Project Quality Factors:

- **Multi-Partner/Regional impacts including broad applications:**
This project is building off a previously funded multi-partner/regional project which developed the for the Southeast states and the Scallops Enforcement application for the state of Rhode Island. This proposal would further these mobile applications and has the potential to be used region-wide for both state and federal ACCSP partners.
- **Contains funding transition plan/defined endpoint:**
This is a one-year project with a defined end goal.
- **In-kind contribution: 28.5%**
RIDFW and GADNR Law Enforcement will provide 28.5% in-kind funding derived from 12.5% of the law enforcement officers time to implement, evaluate and report the results of the project.
- **Improvement in data quality/quantity and timeliness:**
Bringing this type of technology to the officer in the field will provide a tool that will give the LMROs confidence when boarding a vessel and interacting with species having complicated and changing regulations. We believe that utilizing the app will make for a shorter time interaction with the captains while ensuring catch compliance under these FMPs.

Other Factors:

- **Properly prepared**
This proposal follows the guidelines under the ACCSP Funding Decision Process Document
- **Merit**
Providing marine law enforcement officers with technology in the field will greatly enhance their ability to do their job safely and effectively. Funding for paper manuals would no longer be required and officers would be able to have accurate state and federal fisheries regulatory information quickly in the field.

Summary of Proposal for Ranking- *Abridged Version*

- **Achieved Goals:** The FY22 project will continue to breakdown and understand the technical needs of the boarding officers in the field and evaluate the efficiency of the current mobile applications compared to the current paper-training manuals while out at sea for determining compliance to an FMP. The Fisheries Enforcement application is currently in testing with the USCG and GA LMROs (Living Marine Resource Officers) and will receive added location logic within the application and additional information on TEDS (Turtle Exclusion Devices). Logic would be built in for a breakdown of BRDs (Bycatch Reduction Devices). The Scallops Enforcement application which is available in the Google PlayStore and the Apple iOS Store, will continue to be tested by Rhode Island LMROs. The additional FMPs of Monkfish and American Lobster/Jonah Crab, identified by Rhode Island officers as helpful to them to perform their jobs, will be added into the Scallops Enforcement app. Logic to assist the officers with additional regulation on these new species FMPs will be completed under this project.
- **Data Delivery Plan:** The applications do not currently collect information on a boarding, but act as resource tools only. There is no additional API work needed on behalf of the ACCSP. The applications will be freely available in the Apple AppStore and Google PlayStore, and can be downloaded and deployed to any compatible smartphone or tablet.
- **Level of Funding:** This is a year 1 maintenance proposal. Funding for the FY22 proposal decreased from the FY19 proposal by 12%.
- **Properly Prepared:** This proposal follows the guidelines under the ACCSP Funding Decision Process Document.

Merit: The project is continuing the development of two innovative application platforms, Fisheries Enforcement and Scallops Enforcement. This proposal will move the current applications into production to a live environment, making it available to all ACCSP partners. Two additional FMP modules cited by the LMROs, Monkfish and American Lobster/Jonah Crab would be developed and thereby helping the officers conduct in-depth boardings of commercial vessels. Partners would be able to continue to add FMP modules to this electronic BOJAK as needed.

Proposal for Funding made to:
Atlantic Coast Cooperative Statistics Program
Operations and Advisory Committees
150N. Highland Street, Suite 200 A-N
Arlington, VA 22204



Electronic Trip-Level Reporting for the
Potomac River Fisheries Commission
Commercial Fisheries Sector
Revised and Updated Maintenance Request **August 11, 2021**

Submitted by:
Martin L. Gary
Executive Secretary
Potomac River Fisheries Commission
222 Taylor Street
Colonial Beach, VA 22443
martingary.prfc@gmail.com

Applicant Name: Potomac River Fisheries Commission

Project Title: Electronic Trip-Level Reporting for the Potomac River Fisheries Commission (PRFC) Commercial Fisheries Sector

Project Type: Maintenance Project: Year One
(No change in scope of work, continued emphasis on Electronic Data Reporting using eTrips, increasing participation, and integration with PRFC databases)

Principal Investigator: Martin L. Gary, PRFC Executive Secretary

Project Manager: Martin L. Gary, PRFC Executive Secretary

Requested Award Amount: **\$215,612.00** for the year two maintenance project. This is intended to scale both participation and supporting IT infrastructure.

Requested Award Period: **March 1, 2021 through February 28, 2022**

Original Date Submitted: June 15, 2021

Revised Date Submitted: **August 13, 2021**

Objective: This is the second year of the project to report trip-level catch and effort data, using the ACCSP eTrips tools, from Commercial license holders who fish within the jurisdiction of the Potomac River Fisheries Commission (PRFC) beginning in the 2022 season, which begins in July 2021 for the FY22 licenses and January 2022 for the CY22 licenses, and continuing in the 2023 seasons, which begins in July 2022 for the FY23 licenses and January 2023 for the CY23 licenses.

Need:

ACCSP and its partner agencies have established the collection of trip-level data as the standard which all agencies should strive to reach and maintain. Over 60 years ago, PRFC began collecting catch and effort data from commercial shellfish (oyster and crab) and finfish permit holders, which are submitted weekly. Storage of the data in electronic databases has taken place since the late 1980s. Since that time, more details regarding the catch have been collected in terms of targeting specific locations, species, and gear. The data are reported at the trip-level on a daily basis and are submitted weekly to PRFC and provided to ACCSP twice annually for the previous calendar year.

The second year of the project will work to increase the use of census-style reporting by expanding the use of ACCSP eTrips technology among a group of PRFC Commercial license holders and evaluating the efficacy of this method compared to traditional methods.

Participating license holders will use ACCSP eTrips tools to report their catch and effort in PRFC managed waters, along with paper reports provided to PRFC to be submitted by PRFC staff also using ACCSP eTrips tools. Electronic harvest reporting has been discussed in the proceedings of meetings of advisory committees to the PRFC and the Commission itself for several years, and numerous harvesters have expressed an interest and willingness to participate. Many commercial constituents are already participating in electronic harvest reporting in Maryland or Virginia, and are eager for similar opportunities to report electronically for PRFC.

Results and Benefits:

During the second year of the project, trip-level reporting to collect catch and effort data from commercial permit holders - harvesters is a goal for all ACCSP partners. On average, on an annual basis (Table 1):

Table 1: Average Count of License Holders and Daily Catch Reports for FY19 & CY19

Gear	License Holders	Daily Catch Reports
Oyster	215	300
Crab	432	11,500
Fish	742	14,000

Presently, the PRFC staff collect, organize, validate, obtain corrections, and enter the catch data for each License Holder - Harvesters, which is a rather labor-intensive effort that potentially induces errors and is time consuming; therefore, the data stored and available for decision making reports can be lagging. The anticipated benefits use of ACCSP eTrips are faster data entry with less errors and less staff hours required.

Data Delivery Plan: During the second year of the project, ACCSP eTrips will collect all catch data reports either directly entered by commercial harvesters or entered on their behalf by PRFC staff. PRFC will leverage the ACCSP eTrips database API to synchronize eTrips catch data with the current custom designed Microsoft Access Data Management System that has been in use for many years for ALL the catch data records that are NOT being entered directly into ACCSP eTrips by the commercial harvesters. The PRFC staff will be entering catch data for some of the paper reports that are submitted to PRFC by the commercial harvesters (see Task 2 in the Approach).

PRFC will continue transmitting data twice per year for all catch reports submitted for the prior year but excluding the records that have been entered into ACCSP eTrips. This will be discontinued once two consecutive reports show 100% consistency with data from ACCSP eTrips.

Approach:

During the second year of the project, PRFC will continue to move away from the current Microsoft (MS) Access databases and Operator interface code that require all license issuing and catch data reporting performed by PRFC staff. PRFC will continue to expand its participation rate and update/improve training processes and materials. Additionally, PRFC will maintain a contract with a Software Development provider company or consultant to continue to maintain relevant interfaces and continue to develop the upgraded cloud application.

During Year 2, PRFC will be in maintenance for the following items:

1. Task 1: Continued Identification of commercial harvesters to participate:

In the second year of the project, continue to expand participation in the project. The commercial harvester community is comprised of a mix of limited entry and open access fishery participants. Though the number varies year to year, approximately 1,400 commercial harvesters are candidates, and based upon the most recent license metrics, the target would be an additional 10% = 280 participants in year two for ACCSP eTrips. The participants will be volunteers. This would provide a reasonable sample within each Gear category that is manageable for the purpose of gaining expertise with how to use the ACCSP eTrips tools, developing enhanced training guides & gaining feedback for future participant expansion.

2. Task 2: ACCSP eTrips installation and training for commercial harvesters. It is anticipated that on average, four (4) hours will be provided to each harvester to support on data entry, submission and use of mobile devices and software. Included within the four hours are staff hours for making presentations at meetings, developing/updating “cheat sheet” guides, and identifying enhancements and overall process improvement. In addition to the harvesters, the PRFC staff will enter a sampling of a variety of paper catch reports into ACCSP eTrips:

The PRFC staff will augment the commercial harvesters ACCSP eTrips submissions to ensure a more comprehensive data set is being processed for the purpose of identifying enhancement requests for the ACCSP eTrips tools and the data can be successfully processed (downloaded, modified / corrected, and uploaded).

3. Task 3: Maintenance of MS Access required interfaces until ACCSP eTrips collected is data is verified as 100% matching with PRFC records:

- Download ACCSP eTrips data from ACCSP
- Maintain an Operator Interface to validate downloaded data
- Upload verified data to ACCSP

Harvest data entered directly into the ACCSP database using eTrips must also be stored within the PRFC database for the foreseeable future until verification of

data and reported occur. The developed software tools will need to be maintained to support the steps of downloading the ACCSP data, viewing & correcting the data if necessary.

4. Task 4: During year two of the project, PRFC intends to continue its migration towards a more modern database platform that is cloud-based, has a more consistent Operator Interface, and is able to be upgraded more efficiently. The requirements will be documented, and the selected vendor will continue to develop and implement.
5. Task 5: During year two of the project PRFC will continue to procure cloud-based resources and work with ACCSP to consider database options that may be more applicable and thus provide cost saving up-front and long term during the sustainment and maintenance phases.
6. Task 6: Continue development and maintenance of web based PRFC applications to perform PRFC office automation functions:
 - a. Process License issue and renewal requests
 - b. Print Licenses and associated tags, flags, and catch report forms, etc..
 - c. Processing paper catch reports
 - d. Reporting interface – currently there are approximately 25 unique reports with many that have sub-options
 - e. Database Utility interface – currently there are approximately 13 unique operations required to modify lookup tables, set/re-set sequencing, and perform database integrity checks and repair
 - f. Transition MS Access data tables to the Oracle database
- a. Train and test the new interface. Prior to the complete cutover from the existing MS Access based database applications ensure that all functionality has been incorporated and performs successfully
- b. Perform modifications as necessary to resolve technical problems
- c. Perform updates as necessary to support new requirements

The current (historical) PRFC data will be exported, possibly reformatted, and imported into the new database system. At this point in time the two systems would be considered “functionally equivalent” and parallel testing can be conducted to ensure all requirements have been implemented. When the new system is mostly successful then the old system can be retired.

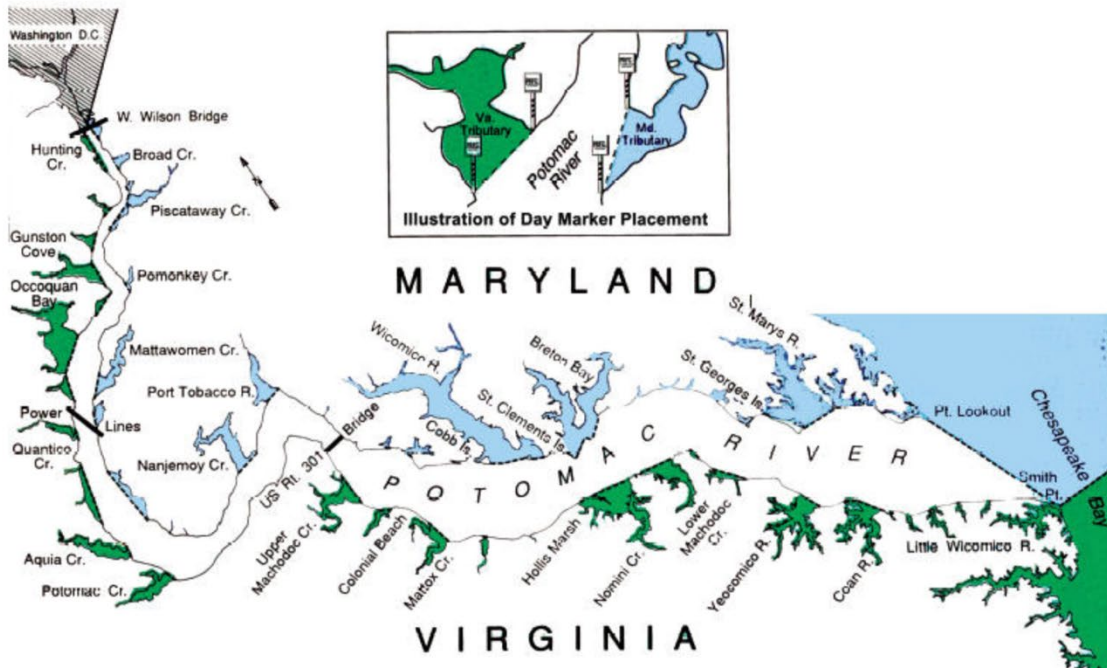
7. Task 7: Continue to increase the number of commercial harvesters using the ACCSP eTrips-tools:

The long-range optimal goal would be to have 100% of the commercial harvesters using the ACCSP eTrips tools but a more realistic goal would be to have at least 90% participation by the end of the fourth year. The target for each year, starting with Year 2 would be to increase the participation by at

least 10% of the total number of commercial harvesters. To facilitate the effort to meet these goals:

- i. Provide direct support as needed using PRFC staff via phone or in-person
- ii. Presentations at various Committee meetings with demonstrations and open for questions
- iii. Creating short “tri-fold” instructions specific to various topics
- iv. Creating short YouTube video tutorials specific to various topics
- v. Utilize existing ACCSP support products (e.g., videos, tech support and other)
- vi. Incentivizing future participation by using various strategies, such as:
 1. Successful strategies used by other jurisdictions (e.g., Rhode Island license endorsement)
 2. Establishing a fee for having the PRFC staff perform the ACCSP eTrips data entry such as a flat fee - \$100 per License Holder per year
 3. Fee per Gear Type - \$25 for each gear type license
 4. Fee per Week per Gear Type - \$5 for each weekly report for each gear type license

Geographic Location: Jurisdictional waters of the Potomac River Fisheries Commission. From the Woodrow Wilson Bridge (District of Columbia Demarcation) downriver to the confluence of the Chesapeake Bay. Approximately 100 nautical miles.



Milestone Schedule:

Task # / Month	Project Period Month											
	1	2	3	4	5	6	7	8	9	10	11	12
T1: Identification of License Holder Participants	X	X	X	X	X	X	X	X	X	X	X	X
T2: eTrips installation & training; data entry	X	X	X	X	X	X	X	X	X	X	X	X
T3: MS Access Operator Interface Maintenance	X	X	X	X	X	X	X	X	X	X	X	X
T4: Software modifications	X	X	X	X	X	X	X	X	X	X	X	X
T5: Maintain Oracle Cloud Database	X	X	X	X	X	X	X	X	X	X	X	X
T6: Develop & Maintain Oracle web-based applications	X	X	X	X	X	X	X	X	X	X	X	X
T7: Commercial Harvesters increased participation	X	X	X	X	X	X	X	X	X	X	X	X

Project Accomplishments Measurement:

The results of this project will provide the basis to improve the accuracy and timeliness of catch and effort estimations, and could subsequently inform science, stock assessments, and management policies.

The results will help determine the scope of the effort to migrate to a more robust database system that is more accessible to the Commercial License Holders.

PRFC in Year 1 completed one task fully and made progress on many others.

1. Year 1 Task 5 Completed: Established contract for the software development work required to complete Tasks 3 through 6.

PRFC will continue to monitor progress and accomplishment using the following goals and measurements.

Task	Goal	Measurement
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Potomac River Fisheries Commission (PRFC)

ACCSP Funding Proposal: Electronic Trip-Level Reporting for the PRFC Commercial Fisheries Sector Revised and Updated Maintenance Request
Revisions are highlighted in yellow.

T1: Identification of License Holder Participants	Identification of additional 10% commercial harvesters to target for enrollment in eTrips electronic catch reporting.	Records updated to reflect they have been contacted and notified about the opportunity and its benefits.
T2: eTrips installation & training; data entry	100% of identified eTrips participants who request training/support receive in person or electronic training/support.	Participant records updated to note whether training has been provided and support provided.
T3: MS Access Operator Interface Maintenance	100% completion and execution of the interface steps.	Verification that the steps executed correctly and ACCSP/PRFC data is synchronized.
T4: Software modifications	100% of requirements documented in RTM and updated to reflect Year 2 changes in process or ACCSP data requirements.	Verification that RTM is completed and updated.
T5: Maintain Oracle Cloud Database	100% of cloud-based services procured and available.	Verification by PRFC staff that cloud services are invoiced and available.
T6: Develop & Maintain Oracle web-based applications	100% of year 2 requirements identified, developed, and delivered.	Completed RTM showing Year 2 requirements marked as complete and verification by PRFC staff.
T7: Commercial Harvesters increased participation	Marketing materials developed and presented at regular meetings and in routine communications. Incentives identified and presented to the PRFC Commissioners for approval.	Verification by PRFC staff that materials were sent and communicated during meetings. Documented minutes showing discussions at Commissioner meeting.

Cost Summary (Budget):

1. BUDGET FOR PROPOSAL PLANNING – FY2021

Description	Calculation	Cost
Personnel (a)		
Principle Investigator	60 hours @ \$57.57/hr	\$3,429.90
Data Administrator	200 hours @ \$21.12/hr	\$4,223.00
Data Management Specialist	600 hours @ \$11.85/hr	\$7,107.00
Personnel Subtotal		\$14,759.90
Fringe (b)		
n/a		
Fringe Subtotal		\$0
Travel (c)		
n/a		
Travel Subtotal		\$0.00
Equipment (d)		
Oracle Cloud Database:		
a. MySQL DB Services 1 instance, 31 days/month, 24 hours/day 1 OCPU 16 GB RAM 50 GB storage 50 GB backup	\$58/month x 12 months	\$696.00
b. Java Cloud Service Enterprise Edition 1 instance, 31 days/month, 24 hours/day 2 OCPU	\$461month x 12 months	\$5,532.00
c. Cloud Infrastructure 1 instance, 31 days/month, 24 hours/day 2 X9 OCPU 32 GB X9 RAM 50 GB storage	\$164/month x 12 months	\$1,968.00
d. Oracle APEX 1 instance, 31 days/month, 24 hours/day 2 OCPU 1 TB Storage	\$598/month x 12 months	\$7,176.00
Equipment Subtotal		\$15,372.00
Supplies (e)		
n/a		
Supplies Subtotal		\$0.00

Contractual (f)		
In-house Consultant/Developer	396 hours @ \$103/hr	\$40,788.00
Vendor/Developer	1,121 hours @ \$123.60/hr	\$138,555.60
Contractual Subtotal		\$179,343.60
Other (h)		
n/a		
Totals		
Total Direct Charges (i)		\$209,475.56
Indirect Charges (j)	n/a	\$0.00
Total (sum of Direct and Indirect) (k)		\$209,475.56

2. BUDGET - FY2020 - APPROVED BY ACCSP

Description	Calculation	Cost
Personnel (a)		
Principle Investigator	60 hours @ \$55.50/hr	\$3,330.00
Data Administrator	200 hours @ \$20.50/hr	\$4,100.00
Data Management Specialist	600 hours @ \$11.50/hr	\$6,900.00
Fringe (b)		
Principle Investigator	14% of salary	\$455.55
Data Administrator	51% of salary	\$2,092.93
Data Management Specialist	49% of salary	\$3,401.46
Travel (c)		
n/a		
Equipment (d)		
Oracle Cloud Database:		
e. MySQL DB Services 1 instance, 31 days/month, 24 hours/day 50 GB storage 50 GB backup	\$21/month x 8 months	\$168.00
f. Java Cloud Service Enterprise Edition 1 instance, 31 days/month, 24 hours/day	\$550/month x 8 months	\$4,400.00
g. Cloud Infrastructure 1 instance, 31 days/month, 24 hours/day 50 GB storage	\$33/month x 8 months	\$264.00
Supplies (e)		
n/a		

Contractual (f)		
In-house Consultant/Developer	501 hours @ \$100/hr	\$50,100.00
Vendor/Developer	1,180 hours @ \$130/hr	\$140,400.00
Other (h)		
n/a		
Totals		
Total Direct Charges (i)		\$215,612.00
Indirect Charges (j)	n/a	\$0.00
Total (sum of Direct and Indirect) (k)		\$215,612.00

BUDGET NARATIVE

(Requested Funding Period, FY21)

Project: Electronic Trip-Level Reporting for the Potomac River Fisheries Commission (PRFC) Commercial Fisheries Sector

Project Period: 1 March 2020 – 28 February 2021

1 Year Funding: \$209,475.56

Prepared By: Martin L. Gary, PRFC Executive Secretary

Personnel (Salaries) \$14,759.90: Three PRFC employees' salary time will be covered using these funds. The three employees are: Principle Investigator, for 60 hours (\$3,429.90); Data Administrator, for 200 hours (\$4,223.00), and a Data Management Specialist, for 600 hours (\$7,107.00).

Fringe Benefits \$0.00: N/A

Travel \$0.00: N/A

Equipment \$15,372.00: Oracle Cloud Infrastructure (OCI) resources are procured to host the PRFC interface between ACCSP and PRFC's MS Access application on a monthly basis. Additionally, PRFC's modernized application runs on the OCI infrastructure as well.

Supplies \$0.00: N/A

Contractual \$179,343.60:

In-house Consultant – Ray Draper: \$40,788.00

Updating the existing PRFC Access based application will require the knowledge and expertise of the consultant/developer Ray Draper. Ray has designed and developed the entire PRFC application from the ground up over the last 15 years and will be the primary developer of the ACCSP interface. This work will require five (5) months of part-time development work, estimated at 396 hours total, and PRFC has contracted with Ray at a rate of \$103 an hour to perform these services.

Talent & Technical Solutions Corporation (TTSC): \$138,555.60

Developing a new PRFC database, procuring cloud services and infrastructure, and assisting with the PRFC existing application integration will be handled by TTSC. PRFC has contracted with TTSC at a rate of \$123.60 an hour and expects the work to support T3, T4, T6, and T7 to take 12 months of part-time work and an estimated 1,121 hours.

Other \$0.00: N/A

BUDGET NARATIVE

(Approved Funding Period, FY20)

Project: Electronic Trip-Level Reporting for the Potomac River Fisheries Commission (PRFC) Commercial Fisheries Sector

Project Period: 1 March 2020 – 28 February 2021

1 Year Funding: \$215,612.00

Prepared By: Martin L. Gary, PRFC Executive Secretary

Personnel (Salaries) \$14,330.00: Three PRFC employees' salary time will be covered using these funds. The three employees are: Principle Investigator, for 60 hours (\$3,330.00); Data Administrator, for 200 hours (\$4,100.00), and a Data Management Specialist, for 600 hours (\$6,900.00).

Fringe Benefits \$5,950.00: The current PRFC fringe benefit cost is set per employee at: Principle Investigator at 14% of Salary (\$455.55), Data Administrator at 51% of salary (\$2,092.93), and Data Management Specialist at 49% of salary (\$3,401.46). The Principle Investigator falls within the fringe guidelines set forth by NOAA, however, a full breakdown of how the Fringe Benefits are calculated below (PRFC does not have a NICRA established).

		Principle Investigator	Data Administrator	Data Management Specialist
Gross	Annually	\$ 111,000.00	\$ 41,000.00	\$ 23,000.00
	Hourly	\$ 55.50	\$ 20.50	\$ 11.50
Fringe	Health	\$ -	\$ 15,418	\$ 8,333
	Retirement	\$ 13,086	\$ 4,945	\$ 2,696
	Life	\$ 1,499	\$ 566	\$ 309
	Disability	\$ -	\$ -	
	Def Comp	\$ 600	\$ -	\$ -
	Total:	\$ 15,185	\$ 20,929	\$ 11,338
	Per Hour:	\$ 7.59	\$ 10.46	\$ 5.67
Hours / Year:	2000			
	Rate:	14%	51%	49%
		\$ 7.59	\$ 10.46	\$ 5.67
	Hours:	60	200	600
		\$ 455.55	\$ 2,092.90	\$ 3,401.40
	Total Cost:	\$ 3,330.00	\$ 4,100.00	\$ 6,900.00

Travel \$0.00: N/A

Equipment \$4,832.00: Oracle Cloud Infrastructure (OCI) resources are procured to host the PRFC interface between ACCSP and PRFC's MS Access application on a monthly basis. Additionally, PRFC's modernized application runs on the OCI infrastructure as well.

Supplies \$0.00: N/A

Contractual \$190,500.00:

In-house Consultant – Ray Draper: \$50,100.00

Updating the existing PRFC Access based application will require the knowledge and expertise of the consultant/developer Ray Draper. Ray has designed and developed the entire PRFC application from the ground up over the last 15 years and will be the primary developer of the ACCSP interface. This work will require five (5) months of part-time development work, estimated at 501 hours total, and PRFC has contracted with Ray at a rate of \$100 an hour to perform these services.

Talent & Technical Solutions Corporation (TTSC): \$140,400.00

Developing a new PRFC database, procuring cloud services and infrastructure, and assisting with the PRFC existing application integration will be handled by TTSC. PRFC has contracted with TTSC at a rate of \$130 an hour and expects the work to support T3, T4, T6, and T7 to take 12 months of part-time work and an estimated 1,180 hours.


Other \$0.00: N/A

Maintenance Projects History for Primary Program Priorities:

Funding Fiscal Year	Amount	Time Period	Results/Comments
2020	\$215,612.00	1 Mar 2020 – 28 Feb 2021	Pilot implementation of ACCSP eTrips and initial development of PRFC Interface & modernized cloud application

Ranking Guide – Maintenance Projects:

Primary Program Priority	Point Range	Description of Ranking Consideration
Catch and Effort	0 – 10	Rank based on range within module and level of sampling defined under Program design. When considering biological, bycatch or recreational funding, rank according to priority matrices.
Biological Sampling	0 – 10	
Bycatch/Species Interactions	0 – 6	
Social and Economic	0 – 4	
Data Delivery Plan	+ 2	Additional points if a data delivery plan to Program is supplied and defined within the proposal.

Project Quality Factors	Point Range	Description of Ranking Consideration
Multi-Partner/Regional impact including broad applications	0 – 5	Rank based on the number of Partners involved in project OR regional scope of proposal (e.g. geographic range of the stock).
> yr 2 contains funding transition plan and/or justification for continuance	0 – 4	Rank based on defined funding transition plan away from Program funding or viable justification for continued Program funding.
In-kind contribution	0 – 4	1 = 1% - 25% 2 = 26% - 50% 3 = 51% - 75% 4 = 76% - 99%
Improvement in data quality/quantity/timeliness	0 – 4	1 = Maintain minimum level of needed data collections  4 = Improvements in data collection reflecting 100% of related module as defined within the Program design. Metadata is provided and defined within proposal if applicable.
Potential secondary module as a by-product (In program priority order)	0 – 3 0 – 3 0 – 3 0 – 1	Ranked based on additional module data collection and level of collection as defined within the Program design of individual module.
Impact on stock assessment	0 – 3	Rank based on the level of data collection that leads to new or greatly improved stock assessments.

Other Factors	Point Range	Description of Ranking Consideration
Properly Prepared	-1–1	Meets requirements as specified in funding decision document Step 2b and Guidelines
Merit	0 – 3	Ranked based on subjective worthiness

Maintenance funding requested)

Ranking Factors	Point Range	Description of Ranking Consideration
Achieved Goals	0 – 3	Proposal indicates project has consistently met previous set goals. Current proposal provides project goals and if applicable, intermediate metrics to achieve overall achieved goals.
Data Delivery Plan	0 – 2	Ranked based if a data delivery plan to Program is supplied and defined within the proposal.
Level of Funding	-1 – 1	-1 = Increased funding from previous year 0 = Maintained funding from previous year 1 = Decreased funding from previous year
Properly Prepared	-1 – 1	-1 = Not properly prepared 1 = Properly prepared
Merit	0 – 3	Ranked based on subjective worthiness

**Proposal for funding made to the
Coordinating Council and the Operations Committee
Atlantic Coastal Cooperative Statistics Program
1050 N. Highland St., Ste. 200A-N
Arlington, VA 22201**

**FY22: Maintenance and Coordination of Fisheries Dependent Data Feeds to ACCSP from
the State of Rhode Island**

Submitted By:
Nichole Ares
Rhode Island Department of Environmental Management
Division of Marine Fisheries
3 Fort Wetherill Rd
Jamestown, RI 02835
nichole.ares@dem.ri.gov

Applicant Name: Rhode Island Department of Environmental Management,
Division of Marine Fisheries

Project Title: **FY22: Maintenance and Coordination of Fisheries
Dependent Data Feeds to ACCSP from the State of Rhode
Island**

Project Type: Maintenance

Requested Award Amount: \$27,521

Requested Award Period: FY 2022 (August 1, 2022 to July 31, 2023)

Primary Program Priority: Commercial and Recreational Catch and Effort Module

Date Submitted:

Project Supervisor: John Lake, Supervising Biologist, john.lake@dem.ri.gov

Principal Investigator: Nichole Ares, Principal Biologist, nichole.ares@dem.ri.gov

Project Staff: Nicole Lengyel Costa, Principal Biologist, nicole.lengyel@dem.ri.gov
Seasonal Interns

Atlantic Coastal Cooperative Statistics Program (ACCSP) Proposal

for the State of Rhode Island

Objectives:

- Provide new and existing Rhode Island (RI) seafood dealers with technical support to maintain and improve dealer electronic reporting to the Standard Atlantic Fisheries Information System (SAFIS) pursuant to RI Marine Fisheries Statutes and Regulations.
- Provide technical and analytical support to the RI Marine Fisheries Quota Monitoring Program as well as maintain dealer compliance monitoring protocols for both quota and non-quota managed species by utilizing commercial landings data from SAFIS.
- Collect and enhance trip-level catch and effort data through the RI Marine Fisheries Commercial Harvester Catch and Effort Logbook Program and the RI Electronic Recreational Logbook (eLOGBOOK) Program and continue to transition commercial fishermen to electronic trip reporting.
- Maintain and improve the existing data feed of RI supplemental fisheries data to the ACCSP data warehouse.

Need:

Beginning in 2006, the Rhode Island Division of Marine Fisheries (RIDMF) implemented the marine fisheries commercial data collection program. This program collects trip level landings data from all 136 dealers licensed in RI through direct dealer entry into the eDR (electronic dealer report) SAFIS application. Catch and effort data are currently collected from 100% of the fishermen in the state for the finfish, squid, whelk, and crustacean sectors. RI meets the ACCSP standard by maintaining a one-ticket system for the shellfish fishery sector and a two-ticket system for the crustacean, squid, finfish, and whelk fishery sectors. In addition, crustacean dockside sales are collected through a supplementary paper logbook which captures daily data of all sales. Data are transferred to the ACCSP data warehouse in the proper format annually.

Maintenance and coordination of the SAFIS data entry is critical for successful fisheries management in RI. This data has been essential for the determination of commercial catch and effort statistics, establishing an efficient quota monitoring process, and tracking active versus latent license holders. Quota monitoring is one of the most important uses of SAFIS data, as staff analyze trip level commercial landings data for quota managed species in RI daily. These analyses are used to make decisions regarding seasonal closures and possession limit changes.

Recreational data is collected. RI ACCSP staff is also responsible for outreach and support of the voluntary eLOGBOOK program; this SAFIS application is used to enter and house recreational catch and effort data. Additionally, in 2019, RIDMF established mandatory party and charter trip level electronic reporting. This increases the amount of recreational data collected and will provide a better understanding of the party and charter industry through accurate trip counts, census effort data, discard information, and catch rate data.

In addition to recreational and commercial data, as of 2020 RI requires trip level aquaculture reporting into SAFIS. Previously, a single data point was supplied to ACCSP for inclusion in the spring data upload for each species. Now, dealers must report each aquaculture

purchase to SAFIS eDR, improving our understanding of the aquaculture industry in RI. This data will show seasonal trends, provide a better understanding of the economic impact of the industry, and allow for better tracking of human health concerns such as vibrio monitoring.

Furthermore, RI ACCSP staff continues to provide data feeds for lobster at-sea and port sampling data via the Atlantic States Marine Fisheries Commission (ASMFC) Lobster Database as well as supplemental horseshoe crab and dockside data for the Fisheries of the United States via ACCSP. Data feeds for finfish sampling to the ACCSP warehouse will continue to be developed and RI ACCSP staff will need to maintain this data feed once it is active.

With these programs established and planned enhancements scheduled for 2022, the goal of this project is to maintain these data feeds to the ACCSP while continuing to improve data quality as well as maintaining outreach to dealers and fishermen. The plan detailed below is similar to the scope of work proposed for the past several years.

Results and Benefits:

Collecting high quality, comprehensive fisheries data is essential to successful fisheries assessment and management. This project allows the current level of oversight and coordination of the ACCSP to continue in RI by providing funding for the staff necessary to maintain the project. **RI relies on comprehensive SAFIS eDR and eTRIPS/RI Commercial Harvester Logbook data for fisheries management programs including quota monitoring, resource assessment and allocation, and license tracking. The state also relies on eLOGBOOK data and the newly required census party and charter data; it enhances and adds to the existing MRIP dataset with regarding landings and discards and increases our understanding of the length frequency distribution of recreational harvest. This comprehensive and timely data allows RIDMF to establish higher latitude in management programs which is encouraged by the fishing industry. Additionally, once in the ACCSP data warehouse, the catch and effort and biological sampling data provided by RI can be utilized by other partners and stock assessment scientists for regional scientific assessment of important fish populations. Although the work outlined in this proposal is specific to RI, the presence of RI ACCSP staff provides benefits to regional partners; including increased coordination between state and federal program partners, increased technical assistance, as well as sharing of data collection methodology and troubleshooting techniques.**

Data Delivery Plan:

All landings data and catch and effort data collected by RI is entered in SAFIS. Landings data of both wild harvest and aquacultured species is entered directly into SAFIS eDR by the dealer twice a week and immediately available to ACCSP. Catch and effort (logbook) data (both commercial and party/charter) is submitted to SAFIS eTRIPS throughout the year, typically data entry is completed by March of the following year. **Once entered, all data is immediately available to ACCSP and other program partners who utilize SAFIS and the SAFIS tables within the warehouse. This data is also incorporated into the warehouse tables during the yearly uploads and available for warehouse users annually.**

Additionally, RIDMF collects data on crustacean dockside sales, horseshoe crabs, lobster (sea, port, and ventless surveys), and finfish port sampling. **Currently, the dockside sale,**

horseshoe crab, and lobster data is converted into the proper flat file format and submitted to ACCSP during the spring upload. The data feed for the finfish port sampling is still being developed, once active, RI data will be submitted.

Approach:

All licensed seafood dealers in RI (approximately 136 dealers) are electronically entering trip level data into SAFIS at least twice weekly (RIMF, 2018). Dealers are provided support and initial SAFIS training regarding the SAFIS eDR system. **Technical support is provided to dealers who call, email, or walk-in daily for questions regarding licensing, possession limits and seasons, reporting, and other topics. Site visits are conducted if further support and training are necessary.**

To ensure data quality and proper SAFIS reporting, RIDMF strictly monitors dealer compliance. Phone calls are made to dealers who fall behind in reporting, and in cases where dealers are found to be non-compliant, administrative action is taken. Rhode Island Department of Environmental Management (RIDEM) Division of Law Enforcement becomes involved when a dealer has repeatedly violated compliance regulations. To summarize a dealer's compliance performance, dealer "report cards" assigning qualitative grades are mailed quarterly to all dealers. It contains information regarding the number of reports made during a period, the number of reports that were submitted late, and the number of times RIDMF staff needed to contact the dealer regarding late reporting and reporting mistakes.

Landings entered by dealers are routinely checked for accuracy, both via SAFIS audit protocols daily, and through additional weekly audits. Any issues discovered during these audits are addressed with dealers and corrected via National Marine Fisheries Service (NMFS) JIRA or through eDR directly. Licensing and commercial vessel data generated from RIDEM are kept up to date in SAFIS tables through weekly updates via the SAFIS Management System (SMS). These audits and updates are of great importance and are necessary to maintain high standards of data quality.

Quota monitoring relies solely on accurate and up to date SAFIS data. Data are downloaded from SAFIS daily and analyzed using a software program developed in the statistical package R (R core team 2016). Once data are in the software program, they are sorted and filtered to detail daily landings of fluke, scup, black sea bass, striped bass, tautog, menhaden, bluefish, and smooth dogfish. **This data is then used to make fisheries management decisions, possession limit changes, and early seasonal closure decisions. Non-confidential, graphical updates of cumulative RI landings are then posted weekly to the RIDMF webpage as public information.**

Data requests and validations from fishermen, academics, stock assessment scientists, the RIDEM Licensing Division, and other stakeholders are also completed. **These requests support fisheries science and management decisions and are necessary to maintain the level of support required by RIDEM and other regional fisheries managers. The data obtained becomes available to support state and regional stock assessments, economic analyses, and research.** All requests include only non-confidential data unless confidential access is granted

through ACCSP channels. RI ACCSP staff are needed both to complete these data requests and handle confidential data access requests originating from ACCSP.

In addition to monitoring SAFIS landings data, metadata and socio-economic data are also collected by RI ACCSP staff. Examples of metadata include but are not limited information regarding weather (i.e. wind data), possession limits, and closed fishing seasons. Socio-economic data collected comes primarily from dockside sales of crustaceans from the state dockside sales logbook. Economic data entered by the dealers are used in monthly summaries for RI's two largest ports, Point Judith and Newport. The data are used to justify funding for port improvements and maintaining shoreside operations that enhance fisheries. Data are also used to highlight seafood availability and provide the basis for public outreach promoting local seafood consumption and improving the state's economy through support of the fishing industry.

Catch and effort data for all fisheries are essential to provide efficient and effective management. **Harvesters in all commercial fisheries are required by RI law to submit catch and effort data to RIDMF. Currently, all finfish, crustacean, squid, and whelk commercial fishermen are required to submit catch and effort information.** Shellfish fishermen are not required to submit catch and effort logbooks because the data is captured via a one-ticket system.

There are approximately 1700 commercially licensed fishermen in RI. Fishermen with a reporting requirement fall into two main categories: fishermen with a federal VTR requirement, and fishermen without a federal VTR requirement. Fishermen with a VTR requirement report to NMFS. Fishermen without a VTR requirement report to RIDMF and can elect to report either via the paper logbook, or electronically utilizing SAFIS eTRIPS. Due to the multiple reporting options, at the time of license renewal/purchase the **fishermen must declare a reporting method: federal VTR, state paper logbook, or eTRIPS. Fishermen who selected paper logbook are also required to purchase the paper logbook endorsement to help contribute to the printing, mailing, data entry, and administrative costs of the paper logbook program.**

Federal fishermen are exempt from the state logbook program to ensure there is not duplicate effort information being collected, however they are still required per regulation to submit reports. At the beginning of the year, all fishermen who declared VTR as their reporting method are mailed a "VTR Declaration Form," that asks for their federal permit and commercial fishing license number. **This information is then used to track compliance for the fishermen using the online NMFS database.** This system for VTR compliance eases the burden on both the fishermen and RIDMF. Fishermen are now reporting their catch and effort information to a single source (NMFS), decreasing confusion and mailing costs. This also decreases staff time used to track VTR compliance.

Fishermen without a VTR requirement must submit catch and effort information directly to RIDMF either via a paper logbook or through eTRIPS/eTRIPS Mobile. **All fishermen who report via the logbook need to submit quarterly catch and effort paper logbooks. They are provided postage-paid envelopes by RIDMF to ensure timely return of completed logbooks. Data quality is checked for each logbook submitted and any missing or inaccurate information is corrected through contacting the fishermen.** Any logbook not completed in full is returned to the fishermen for correction.

Since 2012, RI fishermen have had the ability to enter their catch reports directly into eTRIPS. Currently there are approximately 859 eTRIPS accounts in RI issued to fishermen who declared eTRIPS as their reporting method; **this is equivalent to 58% of all fishermen with a reporting requirement, a large increase as 26% of fishermen were utilizing eTRIPS in 2014** (Figure 2: Reporting Method Breakdown). To help continue the trend to electronic reporting, RIDMF staff offers support to fishermen who want to learn and use the program. **Training materials are available on the RIDMF website, and staff routinely answer phone calls, emails, and walk-in questions about eTRIPS.** While electronic reporting is not mandatory per any regulatory agency, RIDMF will continue outreach for eTRIPS to continue to increase the number of fishermen using electronic reporting.

RIDMF also does outreach and support for eTRIPS-Mobile and will continue this in the future. The application allows for both real time data entry as well as post-trip entry. Reports submitted through this application fulfill both state reports and NMFS Greater Atlantic Regional Fisheries Office (GARFO) VTRs. RI has also adopted eTRIPS-Mobile as a mandatory reporting method for a pilot aggregate landing program, further increasing its use. In 2020 there were 67 users an increase from just 39 in 2018. Due the ease of use, GARFO acceptance, and use in RI pilot programs use has been increasing. **Utilizing the mobile application and offering training on the program will allow fishermen to enter data in real time, resulting in more accurate and time sensitive entries.**

All reports directly entered by the fishermen electronically are audited; in the event an error is found, the fisherman is contacted and sent a report with any corrections that need to be made. In addition to audit reports, emails are sent to all RI eTRIPS users detailing the common errors seen during the audit process and importance of accurate reporting.

RI commercial licensees may not renew their licenses unless they have correctly completed their catch and effort logbooks or eTRIPS reports for the entire year. Additionally, **harvester license number, dealer, and sale date from the catch and effort data are used to match records with dealer reports for quality control and assurance of the landings data.**

Fishermen who hold a RI crustacean dockside sales endorsement must fill out a dockside sales logbook which details the quantity, market, grade, and price of all crustaceans sold at the dock. The dockside sales logbook is mailed to the 301 dockside endorsement holders and must be completed before the licensee can renew their license for the following year. **The dockside sales data captures some of RI's economic data, and this data is transmitted to the ACCSP as supplementary data.** RI staff is needed to oversee data entry, perform quality checks, and transfer the sale data to ACCSP in the proper format annually.

Reporting of all party and charter trips became mandatory in 2019. Per RIMF Regulations, all trips must be reported electronically through either eTRIPS or eTRIPS Mobile within 48 hours of landing. Staff are needed to train fishermen, audit data, check compliance, and provide support to the industry. **This data will also provide a clearer picture of the party/charter fleet in RI and allow more flexibility within the regulations for the fleet.**

RI will continue to utilize and promote the voluntary eLOGBOOK program. This data can be used for recreational effort estimates as well as for important management decisions. The eLOGBOOK data also contains lengths of both fish harvested and released. This data was useful for all partners in the **bluefish stock assessment, as discard data was used in the 2015 benchmark assessment.**

RIDMF has port and at-sea sampling programs for selected commercial fisheries within the state. **The port sampling program focuses on collecting biological samples required by ASMFC fishery management plans.** These species include striped bass, weakfish, tautog, bluefish, menhaden, lobster, and Jonah crab. **RIDMF's at-sea lobster sampling program focuses on ASMFC management needs** as well as state specific data needs. **RIDMF provides the data feed of lobster port and at-sea sampling data to ACCSP via the ASMFC Lobster Assessment Database.** Neither the lobster sampling programs nor the finfish sampling programs receive funding from ACCSP.

RIDMF staff also sit on ACCSP committees including: Operations Committee, Biological Review Panel, Bycatch Prioritization Committee, Commercial Technical Committee, Information Systems Committee, Standard Codes Committee, and Recreational Technical Committee. RIDMF staff are heavily involved in all aspects of ACCSP and contribute in full to all partners' interest.

From 2002 through 2016, RI utilized primarily contract employees through ASMFC to manage the ACCSP data collection program funded through ACCSP. In February 2016, RIDMF hired a state full-time employee to fill the ACCSP Coordinator duties. Project staff will continue to provide support with processing and data entry of harvester logbooks, aiding with compliance monitoring and data auditing, quota monitoring and compliance issues relevant to SAFIS, SAFIS technical support and outreach, ACCSP committees, eTRIPS and eLOGBOOK outreach, grant management, and long-term program development.

This proposal represents a recurring project funded by ACCSP for the past sixteen years. With a total budget of \$94,582, 71% of the total cost is an in-kind contribution from RIDMF. Table 1 provides a brief project history of ACCSP Implementation in RI. Cost details for fiscal year 2022 are outlined in the requested budget while last year's requested funding is presented in Appendix A.

In a RIDMF white paper, Gibson and Lazar (2006) documented the deficiencies of the Rhode Island Marine Fisheries program and argued that significant infusion of funding and staff is needed. The RIDMF Marine Fisheries section has undergone a peer reviewed evaluation and need assessment, which concluded that RIDMF Marine Fisheries requires more staff to effectively maintain its services (Boreman et al., 2006). However, like many other states on the Atlantic Coast, the state of RI is experiencing fiscal shortfalls. **RIDMF is starting to actively assume some of the costs of ACCSP programs by devoting more staff time to the project and continues to seek alternate funding sources for the project.** In 2010 the state of RI implemented the RI Recreational Saltwater License. **Funds from license receipts are dedicated to the salary of a recreational biologist as well as improving data quality. The recreational biologist sits on the ACCSP recreational technical committee and manages**

eLOGBOOK and party and charter reporting, thus these funds now help support the ACCSP program. Encouraging commercial fishermen to transition from paper logbooks to the eTRIPS reporting method through incentives, training programs and regulations has already decreased and ultimately will eliminate some of the costs surrounding the distribution and data entry required for paper logbooks. This will reduce the RIDMF's dependence upon ACCSP funds for maintaining timely and accurate data feeds and will be completed as funding and staff time allows. Furthermore, the transition the ACCSP coordinator from a fisheries specialist ASMFC employee to an RIDEM FTE (Principal Biologist) shows RIDMF's dedication to covering the costs of the ACCSP program in the future, but asks for funding assistance during this transitional time.

RIDMF also recognizes the recent changes made to maintenance proposals regarding funding opportunities. While FY21 was originally the last year RI could request funding for this project, due to COVID 19 an additional year of funding is being requested at the FY21 funding level. An account of RIs need to continue this project with ACCSP funding for an additional year, and the plan to continue this project with an alternative funding source for FY23 and beyond is contained in Appendix C. While a plan is in place for FY23, RI is in a financial shortfall for FY22, so the additional year of available funding is important to RI and its ACCSP program.

Geographic Location:

The project will be administered out of the Rhode Island Division Marine Fisheries office in Jamestown, RI. The scope of the project covers all of RI and adjacent state and federal waters fished by RI license holders.

Program Accomplishment Measurement Metrics:

The success of the project will be measured by the following metrics:

Goal	Metric	Accomplished
Data Delivery to ACCSP	Supplemental data complete, correct, and available for spring upload	Data delivered to ACCSP in March annually
Landings and Effort Data Delivery to ACCSP	Trips Entered by application	eDR: 18,541 state only trips eTRIPS: 19,123
Support to RI Licensed Seafood Dealers	Dealer trainings, site visits, and other outreach.	14 new dealers Phone call and email correspondence was made
Quota Monitoring	Number of possession limit changes and early closures during determined through accurate SAFIS data	30 changes in possession or early season closures

Table 1. Project History.

Year	Title	Cost	Results
2000	Implementation of the ACCSP Program in Rhode Island	230,938	Planning and development of ACCSP commercial module implementation
2001	Implementation of ACCSP Continuation	20,000	Implementation of trip level reporting for all RI lobster harvesters, Commercial fishing license reconstruction
2002	Implementation of Phase 2 of ACCSP in the State of Rhode Island	133,084	ACCSP coordinator hired, planning and development of electronic dealer reporting system (RIFIS)
2003	Implementation of Phase 3 of ACCSP in the State of Rhode Island	131,760	Phased Implementation of RIFIS with focus on high volume dealers
2004	Continued Implementation of the ACCSP Program in the State of Rhode Island	159,716	Transition of RIFIS to SAFIS, implementation of federally permitted dealers
2005	Continued Implementation of the ACCSP Program in the State of Rhode Island	95,365	Quota monitoring system developed using SAFIS data, regulation created requiring all RI dealers to report landings via SAFIS
2006	Continuation of SAFIS and Finfish Logbooks in Rhode Island	150,365	Implementation of SAFIS completed, Development of harvester logbook for finfish and crustacean fishery sectors
2007	Coordination and Development of Fisheries Dependent Data Feeds to ACCSP from the State of Rhode Island	145,697	Implementation of harvester logbook for finfish and crustacean fishery sectors
2008	Maintenance and Coordination of Fisheries Dependent Data Feeds to ACCSP from the State of Rhode Island	128,647	Implementation of Dockside Sales Logbook, work begun on feeding data to ACCSP, maintenance of Data collection programs
2009	Maintenance and Coordination of Fisheries Dependent Data Feeds to ACCSP from the State of Rhode Island	142,075	Data feeds of Logbook data and lobster biological sampling developed.
2010	Maintenance and Coordination of Fisheries Dependent Data Feeds to ACCSP from the State of Rhode Island	100,983	eREC developed and eTrips pilot program started, data feeds continued, Fluke sector monitoring database developed, dealer report card system developed
2011	Maintenance and Coordination of Fisheries Dependent Data Feeds to ACCSP from the State of Rhode Island	85,584	Automatic data feed for catch and effort data established via eTRIPS, eREC maintained and developed, data feeds continued
2012	Maintenance and Coordination of Fisheries Dependent Data Feeds to ACCSP from the State of Rhode Island	99,379	Maintenance of automatic data feed for catch and effort data via eTRIPS on a real time basis, maintenance of eLOGBOOK, data feeds continued
2013	FY13: Maintenance and Coordination of Fisheries Dependent Data Feeds to ACCSP from the State of Rhode Island	91,416	RSA tracking improved, maintenance of automatic data feed for catch and effort data via eTRIPS upload, maintenance of eLOGBOOK, data feeds continued
2014	FY14: Maintenance and Coordination of Fisheries Dependent Data Feeds to ACCSP from the State of Rhode Island	85,408	RSA tracking improved, maintenance of automatic data feed for catch and effort data via eTRIPS upload, maintenance of eLOGBOOK, data feeds continued
2015	FY15: Maintenance and Coordination of Fisheries Dependent Data Feeds to ACCSP from the State of Rhode Island	79,719	Maintenance of automatic data feed for catch and effort data via eTRIPS on a real time basis, maintenance of eLOGBOOK, data feeds continued. Improvements to party and charter industry tracking. eTRIPS user outreach and training
2016	FY16: Maintenance and Coordination of Fisheries Dependent Data Feeds to ACCSP from the State of Rhode Island	79,736	Maintenance of automatic data feeds for catch and effort data via eTRIPS, maintenance of eLOGBOOK data feeds continued. Outreach of eTRIPS Mobile application. Continue eTRIPS user training and outreach.
2017	FY17: Maintenance and Coordination of Fisheries Dependent Data Feeds to ACCSP from the State of Rhode Island	78,420	Maintenance of automatic data feeds for landings catch and effort data via SAFIS, eLOGBOOK data feeds, and supplemental data feeds. Outreach of eTRIPS-Mobile. Continue SAFIS user training and outreach.
2018	FY18: Maintenance and Coordination of Fisheries Dependent Data Feeds to ACCSP from the State of Rhode Island	76,920	Maintenance of automatic data feeds for landings catch and effort data via SAFIS, eLOGBOOK data feeds, and supplemental data feeds. Outreach of eTRIPS-Mobile. Continue SAFIS user training and outreach.
2019	FY19: Maintenance and Coordination of Fisheries Dependent Data Feeds to ACCSP from the State of Rhode Island	76,920	Maintenance of automatic data feeds for landings catch and effort data via SAFIS, eLOGBOOK data feeds, and supplemental data feeds. Outreach of eTRIPS-Mobile. Continue SAFIS user training and outreach.
2020	FY20: Maintenance and Coordination of Fisheries Dependent Data Feeds to ACCSP from the State of Rhode Island	55,043	Maintenance of automatic data feeds for landings catch and effort data via SAFIS, eLOGBOOK data feeds, and supplemental data feeds. Outreach of eTRIPS-Mobile. Continue SAFIS user training and outreach.
2021	FY21: Maintenance and Coordination of Fisheries Dependent Data Feeds to ACCSP from the State of Rhode Island	27,521	Maintenance of automatic data feeds for landings catch and effort data via SAFIS, eLOGBOOK data feeds, and supplemental data feeds. Outreach of eTRIPS-Mobile. Continue SAFIS user training and outreach.

Table 2. Milestone Schedule

Activity	Month														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
SAFIS Support to RI Dealers	X	X	X	X	X	X	X	X	X	X	X	X			
Quota Monitoring	X	X	X	X	X	X	X	X	X	X	X	X			
eTRIPS support to industry	X	X	X	X	X	X	X	X	X	X	X	X			
eTRIPS logbook Data Entry	X	X	X	X	X	X	X	X	X	X	X	X			
Data Feeds to ACCSP	X	X	X	X	X	X	X	X	X	X	X	X			
Semi and Annual Report Writing							X					X	X	X	X

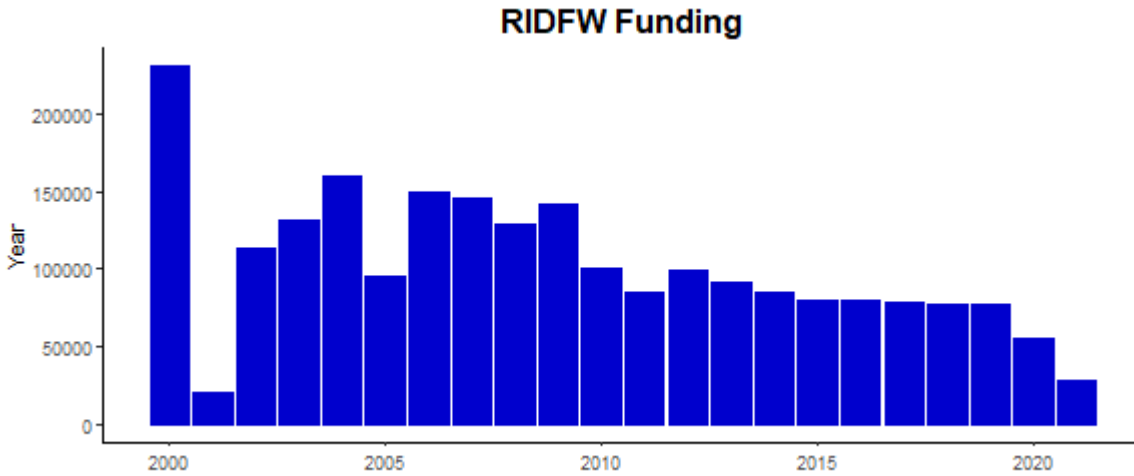


Figure 1. RIDMF past funding from ACCSP.

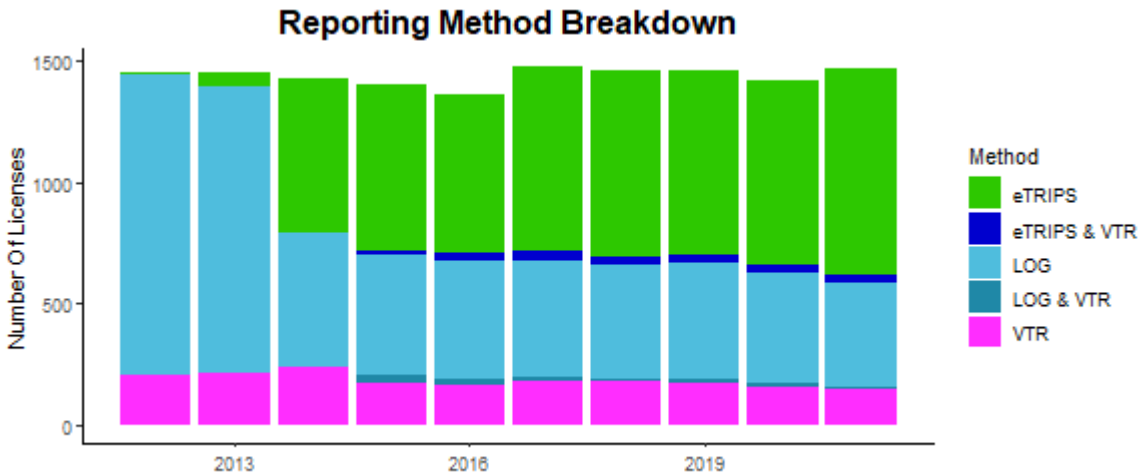


Figure 2: Reporting Method Breakdown

References:

Boreman, J., Diodati, P., O’Shea, and E. Smith. 2006. Assessment of the Rhode Island Department of Environmental Management’s Marine Fisheries Section. RIDEM Internal Document, October 2006.

Gibson M. and N. Lazar. 2006. Rhode Island Division of Fish and Wildlife, Marine Fisheries Section 2006: Current Activities, Funding, and an Appraisal of Future Needs. RIDEM Internal Document, August 2006.

Rhode Island Marine Fisheries Regulations (RIMFR), Part 7- Dealer Regulations, 2018
R Core Team (2016). R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. URL <https://www.R-project.org/>.

Requested Budget FY 2022 (August 1, 2022 to July 31, 2023)

Item	ACCSP Share	Direct State Share	Total
Supervising Biologist (FTE 3%)	\$0	\$3,655	\$3,655
Principal Biologist (FTE 10%)	\$0	\$10,781	\$10,781
Principal Biologist (FTE 27%)	\$14,525	\$18,177	\$56,568
Seasonal Interns - 2 (RIDEM 40% each)	\$8,553	\$3,868	\$12,422
Indirect Charges (RIDEM FTE 19.25%)	\$4,443	\$7,022	\$24,365
Total Personnel	\$27,521	\$43,503	\$71,025

EQUIPMENT & SUPPLY:

Item	ACCSP Share	Direct State Share	Total
Logbook Printing @ \$5.91 per logbook	\$0	\$3,546	\$3,546
Logbook Mailing @ \$4.75 per logbook	\$0	\$2,850	\$2,850
Dockside Printing @ \$4.96 per logbook	\$0	\$1,488	\$1,488
Dockside Mailing @ \$5.91 per logbook	\$0	\$1,773	\$1,773
Business reply envelope printing	\$0	\$2,500	\$2,500
Business reply account	\$0	\$1,500	\$1,500
Website development and updating	\$0	\$2,400	\$2,400
Outreach mailing	\$0	\$3,000	\$3,000
Office supplies	\$0	\$1,000	\$1,000
Telephone & Fax Usage	\$0	\$500	\$500
Vehicle Usage and Travel	\$0	\$3,000	\$3,000
Total Supply	\$0	\$23,557	\$23,557

TOTAL:

Item	ACCSP Share	Direct State Share	Total
Total Direct Charges	\$27,521	\$67,060	\$94,582
Percentage	29%	71%	

COST DETAILS:

Description of Budget categories and expenses for this project.

a. Salary

Each person spends a fraction of their time working on this grant in a team effort. The annual salaries for personnel and the percentage of their time spent on this project are as follows:

From ACCSP:

- i. **Principal Biologist/ ACCSP Coordinator:** 12% ACCSP funded position to act as support to the ACCSP Coordinator; 12% of salary and fringe benefits for one year = \$14,525.
- ii. **Seasonal Interns:** Support for 2 Seasonal Interns to assist with data entry 40% of annual salary = \$8,553.

From RIDEM as match:

- i. **Supervising Biologist:**
Approximately 3% of annual salary and fringe benefits equals \$3,655.
- ii. **Principal Biologist:**
Approximately 10% of annual salary and fringe benefits equals \$10,781.
- iii. **Principal Biologist**
- iv. Approximately 15% of annual salary and fringe benefits equals \$18,177.**Seasonal Interns:**
Support for 2 Seasonal Interns to assist with data entry.
Approximately 17% of annual salary \$3,868.

b. Fringe benefits

Annual fringe benefits rates for all employees include the following:

Retirement 24%
Deferred Compensation 0.4%
FICA 6.2%
Medicare 1.45%
Health care \$21,937/year
Dental \$ 1,132/year
Vision Mercer - \$165/year
Assessed Fringe 4,25%
Retiree Health 6.75%

c. Travel

\$3,000 used for mileage, tolls for site visits and meetings, and to subsidize vehicle usage by ACCSP staff as well as any incurred travel expenses for dealer visits; RIDEM will assume the costs. These costs are based on historical used under the current award.

d. Equipment

No equipment will be purchased on this grant.

e. Supplies

From ACCSP:

- i. None.

From RIDEM:

- ii. **Logbook Printing:** 600 logbooks @ \$5.91/logbook – \$3,546.

- iii. **Logbook Mailing:** 600 logbooks @ \$4.75/book = \$2,850
- iv. **Dockside Printing:** 300 logbooks @ \$4.96/logbook - \$1,488
- v. **Dockside Mailing:** 300 logbooks @ \$5.91/logbook - \$1,773
- vi. **Business Reply Envelope Printing:** 20,000 Envelopes @ \$0.125/envelope = \$2,500.
- vii. **Business Reply Account:** \$100/month Mar-Nov; \$200/month Dec-Feb = \$1,500.
- viii. **Website Development and Updating:** Costs for maintaining current website and creating a website section dedicated to online reporting, including the creation training materials. Estimated at \$2,400.
- ix. **Telephone and Fax usage** - \$500
- x. **Office Supplies** \$1,000
- xi. **Miscellaneous and outreach mailing:**
 - 1. **Compliance mailing:** 1,600*\$0.50 = \$800
 - 2. **License renewal mailing to notify license holders of renewal regulations and changes:** 3,000*\$0.50 = \$1,500
 - 3. **Dealer Report Cards:** 140*4*\$0.50 = \$280
 - 4. **Returned Logs:** ~2% per month of 1,600 = 32*12 = 384*\$0.50 = \$192
 - 5. **Miscellaneous/Outreach mailings:** ~\$228

f. Contractual

There will be no contractual under this grant.

g. Construction

There will be no construction as part of this grant.

h. Other

There is nothing in this category

i. Total Direct Charges

This is the sum of all direct charges to the grant, listed above.

j. Indirect charges.

Indirect charges are only calculated using RIDEM personnel charges. The negotiated Indirect Rate for fiscal year 2020 is 19.25%.

Summary of Proposal for Ranking

Proposal Type: Maintenance

Primary Program Priority: Catch and Effort (100%)

- 100% of dealers report trip level landings data for all species.
- 100% of commercial fishermen report trip level catch and effort data, which is entered into SAFIS (except federal permit holders that report on VTRs to NMFS) or via a 1-ticket system for shellfish entered at trip level by the dealer in the eDR.
- 100% of all party and charter captains report trip level data, which is entered into SAFIS.
- Metadata and socioeconomic that is detailed on page 6 are also collected to enhance and describe data sets that are important to RI's commercial fisheries.

Project Quality Factors:

Partners

- **Multi-Partner/Regional impact including broad applications** –To collect and manage catch and effort, landings, and recreational data in RI. However data on many regionally managed species, such as American lobster, striped bass, black sea bass, bluefish, tautog, and others is collected. As these species are regionally managed, the data collected are used in coastwide and regional stock assessments, therefore other partners benefit from having access to this data.

Funding

- **Contains funding transition plan** – This proposal contains a transition to funding plan on page 8-9 and in Appendix C. Changes in maintenance proposal funding has been addressed by RIDMF and the ACCSP Coordinator role has been transitioned to a Principal Biologist FTE. While RIDMF continues to ask for funds during this transitional period, it is understood there is a definite end date to the funds available to RI for this project.
- **In-kind contribution-** 71% of this project is funded by the RIDMF.

Data

- **Improvement in data quality/quantity/timeliness** – RI provides timely catch and effort data and landings data to the ACCSP. This is done by fully utilizing ACCSP data entry products (eTRIPS, eDR, eLOGBOOK, and eTRIPS Mobile) as well as having standards backed up by Marine Fisheries regulations that require reporting that meets ACCSP standards. RI has successfully begun to push fishermen to using eTRIPS for direct data entry resulting in timelier data entry and is embracing eTRIPS Mobile for data entry. Additionally, all supplemental data (port and sea sampling, aquaculture, dockside sales, and horseshoe crab data) is provided to ACCSP annually in the proper format.
- **Potential secondary module as a by-product** – Social and economic data that is described on pages 6 is collected regularly and used in fisheries models to characterize and understand RI fisheries. This data has also been made available to regional partners upon request and has been used in groundfish disaster relief funding to determine how the money is to be distributed.
- **Impact on stock assessment-** Data collected in this program is regularly used for many “in-house” stock assessments done on local species such as whelk, quahog, and soft shell clam. This data also includes information on regionally or jointly managed species and is used for their science and management programs as well. Partners, like surrounding states, the ASMFC, and the NOAA Fisheries can and do use this information for various stock assessments.

Appendix A: Prior year budget

Budget FY 2021 (August 1, 2021 to July 31, 2022)

Item	ACCSP Share	Direct State Share	Total
Supervising Biologist (FTE 3%)	\$0	\$3,655	\$3,655
Principal Biologist (FTE 10%)	\$0	\$10,781	\$10,781
Principal Biologist (FTE 27%)	\$14,525	\$18,177	\$56,568
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Indirect Charges (RIDEM FTE 19.25%)	\$4,443	\$7,022	\$24,365
Total Personnel	\$27,521	\$43,503	\$71,025

EQUIPMENT & SUPPLY:

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Dockside Printing @ \$4.96 per logbook	\$0	\$1,488	\$1,488
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Business reply envelope printing	\$0	\$2,500	\$2,500
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Website development and updating	\$0	\$2,400	\$2,400
Outreach mailing	\$0	\$3,000	\$3,000
Office supplies	\$0	\$1,000	\$1,000
Telephone & Fax Usage	\$0	\$500	\$500
Vehicle Usage and Travel	\$0	\$3,000	\$3,000
Total Supply	\$0	\$23,557	\$23,557

TOTAL:

Item	ACCSP Share	Direct State Share	Total
Total Direct Charges	\$27,521	\$67,060	\$94,582
Percentage	29%	71%	

Appendix B: Curriculum Vitae for Principal Investigator

Nichole L. Ausfresser Ares

Nichole.Ares@gmail.com

(978) 833- 4017

Education

Roger Williams University

Bristol, RI

Bachelor of Science in Marine Biology

Dec. 2010

Minor in Mathematics

Atlantic States Marine Fisheries Commission

Introduction to Stock Assessment

October 2015

Intermediate Stock Assessment Training

December 2017

Work Experience

Rhode Island Department of Environmental Management

February 2016-Present

Principal Biologist

- Coordinate and improve the Atlantic Coastal Cooperative Statistics Program (ACCSP) in Rhode Island.
- Monitor commercial fishing quotas, lead quota management meetings and determination of seasonal closures and possession limit changes.
- Reporting compliance for ~1500 RI commercially licensed fishermen. Including tracking compliance, training and support to fishermen on report submissions and utilization of the electronic reporting system. Supervise and train staff on data entry of collected catch and effort data. Audit data quality of submitted reports.
- Data accuracy and quality of dealer reported landings data for the ~140 RI commercial licensed seafood dealers. Correction of inaccuracies in data, training new seafood dealers, and retraining dealers with data entry issues.
- Serve on ACCSP committees, including Commercial Technical Committee, Information Systems Committee and Standard Codes Committee.
- Assist in field work as necessary including but not limited to otter trawl, ventless lobster pot, beach seine, fyke net, and ventless fish pot surveys.
- Write and submit project plans, compliance reports, and grant proposals.

Atlantic States Marine Fisheries Commission

May 2014- February 2016

Fisheries Specialist 1- ACCSP Coordinator

- Coordinate and improve the Atlantic Coastal Cooperative Statistics Program (ACCSP) in Rhode Island under the supervision of Rhode Island Division of Fish and Wildlife Marine Fisheries Section.
- Monitor commercial fishing quotas, lead quota management meetings and determination of seasonal closures and possession limit changes.
- Track reporting compliance for ~1500 RI commercially licensed fishermen. Train fishermen and seasonal staff on report submissions. Audit data quality of submitted reports.
- Audit and correct data of dealer reported landings data for the ~140 RI commercial licensed seafood dealers. Train new seafood dealers and retraining dealers with data entry issues.
- Write and submit project plans, compliance reports, and grant proposals.
- Member of various ACCSP committees, including Commercial Technical Committee and Information Systems Committee.

- Assist in field work as needed, including beach seine, lobster ventless pot, and otter trawl surveys.

East West Technical Services LLC

Feb. 2012- May 2014

At-Sea Monitor and Scallop Observer

- Organize fishing trips with federal commercial fishermen of the North Eastern United States.
- Collect catch and discard data on groundfish (trawl, gillnet, and longline) and scallop dredge fishing vessels. Identify all species brought on board and take biological measurements and samples including; length, weight, scales, vertebrae, and otoliths.

Rhode Island Department of Environmental Management

June. 2011-Dec. 2011

Division of Fish and Wildlife- Marine Fisheries Student Researcher

April 2013-Oct. 2013

- Data and logbook entry using Microsoft Access, Microsoft Excel, SAFIS, and Telnet.
- Contact fishermen when questions arise with logbook submissions.
- Assist in field work sampling in beach seine, otter trawl, clam suction, clam dredge, lobster pots, fish pots, and finfish port sampling.
- Fish aging structure removal (operculum, scales, and otoliths) and preparation.

Research Experience

Roger Williams University

June 2009- June 2011

- Project goals are to examine mercury bioaccumulation in fish tissues, examine selenium concentrations in tissues, and examine selenium mercury relationships.
- Includes sampling methods of rod & reel and otter trawl surveys, the extraction of muscle, liver, brain tissues, and otoliths. Preparing tissues samples for atomic absorption spectroscopy and inductively coupled plasma mass spectroscopy. Use of Microsoft Excel and SAS to analyze the data, PowerPoint to present data at conferences. Organize the laboratory and help keep scientific equipment running correctly.
- Mentor: Dr. David L. Taylor, Assistant Professor

Technology, Skills, and Certifications

- Proficient in Microsoft Word, PowerPoint, Excel, Access, and Picture Manager, SAFIS info systems, Telnet, HTML, Adobe DreamWeaver, Oracle Databases (SAFIS Interface and Business Objects), and R.
- Familiar with SQL.
- Large dataset management
- Certified PADI Open Water Scuba Diver
- RIDEM Certificate of Boating Safety Education
- U.S Coastguard Auxiliary Boating Safety Course
- Fisheries sampling techniques including fish and invertebrate identification, trawl, beach seine, lobster and fish pots, gillnets, and dissections.

Appendix C: Funding extension request

RI is requesting an additional year of funding under the COVID 19 provision outlined in the funding request for proposals. RI has exhausted the funding provided in the previous year and will require funding in FY22. Over the grant period that RI has received ACCSP funding, RI has been looking for ways to transition off this funding source. In an effort to do so to-date, RI has used recreational fishing license funds to assist with recreational data collection, has assumed the costs of the printing and mailing of the logbook program, and continues to encourage the shift to electronic reporting. However, even with these efforts, RI required financial assistance to maintain the program. In attempts to meet this shortfall, for the past several years, RI has introduced a bill to restructure the commercial and for-hire fishing licenses. Under this proposal comes an increase in fees, which are intended to assist RI in replacing the previous funding received from ACCSP. Unfortunately, the adoption of these changes was halted due to the 2020 COVID 19 pandemic delaying the state legislative cycle for a year. Therefore, currently RI is still in need of funding assistance. The proposed legislation is expected to be approved in 2021, at which time RI would no longer request ACCSP funding for this project.



Geoff White, Director
Atlantic Coastal Cooperative Statistics Program
1050 N. Highland Street, Suite 200 A-N
Arlington, VA 22204

August 16, 2021

Dear Mr. White,

The Massachusetts Division of Marine Fisheries and the Rhode Island Division of Marine Fisheries, through partnership with Harborlight software, are pleased to resubmit the proposal titled “*Integration of vessel monitoring systems and electronic reporting in SAFIS and SAFIS applications through API development and field testing of multiple hardware options: Phase 2*” for your review. We believe this proposal is the next important step toward integration of various vessel-based data streams into the SAFIS databases and applications and implementing tracked data collections programs by partner agencies.

Please address questions jointly to Rich Balouskus of the Rhode Island Division of Marine Fisheries and Anna Webb of the Massachusetts Division of Marine Fisheries.

Sincerely,
Anna Webb
Environmental Analyst
MA Division of Marine Fisheries
30 Emerson Ave
Gloucester, MA 01930
anna.webb@mass.gov
(978) 282-0308 x115

Rich Balouskus
Principal Biologist
RI Division of Marine Fisheries
3 Fort Wetherill Dr
Jamestown, RI 02835
richard.balouskus@dem.ri.gov
(401) 423-1924

Enclosures:

ACCSP Proposal: “*Integration of vessel monitoring systems and electronic reporting in SAFIS and SAFIS applications through API development and field testing of multiple hardware options: Phase 2*”

Appendix A: Principal Investigators’ Curricula Vitae

Memo from ACCSP regarding proposed work within the SAFIS framework.

Letter containing replies to questions from proposal team reviewers

Proposal for Funding made to:
Atlantic Coastal Cooperative Statistics Program
Operations and Advisory Committees
1050 N. Highland Street, Suite 200 A-N
Arlington, VA 22204

**Integration of vessel monitoring systems and electronic reporting in SAFIS
and SAFIS applications through API development and field testing of
multiple hardware options: Phase 2**

Submitted by:

Anna Webb
Massachusetts Division of Marine Fisheries
30 Emerson Avenue
Gloucester, MA 01930

Rich Balouskus
Rhode Island Division of Marine Fisheries
3 Fort Wetherill Drive
Jamestown, RI 02835

Applicant Name: Massachusetts Division of Marine Fisheries and Rhode Island
Division of Marine Fisheries

Project Title: Integration of vessel monitoring systems and electronic reporting
in SAFIS and SAFIS applications through API development and
field testing of multiple hardware options: Phase 2

Project Type: New Project

Principal Investigators: Anna Webb (MADMF), Rich Balouskus (RIDMF)

Requested Award Amount: \$86,244.44

Requested Award Period: For one year, beginning after the receipt of funds

Date Submitted: August 16, 2021

Terminology:

While project partners named this proposal “Phase 2” of the similarly titled FY19 proposal that initiated the integration of vessel tracking data with trip reporting, they consider this a new project. While the authors recognize the similarities to the Phase 1 pilot project, a significant change in scope is presented for Phase 2. The primary focus of this proposal is the development of an operable SAFIS backend for storage of tracking data and the creation of an administrative interface for viewing tracking data. The primary focus of “Phase 1” was determining if and how specific cellular devices could deliver tracking data to both eTrips and SAFIS. Phase 2 proposes to build upon the baseline created during Phase 1 producing enhanced products and scoping additional features. Thus, this proposal is not considered a request for maintenance funding for the existing platform.

It is probable that a production version of eTRIPS supporting VMS integration (as developed in Phase 1) will be available for distribution to the general public (i.e., available for download in the Apple and Google app stores) prior to the initiation of Phase 2. As a result, location data will be collected alongside catch and effort data in real fishing scenarios from those fishermen who are choosing to utilize the VMS connection (optional), or if mandated by any partner prior to the initiation of Phase 2. Enhancements to this version would be the goal of this project and, pending testing and review, provide expanded VMS options as well as more user-friendly tools.

Objective:

To continue development of an API-based integration of geographical vessel-monitoring data with real-time electronically reported data for small scale inshore fisheries in the eTRIPS mobile application and through an ACCSP hosted web-based administrative application. Within the scope of the project, the following additional deliverables will be met:

- Evaluate functionality of additional VMS devices not tested in Phase 1 in order to complete technical analysis of all currently available cellular devices.
- Develop strawman requirements for future cellular and/or low-cost satellite VMS devices to meet ACCSP standards for integration into the program. This step will be carried out in collaboration with the ACCSP data team. Additionally, this will negate the need for future testing of cellular units as they become available on the market.
- Analyze approval procedures for federal VMS products in light of new inshore cellular options and pending lobster/Jonah crab fishery regulations. Compare approval procedures for federal VMS products to strawman ACCSP requirements developed for this project.
- Produce an updated comparative cost and technical specification analysis of available cellular VMS devices and data plans as well as all NOAA GARFO approved VMS devices.

- Investigate enhancements to current program capabilities for specific use cases of geofencing and track line post-hoc analysis, and document a process to add further use cases and/or additional enhancements after project completion.
- Enhance the existing administrative tool and scope requirements to develop a new tool to view tracks in real time and provide a platform for advanced post-hoc analysis.
- Conduct an informal survey of fishermen to solicit ideas for future improvements of program and end user needs.

Need:

Satellite-based vessel-monitoring-systems (VMS) have been deployed for years on federally permitted vessels and utilized by NOAA Fisheries and NOAA Office of Law Enforcement (OLE) successfully. These systems allow OLE to monitor and receive messages about vessels' positions, but also allow for the vessel captains to be notified when approaching defined boundaries. Most ACCSP state partners have not yet implemented this technology due to high costs and logistics. New cellular-based VMS technology has emerged that is less expensive to purchase and use and can be accessed via mobile devices providing opportunity for partners with limited resources. State managers and law enforcement are eager to explore the utility of this technology to allow for more flexible management programs in various fisheries accompanied with more robust accountability. Positional data generated from VMS devices linked with trip-level data is needed to accomplish the rigorous monitoring associated with these types of management programs especially where the current level of reported location data is insufficient. Furthermore, with the increasing presence of other ocean uses in recent years (e.g., renewable energy, aquaculture) in historically utilized commercial fishing areas, the ability to track spatiotemporal use with catch may be of interest to various commercial fishing stakeholders and management groups.

Per an August 4th press release from the Atlantic States Marine Fisheries Commission (ASMFC), "The ASMFC's American Lobster Management Board initiated Draft Addendum XXIX to Amendment 3 to the Interstate Fishery Management Plan for American Lobster. The Draft Addendum considers implementing electronic tracking requirements for federally-permitted vessels in the American lobster and Jonah crab fishery, with the goal of collecting high resolution spatial and temporal effort data. Draft Addendum XXIX will propose specifications for tracking devices to ensure the collected data meet both management and assessment needs. These specifications include data reporting rates, preferred technologies, and minimum standards for tracking devices." Phase 2 of this project proposes to directly collaborate with both ACCSP and ASMFC to support the successful development of Addendum XXIX.

In Phase 1 of this funding, the project team successfully enhanced eTRIPS mobile to obtain VMS data collected from several affordable cellular sourced devices and created an API (Application Programming Interface) capable of transmitting the collected VMS data into a

single standardized format in the Standard Atlantic Fisheries Information System (SAFIS). This VMS data is then ‘paired’ with eTRIPS trip report data creating a comprehensive history of spatially explicit fishing trips. This is distinct from the current federal use of satellite VMS which tracks vessels 24 hours a day/7 days a week, regardless of when fishing is occurring. A variety of cellular-based VMS systems were evaluated for compatibility with the API. After completion of Phase 1, several additional needs, which became the objectives of Phase 2, were identified to build upon this concept and to increase functionality of the program for both managers and harvesters.

NOAA Fisheries ‘approved’ VMS devices are required to meet stringent standards as set forth by OLE, and until recently, did not include non-satellite-based options. State managers do not typically have access to OLE stored data in real time, so Phase 1 of this project determined that data generated by cellular VMS systems would most appropriately work independently but parallel to existing databases and applications currently in place at NOAA Fisheries and should be stored and extracted by ACCSP. Additionally, the Phase 1 concept was developed as a data collection tool, and consequently, its scope differed in intent from the OLE VMS program. This identified a need for a standard process and repository for the combined positional and catch and effort trip-level data reported by vessels utilizing new cellular VMS technology. The proposed Phase 2 represents the next step necessary to begin developing an integrated database and programmatic system to fully take advantage of both new and existing VMS technologies.

Results and Benefits:

The storage and display of VMS data by SAFIS and SAFIS applications further moves towards ACCSP being the sole repository for fisheries-dependent data collection, which makes multi-jurisdiction management more streamlined and data more easily available and accessible. This project ultimately addresses the ACCSP’s catch and effort priority by further integrating and advancing data collection methods to include location tracking, which will support emerging management issues and improve the quality of data used to make decisions. The addition of geographic/positional fisheries-dependent data streams is becoming a priority of ACCSP and its partners and integral to SAFIS and SAFIS applications keeping current with emerging technologies. During Phase 1, ACCSP acquired appropriate GIS licenses and dedicated staff time to advancing ACCSP’s spatial data storage and use. Additionally, in March 2021, the Commercial Technical Committee initiated a spatial coordination working group to assist and guide ACCSP in spatial development. ACCSP and its partners are increasingly being asked to provide spatial analyses at resolutions that currently are not collected, and this approach will help resolve those issues.

eTRIPS mobile, which facilitates the collection of real-time catch and effort data, has been in production since 2015 and been successfully implemented within the SAFIS framework across several fisheries for both the commercial and party/charter sectors. In Phase 1, the application

was integrated with VMS data from the five tested device platforms, creating a more complete accounting of the catch, effort, and location of a given fishing trip. This integrated dataset, submitted via the API to ACCSP and displayed in the enhanced administrative application proposed in Phase 2, shall provide a platform to query the data for these "alternative" VMS programs. A single repository for all vessel-generated VMS data is necessary to create the query platform for "real time" report generation. SAFIS is the ideal place for this type of data compilation as it encompasses both state and federal systems and thus is usable among all partners. Scoping the potential for development of a new administrative application to view and query non-trip VMS data and live data will provide important context and details for both application developers and managers moving forward. It is intended that such a tool would bolster management efforts by supporting the identification of fishing patterns and non-fishing activity as well as provide the potential for future law enforcement compatibility.

By collaborating with industry representatives, the project will be able to incorporate elements that make the reporting of location data more attractive to the end users. The utilization of a survey will not only improve the end user (fishermen) experience by soliciting feedback about what works best at sea and how they would like to view and use those data, but also promote buy-in from industry via involvement in the process. Ultimately the results of this project should foster more flexible management strategies that benefit fishing practices by allowing fishermen to operate more effectively and efficiently. Upon success, the results from this effort would make VMS programs more accessible to all partners and location tracking management programs possible. This type of management strategy is particularly valuable for stock assessments that are spatially refined, such as those used for menhaden, black sea bass, tautog, and proposed for striped bass. A spatiotemporally explicit catch reporting system will allow for easier adjustment of catch information into discrete spatial units, thus precluding the need for some of the assumptions currently being used for these more progressive assessments. Additionally, the availability of this type of spatially defined catch and effort information could allow for other population assessments to progress to more spatially refined structures, thus improving the stock assessment enterprise as a whole. Managers, harvesters, and various stakeholders may also find utility in aggregated tracking data in relationship to proposed ocean uses such as offshore renewable energy development and aquaculture. While Phase 2 of this project does not intend to make harvester's personal tracks available for use by the public, the value of these data is apparent.

The collaboration during Phase 1 between two state partners highlighted the varying data needs of each. By utilizing the new technology on the market and expanding an avenue of integrated reporting, this project will open new methods for real-time data collection and utilization by all state partners. This project emphasizes partner collaboration and developing a product that can be used by any single partner, particularly for inshore fisheries. This will include discussions with NOAA Fisheries and OLE and build upon any advances that occur prior to Phase 2. A cost

analysis of tested VMS hardware and the resulting applications will be updated with new devices for any partner interested in implementing a VMS program at the conclusion of the project to aid in regulatory decision-making processes.

Although this project does not include any objectives directly tied to law enforcement, refinement of the ACCSP administrative viewer could potentially be adapted for law enforcement needs. As an example, Rhode Island OLE is currently utilizing cellular VMS trackers to aid in the enforcement of a pilot program involving weekly landing limits. Any developments made expressly for law enforcement would require partnership with OLE. It is anticipated that a “Phase 3” would follow the completion of this project. A Phase 3 would be smaller in scope but would include development on the scoped interface from Phase 2 (see section titled *Development and Scoping of Administrative Application* below) and potentially involve collaboration with ACCSP to further enhance data processing and visualization for law enforcement needs.

Data Delivery Plan:

All data will be stored at ACCSP following the same protocols as Phase 1. Tracks from completed trips, along with real time locations, will be pulled via API into ACCSP tables. Authorization schemes at the application and database level ensure that administrators only have access to location data under their jurisdiction. Tables are accessed through applications in the SMS portal, and data will be available to export in multiple formats. Database connections would also be available to pull trip location data directly into partner systems.

Approach:

Phase 1 of this project highlighted the need to further develop several concepts to improve the end user experience, improve the manager/data consumer capabilities, and to better assimilate new devices or further enhancements. Additionally, clearly defining the relationship between federal VMS and the piloted devices and programs as well as providing detailed cost analyses will be critical to the launch of any state-managed VMS data collection program. Phase 2 of this project plans to deploy VMS devices on ten fishing vessels. In an effort to increase participation in the project, participating fishermen will be rewarded with a gift card and entry into a lottery to win a larger prize. The approach to each objective is outlined here:

New Devices:

This is a rapidly expanding market and new companies are launched often. To date, two additional devices have been identified and are proposed to add to the eTRIPS mobile tracking version in Phase 2: Particle and SkyMate. These devices will be tested in the field and the ability to merge VMS data from each with eTRIPS trip reporting determined. It should be noted that as part of this project a set of requirements for devices to meet ACCSP standards will be developed,

thus negating the necessity to test new devices as they are released in the future (see section *Requirements Document for New Devices* for more detail).

1. Particle, <https://www.particle.io/>

These devices have been initially tested in Maine and are currently being incorporated into the VESL application designed to act similarly to the Phase 1 eTRIPS mobile application.

Hardware: While Particle offers several available tracking devices, the Tracker One unit offers the most 'out-of-the-box' options for this program. These devices are an extremely low-cost option (~\$160).

Service: Based on a ping rate of one minute, each individual Tracker One device qualifies under Particle's 'free tier', meaning there is no monthly or annual fee for data usage.

Connection Type: Particle provides an open-source online platform that requires advanced programming but is capable of being designed to fit specific projects. Based on initial work conducted in Maine, connection between Particle's API and eTRIPS/SAFIS should be feasible.

2. SkyMate, <https://www.skymate.website/vms-index>

This is a satellite-based company but has launched a lower cost device that aligns with the cellular models previously tested.

Hardware: SkyMate is providing two hardware options. Both utilize satellite transmission and have Bluetooth built in. The first option is the m1600 ([details here](#)), and the current cost of this device is \$1,399. However, they will be launching a newer, low cost, coastal product due out in the Spring of 2022. This is slated to be half the price of the m1600, approximately \$700.

Service: The base fee is \$15 per month. There are no additional charges for data sent to eTRIPS mobile via Bluetooth to then be forwarded to the ACCSP. There is an additional \$0.50 charge per hour of data (1 minute recording frequency) for any data sent via satellite.

Connection Type: SkyMate is proposing to allow the transmission of trip data points via a Bluetooth connection to the eTRIPS mobile device that is connected to the SkyMate VMS unit. With this method, the captain would be able to later utilize the WiFi on their eTRIPS device to submit the trip and location data. Since there would be no data transmission via satellite, only the base fee of \$15 per month would apply. The proposal

includes costs for the satellite transmission for testing purposes and to clearly document the process for using this device.

Requirements Document for New Devices and Comparison to Federal Requirements

As this market is expanding rapidly, the requirements for cellular-based VMS devices to be added to the eTRIPS mobile platform and SAFIS data repository will need to be clearly documented. Phase 2 will concentrate on identifying those needs for transmission of data to the ACCSP and, in collaboration with the ACCSP data team, developing a standardized approval process for new devices or updates in the future without the need for further funding resources. Additionally, this effort is critical for the centralized administrative application (another objective of this proposal) to be successful. These requirements will ensure the accurate and timely ingestion of data from the VMS device to the SAFIS administrative application. This requirements document will be available through ACCSP for any interested companies moving forward.

This process will also be compared to the existing OLE VMS requirements documents, with a focus on the Greater Atlantic Region (GARFO), to determine how the cell-based devices and the requirements set forth for ACCSP compare to the existing satellite VMS requirements. Furthermore, there are ongoing discussions in the Northeast region regarding integration of cost-effective cell-based tracking into the federal lobster fishery. These discussions may result in a federal rule making process that advances this effort prior to the initiation of Phase 2. This project will build on any results from these discussions (contingent upon those discussions occurring) and expand upon the requirements needed to run a successful, integrated, federal, non-federal, or hybrid VMS data collection program. This comparison will be made available to any interested parties, but particularly to managers who are looking to implement a vessel tracking program. This type of analysis will be valuable to those considering all options and what is specifically required of each.

This proposal does not intend to address the potential issue of certain vessels being regulatorily required to have both a traditional satellite VMS device as well as a cellular VMS device, but will provide comparisons of federally approved VMS devices and cellular units. These comparisons will assist managers when evaluating the costs of adding a secondary VMS unit to a vessel. This is a discussion being held at both the ASMFC and at the federal level. Because proposed lobster tracking requirements (ping rate) exceed the current capabilities of satellite VMS units or are cost prohibitive, it is possible that multi-permitted vessels will require two separate VMS devices.

Satellite Versus Cellular Costs Summary

Phase 2 proposes to update the evaluation of costs and technical specifications associated with a variety of options that was completed in Phase 1. All currently approved NOAA GARFO VMS devices will also be included in the cost/specification analysis to provide side-by-side detail for ACCSP, NOAA Fisheries, and managers. Lastly, this is a rapidly expanding market and new companies are launched often. To date, two additional devices have been identified to test in Phase 2: SkyMate and Particle and upon successful testing will be added to the summary. Devices tested in Phase 1 will have cost summaries updated based on any new pricing structures implemented since the completion of Phase 1.

Further Application Enhancements

Partners electing to use these VMS systems will need to know the costs associated with and utility of the implementation of the various options for management programs, as well as understand the economic impact on individual fishing practices. These types of management programs can be quite diverse and often are tailored to meet a specific need. For example, in Rhode Island the VMS and trip data is desired to track trips associated with a weekly aggregate landing programming while in Massachusetts the VMS are desired for allowing fishing to take place in state managed environmentally sensitive habitats. During Phase 1, it was determined that geofencing, including the potential for interactive alerts with captains, would be feasible with further development and is critical to application success. Further development is necessary to determine functionality outside of cell range and in what capacity geofencing might be limited. Regardless of distance from shore limitations though, geofencing will have many inshore applications specifically involving identification of ports and the ability to reduce ping rates while docked or identifying sensitive habitat areas. A review of the existing capabilities, limitations of each platform, each device's requirements to implement such features, and testing of enhancements on each device will be conducted during Phase 2.

Development and Scoping of Administrative Application

Initial development occurred on a viewer for post-hoc track analysis (e.g., multiple trip patterns, vessel speed, harvesting locations) during Phase 1. The current application does not display real-time vessel tracking information and has limited functionality for submitted VMS data. Phase 2 intends to enhance this existing application. At a minimum, the expanded existing viewer would be able to display all completed tracks from a given vessel over a specified time period, provide information pertaining to the vessel submitting those data, and provide basic metrics regarding specific trips (e.g., vessel speed) with the opportunity to download data for further analysis.

While the expanded track viewer will allow basic data queries and provide managers a starting point for post-hoc analysis, there is a need for a dedicated and robust real-time track viewer and post-hoc analysis tool. Development of an ACCSP web-hosted administrative application allowing for both real-time view of vessel location and post-hoc analysis is required for the

spatial analysis necessary to manage discreet fishing management areas. Furthermore, non-trip tracking data storage and viewing is essential for management. This may involve changes to the API which delivers track data to ACCSP, or to merge the API from the earlier MA-ME tracking project with the API from Phase 1 to acquire such data. The best available service needed to host such a platform will be scoped through discussions with the ACCSP Spatial Coordination sub-committee, ACCSP, Harborlight, and project partner agencies. ArcGIS Online (AGOL) will be explored as a host platform as well as within the SAFIS application itself. Baseline requirements will be defined as will a path forward for feature enhancements to produce output that can be used by partners for data analysis. Phase 2 proposes to scope what this application would look like and how it would functionally be developed and hosted. However, actual development of this advanced application would not occur under this Phase 2 funding.

This objective is perhaps the most time and work intensive piece of the project for ACCSP staff. This commitment is addressed in the accompanying memo from ACCSP.

Industry Survey

Lastly, industry members will be surveyed for input on various interface topics including but not limited to the utility of track data in their SAFIS account, ease of linking devices, installation of devices, and more. Participants will be identified by each partner for the survey and include those who participated in testing previously as well as others who have interest in the project. By including some funds for fishermen incentives in this project budget, we are also improving the success rate of obtaining volunteers and promoting participation in surveys conducted throughout this project.

Geographic Location:

Inshore waters surrounding Massachusetts and Rhode Island.

Milestone Schedule:

The milestone schedule is based on the starting month of the project as month “1.”

Task	Month												
	1	2	3	4	5	6	7	8	9	10	11	12	13
Complete requirements gathering	X	X											
Acquire new device APIs	X	X											
Acquire new devices and plans		X											
Program new devices to eTRIPS mobile			X	X	X	X	X	X	X	X	X		
Test new devices and all enhancements				X	X	X	X	X	X	X	X	X	
Identify requirements for new devices				X	X	X	X	X	X	X	X		
Federal VMS comparison effort							X	X	X	X	X		
Geofencing enhancement	X	X	X	X	X	X	X	X	X	X	X	X	
Track Viewer scoping/development	X	X	X	X	X	X	X	X	X	X	X	X	
Industry survey	X	X	X										
Report writing						X	X					X	X

Project Accomplishments Measurement:

Project Goal	Measure of Accomplishment
Evaluate functionality of additional VMS devices not tested in Phase 1.	Report identifying functionality, benefits, and problems associated with each device.
Develop strawman requirements for future cellular and/or low-cost satellite VMS devices to meet ACCSP standards for integration into the program.	Publish a requirements document for new devices to be added to the eTRIPS mobile vessel tracker program.
Analyze approval procedures for federal VMS products in light of new inshore cellular options and pending lobster/Jonah crab fishery regulations. Compare approval procedures for federal VMS products to strawman ACCSP requirements developed for this project.	Include in the report a comparison to existing marketed federal VMS options and note how the new products would fair in the federal approval process.
Produce an updated comparative cost and technical specification analysis of available cellular VMS devices and data plans as well as all NOAA GARFO approved VMS devices.	Report identifying costs of all tested VMS products and federal counterparts.
Investigate enhancements to current program capabilities for specific use cases of geofencing and track line post-hoc analysis, and document process to add further use cases and/or additional enhancements after project completion.	Documented results for geofencing use cases such as port identification and closed area crossings as well as how to request feature enhancements moving forward.
Enhance the existing administrative tool and scope requirements to develop a tool to view tracks in real time and provide a platform for advanced post-hoc analysis.	Report comprehensive overview of technical requirements needed to support development of an enhanced administrative tool.
Conduct an informal survey of fishermen to solicit ideas for future improvements of program and end user needs.	Include in the report summarized, anonymous responses from survey highlighting repeated trends.

Cost Summary:

Description	Calculation	Funding Source				
		In-Kind		Requested from ACCSP		Admin Costs
		MADMF	RIDMF	MADMF	RIDMF	
Personnel (a)		\$1,942.83	\$2,391.0	\$9,302.14	\$7,278.00	\$0.00
Anna Webb (Env Analyst, MADMF)	5% of time @ 2 hrs/wk	\$1,942.83		\$1,942.83		
Nick Buchan (Env Analyst, MADMF)	10% of time @ 4 hrs/wk			\$7,359.31		
John Lake (Mar. Biologist, RIDMF)	3% of time @ 1 hr/wk		\$2,391.0			
Rich Balouskus (Mar. Biologist, RIDMF)	10% of time @ 3.5 hrs/wk				\$7,278.00	
Fringe (b)		\$767.41	\$1,141.0	\$3,674.34	\$5,387.00	\$0.00
37.53% MA Fringe rate	Applied to A. Webb's salary	\$729.14		\$729.14		
37.53% MA Fringe rate	Applied to N. Buchan's salary			\$2,761.95		
1.97% MA Payroll rate	Applied to A. Webb's salary	\$38.27		\$38.27		
1.97% MA Payroll rate	Applied to N. Buchan's salary			\$144.98		
RI Fringe rate	Applied to J. Lake's salary		\$1,141.0			
RI Fringe rate	Applied to R. Balouskus salary				\$5,387.00	
Supplies (c)		\$0.00	\$0.00	\$0.00	\$0.00	\$5,186.96
SkyMate units	3 Units @ \$700 per unit					\$2,100.00
Particle units	3 Units @ \$159.99 + Shipping @ \$6.99					\$486.96
Fishermen Incentives	Estimated 10 \$200 gift cards + 1 lottery incentive					\$2,500.00
Shipping costs	Estimated shipping to partners					\$100.00
Contractual (d)		\$0.00	\$0.00	\$0.00	\$0.00	\$50,000.0
Harborlight Software	Development 215 hours @\$170/hour = \$36,550 QA and Test 107.6 hours @\$50/hour = \$5,350 Project Management 54 hours @150/hour = \$8,100					\$50,000.0
Other (all divided evenly amongst partners) (e)		\$0.00	\$0.00	\$0.00	\$0.00	\$640.00
SkyMate data cost	3 devices at \$15/month for one year					\$540.00
SkyMate satellite cost	200 hours at \$0.50 per hour					\$100.00
Particle plan data cost	No data cost with this company; using free tier					\$0
Total Direct Charges		\$2,710.24	\$3,532.0	\$12,976.48	\$12,665.0	\$55,826.96

Description	Calculation	Funding Source				
		In-Kind		Requested from ACCSP		
		MADMF	RIDMF	MADMF	RIDMF	Admin Costs
Total Direct Charges (repeated from previous page)		\$2,710.24	\$3,532.0	\$12,976.48	\$12,665.0	\$55,826.96
Indirect Charges (f)		\$481.63	\$689.00	\$2,306.00	\$2,470.00	\$0.00
24.79% MA Indirect	Applied to A. Webb salary only	\$481.63		\$481.63		
24.79% MA Indirect	Applied to N. Buchan salary only			\$1,824.37		
19.5% RI Indirect	Applied to J. Lake's salary		\$689.00			
19.5% RI Indirect	Applied to R. Balouskus salary				\$2,470.00	
Totals		\$3,191.87	\$4,221.0	\$15,282.48	\$15,135.0	\$55,826.96
Total Project Cost		\$93,657.31				
In-kind versus Direct Percent Contribution		7.91%		92.09%		
Requested Amount		\$86,244.44				

Cost Details:

- a. Personnel (\$16,580.14 Requested; \$4,333.83 Match)** MA DMF will use a small portion of co-PI Anna Webb's salary as match for this application. Her CV is attached. J. Lake will provide in-kind support from RI. The remaining salary is requested from ACCSP.
- b. Fringe (\$9,061.34 Requested; \$1,908.41 Match)** MA DMF will provide matching funds to cover fringe and payroll expenses associated with A. Webb's match salary. MA DMF's fringe rate of 37.53% includes the costs for Group Insurance, Retirement, and Terminal Leave. MA DMF's payroll rate of 1.97% includes the costs of Unemployment Insurance, Employer Medical Assistance Contribution, Medicare Tax, and Paid Family Medical Leave. RI will provide matching funds to cover fringe for expenses associated with J. Lake's match salary. All remaining fringe costs are requested from ACCSP.
- c. Equipment/Supplies (\$5,186.96 Requested; \$0 Match)** All equipment/supplies costs for devices, fishermen incentives, and shipping is requested from ACCSP. Three of each device type is requested; one of each device will be used by MA, RI, and Harborlight for testing. For incentives, participation in the trials will be rewarded with gift cards and a lottery for a larger incentive will be used to encourage survey participation. **Devices will be moved among vessels during the testing phase to accommodate more participation.**
- d. Contractual (\$50,000.00 Requested; \$0 Match)** Software development costs for Harbor Light Software, Inc. will be \$50,000 **and includes project management, development, and QA/testing costs.** This covers enhancements to eTRIPS mobile to integrate with the Particle and Skymate VMS devices to retrieval of device-specific GPS data, and upload that data to SAFIS. It additionally covers enhancements to geofencing functionality and to eTRIPS based on extended user experience in the field. These costs are based on development experience with existing devices, with consideration that the two new devices present unique approaches to accessing location data that were not offered by Phase 1 devices.
- e. Other (\$640.00 Requested; \$0 Match)** The data plan/contract costs for the devices are requested from ACCSP. This includes the cost of transmitting the data at designated ping rates.
- f. Indirect Charges (\$4,776.00 Requested; \$1,170.63 Match)** MA DMF will provide matching funds to cover the indirect costs associated with A. Webb's match salary. MA DMF has a federally-negotiated indirect rate of 24.79%. RIDMF's indirect rate is 19.5% on salary plus fringe. All remaining indirect costs are requested from ACCSP.

Summary of Proposal for Ranking Purposes

Proposal Type: *New Project*

Primary Program Priority:

Catch and Effort: This proposal focuses on enhancements to the collection and integration of positional data with catch and effort data already collected through SAFIS applications.

Data Delivery Plan: See outline on page 6.

Project Quality Factors:

Multi-Partner/Regional impact including broad applications:

This is a joint project between two Northeast partners. The results will be directly applicable to any partner interested in developing a location monitoring program in inshore waters, and the cost analysis in the final report will aid further management decisions both by the principal investigator's agencies and any interested partner.

Contains funding transition plan/defined end-point:

This is a one-year project with a defined end goal. The goal is to enhance the existing product to better serve both managers and fishermen, produce documentation regarding implementing a cell-based VMS data collection program, and to scope the requirements for a real-time VMS administrative tool.

In-kind contribution: Please see the costs table on page 14.

Improvement in data quality/quantity/timeliness:

Further integrating positional data into catch and effort reporting is another step towards implementation of a comprehensive spatiotemporal data collection program. Testing new VMS devices and the ability to integrate with eTRIPS mobile expands the options for such data collection.

Potential secondary module as a by-product:

Social and Economic: Integration of VMS and electronic reporting will help foster more progressive management strategies, which will help fishermen fish more efficiently while still making the programs enforceable. With the increasing presence of other ocean uses in recent years (e.g., renewable energy, aquaculture) in historically utilized commercial fishing areas, the ability to track spatiotemporal use with catch may be of interest to various commercial fishing stakeholders and management groups. The ability to geofence specific areas could allow fishermen access to areas that have competing uses, thus allowing them greater opportunities for their fishing businesses. Additionally, the comparative analysis across different VMS units will allow fishermen to make informed decisions on the type of unit that best meets their business needs and supports the management objective.

Impact on stock assessment:

Positional data at the trip level would be valuable for stock assessments, allowing the nuances of catch location to be observed and utilized in spatially refined models while introducing possibilities for more refined spatial analyses where current statistical reporting area demarcations are not sufficient to identify and monitor fishing activity within a given region.

Appendix A: Curricula vitae for the principal investigators

Anna R. Webb

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EDUCATION:

Continuing Education:

Intro to Computer Programming, University of Massachusetts, Lowell; Fall 2016
Relational Database Concepts, University of Massachusetts, Lowell; Spring 2015
SQL Programming, Hands-On Technology Transfer, Inc.; Fall 2014

Graduate Education:

Master's of Science Degree, Marine and Atmospheric Science, *Focus: Fisheries*, School of Marine and Atmospheric Sciences, Stony Brook University, August 2011
Thesis title: *Understudied Species in Coastal U.S. Waters: Issues, Solutions, and Implications for Ecosystem-Based Fishery Management*

Undergraduate Education:

Bachelor of Science Degree, Marine Vertebrate Biology, Stony Brook University, May, 2007

WORK EXPERIENCE:

Environmental Analyst, Massachusetts Division of Marine Fisheries, Gloucester, MA
November, 2015 - Present

Ongoing Responsibilities:

- Project leader for Division's Fisheries Statistics Project. Project is a six person team responsible for collecting, entering, and managing catch and effort data from commercial fishermen and landings data from seafood dealers in Massachusetts. Job duties also include managing ongoing federal grants as the principal investigator.
- Specifically oversee the harvester data collection, entry, quality control, and compliance for Massachusetts and provide outreach and technical support to harvesters submitting reports electronically through SAFIS or via paper.
- Provide support and oversight for dealer data collection, entry, quality control, and compliance, data requests from internal personnel, other partner agencies, and the public, and quota monitoring of various species.
- Lead point of contact for all swipe card technology and Atlantic Coastal Cooperative Statistics Program (ACCSP) related matters.
- Member of the Commercial Technical Committee, Past Chair of the Information Systems Committee, and Chair of the SAFIS Outreach Committee at the ACCSP.

Program Coordinator, Massachusetts Division of Marine Fisheries, Gloucester, MA
April, 2014 – November, 2015

- Oversee the harvester data collection, entry, quality control, and compliance for Massachusetts
- Provide outreach and technical support to harvesters and dealers submitting reports electronically through SAFIS or via paper.
- Instituted the online video tutorial series for harvesters using SAFIS and a newsletter focusing on electronic reporting for dealers and harvesters.
- Participate in the swipe card dealer application project with ACCSP and Maine

Department of Marine Resources.

- Member of the Commercial Technical Committee, Vice Chair of the Information Systems Committee, and Chair of the SAFIS Outreach Committee at ACCSP.

ACCSP Fishery Specialist (Coordinator), Rhode Island Division of Fish and Wildlife-Marine Fisheries Section, Jamestown, RI

April, 2012 – April, 2014

- Oversee SAFIS data entry and compliance by dealers, harvesters, and staff.
- Provide daily technical support to dealers and fishermen.
- Participate on the quota monitoring team to make decisions regarding seasonal closures and possession limit changes for summer flounder, black sea bass, tautog, bluefish, striped bass, scup, menhaden, and monkfish.
- Manage the research-set-aside program in Rhode Island.
- Write and submit progress and final reports for ACCSP grants.
- Provide data to staff and external users while monitoring confidentiality issues.
- Member of the Commercial Technical Committee, Vice Chair of the Information Systems Committee at ACCSP, Chair of the Data Warehouse Outreach Committee.

Seasonal Field Technician, New York State Department of Environmental Conservation, East Setauket, NY

June, 2011 – April, 2012

- Conduct seining surveys of juvenile striped bass in Western Long Island bays.
- Assisted with the monitoring of 35 fish pots in a Long Island Sound fishery-independent survey of tautog and a trawl survey of Peconic Bay, NY targeting juvenile finfish species.
- Participated in onboard sampling and measurement of recreational charter boat catch including local species such as summer flounder, black sea bass, and scup.
- Monitor and collect commercial striped bass fishery samples from local fish markets
- Press and age striped bass scales.
- Data entry: Cooperative Angler Program; Vessel trip reports into SAFIS.

Research Technician, Stony Brook University, Stony Brook, NY

March, 2007 – September, 2008

- Participated in hard clam restoration project in conjunction with The Nature Conservancy by analyzing gonad and general body condition of both sanctuary and native clams
- Collected and filtered seawater for chlorophyll and POC/PON content analysis
- Analyzed sediment cores for both POC/PON analysis and enumeration of benthic organisms
- Prepared all materials for both field sampling and laboratory testing

SPECIAL SKILLS:

- Relational database management including MS Access and Oracle based databases
- Data mining large datasets for repeating errors
- Proficient in SQL and Microsoft Office Suite, expert in Microsoft Excel
- Experience with R, GIS, HTML, Visual Basic

Richard G. Balouskus

3 Fort Wetherill Rd · Jamestown, RI 02840
Richard.Balouskus@dem.ri.gov · (401) 423-1924

EDUCATION:

Graduate Education:

Master's of Science Degree, Marine Biosciences, *College of Earth, Ocean, and Environment*,
University of Delaware, 2011

Thesis: "*Macrofaunal utilization of intertidal fringing salt marsh and hardened shorelines*"

Undergraduate Education:

Bachelor of Science Degree, Environmental Science, University of Vermont, 2005

WORK EXPERIENCE:

Principal Marine Biologist, Rhode Island Division of Marine Fisheries, Jamestown, RI
February, 2019 - Present

Ongoing Responsibilities:

- Lead PI for the Rhode Island ventless fish pot survey. Collects monthly samples of structure oriented species in state waters. Performs data entry and analysis on collected biological samples; maintains project database. Conducts research with state partners.
- Lead PI for the Rhode Island winter flounder spawning stock survey. Conducts weekly fyke net surveys in RI coastal ponds in winter months. Maintains winter flounder tagging project conducted since 1999. Performs data entry and analysis on collected biological samples; maintains project database. Conducts research with state partners.
- Oversees the RI aggregate fluke and black sea bass pilot program. Performs extensive data analysis of fishing activity to determine efficacy of program. Works with harvesters to ensure compliance with VMS and reporting requirements.
- Member of the NEFMC Groundfish Planning Development Team
- Member of the ASMFC Winter Flounder Technical Committee

Fisheries Biologist, INSPIRE Environmental, Newport, RI

July, 2017 – February, 2019

- Developed protocol and secured funding for a hook and line survey to address concerns of federal and state agencies regarding locations of spawning cod aggregations on Cox Ledge with regards to offshore wind development.
- Served as chief scientist for research; responsible for procurement and maintenance of equipment, contracting and community engagement with vessels and anglers, dissection and assessment of collected cod, data analysis and reporting.
- Additional work includes assessment of sediment profile and plan view images to assess seafloor habitat characteristics.
- Preparation of proposals to private, federal, international, and NGO RFPs. Responsible for scoping and monitoring of project budgets through to completion and delivery of final products to clients.

Project Manager, Applied Science Associates (dbs RPS ASA), Wakefield, RI

April, 2011 – July, 2017

- Performed marine fisheries and coastal habitat research calculating injuries and reporting scientific findings for the DeepWater Horizon oil spill NRDA. Conducted analyses of large fisheries and environmental datasets.

- Developed novel methodologies for assessment of marine fish and invertebrate population dynamics.
- Project manager for development, application, and training of environmental risk assessment regarding oil and offshore wind development and operation in marine and coastal waters.
- Conducted risk assessments for coastal waters incorporating socioeconomic and ecological resources, including climate change planning.
- Preparation of proposals to private, federal, international, and NGO RFPs. Responsible for scoping and monitoring of project budgets through to completion and delivery of final products to clients.

SPECIAL SKILLS:

- Relational database management including MS Access
- Proficient in Microsoft Office Suite, R, and GIS
- Small boat handling including several safe boating courses



Atlantic Coastal Cooperative Statistics Program

1050 N. Highland Street, Suite 200A-N | Arlington, VA 22201
703.842.0780 | 703.842.0779 (fax) | www.accsp.org

TO: ACCSP Operations and Advisors Committee Members

FROM: Julie DeFilippi Simpson, ACCSP Deputy Director

DATE: June 10, 2021

SUBJECT: ACCSP Staff Workload for Proposed Project

Project Title:

Integration of vessel monitoring systems and electronic reporting in SAFIS and SAFIS applications through API development and field testing of multiple hardware options: Phase 2

Project Type: New Project

Principal Investigators: Anna Webb (MADMF), Rich Balouskus (RIDMF)

ACCSP Staff Workload Comments: *

One of the objectives of the project is to develop an enhanced administrative tool to view tracks in real time and provide a platform for advanced post-hoc analysis of spatial data. During the FY2020 project, ACCSP staff developed an APEX application for post-submission track viewing. The application provides tracks based on data points, with limited spatial analysis as attributes, and is integrated within the SAFIS management system. The data are available immediately after submission to the ACCSP unified API. SAFIS Administrators can select from dropdown lists of users, and trips submitted by those users along with a date range. Records representing unique pings are converted into Oracle geometries. Spatial analyses are then performed and connected with segments between each data point. Segments are then loaded into the map interface, and are color-coordinated according to custom speed bins. The application should not be considered a GIS, as users are not able to perform spatial analysis on their own, but will serve as the basis for achieving this objective during FY 2022.

The entirety of the technical work for achieving this objective will be done by ACCSP Data Team staff with spatial data skills. Partner agency staff have already proved to be willing and able to share ideas, codes, and approaches as possible to achieve efficiency through collaboration.

In order to develop an administrative tool that can support extensive spatial analyses, significant ACCSP staff time is required (500+ person-hours). This may involve ArcGIS Online integration with ACCSP's portal, or it may involve further development with the Google Map services. The staff workload for this proposal would be focused on a single member of the Data Team. The Data Team is structured in such a way as to be at least 2 people deep in almost all areas. As such, while the workload would be substantial, it could be spread over the entirety of the team through task sharing managed by the Data Team Lead. It is the opinion of the ACCSP leadership that this project is feasible.

* Comments and opinions are based on evaluation of this project individually as opposed to all proposed projects as all projects have yet to be submitted.

Our vision is to produce dependable and timely marine fishery statistics for Atlantic coast fisheries that are collected, processed, and disseminated according to common standards agreed upon by all program partners.



Geoff White, Director
Atlantic Coastal Cooperative Statistics Program
1050 N. Highland Street, Suite 200 A-N
Arlington, VA 22204

August 16, 2021

Dear Mr. White,

The Massachusetts Division of Marine Fisheries and the Rhode Island Division of Marine Fisheries, through partnership with Harborlight software, are pleased to resubmit the proposal titled “*Integration of vessel monitoring systems and electronic reporting in SAFIS and SAFIS applications through API development and field testing of multiple hardware options: Phase 2*” for your review. This letter documents the proposal PI’s responses to questions posed by the Operations Committee proposal review team. Where applicable this information has also been included in the text of the updated proposal document. The project team felt having direct responses to questions in one document may be helpful for further review.

Question: Proposal appears to be ‘maintenance’ as opposed to a ‘new’ project.

Reply: While the authors recognize the similarities to the Phase 1 pilot project, a significant change in scope of work is presented for Phase 2. The primary focus of this proposal is the development of an operable SAFIS backend for storage of tracking data and the creation of an administrative interface for viewing tracking data. The primary focus of “Phase 1” was determining if and how specific cellular devices could deliver tracking data to both eTrips and SAFIS. Phase 2 proposes` to build upon the baseline created during Phase 1 producing enhanced products and scoping additional features. Thus, this proposal is not considered a request for maintenance funding for the existing platform.

Question: Provide clarification whether vessels might be required to have two tracking devices (depending on fishing permits) running simultaneously on a single vessel.

Reply: This is a discussion being held at both the ASMFC and at the federal level. Because proposed lobster tracking requirements (ping rate) exceed the current capabilities of satellite VMS units and/or are cost prohibitive, it is possible that multi-permitted vessels will require two separate VMS devices under Addendum XXIX to Amendment 3. However, this proposal does

not intend to address this specific issue but will provide comparisons of federally approved VMS devices and cellular units. These comparisons will assist managers when evaluating the costs of adding a secondary VMS unit to a vessel.

Question: How would the regulatory requirement be handled beyond the state level?

Reply: This proposal does not intend to address specifics of how regulatory requirements would be implemented. The focus of this project is centered on data collection and uses by management. A multi-jurisdictional group discussion will be needed to address potential regulatory implementation of this project's tool. As an example, implementation of such a program in the federal lobster fishery will require data to be collected under ACFCMA, be transmitted to ACCSP for initial storage, then be transferred to NOAA OLE for enforcement purposes. Other regulatory impacts to such data collection should be determined through multi-jurisdictional discussions.

Question: How many vessels tested each platform in Phase 1? Across which species?

Reply: Significant difficulties in development and implementation of devices on commercial vessels were encountered during Phase 1 due to the COVID-19 pandemic. Five unique state vessels were used for testing across a range of environments including open ocean, nearshore bays, and inland coastal ponds. Implementation of devices on commercial vessels will proceed in the near future; species landed during test trips will be entirely dependent upon volunteers.

Question: Concerns were expressed regarding the cost to ACCSP to complete this project.

Reply: This project was designed in direct collaboration with ACCSP. Please see the provided memo (an attachment to this proposal) which highlights ACCSP's role and staffing abilities for this proposed work.

Sincerely,

Anna Webb
Environmental Analyst
MA Division of Marine Fisheries
30 Emerson Ave
Gloucester, MA 01930
anna.webb@mass.gov
(978) 282-0308 x115

Rich Balouskus
Principal Biologist
RI Division of Marine Fisheries
3 Fort Wetherill Dr
Jamestown, RI 02835
richard.balouskus@dem.ri.gov
(401) 423-1924

Proposal for Funding made to:
Atlantic Coastal Cooperative Statistics Program
Operations and Advisory Committees
1050 N. Highland Street, Suite 200 A-N
Arlington, VA 22204

Implementation of Electronic Quota Monitoring Reporting in North Carolina

Submitted by:

Meredith Whitten
North Carolina Division of Marine Fisheries
3441 Arendell Street; P.O. Box 769
Morehead City, NC 28557
meredith.whitten@ncdenr.gov

Sections of the proposal identified to help with the ranking process are underlined in the text, with a summary on pages 13-14.
Revisions are highlighted in yellow.

Addressing Questions from Reviewers

- Why does the current TT system not meet need?

The North Carolina Trip Ticket Program collects commercial landings data monthly, including data submitted electronically through the current North Carolina Trip Ticket System (NCTTS) software. Dealers are required to submit their trip tickets for the whole month by the 10th of the following month. However, this resolution is insufficient for monitoring the quotas of species specified in this proposal, so dealers with permits for the purchase and sale of those species must submit a quota monitoring log each day. These daily log forms capture less detailed data at a more frequent temporal resolution, and for that reason, require a slightly different submission system than the monthly trip ticket submission process. Although the electronic submission systems for monthly trip tickets and daily quota logs will be integrated, the forms and data file structure are slightly different.

- What is the location intent for data delivery to ACCSP? Does data need to be sent to GARFO or SERO?

North Carolina intends to continue sending data through the existing pathways. North Carolina currently does not use SAFIS, but dealers with federal permits submit their data through the NCTTS software, and those data are stored in an auxiliary table that GARFO accesses and can use for GARFO quota monitoring. North Carolina intends to work with ACCSP to enhance this pathway to allow state only licensed seafood dealers to submit data through this process. North Carolina understands that SAFIS is currently being redesigned to make data flows and processing more efficient and would like to work with the ACCSP to make sure the most efficient system can be developed.

- Could you provide a quote for project cost breakdown from Bluefin Data?

The North Carolina Trip Ticket Program has an ongoing maintenance contract with Bluefin Data LLC to maintain and update the NCTTS software as well as develop VESL, the future web and mobile based submission portal for monthly trip tickets. The electronic, daily quota monitoring elements outlined in this proposal would be included in that maintenance contract, rather than as a separate project. Although we do not have an itemized cost breakdown, the projected maintenance costs fall within the amount included in the attached budget.

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Applicant Name: North Carolina Division of Marine Fisheries

Project Title: Implementation of Electronic Quota Monitoring Reporting in North Carolina

Project Type: New

Principal Investigator: Meredith Whitten
Marine Fisheries Biologist

Requested Award Amount: \$63,854

Requested Award Period: For one year, beginning after the receipt of funds

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Objective:

The primary objective of this project is to establish an electronic reporting mechanism for seafood dealers holding North Carolina permits for the purchase and sale of quota monitored species. This project will shift quota monitoring daily reporting from a paper-based system to an electronic reporting system in the following ways:

- Implement electronic quota monitoring reporting and integrate electronic reporting with the extant North Carolina Trip Ticket System (NCTTS) software.
- Implement a web-based application for electronic quota monitoring reporting that will allow dealers to submit required quota monitoring reports from any computer or mobile device with internet access.
- Enhance the data pathways needed to submit quota monitoring data to SAFIS and ACCSP by NC dealers.

Need:

The North Carolina Division of Marine Fisheries (NCDMF) requires daily reports from dealers holding permits for the purchase and sale of certain species managed by commercial quotas. Currently these species include Spiny Dogfish, Summer Flounder, Atlantic Ocean Striped Bass, Central/Southern Management Area (CSMA) Striped Bass, Albemarle Sound Management Area (ASMA) Striped Bass, and Black Sea Bass North of Cape Hatteras. Seafood dealers holding permits for these species are required to submit daily quota monitoring logs during the respective season for each species, including negative reports if there are no landings. Dealers print and sign these logs and then submit them to NCDMF via fax or e-mail. They also have the option to call in landings to the Quota Monitoring Biologist and then mail in the paper forms at the end of the season. After receiving these logs, NCDMF staff manually enter each daily log for each permit number into the state's Fisheries Information Network (FIN) through an outdated software application. This application can only be used on the computer on which it is installed, and that computer must be connected via ethernet to the state network, which has presented a challenge with state offices closed for Covid-19. The current process is time consuming for dealers and staff, and the manual entry method introduces a source of potential error. This project will streamline quota monitoring by allowing dealers to submit their daily logs through the existing NC Trip Ticket System (NCTTS) software. Dealers will use a specialized report to pull data directly from their entered trip tickets into the quota log, which will reduce reporting redundancy and delays. Modernizing this process will make it easier for dealers to comply with reporting requirements and enable NCDMF to monitor landings more efficiently.

The current system requires NCDMF staff to manually enter a log for each day for each individual species permit for each dealer. If a dealer holds permits for all six relevant species, then NCDMF staff may have to enter up to 186 individual data points for a single dealer in one month. This modernization will greatly reduce the time that NCDMF staff spends on data entry and will allow more time for verifying the quality and completeness of the data. NCDMF staff currently spends on average about 5-6 hours per week just entering logs and appropriately saving the faxed or emailed forms, in addition to time spent calling dealers for missing reports and correcting data. This process is also time consuming for dealers, requiring up to an estimated 3-4 hours per month in addition to time spent completing and sending state or federally required trip tickets. During busy times, NCDMF staff struggle to get all the logs entered, monitor quality assurance and quality control (QA/QC) measures, and follow up with non-reporters. If NCDMF staff can spend less time on data entry, they will have more time to follow up with non-reporters and better monitor the quotas.

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Dealer compliance is a major challenge with daily quota monitoring. When dealers neglect to submit logs on a daily basis, it is difficult to assess the total landings that actually occurred within the season in a timely way. From a dealer perspective, the reporting process is redundant and time consuming. Approximately 60% of dealers holding quota monitoring permits already use the NCTTS software to report their **required monthly trip tickets** electronically to the state, but they have to send their daily quota logs through a different, paper-based submission process. **Daily quota logs are separate from monthly trip tickets because of the need to have a finer temporal resolution of landings data on these quota managed species.** Additionally, the quota monitoring logs are different from the trip ticket forms because they collect less detailed information to ease the daily reporting burden on dealers, so for these reasons, **the current NCTTS software and trip ticket submission process is not sufficient for quota monitoring.** When considering this potential project, NCDMF conducted an informal survey of 12 dealers to assess their interest level in electronic quota monitoring reporting and to ask for dealer input on the features they would like to see. Approximately half of those dealers responded, and of those who responded, they were all excited about the potential to send daily quota logs electronically. Integrating electronic quota monitoring with this software will create an improved “one stop shop” experience for dealers. Although the NCTTS software can generate a quota monitoring log from the entered trip tickets, very few dealers use this reporting feature. Based on conversations with dealers, they generally find it more complicated to print a log from the NCTTS software than it is to fill out and print a saved Word or Excel form template. The current quota monitoring report feature in the software does not offer dealers much of an advantage because they must print the daily log anyway. Streamlining the data submission for dealers will help improve compliance and therefore the quality of these important fisheries dependent data.

Additionally, in the survey responses, dealers highlighted their need to be able to submit their quota monitoring logs from multiple computers and locations. Since the NCTTS software can only be installed and used on one computer, dealers commented that if they are out of the office or at a different business location on a given day, they are not able to use the NCTTS software to print a quota monitoring log. **Even when electronic quota monitoring is added to the NCTTS software, dealers will still only be able to use it on one computer, which is inconvenient for many dealers.** This proposed project will address this issue through the second goal of moving to a web-based, mobile friendly reporting platform. The current process requires that a representative of each dealer have daily access to a computer, printer, scanner, and/or fax machine; this is not realistic for many of the dealers in North Carolina with multiple locations, limited internet access, or part-time staff, and sometimes **daily quota monitoring logs** are submitted late due to technical issues with fax machines and scanners. NCDMF hopes that the web-based platform will reduce these barriers and result in better dealer compliance. Although NCDMF could launch directly to the web-based platform without first deploying the electronic reporting functionality to the NCTTS software, NCDMF feels it is important to allow dealers to transition more gradually. While many dealers like being able to submit electronically, new technology can be intimidating for some of the less computer savvy users. Allowing dealers to use a familiar software interface for the new reporting system will reduce frustration and prevent dealers from feeling overwhelmed. **NC is also currently working with Bluefin Data LLC to develop VESL, a web-based reporting platform for dealers to submit trip tickets monthly. The web-based quota monitoring reporting will be integrated with VESL to continue to provide a “one stop” experience for dealers.**

Integrating the quota monitoring submission process with the trip ticket submission process also allows for better control of data quality. Currently, NCDMF staff runs an annual verification to compare the data submitted via trip tickets to the data submitted via quota monitoring logs. Sometimes the discrepancies between quota monitoring logs and trip tickets can be tens of thousands of pounds. Many of these errors identified in verification are often a result of either 1) NCDMF staff making a data entry mistake or 2) dealers incorrectly entering data either into the quota monitoring log or trip tickets. Implementing electronic

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reporting will reduce these errors by drastically reducing the amount of manual data entry by NCDMF staff. Electronic quota monitoring will also reduce transcription errors from the dealer. Instead of manually copying data from trip tickets into quota monitoring logs, dealers will pull the data from trip tickets directly into the daily log. This will also reduce the amount of time that NCDMF staff spends verifying the accuracy of values between trip tickets and quota monitoring logs.

Obtaining accurate daily records from more than 70 dealers for these tightly managed species is challenging, but essential, when the quotas may be met within a few weeks of opening the season. For example, the 2021 ASMA Striped Bass season quota was met and exceeded within 15 days. By proclamation, the season was initially opened for two months, but the fine scale data obtained from daily quota monitoring logs informed managers of the need to close the season earlier. Monitoring catch data in a fishery like ASMA Striped Bass requires staff to pay very close attention, and having accurate data is essential. NCDMF and the North Carolina Marine Fisheries Commission (MFC) are finalizing the details of an amendment to the current Southern Flounder Fishery Management Plan (FMP) that will add Southern Flounder as a quota monitored species requiring daily reporting. This change, expected to take place in 2022, will nearly triple the number of dealers NCDMF staff will have to monitor daily. Furthermore, NCDMF anticipates that the Southern Flounder quota will be split by three different regions and at least two different gear types, which will require an additional level of monitoring. Much like ASMA Striped Bass, the Southern Flounder quota is also expected to be met prior to the closure of the season and will require intensive staff attention. Pre-emptively implementing a more efficient reporting system prior to the addition of Southern Flounder is critical to quota monitoring in North Carolina.

Results and Benefits:

Implementing electronic quota monitoring data submission will be a substantial and innovative modernization of the current system. Asking dealers to submit faxed or scanned paper forms is outdated, and this project takes advantage of modern technological capabilities by allowing dealers to electronically submit quota monitoring data that will be imported automatically into the state's FIN. This project will improve the quality and timeliness of catch data and will facilitate better QA/QC and dealer compliance. Additionally, this project will give NC the capacity to add other species to this daily quota monitoring process. By proactively modernizing the quota monitoring reporting system before Southern Flounder or other species are added, NCDMF staff can be prepared for management measures that may rapidly require new species to have a strict quota and be monitored daily.

This project will improve data quality not only in North Carolina, but also at a regional scale, since many of these quotas are established through coastwide management plans. Although many of the larger dealers who sell these quota monitored species are federally permitted dealers and send data to ACCSP, substantial landings still occur with dealers who only have state permits. Implementing electronic quota monitoring would allow NCDMF to develop a file structure for the quota monitored data that could more easily be shared with ACCSP for more timely data. NCDMF representatives on both the Mid-Atlantic Fisheries Management Council (MAFMC) and the South Atlantic Fisheries Management Council (SAFMC) have expressed a desire to share more of our state data with the Greater Atlantic Regional Fisheries Office (GARFO) and the Southeast Regional Office (SERO) for species like Bluefish that have coastwide allocations but are not managed in NC by permits that require daily reporting. Establishing a better interface for sharing data at finer temporal scale than trip tickets would improve coastwide management and could help prevent overages as seen in NC Bluefish in 2020.

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This project will primarily address the Program Goal 1a: Improvements in Catch, effort, and landings data. Additionally, two of the species directly affected by this proposal, Black Sea Bass and Spiny Dogfish, fall in the top quartile of the Biologic Review Panel priority matrix. Although this project focuses on collecting catch data rather than biological sampling, the data obtained are still relevant and important for informing management of these priority species.

Funding Transition Plan:

This project has a defined end-point at the end of the funding period. Full time staff funded through other sources will be able to maintain and support the quota monitoring program going forward after the implementation of electronic quota monitoring.

Data Delivery Plan:

NCDMF staff sends out weekly quota monitoring report emails to state and regional managers to provide updates on current landings against the quota. These weekly updates currently go to members of the Atlantic States Marine Fisheries Commission (ASMFC), MAFMC, SAFMC, managers in neighboring states, and staff at NOAA regional offices. Additionally, a publicly available poster is published on the NCDMF website each week to make the data accessible to all stakeholders. The data shared in these weekly updates will be collected through electronic reporting proposed in this project.

NCDMF hopes to be able to use and enhance the current data pathways used by NC federally permitted dealers to include state only permitted dealers. If this pathway cannot be enhanced then NCDMF staff could work with ACCSP staff to see if the NC/ACCSP upload portal could be modified to submit daily quota monitoring records.

NCDMF also submits monthly uploads of trip ticket data to the ACCSP Data Warehouse via the NC/ACCSP upload portal and plans to continue using this pathway for submitting landings data. Currently NC does not submit data to SAFIS. When SAFIS was developed, NC was already working with Bluefin Data LLC to develop the current electronic reporting system and felt that at that time, the Bluefin Data application better suited the reporting needs of NC. Currently, federally permitted dealers in North Carolina submit their data through the NCTTS software, and the data are stored in auxiliary tables outside of SAFIS that federal agencies can access and use in combination with SAFIS data. NCDMF is not planning to develop new pathways but hopes that this project can lay the groundwork to allow NC to transmit quota monitoring data to ACCSP and SAFIS. The quota monitoring data structure is less detailed than trip ticket data, so the data structure may need to be edited to fit within current pathways. Defining and developing the needed data structure to submit quota monitoring data through existing pathways would also increase the future capacity to monitor other species through daily quota monitoring.

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Approach:

Goal One: Implement electronic quota monitoring reporting and integrate electronic reporting with the extant North Carolina Trip Ticket System (NCTTS) software.

Task A: Develop the data structure needed to receive electronic quota monitoring files into the current state FIN.

Bluefin Data LLC will:

- Develop the code needed to add electronic quota monitoring to the current NCTTS software; and
- Provide ongoing technical support to resolve issues.

NCDMF will:

- Conduct QA/QC of software functionality prior to deployment; and
- Partner with North Carolina Department of Information Technology (NCDIT) staff and developers at Bluefin Data LLC to ensure that data collected through the software application can be captured in the state FIN.

Task B: Deploy electronic quota monitoring as a feature of the NCTTS software.

Bluefin Data LLC will:

- Provide ongoing technical support for any bugs identified after deployment.

NCDMF will:

- Provide technical support to dealers; and
- Verify accuracy of data through QA/QC standards.

Task C: Conduct outreach and training to dealers.

NCDMF will:

- Make site visits to dealers to demonstrate electronic reporting and assist with technical support and software installations;
- Use outreach emails and phone calls to encourage dealers to switch to electronic reporting; and
- Update software manuals to include step-by-step instructions and disseminate to dealers.

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Goal Two: Implement a web-based application for electronic quota monitoring reporting that will allow dealers to submit required quota monitoring reports from any computer or mobile device with internet access.

Task A: Coordinate the development of the web-based platform and mobile application

Bluefin Data LLC will:

- Develop the web-based data entry platform and mobile application;
- QA/QC of functionality prior to deployment;
- Deploy mobile app to app stores; and
- Provide ongoing technical support to resolve issues.

NCDMF will:

- Test the new functionality prior to deployment; and
- Provide technical support to dealers.

Task B: Conduct outreach and training to dealers

NCDMF will:

- Conduct site visits to dealers to demonstrate the web-based and mobile applications and assist with technical support;
- Send outreach emails and make phone calls to encourage dealers to use the new web-based platform and mobile application; and
- Update program manuals and develop new outreach materials with step-by-step instructions for dealers

Additional Task: NCDMF will collaborate with ACCSP and SAFIS to enhance the data pathways needed to submit quota monitoring data to SAFIS from NC dealers.

Geographic Location:

This project will be administered through the NCDMF Headquarters in Morehead City, North Carolina and will include dealers throughout coastal North Carolina. The project will be completed in partnership with Bluefin Data LLC, located in Louisiana.

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Milestone Schedule:

Task	Month											
	1	2	3	4	5	6	7	8	9	10	11	12
Develop the data structure needed to receive electronic quota monitoring files into the current FIN	X	X										
Develop electronic quota monitoring as a feature of the NCTTS software			X									
Conduct outreach and training to dealers		X	X	X	X	X	X	X	X	X	X	X
Coordinate the development of the web-based and mobile platforms				X	X	X	X					
Develop the web-based and mobile platforms							X	X	X	X		
Coordinate data feed with ACCSP and SAFIS								X	X	X		
Semi and Annual Report Writing						X				X	X	X

Sections of the proposal identified to help with the ranking process are underlined in the text, with a summary on pages 13-14.

Revisions are highlighted in yellow.

Project Accomplishments Measurement:

Project Component	Goal	Measurement
Develop a mechanism for electronic daily quota monitoring report and integrate with the NCTTS software.	Quota monitoring data submitted by dealers electronically, rather than by paper forms, using the NCTTS software.	Electronic quota monitoring reporting application developed, tested, and deployed.
Dealer outreach	Promote the use of electronic rather than paper-based reporting and provide dealers with the support and information needed to switch.	Dealers are made aware of this new feature through phone calls, emails, and outreach visits and have received support to download the updated version of the reporting software and eventually migrate to the web-based/mobile platform.
Data Collection, QA/QC, and Analysis	Obtain daily reports from users, verify data quality, and disseminate data to appropriate fisheries managers.	Data entered by dealers daily; NCDMF conducting regular QA/QC checks and publishing weekly reports of the data.
Web-based and mobile data entry platforms	Implement web-based and mobile data entry platforms.	Web-based and mobile entry applications developed, tested, and deployed.
Data feed to ACCSP and SAFIS	Work with ACCSP and SAFIS to try to submit daily quota log data through current pathways.	Necessary data structure developed to send data directly ACCSP and SAFIS.

Project Personnel:

Alan Bianchi – Environmental Program Supervisor I, NCDMF
 Brandi Salmon – Section Chief, NCDMF License and Statistics Section
 Stephanie McInerny – Section Chief, NCDMF Information Technology
 Meredith Whitten – Marine Fisheries Biologist I, NCDMF
 Willow Patten – Marine Fisheries Biologist I, NCDMF
 Vacant – Marine Fisheries Biologist I, NCDMF
 Brett Messner – Applications Systems Analyst II, NCDMF IT Section

Sections of the proposal identified to help with the ranking process are underlined in the text, with a summary on pages 13-14.
 Revisions are highlighted in yellow.

Budget Narrative:

The cost summary table below includes an explanation for each budgeted item. The fringe and ACA fee included here are for a temporary employee so no indirect costs are associated.

Cost Summary (Budget):

Category	Expense	Cost	ACCSP Request	State In-Kind	Explanation
Personnel	NCDMF Marine Fisheries Biologist I, Willow Patten	\$38,000	\$38,000		\$20 hr./1,900 hours
	NCDMF Staff in-kind			\$50,100	NCDIT staff and NCDMF Trip Ticket program staff will contribute to this project and work to implement electronic quota monitoring.
Subtotal			\$38,000	\$50,100	
Contractual	Bluefin Data LLC	\$10,000	\$10,000		Contract with Bluefin Data LLC to develop and support electronic quota monitoring and associated applications
Subtotal			\$10,000		
Fringe	NCDMF Willow Patten, temporary solutions fringe and Affordable Care Act (ACA) fee		\$8,845		Fringe=18.8% of salary plus required ACA fee of \$1701.12
Subtotal			\$8,845		
Travel	Travel for dealer support and outreach trips	\$3,000	\$3,000		Per diem for meals and additional mileage fee to cover cost of state vehicles
Subtotal			\$3,000		
Supplies	Computer and monitors	\$1,959	\$1,959		NCDMF Biologist will need computer and monitors
	General Office Supplies	\$500	\$500		Pens, paper, printer toner, mailing supplies
	Software	\$700	\$700		SAS Software license for data analysis
	Camera and Headset	\$250	\$250		Camera and headset to facilitate remote work and meetings
	Cell phone	\$600	\$600		Cell phone for NCDMF Biologist
Subtotal			\$4,009		
Column Totals			\$63,854	\$50,100	Total project cost = \$113,954
Total Request			\$63,854		
Percent			56%	44%	Percentage calculated from total cost without fee

Sections of the proposal identified to help with the ranking process are underlined in the text, with a summary on pages 13-14.

Revisions are highlighted in yellow.

Summary of Proposal for Ranking Purposes

Proposal Type: *New*

Program Priority

Catch and Effort: **100%** of all commercial dealers submit trip-level **catch and effort** data to the trip ticket program for **100%** of the species included in the quota monitoring permits (pg. 7).

A **data delivery plan** is included on page 7.

Project Quality Factors

Multi-Partner/Regional impact including broad applications:

Although this project addresses data in North Carolina, the species impacted by this proposal include Spiny Dogfish, Summer Flounder, Atlantic Ocean Striped Bass, Central/Southern Management Area (CSMA) Striped Bass, Albemarle Sound Management Area (ASMA) Striped Bass, and Black Sea Bass North of Cape Hatteras. Except for ASMA Striped Bass, these species are managed through coastwide, state-based allocations. For this reason, maintaining accurate, timely data at the state level in North Carolina has significance regionally, particularly given the proportion of these quotas allocated to North Carolina. North Carolina currently holds the largest single state allocation of Summer Flounder (27.4%) and Spiny Dogfish (14.036%) and a considerable portion of the Black Sea Bass (11%) quota. Regional management agencies such as the ASMFC, MAFMC, and NOAA Fisheries would benefit from having this accurate and timely trip-level data from North Carolina to improve management at a regional level (pg. 6).

Contains funding transition plan/Defined end-point:

This project has a defined end-point at the end of the funding period. Full time staff funded through other sources will be able to maintain and support the quota monitoring program going forward after the implementation of electronic quota monitoring (pg. 7).

In-kind contribution:

44% (pg. 12)

Improvement in data quality/quantity/timeliness:

This project will improve data quality and timeliness by reducing the time required by both dealers and NCDMF staff to monitor daily landings of quota monitored species. It will also reduce errors by reducing the amount of manual data entry and will help to improve dealer compliance with daily submission requirements (pg. 5-6).

Potential secondary module as a by-product:

None

Impact on stock assessment:

Although this project addresses data in North Carolina, the species impacted by this proposal include Spiny Dogfish, Summer Flounder, Atlantic Ocean Striped Bass, Central/Southern Management Area (CSMA) Striped Bass, Albemarle Sound Management Area (ASMA) Striped Bass, and Black Sea Bass North of Cape Hatteras. Except for ASMA Striped Bass, these species are managed

Sections of the proposal identified to help with the ranking process are underlined in the text, with a summary on pages 13-14.

Revisions are highlighted in yellow.

through coastwide, state-based allocations. For this reason, maintaining accurate, timely data at the state level in North Carolina has significance regionally, particularly given the proportion of these quotas allocated to North Carolina. North Carolina currently holds the largest single state allocation of Summer Flounder (27.4%) and Spiny Dogfish (14.036%) and a considerable portion of the Black Sea Bass (11%) quota. Regional management agencies such as the ASMFC, MAFMC, and NOAA Fisheries would benefit from having this accurate and timely trip-level data from North Carolina to improve management and stock assessments.

Sections of the proposal identified to help with the ranking process are underlined in the text, with a summary on pages 13-14.
Revisions are highlighted in yellow.

Meredith Whitten

North Carolina Division of Marine Fisheries
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Morehead City, NC 28557
(252) 515-6690
Meredith.Whitten@ncdenr.gov

EXPERIENCE

Marine Fisheries Biologist I

2020 – Current North Carolina Division of Marine Fisheries (NCDMF) Morehead City, NC

Communicate with dealers to ensure timely submission of mandated quota monitored fisheries data logs
Input commercial quota monitoring data and eel pot log data into databases using the quota monitoring software and Microsoft Access

Produce weekly reports that present the most recent available data on the status of North Carolina's quota managed fisheries

Implement data quality controls and verify the accuracy of quota monitoring data with Trip Tickets

Maintain accurate, organized records of quota monitoring logs and electronic Trip Ticket updates and edits
Assist dealers and Port Agents with the installation and ongoing support of Trip Ticket electronic reporting software through technical support calls, emails, and in person visits

Investigate and resolve Trip Ticket data integrity issues in partnership with the data clerks, Port Agents, seafood dealers, software developers, and IT team members

Use and edit SAS code to complete data requests for fishermen, dealers, and internal Division of Marine Fisheries Staff

Utilize DMF's Fisheries Information Network (FIN) to obtain fisheries participant information and relevant DMF data

Attend state and federal fisheries meetings to develop and maintain knowledge of current issues in commercial fisheries management

Review and assist with writing technical reports such as the annual License and Statistics Big Book and various Biological Review Team documents

Graduate Researcher

2019 – 2020 Quantitative Fisheries Ecology Lab, Stony Brook University Stony Brook, NY

Planned and conducted field-based shark tagging research in collaboration with other researchers and New York State officials as a Ph.D. student

Maintained standardized metadata and nomenclature in database of biological samples

Research Assistant

2017 – 2019 Marine Geospatial Ecology Lab, Duke University Beaufort, NC

Assisted with a literature review of hundreds of migratory fish papers for the Migratory Connectivity in the

Sections of the proposal identified to help with the ranking process are underlined in the text, with a summary on pages 13-14.

Revisions are highlighted in yellow.

Ocean (MiCO) project

Developed standardized methodology and conducted spatial analysis of satellite telemetry data using R, ArcGIS Pro, and NOAA data sources

Georgia Adopt-A-Stream State Coordinator

2016 – 2017 Georgia Environmental Protection Division

Atlanta, GA

Managed and supported a statewide network of community coordinators and hundreds of volunteers
Used ArcGIS, Google Earth, and government data sets to develop sampling plans for water quality testing and data collection

Maintained relational database of citizen science data and managed QA/QC of data

Organized and led certification workshops in water quality monitoring protocols

Developed, updated, and distributed outreach materials, scientific manuals, and program newsletters

Planned and led organizational meetings with the program advisory board, network of community coordinators, and local stakeholders

Orchestrated an annual water quality monitoring conference with over 200 attendees, including water quality professionals, academic researchers, citizens, and government officials

EDUCATION

May 2019 Duke University

Durham, NC

Master of Environmental Management, Coastal Environmental Management Concentration, Geospatial Analysis Certificate

May 2014 Emory University

Atlanta, GA

B.S., Environmental Sciences

Sections of the proposal identified to help with the ranking process are underlined in the text, with a summary on pages 13-14.

Revisions are highlighted in yellow.

Proposal for Funding made to:
Atlantic Coastal Cooperative Statistics Program
Operations and Advisory Committees
1050 N. Highland Street, Suite 200 A-N
Arlington, VA 22204

**North Carolina fishery-dependent biological data transmissions to the
Atlantic Coastal Cooperative Statistics Program Data Warehouse**

Submitted by:

Stephanie McInerney
North Carolina Division of Marine Fisheries
3441 Arendell Street; P.O. Box 769
Morehead City, NC 28557
stephanie.mcinerney@ncdenr.gov

Applicant Name: North Carolina Division of Marine Fisheries

Project Title: North Carolina fishery-dependent biological data transmissions to the Atlantic Coastal Cooperative Statistics Program Data Warehouse

Project Type: New

Principal Investigator: Stephanie McNerny
Information Technology Section Chief

Requested Award Amount: \$79,887

Requested Award Period: For one year, beginning after the receipt of funds

Original Date Submitted: June 12, 2021

Objective

To create an interface to be used by North Carolina to view, schedule, and transmit fishery dependent biological data to the Atlantic Coastal Cooperative Statistics Program (ACCSP) Data Warehouse.

Background/Need

The development of a comprehensive database to house field sampling collections for the North Carolina Division of Marine Fisheries (NCDMF) was initiated in May 1980 and incorporates data from the 1960s to present. Data are collected from both fishery-dependent and fishery-independent surveys and used in stock assessments and fishery management plans (FMPs) to manage species important to the state as well as those managed by regional and federal management commissions and councils.

Currently, there are data from over 120 programs within NCDMF's Biological Database (BDB) and almost 20 million records. Types of fishery-dependent data collected include length, weight, aging structures, bycatch, species interactions, tagging, and observer data. The BDB consists of a hierarchical set of 128-byte ASCII records that detail various data collected by the sampling programs conducted by the division. This 128-byte file is scheduled to be converted to a SQL Server database starting in July 2021 along with new web interfaces for data entry, editing, and extraction through an approved FY2021 ACCSP grant titled "North Carolina biological database enhancements to prepare for transmission of data to the ACCSP". That project will lay the groundwork for the data used in the proposed project. The current proposal is being submitted as a new project instead of maintenance because of the change of scope.

In 2014, a web interface was created under a FY2015 ACCSP grant titled "Update and enhance Atlantic Coastal Cooperative Statistics Program data transmission methods for North Carolina Division of Marine Fisheries". This web interface was created to revamp the transmission of North Carolina's trip-level commercial data to ACCSP. Within this interface is the ability to schedule transmissions, view submitted data, modify reference tables used in the data translation, and export datasets. The interface was built in coordination with ACCSP staff to ensure data standards were being met and the data has to pass specific QA/QC requirements upon transmission. Since the completion of this interface, the process to submit trip-level commercial data to the ACCSP has worked exceptionally well and the data are submitted monthly. The current proposal is centered around enhancement of this existing interface to include data transmission of fishery-dependent biological data.

Over the years, the NCDMF has been an active participant in transferring selected BDB program data to other regional databases. North Carolina fishery-dependent biological data from the snapper-grouper fishery is provided to the NOAA Fisheries Southeast Fisheries Science Center's (SEFSC) Trip Information Program (TIP) which is a major component of the ACCSP. **Many snapper/grouper species are in the top 25% of the biological sampling priority matrix.** Other than snapper-grouper data, biological data collected by North Carolina are not currently available in the Data Warehouse; therefore, completion of the proposed project will expedite data availability to managers and stock assessment scientists as well as simplify the process for getting those data to NOAA and provide a simple way for data to be available more frequently than once a year. Due to only receiving NCDMF's TIP data once per year, NOAA staff that use these data for age/growth analyses have to manually verify and enter the trip information into their database when samples are received instead of looking them up in the TIP database. Once North Carolina's biological data are able to be submitted to ACCSP, additional data needed to satisfy TIP program requirements can be incorporated into the transfer so data could be retrieved by SEFSC staff from the ACCSP Data Warehouse, as needed. Depending on the differences between the data elements required by TIP and those required by ACCSP, a separate TIP data transfer could be set up and scheduled to transmit on a monthly basis which will significantly improve timeliness of these data to TIP.

Results and Benefits

Successful fulfillment of this project will provide:

- Access to North Carolina fishery-dependent biological data in the ACCSP Data Warehouse
- Accelerated data availability to fisheries managers for stock assessments and FMPs
- Enhanced access to TIP data by SEFSC staff

Data Delivery Plan

The NCDMF BDB has extensive documentation for each of the sampling programs that are stored in the database. Documentation of the new web interface as well as any relevant stored procedures and data mapping tables will be provided to the ACCSP as part of the grant completion report. Stored procedures created during this project will include documentation on primary function, data tables being accessed, and corresponding variables within the procedure's SQL code.

Approach

Upon completion of the FY2021 grant to reformat NCDMF's BDB into SQL Server, the data will be flagged as fishery-dependent or fishery-independent based on the biological sampling program they were collected from to differentiate between these data types. This will facilitate the transmission of only fishery-dependent data to the ACCSP. Before development begins, NCDMF staff will meet with the contractors to discuss database structure and transfer format requirements for the data to be successfully formatted and transmitted to the ACCSP.

Staff at NCDMF and ACCSP have discussed and agreed that the NCDMF will partner with the ACCSP to successfully execute this project (Julie Defilippi Simpson, ACCSP, pers. comm.). NCDMF will also work directly with NOAA Fisheries staff regarding TIP data transfers (David Gloeckner, NOAA, pers. comm.). The current web interface used to transmit commercial data will be used as the template to build the new interface as described in this proposal, and both modules (i.e., commercial and biological) will be accessible within a single interface. If needed, access to each module can be restricted based on the role of the user which is functionality that is already incorporated into NCDMF's FIN application. The data transfer structure for ACCSP's biological data has already been provided to the principal investigator of this project (Lindsey Aubart, ACCSP, pers. comm.). Before development begins, NCDMF and ACCSP will work on a requirements document to flesh out what is needed and expected in the new interface. Testing to ensure data are accurately being queried and transferred will occur throughout the project by both NCDMF IT staff and ACCSP staff.

NCDMF will attempt to hire the contractor that will be responsible for the main interface and stored procedure creation, whereas ACCSP will hire the contractor responsible for coordinating QA/QC and connections to the Data Warehouse. NC Department of Information Technology contracting processes have changed in recent years making the prospect of obtaining a qualified individual to complete this project simpler, but if NCDMF is unsuccessful in hiring a contractor through state procurement, then ACCSP will handle all contracting for this project. In the past, the ACCSP has demonstrated the ability to secure contractors with the technical programming skills required to successfully accomplish the objectives of this project. NCDMF will not be involved in monitoring expenditures of any contractor hired by ACCSP.

Geographic Location

The geographic range of the data being submitted to ACCSP under this project covers only North Carolina; although many of the species included are managed regionally. This project will be administered from NCDMF Headquarters in Morehead City, North Carolina. This project may be performed remotely and does not require the position to be located in North Carolina.

Milestone Schedule (start date depending on time of grant award):

Task	Month											
	1	2	3	4	5	6	7	8	9	10	11	12
Hire contractors	X	X	X									
Requirements document will be developed	X	X	X									
NCDMF database structure and caveats will be discussed with contractor		X	X									
Stored procedures to translate NCDMF fields to ACCSP format will be created			X	X	X	X						
Interface for transmitting data to ACCSP will be built. Testing, as needed.			X	X	X	X	X	X	X	X	X	
Documentation will be finalized											X	X

The contractors are not expected to work 40 hours a week on this project. Report writing will follow the requirements of two semi-annual status reports due at the end of the seventh and thirteenth months, respectively, and a final report due at the end of the fifteenth month, depending on time of the grant award.

Project Accomplishments Measurement

Projects	Accomplishments
Develop interface to schedule and transmit biological data to the ACCSP. Testing will occur as needed.	<ul style="list-style-type: none"> Interface completed and fully documented Data can be submitted to ACCSP Interface is tested and meets data standards
Develop ability to view data submitted to ACCSP. Testing will occur as needed.	<ul style="list-style-type: none"> Interface completed and fully documented Data can be viewed Interface is tested and meets data standards
Develop separate data transfer to send TIP data to ACCSP, if needed.	<ul style="list-style-type: none"> ACCSP received transmitted data Data were in the correct format and meet standards

Project Personnel

Stephanie McInerny—Section Chief, NCDMF Information Technology
 Dee Lupton—NCDMF Deputy Director
 Julie Defilippi Simpson—ACCSP Deputy Director
 Lindsey Aubart—ACCSP Fisheries Data Coordinator
 Larry Beerkircher—NOAA Fisheries Catch Validation and Biosampling Branch Chief
 Brett Messner—Applications Systems Analyst II, NCDMF IT Section
 Chris Capoccia—Applications Systems Analyst II, NCDMF IT Section
 Vacant—Applications Systems Analyst I, NCDMF IT Section

Budget Narrative

The cost summary table below shows an explanation for each budget item. The indirect rate for the Contractor is based on the standard ACCSP indirect rate of 35%. NCDMF will not charge an indirect fee for any contractor hired by NCDMF IT. The contractor hours provided below are estimates and include additional hours that may not be needed to ensure project objectives get completed.

Cost Summary

Category	Expense	Units	Cost	ACCSP Request	State In-Kind	Explanation
Personnel	Contractor (NCDMF)	1	\$43,750	\$43,750		One Analyst @ \$125.00/hr for 350 hrs
	Contractor (ACCSP)	1	\$13,500	\$13,500		One Analyst @ \$135.00/hr for 100 hrs
	IT Section Chief	1			\$26,700	\$8,900/month for 3 months
	NCDMF IT Staff	3			\$18,000	Average salary of \$6,000/month for combined 3 months of work (480 hrs)
Subtotal				\$57,250	\$44,700	
Fringe	Retirement, Social Security, Health Insurance				\$14,028	Fringe=29.09% of salary (\$11,258) plus \$6,647/year for health insurance (\$554*5 months combined work=\$2,770)
Indirect				\$20,037		<ul style="list-style-type: none"> • Indirect for NCDMF Contractor (if hired by ACCSP)=35% of salary (\$15,312) • Indirect for ACCSP Contractor =35% of salary (\$4,725) • Indirect for NCDMF Staff or Contractor hired by NCDMF)=\$0
Subtotal				\$20,037	\$14,028	
Travel						
Subtotal						
Supplies	Computer	1	\$2,500	\$2,500		
	External Hard Drive	1	\$100	\$ 100		
Subtotal				\$2,600		
Column Totals				\$79,887	\$58,728	Total project cost = \$138,615
Total Request				\$79,887		
Percent				57%	43%	Percentage calculated from total cost

Funding Transition Plan

This project should be completed within the grant cycle and will not require additional funding in subsequent years to be maintained.

Summary of Proposal for Ranking Purposes

Proposal Type: *New*

Program Priority

Catch and Effort: 0%

Biological Sampling: 100%

100% of all biological data collected by the Division in North Carolina are entered into the Division's Biological Database (BDB). The BDB houses data from over 120 programs and contains over 20 million records. Many snapper/grouper species are in the top 25% of the biological sampling priority matrix. Biological data on these species will be part of the data transmitted as a result of this project. **100%** of the fishery-dependent data in the BDB will be sent to the Data Warehouse after completion of this project. (See pages 3-4)

Bycatch/Species Interactions: 0%

Social and Economic: 0%

Metadata/Data Delivery Plan:

The NCDMF BDB has extensive documentation for each of the sampling programs that are stored in the database. New data mapping tables will be created to document how fields in the BDB will match to the ACCSP Biological data tables. Any new stored procedures created during this project will include documentation on primary function, data tables being accessed, and corresponding variables within the procedure's SQL code. Documentation will be provided as part of the grant completion report. (see [page 4](#))

Project Quality Factors

Multi-Partner/Regional impact including broad applications:

Although this project only covers data for North Carolina, future transmissions of biological data to the ACCSP will benefit other partners as the data will be more readily available for data requests and stock assessments. Many species within North Carolina are managed regionally. Regional management agencies such as the Atlantic States Marine Fisheries Commission (ASMFC) and Mid-Atlantic Fishery Management Council (MAFMC) would benefit from having more access to these fishery-dependent data. NOAA TIP data frequency will improve drastically by moving from yearly to monthly data uploads. Data can also be made available, as needed. As part of this project, NCDMF will be working with NOAA Fisheries to ensure data for TIP are available either from the ACCSP Data Warehouse or from a defined transfer action within the new interface. (see [pages 3-4](#))

Contains funding transition plan/Defined end-point:

The goals defined in this project should be completed within the grant cycle. (see [page 7](#))

In-kind contribution:

43% (See cost table on page 6)

Improvement in data quality/quantity/timeliness:

The project identified in this proposal will greatly improve data quality and timeliness by providing a method for transmitting data to the ACCSP Data Warehouse using existing protocols for data transmission and QA/QC checks for accuracy. As of now, biological data from North Carolina are not submitted to the ACCSP. (see pages 3-4)

Potential secondary module as a by-product:

Bycatch: 100% of all observer data collected by the Division in North Carolina are entered into the Division's Biological Database (BDB). Data from the Division's observer program of the South Atlantic Large Mesh Gillnet Fishery will be part of the data transmitted as a result of this project. 100% of the fishery-dependent data in the BDB will be sent to the Data Warehouse after completion of this project. (See pages 3-4)

Impact on stock assessment:

Although this project only covers data for North Carolina, transmissions of fishery-dependent biological data to the ACCSP will benefit other partners as the data will be more readily available for data requests and stock assessments. Many species within North Carolina are managed regionally. Regional management agencies such as the Atlantic States Marine Fisheries Commission (ASMFC) and Mid-Atlantic Fishery Management Council (MAFMC) and federal management agencies such as NOAA would benefit from having more access to these fishery-dependent data. NOAA TIP data frequency will improve drastically by moving from yearly to monthly data uploads. Data can also be made available, as needed. As part of this project, NCDMF will be working with NOAA Fisheries to ensure data for TIP are available either from the ACCSP Data Warehouse or from a defined transfer action within the new interface. (see pages 3-4)

Stephanie McInerny

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Morehead City, NC 28557
(252) 808-8120
stephanie.mcinerney@ncdenr.gov

EXPERIENCE

Section Chief (Information Technology)

2020 – Current North Carolina Division of Marine Fisheries (NCDMF) Morehead City, NC

- Responsible for management, supervision, and daily operations of the IT Section containing three distinct development and data management teams (i.e., Fisheries Information Network (FIN), Biological Database (BDB), and Geographic Information Systems (GIS)). Manage a total of up to 15 employees but directly supervise 6 permanent and 3 temporary employees including hiring and performance management
- Chair of Software Change Control Board (SCCB) and participate in Biological User Group (BUG) and Mapping Advisory Team (MAT) to identify Division priorities for the IT development team
- Manage large budget from multiple funding sources (i.e., state appropriations, commercial and recreational license receipts, federal aid, contracts, and other grants)
- Manage development and deployment of new web interface for FIN as well as development and database design of new SQL Server version of the BDB
- Create documentation, requirements documents, user stories, standard operating procedures, etc.

Section Chief (License and Statistics Section)

2016 – 2020 North Carolina Division of Marine Fisheries (NCDMF) Morehead City, NC

- Responsible for management, supervision, and daily operations of the License and Statistics Section containing four distinct programs (i.e., License Program, Commercial Statistics Program, Coastal Angling Program, and Fisheries Economics Program). Section employs over 60 part- and full-time personnel including administration, technicians, biologists, and supervisors. Directly supervise 5 permanent employees including hiring and performance management
- Manage a budget totaling \$3 million, annually, from state appropriations, commercial and recreational license receipts, federal aid, contracts, and other grants
- Summarize license and commercial landings data for internal and external data requests
- Participate in fisheries management discussion and rulemaking as a member of NCDMF committees (e.g., Management Review Team, Rules Advisory Team, Software Change Control Board, NOV Workgroup)
- Heavily involved with creation and advancement of IT projects to enhance data collection and reporting including projects to rebuild our Fisheries Information Network, automate uploads of electronic trip ticket data, interface to view and print trip ticket submittal data, updates to license daily cash log interface, and development of ACCSP data transmission interface

Marine Fisheries Biologist II (Commercial Statistics Biologist)

2008 – 2016 North Carolina Division of Marine Fisheries (NCDMF) Morehead City, NC

Data, Statistics, and Writing

- Provide commercial data, analyze life history data, write technical reports, and give presentations at data workshops for SEDAR stock assessments for NOAA Fisheries and ASMFC as part of the life history and commercial workgroups (e.g., red drum, black grouper, red grouper, red snapper, Spanish mackerel, blueline tilefish, gray triggerfish, king mackerel, and cobia)

Proposal for Funding made to:
Atlantic Coastal Cooperative Statistics Program
Operations and Advisory Committees
1050 North Highland Street, Suite 200 A-N
Arlington, VA 22201

**FY22: DNA and Bycatch Characterization of New Jersey's
American Shad Fishery in Delaware Bay**

Submitted by;
Heather Corbett
New Jersey Division of Fish and Wildlife
P.O. Box 418
Port Republic, NJ 08241

Proposal for FY2022 ACCSP Funding

Applicant Name: New Jersey Division of Fish and Wildlife
Bureau of Marine Fisheries
P.O. Box 418
Port Republic, NJ 08241

Project Title: DNA and Bycatch Characterization of New Jersey's American Shad Fishery in Delaware Bay

Project Type: New Project

ACCSP Program Priorities: 1b.) Improvements in Biological Data (80%), 2) Improvements in Releases, discards and protected species data (20%)

Project Supervisor: Heather Corbett, Supervising Biologist (NJDFW)

Principal Investigator: Brian Neilan, Senior Biologist (NJDFW)

State Staff: Assistant Biologist (NJDFW)

Requested Amount: \$88,886.00

Requested Award Period: September 1, 2021 to August 31, 2022

1. Objectives

- Determine the genetic stock composition of American shad in the directed mixed stock fishery in the lower Delaware Bay in support of understanding the effects of out of basin harvest on river specific American shad stocks through DNA analysis.
- Evaluate by-catch and discards in New Jersey's Delaware Bay gill net fisheries to supplement and verify data collected from commercial harvester reports through on-board fisheries observers.

2. Need

The Atlantic States Marine Fisheries Commission's (ASMFC) 2020 benchmark stock assessment for American shad found the coastwide stock to be depleted compared to historic levels. Out of this stock assessment came several research recommendations including developing an alosine genetics repository that can be used to, "define stock structure, identify stock composition from genetic sampling of American shad catch in mixed-stock fisheries, and provide information on recolonization capabilities in defunct American shad systems.": The genetic data collected through this project from commercial fishermen in Delaware Bay will help meet these research needs that the stock assessment classified as long term and high priority. One of the largest mixed stock fisheries along the coast is executed in the lower Delaware Bay. Defining genetic stock structure of the harvested fish will help to inform managers on ways to eliminate or mitigate the impacts to river specific stocks and the coastwide metapopulation of American shad which has been assessed as depleted. In conformity with the RFP, American shad are a target species in the top quartile of the "Biological Priority Matrix," and collecting biological data on this species addresses Program Goal 1b, "Improvements in biological data."

Additionally, this project will address a pressing need for bycatch and discard data from New Jersey's Delaware Bay gill net fishery. Under New Jersey's current commercial harvest reporting program discard reporting is not mandatory and is done on a voluntary basis. As such, any voluntary reports of discarded protected species such as Atlantic and shortnose sturgeon are considered an underrepresentation of the amount of these species that are actually discarded during the fishing year. On-board observer coverage, which is required as part of the shad limited entry permit, will provide a more accurate representation of the number and biological characteristics of discarded protected species and provide the necessary data for fisheries managers to most effectively managed for the recovery of these imperiled species. In conformity with the RFP, collecting biological data on this protected species addresses Program Goal 1b, "Improvements in Biological Data," and Program Goal 2., "Improvements in Releases, discards and protected species data," for important species such as Atlantic sturgeon and striped bass.

3. Results and Benefits

It is expected that this project will result in a significant increase in the quality and quantity of meaningful fisheries data to be collected from New Jersey's Delaware Bay gillnet fishery. The project will address multiple program priority goals including Program Goal 1b, "Improvements in Biological Data," through the collecting of biological (weight, length, sex, and age) and DNA data for the American shad directed fishery in Delaware Bay and Program Goal 2., "Improvements in Releases, Discards and Protected species data," through the collection of at sea data by on-board observers. These results not only relate directly to the RFP's program goals but have been identified in the ASMFC's 2020 Benchmark Stock Assessment for American shad and 2017 Atlantic Sturgeon Benchmark Stock Assessment as high priority needs. The data collected through this project will supplement and verify New Jersey's commercial discards in the Delaware Bay gillnet fishery that are currently reported on a voluntary basis through State reports and SAFIS eTrips. The data collected from these sampling efforts will benefit future stock assessments by directly addressing high priority research needs for several commercially, recreationally, and ecologically important species. Filling these vital data gaps is necessary to achieving the stock rebuilding goals of these data-poor species.

4. Data Delivery Plan

In addition to the mandatory landings reporting from this fishery, staff will augment the ACCSP's commercial reporting database with the observed discards and bycatch from this fishery. Currently, New Jersey does not require the mandatory reporting of discards and this represents a major data gap from this fishery. The observer coverage and subsequent discard reporting to the ACCSP's commercial reporting database will help to lessen this gap and provide a more accurate picture of how the fishery operates.

Staff will process all data following the completion of the spring directed gill net fishery for American shad. A mixed stock analysis will be conducted using the methods from Bartron and Prasko, 2021. Two semi-annual reports will be completed that will detail the program's progress toward achieving the stated goals. A final report will be prepared and submitted detailing the program's success focusing on the stock composition and regional contributions of the American shad harvest in the spring directed gill net fishery and a summary of the Atlantic sturgeon and striped bass by-catch discards that are observed. The data will also be submitted for consideration for management use in the next stock assessments for American shad, Atlantic sturgeon, and striped bass.

5. Approach

5.A. Fisheries Dependent Sampling Program 10% Allocated Funds

At-Sea Observer Coverage. At-sea observer sampling will consist of 15 planned trips during the directed spring gillnet fishery for American shad, with a minimum goal of 10 successful trips. The extra 5 trips will be planned to account for unsuccessful sampling due to foul weather days or low catch days. These 10 trips represent approximately 10% of the average number of vessels trips per year that are reported in this fishery. Staff will conduct outreach to fisherman prior to the fishing year to coordinate logistics for the planned observer trips. During each sampling effort, staff will record fork length, total length, weight, sex (when possible). Staff will collect fin clips for DNA analysis of a subset of the total amount of American shad caught with a target goal of 50 fin clips per trip. Additionally, any Atlantic sturgeon or striped bass that are incidentally caught and discarded will be recorded including disposition at the time of discard.

5.B. Biological Characterization

82% Allocated Funds

Biological sampling of American shad will be done during the spring 2022 directed gillnet fishery in the eastern half of the Delaware Bay. American shad sampled by NJ are ranked in the top quartile of the biological sampling priority matrix. Effort, either at-sea or dockside, is assigned in accordance with guidelines defined in ASMFC's FMPs for shad. Staff will collect DNA fin clips for analysis at the time of harvest. Fin clips will be taken from the upper lobe of the caudal fin and stored in vials of ethanol for later processing. Data collected from the subsampled shad catch will include fork length, total length, weight, and sex.

Upon completion of the spring gillnet fishery sampling the collected fin clips will be sent to the U.S. Geological Survey Eastern Ecological Center's Leetown Research Laboratory in Kearneysville, West Virginia. A mixed stock analysis will be conducted using the methods recently employed by Bartron and Prasko, 2021, at the USFWS Northeast Fishery Center. Stock origin will be determined using a microsatellite analysis approach using 15 loci. Additionally, all tissue samples will be submitted and catalogued with the Science Center's Alosine Tissue Repository to support broader efforts to assess the impacts of bycatch on coastal stocks.

Currently, a panel of single nucleotide polymorphism (SNP) markers is currently under development for American Shad, which offers the promise of significantly improved resolution for stock assignments. If available in time, we will leverage the new SNP panel in lieu of microsatellite to perform stock assignments using a reduced representation approach such as RADcapture.

5.C. Data Analysis and Report Preparation

8% allocated funds

Staff will process all data following the completion of the spring directed gill net fishery for American shad. Two semi-annual reports will be completed that will

detail the program's progress toward achieving the stated goals. A final report will be prepared and submitted detailing the program's success focusing on the stock composition and regional contributions of the American shad harvest in the spring directed gill net fishery and a summary of the Atlantic sturgeon and striped bass by-catch discards that are observed. The data will also be submitted for consideration for management use in the next stock assessments for American shad, Atlantic sturgeon, and striped bass.

6. Geographic Location

The project will be administered from the New Jersey Department of Environmental Protection (NJDEP), Division of Fish & Wildlife's Nacote Creek Research Station in Port Republic, New Jersey. The scope of the project will cover the eastern half of the Delaware Bay where New Jersey's directed gillnet fishery for American shad takes place.

8. Project Accomplishment Measurements

Project Component	Goal	Measurement
Project Outreach	Contact active commercially permitted shad fisherman to explain the project and develop logistics for successfully planning at-sea observer trips during the spring directed gillnet fishery for American shad.	Fishermen contacted and preparations made for at-sea observer trips in the spring directed gillnet fishery for American shad
Fisheries Dependent At-Sea Observer Program	Conduct the target minimum of 10 successful at-sea observer trip with a maximum goal for 15	Number of successful at-sea observer trips
Biological Characterization	Collect the target number of American shad fin clip samples and record bycatch in the spring directed gillnet fishery for American shad	Number of samples successfully collected
Sample Processing	Process shad fin clips for DNA analysis to determine stock structure in the mixed stock fishery	Number of samples successfully processed
Data Analysis and Report Preparation	Interpret and report on results from DNA analysis	Is stock structure in the in the mixed stock fishery able to be determined to a level useful for management?

9. FY2022 Budget (Letters in parenthesis pertain to Federal Grant Object Codes)

Item			Total NJ DFW in-kind support
Salaries (NJDFW)			
	Cost	Amount	Total
Supervising Biologist 5% in-kind (current FTE) (Heather)	\$ 102,317.02	5%	\$5,116.00
Senior Biologist 5% (current FTE)	\$ 70,464.99	5%	\$3,523.00
Wildlife Worker 2% (Current FTE)	\$ 37,251.71	2%	\$745.00
Clerical 1% (current FTE)	\$ 56,215.45	1%	\$562.00
		<i>salaries subtotal</i>	<i>\$9,946.00</i>
Fringe Benefits	53.25%		\$5,296.00
		<i>Salary & Fringe</i>	<i>\$15,242.00</i>
Supplies and Materials			
	Cost	Amount	Total
Scientific Equipment (Measuring boards, scales, dissecting kits)			\$300.00
Marterials for collection and storing of biological samples			\$300.00
		<i>subtotal</i>	<i>\$600.00</i>
Other			
	Cost	Amount	Total
NJDFW indirect costs	22.2%		\$3,384.00
Subtotal NJ Funds			\$19,226.00
Append to ACCSP Adminstrative Grant			
Salaries (NJDFW)			
	Cost	Amount	Total
Assitant Biologist 30% (Current FTE)	\$ 56,855.44	30%	\$17,057.00
Fringe Benefits	53.25%		\$9,083.00
		<i>Salary & Fringe</i>	<i>\$26,140.00</i>
Supplies and Materials			
	Cost	Amount	Total
Travel (mileage and tolls)			\$400.00
DNA Sample Processing			\$50,000.00
		<i>subtotal</i>	<i>\$50,400.00</i>
Other			
	Cost	Amount	Total
ASMFC Overhead (16.13%)	16%		\$12,346.00
ACCSP Admin Grant Project Costs Total			\$88,886.00
Total Project Costs (includes in-kind)			\$108,112.00

Budget Narrative

(a). Salaries; Assistant Biologist:

(1) Assistant Biologist, NJDFW FTE.

(b). Benefits of above employees

53.25% of the annual salary for the one Assistant Biologist.

(c). ASMFC Overhead:

16.13% of the sum of budget items a and b.

(d). ACCSP Administrative Grant Project Costs:

Total of (a) through (c) does not include in-kind support. No funds are being directly received by the State of NJ.

The FY2022 budget is in two parts, the first part details the amount that is being provided as in-kind match by NJDFW, while the second part is the amount to requested from the ACCSP Grant.

The in-kind funding provided by NJDFW includes salaries for NJDFW full time employees under the titles of supervising biologist, senior biologist, wildlife worker, and clerical staff. Additional in-kind funds include staff time for at sea sampling, supplies for at sea sampling, vehicle maintenance, data preparation report preparation. Sources of in-kind funding come from the annual state appropriation for the NJ Marine Fisheries Administration (MFA) and from the Atlantic Coastal Grant.

The \$88,886.00 covers the processing of American shad fin clips DNA and subsequent stock composition in the mixed stock fishery analysis and the salary for one NJDFW Assistant Biologist position that works out of the NJDFW's field office in Port Republic, NJ. This Assistant Biologist position will be responsible for outreach to the commercially permitted shad fishermen, scheduling and completing at-sea observing trips, data management, and biological sample management. This covers travel, fringe, indirect, and ASMFC's overhead. All other funding for the project will be covered by NJDFW.

Proposal Summary for Ranking Criteria

PROPOSAL TYPE: *New Project*

PRIMARY PROGRAM PRIORITY:

1b. Biological Data: This project will provide biological data that has been determined to be a long term, high priority need for American shad, striped bass, and Atlantic sturgeon. The increase in quality and quantity of data collected through this project will help to improve the stock assessment process.

PROJECT QUALITY FACTORS (Partners, Funding, and Data):

Partners-

Multi-Partner/Regional impact including broad application:

Although this project focuses on the activities of NJ permitted fishermen, it includes the data collection of species managed regionally American shad, striped bass, and Atlantic sturgeon. Thus, ASMFC will benefit from the biological data collected from this project.

Funding-

Requested Funds:

The funds being requested will be used the processing of American shad fin clips DNA and subsequent stock composition in the mixed stock fishery and the salary for one NJDFW Assistant Biologist position that works out of the NJDFW's field office in Port Republic. This Assistant Biologist position will be responsible for outreach to the commercially permitted shad fishermen, scheduling and completing at-sea observing trips, collecting biological data and samples, data management, and biological sample management.

In-kind Contribution:

NJDFW is providing 17% of the project cost (see section 9).

Data:

Improvement in data quality/quantity:

All biological data collected by NJDFW staff are available for coast-wide stock assessment. The data collected through the execution of this project has been determined by the ASMFC as long term, high priority needs for American shad, striped bass, and Atlantic sturgeon.

SECONDARY PROGRAM PRIORITY:

2. Releases, discards, and protected species data:

PROJECT QUALITY FACTORS (Partners, Funding, and Data):

Partners-

Although this project focuses on the activities of NJ permitted fishermen, it includes the data collection of species managed regionally American shad, striped bass, and Atlantic sturgeon. Thus, ASMFC will benefit from the biological data collected from this project.

Funding-

Requested Funds:

The funds being requested will be used for the salary of an NJDFW Assistant Biologist to perform at-sea observer trips to record the by-catch of striped bass and Atlantic sturgeon in the spring directed gillnet fishery for American Shad in the Delaware Bay. This Assistant Biologist position will be responsible for outreach to the commercially permitted shad fishermen, scheduling and completing at-sea observing trips, recording bycatch data, data management, and biological sample management.

In-kind Contribution:

NJDFW is providing 17% of the project cost (see section 9).

Data:

All discard and by-catch data collected by NJDFW staff are available for coast-wide stock assessment. The data collected through the execution of this project has been determined by the ASMFC as long term, high priority needs for American shad, striped bass, and Atlantic sturgeon.

Brian Neilan

Senior Fisheries Biologist

New Jersey Division of Fish and Wildlife

Education

- Professional Environmental Science Master, Stockton University, 2019
- Bachelor of Science in Marine Science, Richard Stockton College of New Jersey, 2010
 - Concentration in Marine Biology

Employment History

- **New Jersey Division of Fish and Wildlife, Bureau of Marine Fisheries**
 - **Senior Biologist, Fisheries**, March 2017 to present
 - Primary Investigator, River Herring Assessment and Restoration Program
 - State representative for the Delaware River Basin Fish and Wildlife Management Cooperative, ASMFC's Sturgeon Technical Committee, and current Chair of the ASMFC's Shad & River Herring Technical Committee
 - Conducts all field surveys, laboratory analyses, and administrative work involved with maintaining New Jersey's compliance with federal and regional fishery management plans and achieving all program goals for both commercial and recreational fisheries
 - Regional Biologist, all marine and estuarine waters in the Delaware Bay and River
 - Submits official comments regarding development proposals and permit applications in accordance with program goals and protocols
 - Assists in coordinating, developing, and implementing commercial and recreational marine fisheries rules and regulations
 - Grant reviewer and state representative on the Delaware Watershed Conservation Fund Advisory Team
 - Assigns work to and supervises part time employees to achieve program goals
 - **Assistant Biologist, Fisheries**, December 2013 to March 2017
 - Organized assigned fisheries management work and developed effective work methods for the laboratory and the field.
 - Conducted surveys of estuaries and coastal/offshore waters and sampled their fish populations using various gear types
 - Developed and implemented management programs and regulations for the state's fisheries resources.
- **New Jersey Division of Fish and Wildlife, Bureau of Freshwater Fisheries**
 - **Hourly Fisheries Technician**, April 2011 to December 2013
 - Assisted fisheries biologists in completing all field and laboratory program goals
 - Coordinated a federally funded fish ladder project with the goal of monitoring and restoring the American shad population in the Raritan River

Field Work Skills

- Conducts federally-funded fishery dependent and independent surveys of coastal waters
 - Trailers and pilot boats up to 25 feet in length
 - Utilizes gill nets, seine nets, otter trawls, fish pots, etc.
- Organizes and instructs staff to ensure employee safety and survey completion
- Identifies marine and freshwater fish and invertebrates to the lowest taxonomic level
- Performed electrofishing surveys and fish salvages using backpack, streamside, barge, and boat electrofishing equipment

Laboratory Skills

- Processes and ages biological samples to develop population structure and characteristics as part of several regional and federal fishery management plan requirements
- Preserves histological specimens and DNA samples for analysis and for inclusion in reference collections
- Processes and preserves gut samples of marine fish species for diet analysis

Computing Skills

- Microsoft Office suite of programs including Outlook and Access
- Familiar with various database related software (ex., ArcGIS and R statistical software)
- Input large volumes of information, maintain files, and analyze those records to produce summaries, charts, and graphs for writing technical and non-technical reports and articles

Certifications

- ASMFC Introduction to Stock Assessment Training
- ASMFC Intermediate Stock Assessment Training Program
- ASMFC Introduction to R for Fisheries Biologists
- ASMFC Access Point Angler Intercept Survey Training Program
- New Jersey Boating Safety Certificate
- U.S. Department of the Interior Electrofishing Safety Course

References

- Gregory Hinks (Current Supervisor)
Principal Biologist, Bureau of Marine Fisheries
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- Brandon Muffley
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- Shawn Crouse
Supervising Biologist, Bureau of Freshwater Fisheries
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Atlantic Coastal Cooperative Statistics Program

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August 16, 2021

To the members of the Operations and Advisory Committees:

The FY2022 Administrative Budget contains a few changes. ACCSP leadership has made concerted efforts to maximize the potential of the administrative budget by finding additional sources of funding, which are outlined at the end of the proposal. Additionally, we are exploiting opportunities to gain efficiencies, which is evidenced in the budget reductions found in travel and internet connectivity.

The budget includes additional funding for personnel in the form of a Software Developer. Supplemental justification for this personnel change is attached as an appendix to this cover letter. The ASMFC has slightly increased its overhead rate from 16.71% to 16.81%.

Attachment I of the FY2022 Administrative Budget request, the 2019 ASMFC Strategic Plan (Goal 3), provides an overview of the high level tasks and milestones expected for the coming year.

Sincerely,

Geoff White

ACCSP Director

Funding Proposal
FY22 ACCSP Administrative Budget

Applicant Name: Atlantic States Marine Fisheries Commission

Project Title: Administrative Support to the Atlantic Coastal Cooperative Statistics Program

Principal Investigator: Geoff White, Director, ACCSP

Requested Award Amount: \$2,347,039

Request Type: Maintenance/Administrative

Requested Award Period: March 1, 2022 through February 28, 2023

A. Goals

The Atlantic Coastal Cooperative Statistics Program (ACCSP) is a state-federal cooperative partnership between 23 entities responsible for fisheries management, and fisheries data collection on the Atlantic Coast: the 15 Atlantic coast states and the District of Columbia, two federal fisheries agencies (Commerce's NOAA Fisheries and Interior's U.S. Fish and Wildlife Service), three regional fisheries management councils (New England, Mid-Atlantic, and South Atlantic), the Potomac River Fisheries Commission, and the Atlantic States Marine Fisheries Commission (ASMFC). Partner agencies are listed in the original [ACCSP Memorandum of Understanding](#).

The Program was established in 1995 to design, implement, and conduct marine fisheries statistics data collection programs and to integrate those data into a single data management system that will meet the needs of fishery managers, scientists, and the general public.

By establishing and maintaining data collection standards and providing a data management system that incorporates state and federal data, ACCSP will ensure that the best available statistics can be used for fisheries management.

B. Objectives

1. Manage and expand a fully integrated data set that represents the best available fisheries-dependent data;
2. Continue working with the program partners to improve fisheries data collection and management in accordance with the evolving ACCSP standards within the confines of limited funds;

3. Explore the allocation of existing Program funds and work with partners to pursue additional funding;
4. Maintain strong executive leadership and collaborative involvement among partners at all committee levels;
5. Monitor and improve the usefulness of products and services provided by the ACCSP;
6. Collaborate with program partners in their funding processes by providing outreach materials and other support to demonstrate the value of ACCSP products and the importance of maintaining base support for fishery-dependent data collection programs to state partners and their executive and legislative branches as well as to all other partner agencies; and,
7. Support nationwide systems as defined in the Magnuson-Stevens Fishery Conservation and Management Act (MSA).

C. Need

Various state and federal fishery management agencies on the Atlantic coast collect data on the status and trends of specific fish populations and the fisheries that utilize these resources; however, it is often difficult to develop sound recommendations to fisheries managers due to inconsistencies in the way data are collected and managed. The various data sets often cannot be integrated to provide accurate information at the state, regional, or coast-wide level. In addition, the disparate manner in which these data are collected and managed places duplicative burdens on fishermen and dealers reporting to multiple state and federal agencies and regions. Due to rapidly changing stock conditions, within-season regulatory changes and catch quotas have become common fishery management strategies. Timely and accurate harvest information for both recreational and commercial fisheries is required to determine the need for and effects of these management measures.

The [Atlantic Coastal Fisheries Cooperative Management Act of 1993](#) mandated a cooperative state-federal program for the conservation of Atlantic coastal fisheries. Section 804 of the Act requires the Secretaries of Commerce and the Interior to develop a program to support state fisheries programs and those of the ASMFC, including improvements in statistics programs. Since the mid-1990s, the ASMFC has provided administrative support for this coordinated effort to improve data collection and management activities.

In 1995 the states, the ASMFC, and the federal fishery management agencies on the Atlantic coast entered into a Memorandum of Understanding (MOU) to develop and implement a cooperative state-federal statistics program that would meet the management needs of all participating agencies. All program partners signed the MOU for the ACCSP at the Commission's 54th Annual Meeting in Charleston, SC. Following signing, an Operations Plan was developed to outline the specific tasks and timetables required to develop and initiate implementation of this program. In October of 2016, an updated MOU was approved that made the ACCSP a program of the ASMFC. This governance change integrates the long-term and annual planning processes with those already in existence for the ASMFC and conform to policy as set by the ACCSP Coordinating Council.

D. Results and Benefits

The ACCSP developed and adopted 1999, 2004 and 2012 versions of the Program Design (now renamed [Atlantic Coast Fisheries Data Collection Standards](#)), which document the standards and protocols for collection and management of commercial, recreational, and for-hire fisheries statistics. Program partners developed and approved minimum data elements for collection of catch, effort, biological, social, and economic statistics. The ACCSP also developed standard codes and formats to ensure consistency of all data collected under the Program. These standards require periodic review and revision as the needs of fisheries managers and the state of the art of fisheries science change.

In 2000, the first version of the [Data Warehouse](#) was made available to the program partners. Since then, it has grown to encompass almost a 70 year time series of fisheries-dependent catch and effort data. Loading of biological data has begun. These data are constantly reviewed and updated as needed.

In 2004, the first version of the [Standard Atlantic Fisheries Information System \(SAFIS\)](#) eDR (electronic dealer reporting) was deployed, followed in 2008, by eTRIPS (electronic trip reporting). This system is used to collect data from commercial and recreational fishermen and dealers and is now deployed from Maine to Georgia. SAFIS is an ongoing and evolving system, requiring support, review, and revision.

The ACCSP will continue to reduce duplication of effort by dealers and fishermen, make more efficient use of limited funds, promote education of resource users, and provide a more complete information base for formulating management policies, strategies, and tactics for shared resources. An integrated multi-agency program using standard protocols for reporting compatible information will lead to more efficient and cost-effective use of current federally and state funded data collection and management programs. The ACCSP will reduce the burden on the fishing industry to provide information in multiple formats to multiple agencies, and will provide more accurate and timely information to achieve optimum public benefits from the use of fishery resources along the Atlantic coast. The ACCSP will ensure the timely dissemination of accurate data on commercial and recreational fisheries for use in stock assessments and fisheries management through a comprehensive and easily accessible data management system.

E. Approach

The ACCSP is managed collaboratively by committee: the Coordinating Council, composed of high level fisheries policy makers from all the program partners, is the governing body; the Operations Committee provides guidance in standards setting and funding priorities. An Advisory Committee provides industry input into the process. A number of other technical committees provide input into various aspects of the process.

Program planning builds on basic principles related to the goals stated in the ACCSP MOU:

- Development of data collection standards and the implementation of data collection programs will be done cooperatively, across jurisdictional lines;
- Consistent coast-wide data collection standards will be implemented by all program partners that include data on all fishing activities -- commercial, recreational and for-hire fisheries;
- Once achieved, data collection improvements will be maintained;
- These data will be loaded and maintained in a central data repository and provided to data users through a user-friendly query system;
- Program planning will be done collaboratively, by consensus;
- The program will be responsive and accountable to partner and end-user needs; and
- Focus on activities that yield maximum benefit.

Goal 3 of the ASMFC Strategic Plan (Attachment I) details activities to be conducted by ACCSP staff and committees under the FY22 Administrative Budget. As a program of the ASMFC, administrative support of ACCSP activities is funded through indirect charges of all ACCSP awards, including the Administrative Grant. Note that program activities and staff in support of the Marine Recreational Information Program are separately funded and therefore not included in this plan.

The ACCSP initially developed common standards collaboratively, by consensus, then began to work with program partners to implement the standards, according to a commonly agreed upon priority. All ACCSP technical committees, except for the Advisory Committee which is composed of industry and recreational representatives, are comprised of managers and staff of the partner agencies and set policy by consensus. Only the Coordinating Council votes directly on motions.

The standards, known as the [Atlantic Coast Fisheries Data Collection Standards](#), for data collection and management are developed and maintained by ACCSP Technical Committees, with review and oversight by the Operations Committee, and advice from the Advisory Committee. The ACCSP Coordinating Council makes policy level decisions to adopt the program standards. The full-time ACCSP staff coordinates all activities conducted by the ACCSP.

The [Atlantic Coast Fisheries Data Collection Standards](#) documents all completed standards and provides the basic framework for full implementation of the ACCSP by all program partners. The ACCSP is continuously evolving as technology and the needs of management and science change over time. Therefore the *Standards* and supporting systems are always developing. Support for the implementation of ACCSP modules is provided by staff in various jurisdictions. To this end, funding is required to provide for full-time staff for all ACCSP activities, as well as for travel and meeting expenses.

The ACCSP Director, reporting to the Executive Director of the ASMFC, provides leadership for the Program, overall programmatic management and guidance, and is responsible for the day-to-day operations. The ACCSP Deputy Director supports the ACCSP Director on operation and development of the Program and is responsible for managing the competitive ACCSP funding process, coordinating cross-team project management, and providing support for a wide range of Program activities. The ACCSP Program Assistant provides assistance to the ACCSP Director and ACCSP Deputy Director, provides staff support for program and technical committees by drafting, maintaining and coordinating program documents, and publicizes the availability and benefits of the Program. The Software Team Leader coordinates the development and management of ACCSP data collection systems. The ACCSP IT Manager manages the information systems infrastructure and security. The Data Team Leader provides guidance for data compilation and dissemination related activities. The Recreational Team Lead coordinates MRIP survey implementation and recreational and for-hire data standards. The Data Coordinators and Developers provide programming services and system support required to develop and fine-tune the data management systems, assist users as they access the system and provide quality management and control. The Data Coordinators also complete custom data requests, QA/QC existing data, maintain data feeds, and directly participate in data intensive activities such as a stock assessment data workshops. The Software Team staff provides expert consultation to partners as they implement new reporting, and licensing/permitting systems. The Software Team will continue to support development of SAFIS.

ACCSP staff will follow Goal 3 of the ASMFC 2019 Strategic Plan during FY22, in consultation with all partners. Specific tasks to be accomplished during the period include initiation and maintenance of Partner data feeds from the commercial, recreational, and biological modules; implement dealer reporting component of SAFIS redesign; maintenance of Federal Information Security Management Act procedures; and support of other partner projects by providing technical expertise as necessary.

The ASMFC has basic responsibility for the logistics of all committee meetings which support the development of the ACCSP, including: the ACCSP Coordinating Council, the ACCSP Operations Committee, the Advisory Committee, the Recreational Technical Committee, the Commercial Technical Committee, the Information Systems Committee, the Biological Review Panel, the Bycatch Prioritization Committee, the Standard Codes Committee. Full-time ACCSP personnel staff these committees for planning of work, providing minutes and other documents, and other follow-up.

The ACCSP has helped foster an improved atmosphere of cooperation among its partners. The Program has succeeded in establishing coast-wide fisheries data standards that all program partners have agreed to adopt. Data collection and management systems will be developed and deployed and maintained as the standards and Partner needs evolve. Program partners remain engaged in the process, and the program has made substantial progress towards its goals.

1. Geographic Location: Atlantic Coast (Maine through Florida); eTRIPS software is deployed in the Gulf of Mexico as part of the SERO For-Hire Program

2. Milestone Schedule: See Goal 3 of the ASMFC 2019 Strategic Plan (Attachment I)

This is a continuation from previous projects. Table 1 contains the base administrative budget amounts by year since implementation began in 1999.

Table 1. Administrative funding for ACCSP from 1999-2020

Year	Funding	Number of Staff
1999	\$907,902	3
2000	\$681,451	3
2001	\$1,054,466	5
2002	\$1,178,677	6
2003	\$1,302,768	7
2004	\$1,298,319	8
2005	\$1,409,545	8
2006	\$1,380,598	8
2007	\$1,489,189	8
2008	\$1,447,620	9
2009	\$1,527,996	9
2010	\$1,509,899	9
2011	\$1,530,699	9
2012	\$1,509,555	9
2013	\$1,582,780	9
2014	\$1,718,447	9.5
2015	\$1,731,666	9.5
2016	\$1,623,360	9.5
2017	\$1,855,113	9.5
2018	\$1,854,249	9.5
2019	\$1,816,503	9.5
2020	\$2,012,744	11
2021	\$2,069,244	12

3. Cost Summary: The ACCSP requests \$2,009,279 for administrative support, committee travel and systems operations during FY22. The addition of the 16.81% indirect rate raises the request to \$2,347,039. The increase in request from FY21 reflects the full annual cost of the Data Team Lead position and proposed software staff (see Personnel).

The funds used for the ACCSP shall be accounted for separately from all other ASMFC funds.

4. Personnel

Program personnel funded through this grant, except the Recreational Team Lead, are dedicated 100% to the ACCSP and are full-time employees of the Atlantic States Marine Fisheries Commission. Note that personnel associated with the MRIP state conduct and 85% of the Recreational Team Leader are funded under separate authority and not accounted for in this document. Fringe benefits which include health care, vision, dental, annual and sick leave are calculated at 27%. ASMFC salaries are kept confidential, thus only totals are displayed. Additionally, an agreement has been put in place with NMFS Highly Migratory Species (HMS) to partially fund the Information Systems Specialist responsible for maintaining HMS data feeds. The addition of a software development position would transition some contract support for mobile software maintenance to staff role. Savings have been incorporated to reflect potential vacancies and lower salaries for new hires replacing long-time employees. Every effort is being made to appropriately fill positions as quickly as possible.

- ACCSP Director - Geoff White
- ACCSP Deputy Director – Julie DeFilippi Simpson
- Program Assistant – Marisa Powell
- ACCSP IT Manager and Software Developer – Edward Martino
- Recreational Team Lead (15%) – Alex DiJohnson
- Software Team Lead - Karen Holmes
- Senior Software Developer – Nicolas Mwai (will be vacant September 1)
- Software Developer – VACANT
- Data Team Lead – Mike Rinaldi (started July 16, 2021)
- Data Analyst - Jennifer Ni
- Senior Data Coordinator – Joseph Myers
- Senior Data Coordinator – Heather Konell
- Data Coordinator – Vacant
- Data Coordinator – Lindsey Aubart (will be vacant September 15)

Salaries and Wages	
Total Salary	\$ 1,308,231
Benefits @27%	\$ 353,222
Total Costs	\$ 1,661,453

5. Travel

Travel is broken down into two general categories; committee meetings and staff travel. The bulk of travel is in support of committee meetings. While significant savings have been achieved by using remote meeting technologies (such as online meetings), face-to-face meetings are often required to complete the tasks assigned. In general, each committee will have at least one face-to-face meeting during the year. In addition to staff travel to support committee meetings, staff

travel is needed for implementation planning, data collection activities, outreach efforts, and information system development meetings with partners.

The Program funds fares to and from the meeting site, per diem according to Office of Personnel and Management guidelines and facilities costs for the meeting itself. (The daily rate per meeting includes cost of airfare or mileage, lodging, meals and other travel related expenses.) Reimbursable participants include state fisheries directors and biologists, state and university scientists, law enforcement personnel and citizen advisors from Maine through Florida. Meetings will be held in various locations on the Eastern Seaboard, including but not limited to: Annapolis, MD; Norfolk, VA; Charleston, SC; Philadelphia, PA; Alexandria, VA; Providence, RI; Jacksonville, FL; Washington, D.C.

The travel budget is based on an ASMFC average estimated \$275 per day multiplied by meetings multiplied by days multiplied by non-federal membership plus staff.

In FY2022, there is a higher likelihood of virtual meetings considering the new approaches that evolved during the period of telework due to COVID. As such, in-person meeting frequency was reduced for both the Coordinating Council and the Operations Committee, which significantly reduced travel costs from previous years.

Committee Travel	Meetings	Days	Membership	Total	Staff	Total	Grand Total
Biological Review panel	1	1.5	15	\$6,188	1	\$413	\$6,600
Bycatch Prioritization	1	1	15	\$4,125	1	\$275	\$4,400
Commercial Technical Committee	1	1	15	\$4,125	1	\$275	\$4,400
Coordinating Council (with ASMFC)	2	0.5	12	\$3,300	2	\$550	\$3,850
Operations and Advisory Committees	1	2.5	20	\$13,750	2	\$1,375	\$15,125
Recreational Technical	1	2	15	\$8,250	1	\$550	\$8,800
Information Systems Committee	1	1	15	\$4,125	1	\$275	\$4,400
Total Committees				\$43,863		\$3,713	\$47,575
Staff Travel							
Partner Coordination	5	2	2	\$5,500			
Data Support (Stock Assessment etc)	1	5	2	\$2,750			
IT/SAFIS Support	3	1	1	\$825			
Outreach/Training	4	1	1	\$1,100			
GulfFIN Coordination	2	1.5	1	\$825			
Staff Training	2	4	2	\$4,400			
Total Staff Travel				\$15,400			
Grand Total							\$62,975

Attachment II provides the FY21 schedule of the funding cycle and calendar of meetings, which serves as a tentative schedule for FY22.

6. Supplies

Supply costs include supplies not covered by the ASMFC indirect. This includes ACCSP specific materials for outreach, smaller information systems items such as network switches and cables.

Supplies	
Misc Hardware (cables, network hubs etc)	\$4,651
Backup Tapes	\$1,000
Total	\$5,651

7. Equipment

ACCSP maintains several large server systems and related hardware in support of the Data Warehouse, website, SAFIS and administrative functions. These systems typically have a 5 year life cycle after which they require upgrade or replacement. In cases of the larger items, lease options have been explored, but it appears that, in part due to current staffing, it is more cost effective to own and maintain the equipment internally.

Included in the costs are normal life cycle replacements of laptop and desktop systems, assuming replacement of 3 systems annually. Costs are based upon current market surveys and an estimate of our needs. In FY22, we will require replacement of a number of major infrastructure components, one server and multiple routers and firewalls; however, cost savings have been found through diligent sourcing and savings in other areas.

Equipment	
Infrastructure Replacements (servers, UPS systems, etc.)	\$16,000
Desktop/Laptop Systems	\$4,500
Total	\$20,500

8. Other Costs

Hardware and software support are supplied by a number of different vendors and includes costs associated with licensing and maintenance fees (such as *Oracle* licensing).

The Program maintains a high speed internet connection and associated infrastructure in support of the server systems. The primary internet connection is covered by ASMFC. The second

connection, using an entirely different technology and provider provides redundancy to the primary connection in case of failure. The system is configured to automatically fail over in the event of a failure of the primary internet connection. A previously maintained ACCSP funded connection dedicated to the NOAA Fisheries Greater Atlantic Regional Fisheries Office (GARFO) to provide full time secure connectivity requested by the Region has been replaced with a VPN connection through NOAA’s OCIO office. Coordination of ACCSP with the OCIO has resulted in a permanent decrease in costs in this area by about \$10,000.

Outside vendors include Hewlett Packard for systems hardware and software support; Oracle for database management systems support; DLT Solutions and Trident Solutions for hardware support. All pricing is based on the GSA schedule.

Software maintenance and development workload at times exceeds staff’s resources. Contract services will be utilized to provide services that staff may be unable to perform.

E-Reporting Support

Funds are requested for electronic reporting outreach and support activities. Interest among state Partners and harvesters has been steadily rising and a steady stream of new users are adopting the system where agencies will accept electronic reports through SAFIS. In addition, recent and pending management actions mandate electronic reporting. SAFIS eTrips in both the mobile and on-line versions are likely to be used by the majority of harvesters as the reporting tool. This will be especially true in late FY2021 and FY2022 as eTRIPS will be the only application on the east coast that will be considered compliant with the One Stop Reporting (OSR) requirements. In addition, the majority of trips will be reported to the SAFIS system regardless of the tool selected.

Funds requested include both costs associated with initial deployment and ongoing support. Initial startup costs include, but are not limited to, in-person and virtual training workshops for harvesters and partner agency personnel and published training guides and videos that will be available via the ACCSP website. ACCSP continues to contract for help desk support for SAFIS which includes 24/7 helpdesk support, a toll free number to contact support personnel, and a helpdesk ticketing program designed to keep track of all requests and provide feedback to the Program. With increases to mandatory electronic federal reporting in 2021 and 2022, additional helpdesk support is anticipated.

Other Expenses	2022
Software Support	\$60,000
Hardware Support	\$7,500
Communications/Internet Connectivity	\$16,700
Printing (outreach)	\$2,500
Software Development	\$90,000
Help Desk Support	\$75,000
Total	\$251,700

Budget Summary

Budget Summary	2022 Prelim	2022 Final
Personnel	\$1,308,231	\$1,278,231
Fringe Benefits	\$353,222	\$345,122
Travel	\$62,975	\$62,975
Equipment	\$27,500	\$20,500
Supplies	\$5,651	\$5,651
Other	\$251,700	\$251,700
Total Program	\$2,009,279	\$1,964,179
ASMFC Overhead (16.81%)	\$337,760	\$330,179
Total Proposal*	\$2,347,039	\$2,294,358

*Total proposal has been reduced by \$52,681.

Resources actively sought to support ACCSP activities in addition to the Administrative Grant

2022 Support	Coverage	Funding Expected
HMS	Partial Data Analyst	\$ 40,000
FIS Quality Management FY22 Proposal	Implementation of Automated Data Auditing Validation for Electronic Logbooks	\$ 116,810
FIS FIN Development FY22 Proposal	Federal Information Security Management Act Compliance	\$ 105,129
MRIP	State Conduct of MRIP APAIS, FHTS ME-GA, and additional surveys in some states (LPIS in ME, Catch Cards in MD & NC, and LPBS in NC). Includes Recreational Team Staff (4).	Total Grant: \$5,897,266 ACCSP: \$ 617,224



Atlantic Coastal Cooperative Statistics Program

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Appendix I: Justification for personnel changes

Additional Software Developer

The continued success of the ACCSP and the demand for SAFIS software in recent years has resulted in an increase in the resources needed for software development. The growth of the program and expansion of electronic reporting on the Atlantic coast intensifies the need for not just software maintenance, but also for development of new and more flexible features that meet the needs of partners. There is increasing demand for electronic reporting solutions that meet the needs of multiple partners through a single report and reduce the reporting burden on industry. Providing online and mobile tools with consistent data collection fields on compatible timelines is critical to the success of the Program. The successfully implemented redesign of eTRIPS online, mobile, and upload processing has identified resource bottlenecks that will be encountered during the redesign of electronic dealer reporting (eDR). Current levels of staffing are strained under the continuing increase, which results in more reliance on contract support or longer timelines to complete development projects.

An additional staff member on the Software Team will bring more development capability on staff, supporting more maintenance and development of ACCSP software relative to outside contracts. This staff position would also relieve some of the testing of new software features from Partner staff. While providing an economic benefit in the long run, during the first year of onboarding and training the combination of staff and contractors will be more expensive. During year 2, increased productivity and reduced contractor costs are estimated to show organizational benefit.

ATLANTIC STATES MARINE FISHERIES COMMISSION

Five-Year Strategic Plan 2019-2023



*The nation behaves well if it treats the natural resources
as assets which it must turn over to the next generation
increased and not impaired in value.*

Theodore Roosevelt

Introduction

Each state has a fundamental responsibility to safeguard the public trust with respect to its natural resources. Fishery managers are faced with many challenges in carrying out that responsibility. Living marine resources inhabit ecosystems that cross state and federal jurisdictions. Thus, no state, by itself, can effectively protect the interests of its citizens. Each state must work with its sister states and the federal government to conserve and manage natural resources.

Beginning in the late 1930s, the 15 Atlantic coastal states from Maine to Florida took steps to develop cooperative mechanisms to define and achieve their mutual interests in coastal fisheries. The most notable of these was their commitment to form the Atlantic States Marine Fisheries Commission (Commission) in 1942, and to work together through the Commission to promote the conservation and management of shared marine fishery resources. Over the years, the Commission has remained an effective forum for fishery managers to pursue concerted management actions. Through the Commission, states cooperate in a broad range of programs including interstate fisheries management, fisheries science, habitat conservation, and law enforcement.

Congress has long recognized the critical role of the states and the need to support their mutual efforts. Most notably, it enacted the Atlantic Coastal Fisheries Cooperative Management Act (Atlantic Coastal Act) in 1993, which built on the success of the Atlantic Striped Bass Conservation Act of 1984. Acknowledging that no single governmental entity has exclusive management authority for Atlantic coastal fishery resources, the Atlantic Coastal Act recognizes the states' responsibility for cooperative fisheries management through the Commission. The Atlantic Coastal Act charges all Atlantic states with implementing coastal fishery management plans that will safeguard the future of Atlantic coastal fisheries in the interest of both fishermen and the nation.

Accepting these challenges and maintaining their mutual commitment to success, the Atlantic coastal states have adopted this five-year Strategic Plan. The states recognize circumstances today make the work of the Commission more important than ever before. The Strategic Plan articulates the mission, vision, goals, and objectives needed to accomplish the Commission's mission. It serves as the basis for annual action planning, whereby Commissioners identify the highest priority issues and activities to be addressed in the upcoming year. With 27 species currently managed by the Commission, finite staff time, Commissioner time and funding, as well as a myriad of other factors impacting marine resources (e.g., changing ocean conditions, protected species interactions, offshore energy, and aquaculture), Commissioners recognize the absolute need to prioritize activities, dedicating staff time and resources where they are needed most and addressing less pressing issues as resources allow. Efforts will be made to streamline management by using multi-year specifications where possible and increase stability/predictability in fisheries management through less frequent regulatory changes. A

key to prioritizing issues and maximizing efficiencies will be working closely with the three East Coast Regional Management Councils and NOAA Fisheries.

Mission

The Commission's mission, as stated in its 1942 Compact, is:

To promote the better utilization of the fisheries, marine, shell and anadromous, of the Atlantic seaboard by the development of a joint program for the promotion and protection of such fisheries, and by the prevention of physical waste of the fisheries from any cause.

The mission grounds the Commission in history. It reminds every one of the Commission's sense of purpose that has been in place for over 77 years. The constantly changing physical, political, social, and economic environments led the Commission to restate the mission in more modern terms:

To promote cooperative management of marine, shell and diadromous fisheries of the Atlantic coast of the United States by the protection and enhancement of such fisheries, and by the avoidance of physical waste of the fisheries from any cause.

The mission and nature of the Commission as a mutual interstate body incorporate several guiding principles. They include:

- States are sovereign entities, each having its own laws and responsibilities for managing fishery resources within its jurisdiction
- States serve the broad public interest and represent the common good
- Multi-state resource management is complex and dependent upon cooperative efforts by all states involved
- The Commission provides a critical sounding board on issues requiring cross-jurisdictional action, coordinating cooperation, and collaboration among the states and federal government

Vision

The long-term vision of the Commission is:

Sustainable and Cooperative Management of Atlantic Coastal Fisheries

Values

The Commission and its member states have adopted the following values to guide its operations and activities. These values affirm the Commission's commitment to sustainable

fisheries management for the benefit of recreational and commercial fishermen and coastal communities. They also acknowledge the growing importance of managing fisheries in a more holistic and adaptive way, seeking solutions to cross cutting resource issues that lead to long-term ecological and socio-economic sustainability.

- Effective stewardship of marine resources through strong partnerships
- Decisions based on sound science
- Long-term ecological sustainability
- Transparency and accountability in all actions
- Timely response to new information through adaptive management
- Balancing resource conservation with the economic success of coastal communities
- Efficient use of time and fiscal resources
- Work cooperatively with honesty, integrity, and fairness

Driving Forces

The Commission and its actions are influenced by a multitude of factors. These factors are constantly evolving and will most likely change over the time period of this Strategic Plan. However, the most pressing factors affecting the Commission today are changing ocean conditions, resource allocation, the quality and quantity of scientific information, competing ocean uses, a growing demand to address ecosystem functions, and interactions between fisheries and protected species. The Strategic Plan, through its goals and broad objectives, will seek to address each of these issues over the next five years.

Changing Ocean Conditions

Changes in ocean temperature, currents, acidification, and sea level rise are affecting nearly every facet of fisheries resources and management at the state, interstate, and federal levels. Potential impacts to marine species include prey and habitat availability, water quality, susceptibility to disease, and spawning and reproductive potential. The distribution and productivity of fishery stocks are often changing at a rate faster than fisheries stock assessments and management can keep pace with. Several Commission species, such as northern shrimp, Southern New England lobster, Atlantic cobia, black sea bass, and summer flounder are already responding to changes in the ocean. In the case of northern shrimp and Southern New England lobster, warming ocean waters have created inhospitable environments for species reproduction and survivability. For cobia, black sea bass, and summer flounder, changing ocean conditions have contributed to shifts in species distributions, with some species expanding their ranges and others moving into deeper and/or more northern waters to stay within preferred temperature ranges. Where shifts are occurring, the Commission may need to reconsider state-by-state allocation schemes and make adjustments to our fishery management plans. For other species depleted due to factors other than fishing mortality (e.g., habitat degradation and availability, predation), the states will need to explore steps that can be taken to aid in species recovery. And, if a stock's viability is compromised, Commission resources and

efforts should be shifted to other species that can be recovered or maintained as a rebuilt stock.

Allocation

As noted above, resource allocation among the states and between various user groups will continue to be an important issue over the next five years. Many of the Commission FMPs divvy up the available harvestable resource through various types of allocation schemes, such as by state, region, season, or gear type. The changing distribution of many species has further complicated the issue of resource allocation with traditional allocation schemes being challenged and a finite amount of fishery resources to be shared. Discussion may be difficult and divisive, with some states (and their stakeholders) wanting to maintain their historic (traditional) allocations, while others are seeking a greater share of the resource given increased abundance and availability in their waters. States will need to seek innovative ways to reallocate species so that collectively all states feel their needs are met. What will be required to successfully navigate these discussions and decisions is the commitment of the states to work through the issues with honesty, integrity, and fairness, seeking outcomes that balance the needs of the states and their stakeholders with the ever changing realities of shifting resource abundance and availability.

Science as the Foundation

Accurate and timely scientific information form the basis of the Commission's fisheries management decision-making. Continued investments in the collection and management of fishery-dependent and -independent data remain a high priority for the Commission and its member states. The challenge will be to maintain and expand data collection efforts in the face of shrinking state and federal budgets. Past and current investments by state, regional and federal partners of the Atlantic Coastal Cooperative Statistics Program (ACCSP) have established the program as the principal source of marine fishery statistics for the Atlantic coast. State and regional fishery-independent data collection programs, in combination with fishery statistics, provide the scientific foundation for stock assessments. Many data collection programs will continue to be strained by budget restrictions, scientists' workload capacities, and competing priorities. The Commission remains committed to pursuing long-term support for research surveys and monitoring programs that are critical to informing management decisions and resource sustainability.

Ecosystem Functions

Nationally, there has been a growing demand for fisheries managers to address broader ecosystem functions such as predator-prey interactions and environmental factors during their fisheries management planning. Ecosystem science has improved in recent years, though the challenges of comprehensive data collection continue. A majority of the Commission's species are managed and assessed on a single species basis. When ecosystem information is available, the Commission has managed accordingly to provide ecosystem services. The Commission remains committed to seeking ecological sustainability over the long-term through continuing its work on multispecies assessment modeling and the development of ecosystem-based reference points in its fisheries management planning process.

Competing Ocean Uses

Marine spatial planning has become an increasingly popular method of balancing the growing demands on valuable ocean resources. More specifically, the competing interests of commercial and recreational fishing, renewable energy development, aquaculture, marine transportation, offshore oil exploration and drilling, military needs, and habitat restoration are all components that must be integrated into successful ocean use policies. The Commission has always emphasized cooperative management with our federal partners; however, the states' authorities in their marine jurisdictions must be preserved and respected. The Commission will continue to prioritize the successful operation of its fisheries, but it will be imperative to work closely with federal, state, and local governments on emerging ocean use conflicts as they diversify into the future.

Protected Species

Like coastal fishery resources, protected species, such as marine mammals, sea turtles, and listed and candidate fish species, traverse both state and federal waters. The protections afforded these species under the Marine Mammal Protection Act and Endangered Species Act can play a significant role in the management and prosecution of Atlantic coastal fisheries. The Commission and the states have a long history of supporting our federal partners to minimize interactions with and bycatch of marine mammals and sea turtles. The listing of Atlantic sturgeon under the Endangered Species Act has added a whole new level of complexity in the ability of the Commission and its member states to carry out their stewardship responsibilities for these important diadromous species. The species spends the majority of its life in state waters and depend on estuarine and riverine habitat for their survival. Listing has the potential to jeopardize the states' ability to effectively monitor and assess stock condition, as well as impact fisheries that may encounter listed species. It is incumbent upon the Commission and its federal partners to work jointly to assess stock health, identify threats, and implement effective rebuilding programs for listed and candidate species.

More recently, the depleted status of the Northern right whale population and the potential impacts to this population by entanglement in fishing gear, particularly lobster and crab gear, has heightened concern for both whales and the lobster industry.

Increased Cooperation and Collaboration among the States and between the States and Our Federal Partners

Demands for ecosystem-based fisheries management, competing and often conflicting ocean uses, and legislative mandates to protect marine mammals and other protected species, further complicate fisheries management and require quality scientific information to help guide management decisions. There is a growing concern among fishery managers that some "control" over fisheries decisions and status has been diminished due to political intervention and our inability to effect changing ocean conditions and other environmental factors that impact marine resources. Fisheries management has never been more complex or politically charged. State members are pulled between what is best for their stakeholders versus what is best for the resource and the states as a whole.

While the issues may seem daunting, they are not insurmountable. In order for the Commission to be successful, the states must recommit to their collective vision of “Sustainable and Cooperative Management of Atlantic Coastal Fisheries,” recognizing that their strength lies in working together to address the fisheries issues that lie ahead. Given today’s political and environmental realities, the need for cooperation among the states has never been more important. It is also critical the states and their federal partners seek to strengthen their cooperation and working relationships, providing for efficient and effective fisheries management across all agencies. No one state or federal agency has the resources, authority, or ability to do it alone.

GOALS & OBJECTIVES

The Commission will pursue the following eight goals and their related strategies during the five-year planning period, from 2019 through 2023. It will pursue these goals through specific objectives, targets, and milestones outlined in an annual Action Plan, which is adopted each year at the Commission’s Annual Meeting to guide the subsequent year’s activities. Throughout the year, the Commission and its staff will monitor progress in meeting the Commission’s goals, and evaluate the effectiveness of the strategies. While committed to the objectives included in this plan, the Commission is ready to adopt additional objectives to take advantage of new opportunities and address emerging issues as they arise.

Goal 1 - Rebuild, maintain, fairly allocate, and promote sustainable Atlantic coastal fisheries

Goal 1 focuses on the responsibility of the states to conserve and manage Atlantic coastal fishery resources for sustainable use. Commission members will advocate decisions to achieve the long-term benefits of conservation, while balancing the socio-economic interests and needs of coastal communities. Inherent in this is the recognition that healthy and vibrant resources benefit stakeholders. The states are committed to proactive management, with a focus on integrating ecosystem services, socio-economic impacts, habitat issues, bycatch and discard reduction measures, and protected species interactions into well-defined fishery management plans. Fishery management plans will also address fair allocation of fishery resources among the states. Understanding changing ocean conditions and their impact on fishery productivity and distribution is an elevated priority. Successful management under changing ocean conditions will depend not only on adjusting management strategies, but also in reevaluating and revising, as necessary, the underlying conservation goals and objectives of fishery management plans. Improving cooperation and coordination with federal partners and stakeholders can streamline efficiency, transparency, and, ultimately, success. In the next five years, the Commission is committed to ending overfishing and working to rebuild overfished Atlantic coast fish stocks, while promoting sustainable harvest of and access to rebuilt fisheries. Where possible, the Commission will seek to aid in the rebuilding of depleted stocks, whose recovery is hindered by factors other than fishing pressure.

Annual action planning will be guided by the following objectives:

- Manage interstate resources that provide for productive, sustainable fisheries using sound science
- Strengthen state and federal partnerships to improve comprehensive management of shared fishery resources
- Adapt management to address emerging issues
- Practice efficient, transparent, and accountable management processes
- Evaluate progress towards rebuilding fisheries
- Promote sustainable harvest of and access to rebuilt fisheries
- Strengthen interactions and input among stakeholders, technical, advisory, and management groups

Goal 2 – Provide sound, actionable science to support informed management actions

Sustainable management of fisheries relies on accurate and timely scientific advice. The Commission strives to produce sound, actionable science through a technically rigorous, independently peer-reviewed stock assessment process. Assessments are developed using a broad suite of fishery-independent surveys and fishery-dependent monitoring, as well as research products developed by a broad network of fisheries scientists at state, federal, and academic institutions along the coast. The goal encompasses the development of new, innovative scientific research and methodology, and the enhancement of the states' stock assessment capabilities. It provides for the administration, coordination, and expansion of collaborative research and data collection programs. Achieving the goal will ensure sound science is available to serve as the foundation for the Commission's evaluation of stock status and adaptive management actions.

Annual action planning will be guided by the following objectives:

- Conduct stock assessments based on comprehensive data sources and rigorous technical analysis;
- Characterize the risk and uncertainty associated with the scientific advice provided to decision-makers
- Provide training to enhance the expertise and involvement of state and staff scientists in the development of stock assessments
- Streamline data assimilation within individual states, and among states and ASMFC
- Proactively address research priorities through cooperative state and regional data collection programs and collaborative research projects, including stakeholder involvement
- Explore the use of new technologies to improve surveys, monitoring, and the timeliness of scientific products
- Promote effective communication with stakeholders to ensure on-the-water observations and science are consistent

- Utilize ecosystem and climate science products to inform fisheries management decisions

Goal 3 - Produce dependable and timely marine fishery statistics for Atlantic coast fisheries

Effective management depends on quality fishery-dependent data and fishery-independent data to inform stock assessments and fisheries management decisions. While Goal 2 of this Action Plan focuses on providing sound, actionable science and fishery-independent data to support fisheries management, Goal 3 focuses on providing timely, accurate catch and effort data on Atlantic coast recreational, for-hire, and commercial fisheries.

Goal 3 seeks to accomplish this through the activities of the Atlantic Coastal Cooperative Statistics Program (ACCSP), a cooperative state-federal program that designs, implements, and conducts marine fisheries statistics data collection programs and integrates those data into data management systems that will meet the needs of fishery managers, scientists, and fishermen. ACCSP partners include the 15 Atlantic coast state fishery agencies, the three Atlantic Fishery Management Councils, the Potomac River Fisheries Commission, NOAA Fisheries, and the U.S. Fish and Wildlife Service.

Annual action planning will be guided by the following objectives:

- Focus on activities that maximize benefits, are responsive and accountable to partner and end-user needs, and are based on available resources.
- Cooperatively develop, implement, and maintain coastwide data standards through cooperation with all program partners
- Provide electronic applications that improve partner data collection
- Integrate and provide access to partner data via a coastwide repository
- Facilitate fisheries data access through an on-line, user-friendly, system while protecting confidentiality
- Support technological innovation

Goal 4 – Protect and enhance fish habitat and ecosystem health through partnerships and education

Goal 4 aims to conserve and improve coastal, marine, and riverine habitat to enhance the benefits of sustainable Atlantic coastal fisheries and resilient coastal communities in the face of changing ecosystems. Habitat loss and degradation have been identified as significant factors affecting the long-term sustainability and productivity of our nation’s fisheries. The Commission’s Habitat Program develops objectives, sets priorities, and produces tools to guide fisheries habitat conservation efforts directed towards ecosystem-based management.

The challenge for the Commission and its state members is maintaining fish habitat under limited regulatory authority for habitat protection or enhancement. Therefore, the Commission will work cooperatively with state, federal, and stakeholder partnerships to achieve this goal. Much of the work to address habitat is conducted through the Commission's Habitat and Artificial Reef Committees. In order to identify fish habitats of concern for Commission managed species, each year the Habitat Committee reviews existing reference documents for Commission-managed species to identify gaps or updates needed to describe important habitat types and review and revise species habitat factsheets. The Habitat Committee also publishes an annual issue of the *Habitat Hotline Atlantic*, highlighting topical issues that affect all the states.

The Commission and its Habitat Program endorses the National Fish Habitat Partnership, and will continue to work cooperatively with the partnership to improve aquatic habitat along the Atlantic coast. Since 2008, the Commission has invested considerable resources, as both a partner and administrative home, to the Atlantic Coastal Fish Habitat Partnership (ACFHP), a coastwide collaborative effort to accelerate the conservation and restoration of habitat for native Atlantic coastal, estuarine-dependent, and diadromous fishes. As part of this goal, the Commission will continue to provide support for ACFHP, under the direction of the National Fish Habitat Partnership Board.

Annual action planning will be guided by the following objectives:

- Identify fish habitats of concerns through fisheries management programs and partnerships
- Educate Commissioners, stakeholders, and the general public about the importance of habitat to healthy fisheries and ecosystems
- Better integrate habitat information and data into fishery management plans and stock assessments
- Engage local state, and regional governments in mutually beneficial habitat protection and enhancement programs
- Foster partnerships with management agencies, researchers, and habitat stakeholders to leverage scientific, regulatory, political, and financial support
- Work with ACFHP to foster partnerships with like-minded organizations at local levels to further common habitat goals

Goal 5 – Promote compliance with fishery management plans to ensure sustainable use of Atlantic coast fisheries

Fisheries managers, law enforcement personnel, and stakeholders have a shared responsibility to promote compliance with fisheries management measures. Activities under the goal seek to increase and improve compliance with fishery management plans. This requires the successful coordination of both management and enforcement activities among state and federal agencies. Commission members recognize that adequate and consistent enforcement of fisheries rules is required to keep pace with increasingly complex

management activity and emerging technologies. Achieving the goal will improve the effectiveness of the Commission's fishery management plans.

Annual action planning will be guided by the following objectives:

- Develop practical compliance requirements that foster stakeholder buy-in
- Evaluate the enforceability of management measures and the effectiveness of law enforcement programs
- Promote coordination and expand existing partnerships with state and federal natural resource law enforcement agencies
- Enhance stakeholder awareness of management measures through education and outreach
- Use emerging communication platforms to deliver real time information regarding regulations and the outcomes of law enforcement investigations

Goal 6 – Strengthen stakeholder and public support for the Commission

Stakeholder and public acceptance of Commission decisions are critical to our ultimate success. For the Commission to be effective, these groups must have a clear understanding of our mission, vision, and decision-making processes. The goal seeks to do so through expanded outreach and education efforts about Commission programs, decision-making processes, and its management successes and challenges. It aims to engage stakeholders in the process of fisheries management, and promote the activities and accomplishments of the Commission. Achieving the goal will increase stakeholder participation, understanding, and acceptance of Commission activities.

Annual action planning will be guided by the following objectives:

- Increase public understanding and support of activities through expanded outreach at the local, state, and federal levels
- Clearly define Commission processes to facilitate stakeholder participation, as well as transparency and accountability
- Strengthen national, regional, and local media relations to increase coverage of Commission actions
- Use new technologies and communication platforms to more fully engage the broader public in the Commission's activities and actions

Goal 7 – Advance Commission and member states' priorities through a proactive legislative policy agenda

Although states are positioned to achieve many of the national goals for marine fisheries through cooperative efforts, state fisheries interests are often underrepresented at the national level. This is due, in part, to the fact that policy formulation is often disconnected from the processes that provide the support, organization, and resources necessary to implement the policies. The capabilities and input of the states are an important aspect of

developing national fisheries policy, and the goal seeks to increase the states' role in national policy formulation. Additionally, the goal emphasizes the importance of achieving management goals consistent with productive commercial and recreational fisheries and healthy ecosystems.

The Commission recognizes the need to work with Congress in all phases of policy formulation. Several important fishery-related laws will be reauthorized over the next couple of years (i.e., Atlantic Coastal Act, Magnuson-Stevens Fishery Conservation and Management Act, Interjurisdictional Fisheries Act, Atlantic Striped Bass Conservation Act, and Anadromous Fish Conservation Act). The Commission will be vigilant in advancing the states' interests to Congress as these laws are reauthorized and other fishery-related pieces of legislation are considered.

Annual action planning will be guided by the following objectives:

- Increase the Commission's profile and support in the U.S. Congress by developing relationships between Members and their staff and Commissioners, the Executive Director, and Commission staff
- Maintain or increase long term funding for Commission programs through the federal appropriations process and other available sources.
- Engage Congress on fishery-related legislation affecting the Atlantic coast
- Promote member states' collective interests at the regional and national levels
- Promote economic benefits of the Commission's actions (return on investment)

Goal 8 – Ensure the fiscal stability & efficient administration of the Commission

Goal 8 will ensure that the business affairs of the Commission are managed effectively and efficiently, including workload balancing through the development of annual action plans to support the Commission's management process. It also highlights the need for the Commission to efficiently manage its resources. The goal promotes the efficient use of legal advice to proactively review policies and react to litigation as necessary. It also promotes human resource policies that attract talented and committed individuals to conduct the work of the Commission. The goal highlights the need for the Commission as an organization to continually expand its skill set through training and educational opportunities. It calls for Commissioners and Commission staff to maintain and increase the institutional knowledge of the Commission through periods of transition. Achieving this goal will build core strengths, enabling the Commission to respond to increasingly difficult and complex fisheries management issues.

Annual action planning will be guided by the following objectives:

- Conservatively manage the Commission's operations and budgets to ensure fiscal stability
- Utilize new information technology to improve meeting and workload efficiencies, and enhance communications

- Refine strategies to recruit professional staff, and enhance growth and learning opportunities for Commission and state personnel
- Fully engage new Commissioners in the Commission process and document institutional knowledge.
- Utilize legal advice on new management strategies and policies, and respond to litigation as necessary.



Atlantic Coastal Cooperative Statistics Program

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This list includes dates for fiscal year 2021, including ACCSP committee meetings, relevant dates of the funding cycle, as well as meetings or conferences ACCSP typically attends or which may be of interest to our partners. Due to the restrictions from COVID-19, some in-person meetings may be held virtually. If you have any questions or comments on this calendar please do not hesitate to contact the ACCSP staff at info@accsp.org.

Jan 20-21:	APAIS South Atlantic Training – Webinar
Jan 26-27:	APAIS Mid-Atlantic Training – Webinar
Jan 26-28:	NEFMC Meeting – Webinar
Feb 1-4:	ASMFC Meeting/Coordinating Council Meeting – Webinar
Feb 9-10:	APAIS North Atlantic Training - Webinar
Feb 17:	Biological Review Panel Annual Meeting – Webinar
Feb 18:	Bycatch Prioritization Committee Annual Meeting –Webinar
Feb 10-11:	MAFMC Meeting – Webinar
Mar 1:	Start of ACCSP FY21
Mar 1-5:	SAFMC Meeting – Webinar
Week of Mar 23:	Commercial Technical Committee Annual Meeting – Webinar*
Week of Mar 23:	Information Systems Committee Annual Meeting – Webinar*
Apr 6-8:	MAFMC Meeting – Galloway, NJ
Week of April 13:	Operations and Advisory Committees Spring Meeting – Webinar*
Week of Apr 13:	Recreational Technical Committee – Webinar *
Apr 13-15:	NEFMC Meeting – Mystic, CT
May 3-6:	ASMFC/Coordinating Council Meeting – Arlington, VA
May 11:	ACCSP issues request for proposals
Late May:	APAIS Wave 2 Meeting - Webinar
Jun 8-10:	MAFMC Meeting – Virginia Beach, VA
Jun 14-18:	SAFMC Meeting – Ponte Vedra Beach, FL
Jun 12:	Initial proposals are due
Jun 19:	Initial proposals are distributed to Operations and Advisory Committees
Jun 22-24:	NEFMC Meeting – Portland, ME
July 6:	Any initial written comments on proposals due
Week of Jul 13:	Review of initial proposals by Operations and Advisory Committees – Webinar
July 20:	If applicable, any revised written comments due
Week of Jul 27:	Feedback submitted to principal investigators
Late July:	APAIS Wave 3 Meeting – Webinar
Aug 3-5:	ASMFC Meeting/Coordinating Council Meeting – Arlington, VA
Aug 9-12:	MAFMC Meeting – Philadelphia, PA
Aug 14:	Revised proposals due

Our vision is to produce dependable and timely marine fishery statistics for Atlantic coast fisheries that are collected, processed, and disseminated according to common standards agreed upon by all program partners.

Aug 21:	Revised proposals distributed to Operations and Advisory Committees
Week of Sep 7:	Preliminary ranking exercise for Advisors and Operations Members – Webinar
Sep 13-17:	SAFMC Meeting – Charleston, SC
Week of Sep 21:	Annual Advisors/Operations Committee Joint Meeting (TBD)
Sep 28-30	NEFMC Meeting – Plymouth, MA
Late September:	APAIS Wave 4 Meeting – Webinar
Oct 5-7:	MAFMC Meeting – New York, NY
Oct 19-21:	ASMFC Annual Meeting/Coordinating Council Meeting – Long Branch, NJ
Nov 6-10:	AFS 151 st Annual Meeting – Baltimore, MD
Dec 6-10:	SAFMC Meeting – Beaufort, NC
Dec 7-9:	NEFMC Meeting – Newport, RI
Dec 13-16:	MAFMC Meeting – Annapolis, MD

* Indicates meetings not yet scheduled.

Funding Decision Process
Atlantic Coastal Cooperative Statistics Program
May 2021

The Atlantic Coastal Cooperative Statistics Program (the Program) is a state-federal cooperative initiative to improve recreational and commercial fisheries data collection and data management activities on the Atlantic coast. The program supports further innovation in fisheries-dependent data collection and management technology through its annual funding process.

Each year, ACCSP issues a Request for Proposals (RFP) to its Program Partners. The ACCSP Operations and Advisory Committees review submitted project proposals and make funding recommendations to the Deputy Director and the Coordinating Council.

This document provides an overview of the funding decision process, guidance for preparing and submitting proposals, and information on funding recipients' post-award responsibilities, including providing reports on project progress.

Overview of the Funding Decision Process

- [Funding Decision Process Timeline](#)
- [Detailed Steps](#)

Funding Decision Process Timeline

April- Operations and Advisory Committees develop annual funding priorities, criteria and allocation targets (maintenance vs. new projects)

May- Coordinating Council issues Request for Proposals (RFP)

June- Partners submit proposals

July- Operations and Advisory Committees review initial proposals, PIs are invited (not mandatory) to this meeting to answer questions and hear feedback; ACCSP staff provide initial review results to submitting Partner

August- Final proposals are submitted. Final proposals must be submitted electronically to the Deputy Director, and/or designee by close of business on the day of the specified deadline. Final proposals received after the RFP deadline will not be considered for funding.

September- Operations and Advisory Committees review and rank final proposals

October- Funding recommendations presented to Coordinating Council; Coordinating Council makes final funding decision

ACCSP Staff submits notification to submitting Partner of funded projects and notification of approved projects to appropriate grant funding agency (e.g. NOAA Fisheries Regional Grants Program Office, “NOAA Grants”) by Partner

As Needed- Operation and/or Leadership Team and Coordinating Council review and make final decision with contingencies (e.g. scope of work, rescissions, no-cost extensions, returned unused funds, etc.)

Detailed Steps of Funding Decision Process

1. Develop Annual Funding Priorities, Criteria and Allocation Targets (maintenance vs. new projects).

Prior to issuing the Request for Proposals, the Coordinating Council will approve the annual funding criteria and allocation targets. These will be used to rank projects and allocate funding between maintenance and new projects respectively.

In FY16, a long-term funding strategy policy was instituted to limit the duration of maintenance projects. Maintenance projects are now subject to a funding reduction following their fourth year of maintenance funding.

- For maintenance projects entering year 5 of ACCSP funding in FY20, a 33 percent funding cut was applied to whichever sum was larger: the project’s prior two-year-average base funding set in FY16, or the average annual sum received during the project’s four years of full *maintenance* funding. In year 6, a further 33 percent cut will be applied and funding will cease in year 7. Please see Appendix A for a list of maintenance projects entering year 6 in FY20 and the maximum funds available for these projects.
- For more recent maintenance projects (i.e., those entering year 5 of maintenance funding after FY20), the base funding will be calculated as the average of funding received during the project’s four years as a *maintenance* project. These projects will receive a 33 percent cut in year 5, a further 33 percent cut in year 6, and funding will cease in year 7.
- In consideration of the unique situation COVID 19 has created, the step down process will be paused in FY22. This means that all maintenance projects that would have progressed out of eligibility have the opportunity to submit proposals for funding up to the FY21 level. All of these maintenance project submissions are required to submit an appendix to the proposal indicating that they would like to request funding under the extension, a summary of why the additional funding is needed, and if there are any

funds from the previous year that were not spent. The relevant projects are reflected in Appendix A, which has a list of those maintenance projects entering year 6 as of FY21 and the maximum funding available to them.

2. Issue Request for Proposals

An RFP will be sent to all Program Partners and Committees no later than the week after the spring Coordinating Council meeting. The RFP will include the ranking criteria, allocation targets approved by the Coordinating Council, and general Program priorities taken from Goal 3 of the current ASMFC Five-Year Strategic Plan. The RFP and related documents will also be posted on the Program's website [here](#).

All proposals MUST be submitted either by a Program Partner, jointly by several Program Partners, or through a Program Committee. The public has the ability to work with a Program Partner to develop and submit a proposal. Principle investigators are strongly encouraged to work with their Operations Committee member in the development of any proposal. All proposals must be submitted electronically to the Deputy Director, and/or designee, in the standard format.

3. Review initial proposals

Proposals will be reviewed by staff and the Operations and Advisory Committees. Committee members are encouraged to coordinate with their offices and/or constituents to provide input to the review process. Operations Committee members are also encouraged to work with staff in their offices who have submitted a proposal in order to represent the proposal during the review. Project PIs will be invited to attend the initial proposal review, held in July. The review and evaluation of all written proposals will take into consideration the ranking criteria, funding allocation targets and the overall Program Priorities as specified in the RFP. Proposals may be forwarded to relevant Program technical committees for further review of the technical feasibility and statistical validity. Proposals that fail to meet the ACCSP standards may be recommended for changes or rejected.

4. Provide initial review results to submitting Partner

Program staff will notify the submitting Partner of suggested changes, requested responses, or questions arising from the review. The submitting Partner will be given an opportunity to submit a final proposal incorporating suggested changes in the same format previously described in Step 2(b) by the final RFP deadline.

5. Review and rank final proposals

The review and ranking of all proposals will take into consideration the ranking criteria, funding allocation targets, and overall Program Priorities as specified in the RFP. The Deputy Director and the Advisory and Operations Committees will develop a list of prioritized recommended proposals and forward them for discussion, review, and approval by the Coordinating Council.

6. Proposal approval by the Coordinating Council

The Coordinating Council will review a summary of all submitted proposals and prioritized recommended proposals from the Operations and Advisory Committees. Each representative on the Coordinating Council will have one vote during final prioritization of project proposals. Projects to be funded by the Program will be approved by the Coordinating Council by the end of November each year. The Deputy Director will submit a pre-notification to the appropriate NOAA Grants office of the prioritized proposals to expedite processing when those offices receive Partner grant submissions.

7. Confirmation of final funding amounts

The Director and Deputy Director will be notified by NOAA Fisheries of any federal grant adjustments (e.g. additions or rescissions). Additional funds will generally go to the next available ranked project. Reductions may include, but are not limited to:

- Lower than anticipated amounts from any source of funding
- Rescission of funding after initial allocations have been made
- Partial or complete withdrawal of funds from any source

If these or other situations arise, the Operations Committee will notify Partners with approved proposals to reduce their requested budgets or to withdraw a proposal entirely. If this does not reduce the overall requested amount sufficiently, the Director, Deputy Director, the Operations Committee Chair and Vice-Chair, and the Advisory Committee Chair will develop a final recommendation and forward to the ACCSP Leadership Team of the Coordinating Council.

These options to address funding contingencies may include:

- Eliminating the lowest-ranked proposal(s)
- A fixed percentage cut to all proposals' budgets
- A directed reduction in a specific proposal(s)

8. Notification to submitting Partner of funded projects and submittal of project documents to appropriate grants agency (e.g. NOAA Grants) by Partner.

Notification detailing the Coordinating Council's actions relevant to a Partner's proposal will be sent to each Partner by Program staff.

- Approved projects from Non-federal Partners must be submitted as full applications (federal forms, project and budget narratives, and other attachments) to NOAA Grants via www.grants.gov. These documents must reflect changes or conditions approved by the Coordinating Council.
- Non-federal Partners must provide the Deputy Director with an electronic copy of the narrative and either an electronic or hard copy of the budget of the grant application as submitted to the grants agency (e.g. NOAA Grants).
- Federal Partners do not submit applications to NOAA Grants.

9. Operation and/or Leadership Team and Coordinating Council review and final decision with contingencies or emergencies.

Committee(s) review and decide project changes (e.g. scope of work, rescissions, no-cost extensions, returned unused funds, etc.) during the award period.

Proposal Guidance

- [General Proposal Guidelines](#)
- [Format](#)
- [Budget Template](#)

General Proposal Guidelines

- The Program is predicated upon the most efficient use of available funds. Many jurisdictions have data collection and data management programs which are administered by other fishery management agencies. Detail coordination efforts your agency/Committee has undertaken to demonstrate cost-efficiency and non-duplication of effort.
- All Program Partners conducting projects for implementation of the program standards in their jurisdictions are required to submit data to the Program in prescribed standards, where the module is developed and formats are available. Detail coordination efforts with Program data management staff with projects of a research and/or pilot study nature to submit project information and data for distribution to all Program Partners and archives.
- If appropriate to your project, please detail your agency's data management capability. Include the level of staff support (if any) required to accomplish the proposed work. If contractor services are required, detail the level and costs.
- Before funding will be considered beyond year one of a project, the Partner agency shall detail in writing how the Partner agency plans to assume partial or complete funding or, if not feasible, explain why.
- If appropriate to your project, detail any planned or ongoing outreach initiatives. Provide scope and level of outreach coordinated with either the Program Assistant and/or Deputy Director.
- Proposals including a collection of aging or other biological samples must clarify Partner processing capabilities (i.e., how processed and by whom).
- Provide details on how the proposal will benefit the Program as a whole, outside of benefits to the Partner or Committee.
- Proposals that request funds for law enforcement should confirm that all funds will be allocated towards reporting compliance.
- Proposals must detail any in-kind effort/resources, and if no in-kind resources are included, state why.

- Proposals must meet the same quality as would be appropriate for a grant proposal for ACFCMA or other federal grant.
- Assistance is available from Program staff, or an Operations Committee member for proposal preparation and to insure that Program standards are addressed in the body of a given proposal.
- Even though a large portion of available resources may be allocated to one or more jurisdictions, new systems (including prototypes) will be selected to serve all Partners' needs.
- Partners submitting pilot or other short-term programs are encouraged to lease large capital budget items (vehicles, etc.) and where possible, hire consultants or contractors rather than hire new permanent personnel.
- The Program will not fund proposals that do not meet Program standards. However, in the absence of approved standards, pilot studies may be funded.
- Proposals will be considered for modules that may be fully developed but have not been through the formal approval process. Pilot proposals will be considered in those cases.
- The Operations Committee may contact Partners concerning discrepancies or inconsistencies in any proposal and may recommend modifications to proposals subject to acceptance by the submitting Partner and approval by the Coordinating Council. The Operations Committee may recommend changes or conditions to proposals. The Coordinating Council may conditionally approve proposals. These contingencies will be documented and forwarded to the submitting Partner in writing by Program staff.
- Any proposal submitted after the initial RFP deadline will not be considered, in addition to any proposal submitted by a Partner which is not current with all reporting obligations.

Proposal Format

Applicant Name: Identify the name of the applicant organization(s).

Project Title: A brief statement to identify the project.

Project Type: Identify whether new or maintenance project.

New Project – Partner project never funded by the Program. New projects may not exceed a duration of one year.

Maintenance Project – Project funded by the Program that conducts the same scope of work as a previously funded new or maintenance project. These proposals may not contain significant changes in scope (e.g., the addition of bycatch data collection to a catch/effort dealer reporting project). Pls must include in the cover letter whether there are any changes in the current proposal from prior years' and, if so, provide a brief summary of those changes. At year 5 of maintenance funding, a project's base funding will be calculated as the average of funding received during the project's four years as a maintenance project.

Requested Award Amount: Provide the total requested amount of proposal. Do not include an estimate of the NOAA grant administration fee.

Requested Award Period: Provide the total time period of the proposed project. The award period typically will be limited to one-year projects.

Objective: Specify succinctly the “why”, “what”, and “when” of the project.

Need: Specify the need for the project and the association to the Program.

Results and Benefits: Identify and document the results or benefits to be expected from the proposed project. Clearly indicate how the proposed work meets various elements outlined in the ACCSP Proposal Ranking Criteria Document (Appendix B). Some potential benefits may include: fundamental in nature to all fisheries; region-wide in scope; answering or addressing region-wide questions or policy issues; required by MSFCMA, ACFCMA, MMPA, ESA, or other acts; transferability; and/or demonstrate a practical application to the Program.

Data Delivery Plan: Include coordinated method of the data delivery plan to the Program in addition to module data elements gathered. The data delivery plan should include the frequency of data delivery (i.e. monthly, semi-annual, annual) and any coordinate delivery to other relevant partners.

Approach: List all procedures necessary to attain each project objective. If a project includes work in more than one module, identify approximately what proportion of effort is comprised within each module (e.g., catch and effort 45%, biological 30% and bycatch 25%).

Geographic Location: The location where the project will be administered and where the scope of the project will be conducted.

Milestone Schedule: An activity schedule in table format for the duration of the project, starting with Month 1 and ending with a three-month report writing period.

Project Accomplishments Measurement: A table showing the project goals and how progress towards those goals will be measured. In some situations the metrics will be numerical such as numbers of anglers contacted, fish measured, and/or otoliths collected, etc.; while in other cases the metrics will be binary such as software tested and software completed. Additional details such as intermediate metrics to achieve overall proposed goals should be included especially if the project seeks additional years of funding.

Cost Summary (Budget): Detail all costs to be incurred in this project in the format outlined in the budget guidance and template at the end of this document. A budget narrative should be included which explains and justifies the expenditures in each category. Provide cost projections for federal and total costs. Provide details on Partner/in-kind contribution (e.g., staff time, facilities, IT support, overhead, etc.). Details should be provided on start-up versus long-term operational costs.

In-kind - ¹Defined as activities that could exist (or could happen) without the grant. ²In-kind contributions are from the grantee organization. In-kind is typically in the form of the value of personnel, equipment and services, including direct and indirect costs.

¹The following are generally accepted as in-kind contributions:

- i. Personnel time given to the project including state and federal employees
- ii. Use of existing state and federal equipment (e.g. data collection and server platforms, Aging equipment, microscopes, boats, vehicles)

Overhead rates may not exceed 25% of total costs unless mandated by law or policy. Program Partners may not be able to control overhead/indirect amounts charged. However, where there is flexibility, the lowest amount of overhead should be charged. When this is accomplished indicate on the 'cost summary' sheet the difference between the overhead that could have been charged and the actual amount charged, if different. If overhead is charged to the Program, it cannot also be listed as in-kind.

Maintenance Projects: Maintenance proposals must provide project history table, description of completed data delivery to the ACCSP and other relevant partners, table of total project cost by year, a summary table of metrics and achieved goals, and the budget narrative from the most recent year's funded proposal.

Principal Investigator: List the principal investigator(s) and attach curriculum vitae (CV) for each. Limit each CV to two pages. Additional information may be requested.

Budget Guidelines & Template

All applications must have a detailed budget narrative explaining and justifying the expenditures by object class. Include in the discussion the requested dollar amounts and how they were derived. A spreadsheet or table detailing expenditures is useful to clarify the costs (see template below). The following are highlights from the NOAA Budget Guidelines document to help Partners formulate their budget narrative. The full Budget Guidelines document is available [here](#).

Object Classes:

Personnel: include salary, wage, and hours committed to project for each person by job title. Identify each individual by name and position, if possible.

Fringe Benefits: should be identified for each individual. Describe in detail if the rate is greater than 35 % of the associated salary.

Travel: all travel costs must be listed here. Provide a detailed breakdown of travel costs for trips over \$5,000 or 5 % of the award. Include destination, duration, type of transportation, estimated cost, number of travelers, lodging, mileage rate and estimated number of miles, and per diem.

Equipment: equipment is any single piece of non-expendable, tangible personal property that costs \$5,000 or more per unit and has a useful life of more than one year. List each piece of equipment, the unit cost, number of units, and its purpose. Include a lease vs. purchase cost analysis. If there are no lease options available, then state that.

Supplies: purchases less than \$5,000 per item are considered by the federal government as supplies. Include a detailed, itemized explanation for total supplies costs over \$5,000 or 5% of the award.

Contractual: list each contract or subgrant as a separate item. Provide a detailed cost breakdown and describe products/services to be provided by the contractor. Include a sole source justification, if applicable.

Other: list items, cost, and justification for each expense.

Total direct charges

Indirect charges: If claiming indirect costs, please submit a copy of the current approved negotiated indirect cost agreement. If expired and/or under review, a copy of the transmittal letter that accompanied the indirect cost agreement application is requested.

Totals of direct and indirect charges

Example. Budget narrative should provide further detail on these costs.

Description	Calculation	Cost
Personnel (a)		
Supervisor	Ex: 500 hrs x \$20/hr	\$10,000
Biologist		
Technician		
Fringe (b)		
Supervisor	Ex: 15% of salary	\$1500
Biologist		
Technician		
Travel (c)		
Mileage for sampling trips	Ex: Estimate 2000 miles x \$0.33/mile	\$660
Travel for meeting		
Equipment (d)		
Boat	Ex: \$7000, based on current market research	\$7000
Supplies (e)		
Safety supplies		\$1200
Sampling supplies		\$1000
Laptop computers	2 laptops @\$1500 each	\$3000
Software		\$500
Contractual (f)		
Data Entry Contract	Ex: 1000 hrs x \$20/hr	\$20,000
Other (h)		
Printing and binding		
Postage		
Telecommunications charges		
Internet Access charges		
Totals		
Total Direct Charges (i)		
Indirect Charges (j)		
Total (sum of Direct and Indirect) (k)		

Post-award Responsibilities

- [Changing the Scope of Work](#)
- [Requesting a No-cost Extension](#)
- [Declaring Unused/Returned Funds](#)
- [Reporting Requirements](#)
- [Report Format](#)
- [Programmatic Review](#)

Changing the Scope of Work

Partners shall submit requests for amendments to approved projects in writing to the Deputy Director. The Coordinating Council member for that Partner must sign the request.

When Partners request an amendment to an approved project, the Deputy Director will contact the Chair and Vice Chair of the Operations Committee. The Deputy Director and Operations Committee Chairs will determine if the requested change is minor or substantial. The Chairs and Deputy Director may approve minor changes.

For substantial proposed changes, a decision document including the opinions of the Chairs and the Deputy Director will be sent to the Operations Committee and the ACCSP Leadership Team of the Coordinating Council for review.

The ACCSP Leadership Team will decide to approve or reject the request for change and notify the Deputy Director, who will send a written notification to the Partner's principal investigator with a copy to the Operations Committee.

When a requested major amendment is submitted shortly before a Coordinating Council meeting, the approval of the amendment will be placed on the Council Agenda.

The Deputy Director will notify NOAA Grants of any change in scope of work for final approval for non-federal proposals, and the Partner will need to request a Change in Scope through Grants Online. Necessary communications will be maintained between the concerned Partner, the Program and NOAA Grants. Any changes must be approved through the normal NOAA Grants process.

Requesting a No-cost Extension

If additional time is needed to complete the project, Program Partners can request a no-cost extension to their award period. Partners should let the Program know of the need for additional time and then request the extension as an Award Action Request through NOAA Grants Online at least 30 days before the end date of the award.

Necessary communications will be maintained between the concerned Partner, the Program, and NOAA Grants office. Any changes must be approved through the normal NOAA Grants process.

Declaring Unused/Returned Funds

In an effort to limit the instances in which funds are not completely used during the award period, draw down reports from the NOAA Grants offices indicating remaining grant balances will be periodically reviewed during each fiscal year.

While effort should be made to complete the project as proposed, if Program Partners find that they will not be able to make use of their entire award, they should notify the Program and their NOAA Federal Program Officer as soon as possible. Depending on the timing of the action, the funds may be able to be reused within the Program, or they may have to be returned to the U.S. Treasury.

Program Partners must submit a written document to the Deputy Director outlining unused project funds potentially being returned. The Partner must also notify their Coordinating Council member (if applicable) for approval to return the unused funds. If the funding is available for re-use within the Program, the Director and Deputy Director will confer with the Operations Committee Chair and Vice-Chair and the Advisory Committee Chair, and then submit a written recommendation to the ACCSP Leadership Team of the Coordinating Council for final approval on the plan to distribute the returned money.

Necessary communications will be maintained between the concerned Partner, the Program, and NOAA Grants office. Any changes must be approved through the normal NOAA Grants process.

Reporting Requirements

Program staff will assess project performance.

The Partner project recipients must abide by the NOAA Regional Grant Programs reporting requirements and as listed below. All semi-annual and final reports are to include a table showing progress toward each of the progress goals as defined in Step 2b and additional metrics as appropriate. Also, all Partner project recipients will submit the following reports based on the project start date to the Deputy Director:

- Semi-annual reports (due 30 days after the semi-annual period) throughout the project period including time periods during no-cost extensions,
- One final report (due 90 days after project completion).
- Federal Partners must submit reports to the Deputy Director, and State Partners must submit reports to both the Deputy Director and the appropriate NOAA Grants office.

Program staff will conduct an initial assessment of the final report to ensure the report is complete in terms of reporting requirements. Program staff will serve as technical monitors to review submitted reports. NOAA staff also reviews the reports submitted via Grants Online.

A project approved on behalf of a Program Committee will be required to follow the reporting requirements specified above. The principle investigator (if not the Chair of the Committee) will submit the report(s) to the Chair and Vice Chair of the Committee for review and approval. The Committee Chair is responsible for submitting the required report(s) to the Program.

Joint projects will assign one principle investigator responsible for submitting the required reports. The principle investigator will be identified within the project proposal. The submitted reports should be a collaborative effort between all Partners involved in the joint project.

Project recipients will provide all reports to the Program in electronic format.

Partners who receive no-cost extensions must notify the Deputy Director within 30 days of receiving approval of the extension. Semi-annual and final reports will continue to be required through the extended grant period as previously stated.

Partners that have not met reporting requirements for past/current projects may not submit a new proposal.

A verbal presentation of project results may be requested. Partners will be required to submit copies of project specifications and procedures, software development, etc. to assist other Program Partners with the implementation of similar programs.

Report Format

Semi-Annual(s) – Progress Reports: (3-4 pages)

- Title page - Project name, project dates (semi-annual period covered and complete project period), submitting Partner, and date.
- Objective
- Activities Completed – bulleted list by objective.
- Progress or lack of progress of incomplete activities during the period of semi-annual progress – bulleted list by objective.
- Activities planned during the next reporting period.
- Metrics table
- Milestone Chart – original and revised if changes occurred during the project period.

Final Report:

- Title page – Project name, project dates, submitting Partner, and date.
- Abstract/Executive Summary (including key results)
- Introduction
- Procedures

- Results:
 - Description of data collected.
 - The quality of the data pertaining to the objective of the project (e.g. representative to the scope of the project, quantity collected, etc.).
 - Compiled data results.
 - Summary of statistics.
- Discussion:
 - Discuss the interpretation of results of the project by addressing questions such as, but not limited to:
 - What occurred?
 - What did not occur that was expected to occur?
 - Why did expected results not occur?
 - Applicability of study results to Program goals.
 - Recommendations/Summary/Metrics
- Summarized budget expenditures and deviations (if any).

Programmatic review

Project reports will inform Partners of project outcomes. This will allow the Program as a whole to take advantage of lessons learned and difficulties encountered. Staff will provide final reports to the appropriate Committee(s). The Committees then can discuss the report(s) and make recommendations to modify the Data Collection Standards as appropriate. The recommendations will be submitted through the Program committee(s) review process.


Appendix A: Maximum Funding for Maintenance Projects Entering Year 5 or 6/7 of Funding in FY22

Projects in Year 6/7 of Maintenance Funding	Calculated Base (formula used)	Maximum Funding Year 5	Maximum Funding Year 6/7
ME DMR: Portside commercial catch sampling and bycatch sampling for Atlantic herring, Atlantic mackerel, and Atlantic menhaden	\$133,452.50 (2-year base)	\$88,968.33	\$44,484.17
ME DMR: Managing Mandatory Dealer Reporting in Maine	\$183,934.50 (4-year avg)	\$122,623.00	\$61,311.50
RI DEM: Maintenance and Coordination of Fisheries Dependent Data Feeds to ACCSP from the State of Rhode Island	\$82,563.50 (2-year base)	\$55,042.33	\$27,521.17
NJ DFW: Electronic Reporting and Biological Characterization of New Jersey Commercial Fisheries	\$163,803.75 (4-year avg)	\$109,202.50	\$54,601.25
SC DNR: ACCSP Data Reporting from South Carolina's Commercial Fisheries	\$170,770.00 (2-year base)	\$113,846.67	\$56,923.33
SEFSC: Continued processing and ageing of biological samples collected from U.S. South Atlantic commercial and recreational fisheries	\$266,792.00 (4-year avg)	\$177,861.33	\$88,930.67

Appendix B: Ranking Criteria Spreadsheet for Maintenance and New Projects

Ranking Guide – Maintenance Projects:

Primary Program Priority	Point Range	Description of Ranking Consideration
Catch and Effort	0 – 10	Rank based on range within module and level of sampling defined under Program design. When considering biological, bycatch or recreational funding, rank according to priority matrices.
Biological Sampling	0 – 10	
Bycatch/Species Interactions	0 – 6	
Social and Economic	0 – 4	
Data Delivery Plan	+ 2	Additional points if a data delivery plan to Program is supplied and defined within the proposal.

Project Quality Factors	Point Range	Description of Ranking Consideration
Multi-Partner/Regional impact including broad applications	0 – 5	Rank based on the number of Partners involved in project OR regional scope of proposal (e.g. geographic range of the stock).
> yr 2 contains funding transition plan and/or justification for continuance	0 – 4	Rank based on defined funding transition plan away from Program funding or viable justification for continued Program funding.
In-kind contribution	0 – 4	1 = 1% - 25% 2 = 26% - 50% 3 = 51% - 75% 4 = 76% - 99%
Improvement in data quality/quantity/timeliness	0 – 4	1 = Maintain minimum level of needed data collections  4 = Improvements in data collection reflecting 100% of related module as defined within the Program design. Metadata is provided and defined within proposal if applicable.
Potential secondary module as a by-product (In program priority order)	0 – 3 0 – 3 0 – 3 0 – 1	Ranked based on additional module data collection and level of collection as defined within the Program design of individual module.
Impact on stock assessment	0 – 3	Rank based on the level of data collection that leads to new or greatly improved stock assessments.


Other Factors	Point Range	Description of Ranking Consideration
Properly Prepared	-1 – 1	Meets requirements as specified in funding decision document Step 2b and Guidelines
Merit	0 – 3	Ranked based on subjective worthiness

Ranking Guide – Maintenance Projects: (to be used only if funding available exceeds total Maintenance funding requested)

Ranking Factors	Point Range	Description of Ranking Consideration
Achieved Goals	0 – 3	Proposal indicates project has consistently met previous set goals. Current proposal provides project goals and if applicable, intermediate metrics to achieve overall achieved goals.
Data Delivery Plan	0 – 2	Ranked based if a data delivery plan to Program is supplied and defined within the proposal.
Level of Funding	-1 – 1	-1 = Increased funding from previous year 0 = Maintained funding from previous year 1 = Decreased funding from previous year
Properly Prepared	-1 – 1	-1 = Not properly prepared 1 = Properly prepared
Merit	0 – 3	Ranked based on subjective worthiness

Ranking Guide – New Projects:

Primary Program Priority	Point Range	Description of Ranking Consideration
Catch and Effort	0 – 10	Rank based on range within module and level of sampling defined under Program design. When considering biological, bycatch or recreational funding, rank according priority matrices.
Biological Sampling	0 – 10	
Bycatch/Species Interactions	0 – 6	
Social and Economic	0 – 4	
Data Delivery Plan	+ 2	Additional points if a data delivery plan to Program is supplied and defined within the proposal.

Project Quality Factors	Point Range	Description of Ranking Consideration
Multi-Partner/Regional impact including broad applications	0 – 5	Rank based on the number of Partners involved in project OR regional scope of proposal (e.g. fisheries sampled).
Contains funding transition plan / Defined end-point	0 – 4	Rank based on quality of funding transition plan or defined end point.
In-kind contribution	0 – 4	1 = 1% - 25% 2 = 26% - 50% 3 = 51% - 75% 4 = 76% - 99%
Improvement in data quality/quantity/timeliness	0 – 4	1 = Maintain minimum level of needed data collections  4 = Improvements in data collection reflecting 100% of related module as defined within the Program design. Metadata is provided and defined within proposal if applicable.
Potential secondary module as a by-product (In program priority order)	0 – 3 0 – 3 0 – 3 0 – 1	Ranked based on additional module data collection and level of collection as defined within the Program design of individual module.
Impact on stock assessment	0 – 3	Rank based on the level of data collection that leads to new or greatly improved stock assessments.

Other Factors	Point Range	Description of Ranking Consideration
Innovative	0 – 3	Rank based on new technology, methodology, financial savings, etc.
Properly Prepared	-1 – 1	Meets requirements as specified in funding decision document Step 2b and Guidelines
Merit	0 – 3	Ranked based on subjective worthiness

Funding Decision Process
Atlantic Coastal Cooperative Statistics Program
May 2021

The Atlantic Coastal Cooperative Statistics Program (the Program) is a state-federal cooperative initiative to improve recreational and commercial fisheries data collection and data management activities on the Atlantic coast. The program supports further innovation in fisheries-dependent data collection and management technology through its annual funding process.

Each year, ACCSP issues a Request for Proposals (RFP) to its Program Partners. The ACCSP Operations and Advisory Committees review submitted project proposals and make funding recommendations to the Deputy Director and the Coordinating Council.

This document provides an overview of the funding decision process, guidance for preparing and submitting proposals, and information on funding recipients' post-award responsibilities, including providing reports on project progress.

Overview of the Funding Decision Process

- [Funding Decision Process Timeline](#)
- [Detailed Steps](#)

Funding Decision Process Timeline

April- Operations and Advisory Committees develop annual funding priorities, criteria and allocation targets (maintenance vs. new projects)

May- Coordinating Council issues Request for Proposals (RFP)

June- Partners submit proposals

July- Operations and Advisory Committees review initial proposals, PIs are invited (not mandatory) to this meeting to answer questions and hear feedback; ACCSP staff provide initial review results to submitting Partner

August- Final proposals are submitted. Final proposals must be submitted electronically to the Deputy Director, and/or designee by close of business on the day of the specified deadline. Final proposals received after the RFP deadline will not be considered for funding.

September- Operations and Advisory Committees review and rank final proposals

October- Funding recommendations presented to Coordinating Council; Coordinating Council makes final funding decision

ACCSP Staff submits notification to submitting Partner of funded projects and notification of approved projects to appropriate grant funding agency (e.g. NOAA Fisheries Regional Grants Program Office, “NOAA Grants”) by Partner

As Needed- Operation and/or Leadership Team and Coordinating Council review and make final decision with contingencies (e.g. scope of work, rescissions, no-cost extensions, returned unused funds, etc.)

Detailed Steps of Funding Decision Process

1. Develop Annual Funding Priorities, Criteria and Allocation Targets (maintenance vs. new projects).

Prior to issuing the Request for Proposals, the Coordinating Council will approve the annual funding criteria and allocation targets. These will be used to rank projects and allocate funding between maintenance and new projects respectively.

In FY16, a long-term funding strategy policy was instituted to limit the duration of maintenance projects. Maintenance projects are now subject to a funding reduction following their fourth year of maintenance funding.

- For maintenance projects entering year 5 of ACCSP funding in FY20, a 33 percent funding cut was applied to whichever sum was larger: the project’s prior two-year-average base funding set in FY16, or the average annual sum received during the project’s four years of full *maintenance* funding. In year 6, a further 33 percent cut will be applied and funding will cease in year 7. Please see Appendix A for a list of maintenance projects entering year 6 in FY20 and the maximum funds available for these projects.
- For more recent maintenance projects (i.e., those entering year 5 of maintenance funding after FY20), the base funding will be calculated as the average of funding received during the project’s four years as a *maintenance* project. These projects will receive a 33 percent cut in year 5, a further 33 percent cut in year 6, and funding will cease in year 7.
- In consideration of the unique situation COVID 19 has created, the step down process will be paused in FY22. This means that all maintenance projects that would have progressed out of eligibility have the opportunity to submit proposals for funding up to the FY21 level. All of these maintenance project submissions are required to submit an appendix to the proposal indicating that they would like to request funding under the extension, a summary of why the additional funding is needed, and if there are any

funds from the previous year that were not spent. The relevant projects are reflected in Appendix A, which has a list of those maintenance projects entering year 6 as of FY21 and the maximum funding available to them.

2. Issue Request for Proposals

An RFP will be sent to all Program Partners and Committees no later than the week after the spring Coordinating Council meeting. The RFP will include the ranking criteria, allocation targets approved by the Coordinating Council, and general Program priorities taken from Goal 3 of the current ASMFC Five-Year Strategic Plan. The RFP and related documents will also be posted on the Program's website [here](#).

All proposals MUST be submitted either by a Program Partner, jointly by several Program Partners, or through a Program Committee. The public has the ability to work with a Program Partner to develop and submit a proposal. Principle investigators are strongly encouraged to work with their Operations Committee member in the development of any proposal. All proposals must be submitted electronically to the Deputy Director, and/or designee, in the standard format.

3. Review initial proposals

Proposals will be reviewed by staff and the Operations and Advisory Committees. Committee members are encouraged to coordinate with their offices and/or constituents to provide input to the review process. Operations Committee members are also encouraged to work with staff in their offices who have submitted a proposal in order to represent the proposal during the review. Project PIs will be invited to attend the initial proposal review, held in July. The review and evaluation of all written proposals will take into consideration the ranking criteria, funding allocation targets and the overall Program Priorities as specified in the RFP. Proposals may be forwarded to relevant Program technical committees for further review of the technical feasibility and statistical validity. Proposals that fail to meet the ACCSP standards may be recommended for changes or rejected.

4. Provide initial review results to submitting Partner

Program staff will notify the submitting Partner of suggested changes, requested responses, or questions arising from the review. The submitting Partner will be given an opportunity to submit a final proposal incorporating suggested changes in the same format previously described in Step 2(b) by the final RFP deadline.

5. Review and rank final proposals

The review and ranking of all proposals will take into consideration the ranking criteria, funding allocation targets, and overall Program Priorities as specified in the RFP. The Deputy Director and the Advisory and Operations Committees will develop a list of prioritized recommended proposals and forward them for discussion, review, and approval by the Coordinating Council.

6. Proposal approval by the Coordinating Council

The Coordinating Council will review a summary of all submitted proposals and prioritized recommended proposals from the Operations and Advisory Committees. Each representative on the Coordinating Council will have one vote during final prioritization of project proposals. Projects to be funded by the Program will be approved by the Coordinating Council by the end of November each year. The Deputy Director will submit a pre-notification to the appropriate NOAA Grants office of the prioritized proposals to expedite processing when those offices receive Partner grant submissions.

7. Confirmation of final funding amounts

The Director and Deputy Director will be notified by NOAA Fisheries of any federal grant adjustments (e.g. additions or rescissions). Additional funds will generally go to the next available ranked project. Reductions may include, but are not limited to:

- Lower than anticipated amounts from any source of funding
- Rescission of funding after initial allocations have been made
- Partial or complete withdrawal of funds from any source

If these or other situations arise, the Operations Committee will notify Partners with approved proposals to reduce their requested budgets or to withdraw a proposal entirely. If this does not reduce the overall requested amount sufficiently, the Director, Deputy Director, the Operations Committee Chair and Vice-Chair, and the Advisory Committee Chair will develop a final recommendation and forward to the ACCSP Leadership Team of the Coordinating Council.

These options to address funding contingencies may include:

- Eliminating the lowest-ranked proposal(s)
- A fixed percentage cut to all proposals' budgets
- A directed reduction in a specific proposal(s)

8. Notification to submitting Partner of funded projects and submittal of project documents to appropriate grants agency (e.g. NOAA Grants) by Partner.

Notification detailing the Coordinating Council's actions relevant to a Partner's proposal will be sent to each Partner by Program staff.

- Approved projects from Non-federal Partners must be submitted as full applications (federal forms, project and budget narratives, and other attachments) to NOAA Grants via www.grants.gov. These documents must reflect changes or conditions approved by the Coordinating Council.
- Non-federal Partners must provide the Deputy Director with an electronic copy of the narrative and either an electronic or hard copy of the budget of the grant application as submitted to the grants agency (e.g. NOAA Grants).
- Federal Partners do not submit applications to NOAA Grants.

9. Operation and/or Leadership Team and Coordinating Council review and final decision with contingencies or emergencies.

Committee(s) review and decide project changes (e.g. scope of work, rescissions, no-cost extensions, returned unused funds, etc.) during the award period.



Proposal Guidance

- [General Proposal Guidelines](#)
- [Format](#)
- [Budget Template](#)

General Proposal Guidelines

- The Program is predicated upon the most efficient use of available funds. Many jurisdictions have data collection and data management programs which are administered by other fishery management agencies. Detail coordination efforts your agency/Committee has undertaken to demonstrate cost-efficiency and non-duplication of effort.
- All Program Partners conducting projects for implementation of the program standards in their jurisdictions are required to submit data to the Program in prescribed standards, where the module is developed and formats are available. Detail coordination efforts with Program data management staff with projects of a research and/or pilot study nature to submit project information and data for distribution to all Program Partners and archives.
- If appropriate to your project, please detail your agency's data management capability. Include the level of staff support (if any) required to accomplish the proposed work. If contractor services are required, detail the level and costs.
- Before funding will be considered beyond year one of a project, the Partner agency shall detail in writing how the Partner agency plans to assume partial or complete funding or, if not feasible, explain why.
- If appropriate to your project, detail any planned or ongoing outreach initiatives. Provide scope and level of outreach coordinated with either the Program Assistant and/or Deputy Director.
- Proposals including a collection of aging or other biological samples must clarify Partner processing capabilities (i.e., how processed and by whom).
- Provide details on how the proposal will benefit the Program as a whole, outside of benefits to the Partner or Committee.
- Proposals that request funds for law enforcement should confirm that all funds will be allocated towards reporting compliance.
- Proposals must detail any in-kind effort/resources, and if no in-kind resources are included, state why.

- Proposals must meet the same quality as would be appropriate for a grant proposal for ACFCMA or other federal grant.
- Assistance is available from Program staff, or an Operations Committee member for proposal preparation and to insure that Program standards are addressed in the body of a given proposal.
- Even though a large portion of available resources may be allocated to one or more jurisdictions, new systems (including prototypes) will be selected to serve all Partners' needs.
- Partners submitting pilot or other short-term programs are encouraged to lease large capital budget items (vehicles, etc.) and where possible, hire consultants or contractors rather than hire new permanent personnel.
- The Program will not fund proposals that do not meet Program standards. However, in the absence of approved standards, pilot studies may be funded.
- Proposals will be considered for modules that may be fully developed but have not been through the formal approval process. Pilot proposals will be considered in those cases.
- The Operations Committee may contact Partners concerning discrepancies or inconsistencies in any proposal and may recommend modifications to proposals subject to acceptance by the submitting Partner and approval by the Coordinating Council. The Operations Committee may recommend changes or conditions to proposals. The Coordinating Council may conditionally approve proposals. These contingencies will be documented and forwarded to the submitting Partner in writing by Program staff.
- Any proposal submitted after the initial RFP deadline will not be considered, in addition to any proposal submitted by a Partner which is not current with all reporting obligations.

Proposal Format

Applicant Name: Identify the name of the applicant organization(s).

Project Title: A brief statement to identify the project.

Project Type: Identify whether new or maintenance project.

New Project – Partner project never funded by the Program. New projects may not exceed a duration of one year.

Maintenance Project – Project funded by the Program that conducts the same scope of work as a previously funded new or maintenance project. These proposals may not contain significant changes in scope (e.g., the addition of bycatch data collection to a catch/effort dealer reporting project). Pls must include in the cover letter whether there are any changes in the current proposal from prior years' and, if so, provide a brief summary of those changes. At year 5 of maintenance funding, a project's base funding will be calculated as the average of funding received during the project's four years as a maintenance project.

Requested Award Amount: Provide the total requested amount of proposal. Do not include an estimate of the NOAA grant administration fee.

Requested Award Period: Provide the total time period of the proposed project. The award period typically will be limited to one-year projects.

Objective: Specify succinctly the “why”, “what”, and “when” of the project.

Need: Specify the need for the project and the association to the Program.

Results and Benefits: Identify and document the results or benefits to be expected from the proposed project. Clearly indicate how the proposed work meets various elements outlined in the ACCSP Proposal Ranking Criteria Document (Appendix B). Some potential benefits may include: fundamental in nature to all fisheries; region-wide in scope; answering or addressing region-wide questions or policy issues; required by MSFCMA, ACFCMA, MMPA, ESA, or other acts; transferability; and/or demonstrate a practical application to the Program.

Data Delivery Plan: Include coordinated method of the data delivery plan to the Program in addition to module data elements gathered. The data delivery plan should include the frequency of data delivery (i.e. monthly, semi-annual, annual) and any coordinate delivery to other relevant partners.

Approach: List all procedures necessary to attain each project objective. If a project includes work in more than one module, identify approximately what proportion of effort is comprised within each module (e.g., catch and effort 45%, biological 30% and bycatch 25%).

Geographic Location: The location where the project will be administered and where the scope of the project will be conducted.

Milestone Schedule: An activity schedule in table format for the duration of the project, starting with Month 1 and ending with a three-month report writing period.

Project Accomplishments Measurement: A table showing the project goals and how progress towards those goals will be measured. In some situations the metrics will be numerical such as numbers of anglers contacted, fish measured, and/or otoliths collected, etc.; while in other cases the metrics will be binary such as software tested and software completed. Additional details such as intermediate metrics to achieve overall proposed goals should be included especially if the project seeks additional years of funding.

Cost Summary (Budget): Detail all costs to be incurred in this project in the format outlined in the budget guidance and template at the end of this document. A budget narrative should be included which explains and justifies the expenditures in each category. Provide cost projections for federal and total costs. Provide details on Partner/in-kind contribution (e.g., staff time, facilities, IT support, overhead, etc.). Details should be provided on start-up versus long-term operational costs.

In-kind - ¹Defined as activities that could exist (or could happen) without the grant. ²In-kind contributions are from the grantee organization. In-kind is typically in the form of the value of personnel, equipment and services, including direct and indirect costs.

¹The following are generally accepted as in-kind contributions:

- i. Personnel time given to the project including state and federal employees
- ii. Use of existing state and federal equipment (e.g. data collection and server platforms, Aging equipment, microscopes, boats, vehicles)

Overhead rates may not exceed 25% of total costs unless mandated by law or policy. Program Partners may not be able to control overhead/indirect amounts charged. However, where there is flexibility, the lowest amount of overhead should be charged. When this is accomplished indicate on the 'cost summary' sheet the difference between the overhead that could have been charged and the actual amount charged, if different. If overhead is charged to the Program, it cannot also be listed as in-kind.

Maintenance Projects: Maintenance proposals must provide project history table, description of completed data delivery to the ACCSP and other relevant partners, table of total project cost by year, a summary table of metrics and achieved goals, and the budget narrative from the most recent year's funded proposal.

Principal Investigator: List the principal investigator(s) and attach curriculum vitae (CV) for each. Limit each CV to two pages. Additional information may be requested.

Budget Guidelines & Template

All applications must have a detailed budget narrative explaining and justifying the expenditures by object class. Include in the discussion the requested dollar amounts and how they were derived. A spreadsheet or table detailing expenditures is useful to clarify the costs (see template below). The following are highlights from the NOAA Budget Guidelines document to help Partners formulate their budget narrative. The full Budget Guidelines document is available [here](#).

Object Classes:

Personnel: include salary, wage, and hours committed to project for each person by job title. Identify each individual by name and position, if possible.

Fringe Benefits: should be identified for each individual. Describe in detail if the rate is greater than 35 % of the associated salary.

Travel: all travel costs must be listed here. Provide a detailed breakdown of travel costs for trips over \$5,000 or 5 % of the award. Include destination, duration, type of transportation, estimated cost, number of travelers, lodging, mileage rate and estimated number of miles, and per diem.

Equipment: equipment is any single piece of non-expendable, tangible personal property that costs \$5,000 or more per unit and has a useful life of more than one year. List each piece of equipment, the unit cost, number of units, and its purpose. Include a lease vs. purchase cost analysis. If there are no lease options available, then state that.

Supplies: purchases less than \$5,000 per item are considered by the federal government as supplies. Include a detailed, itemized explanation for total supplies costs over \$5,000 or 5% of the award.

Contractual: list each contract or subgrant as a separate item. Provide a detailed cost breakdown and describe products/services to be provided by the contractor. Include a sole source justification, if applicable.

Other: list items, cost, and justification for each expense.

Total direct charges

Indirect charges: If claiming indirect costs, please submit a copy of the current approved negotiated indirect cost agreement. If expired and/or under review, a copy of the transmittal letter that accompanied the indirect cost agreement application is requested.

Totals of direct and indirect charges

Example. Budget narrative should provide further detail on these costs.

Description	Calculation	Cost
Personnel (a)		
Supervisor	Ex: 500 hrs x \$20/hr	\$10,000
Biologist		
Technician		
Fringe (b)		
Supervisor	Ex: 15% of salary	\$1500
Biologist		
Technician		
Travel (c)		
Mileage for sampling trips	Ex: Estimate 2000 miles x \$0.33/mile	\$660
Travel for meeting		
Equipment (d)		
Boat	Ex: \$7000, based on current market research	\$7000
Supplies (e)		
Safety supplies		\$1200
Sampling supplies		\$1000
Laptop computers	2 laptops @\$1500 each	\$3000
Software		\$500
Contractual (f)		
Data Entry Contract	Ex: 1000 hrs x \$20/hr	\$20,000
Other (h)		
Printing and binding		
Postage		
Telecommunications charges		
Internet Access charges		
Totals		
Total Direct Charges (i)		
Indirect Charges (j)		
Total (sum of Direct and Indirect) (k)		

Post-award Responsibilities

- [Changing the Scope of Work](#)
- [Requesting a No-cost Extension](#)
- [Declaring Unused/Returned Funds](#)
- [Reporting Requirements](#)
- [Report Format](#)
- [Programmatic Review](#)

Changing the Scope of Work

Partners shall submit requests for amendments to approved projects in writing to the Deputy Director. The Coordinating Council member for that Partner must sign the request.

When Partners request an amendment to an approved project, the Deputy Director will contact the Chair and Vice Chair of the Operations Committee. The Deputy Director and Operations Committee Chairs will determine if the requested change is minor or substantial. The Chairs and Deputy Director may approve minor changes.

For substantial proposed changes, a decision document including the opinions of the Chairs and the Deputy Director will be sent to the Operations Committee and the ACCSP Leadership Team of the Coordinating Council for review.

The ACCSP Leadership Team will decide to approve or reject the request for change and notify the Deputy Director, who will send a written notification to the Partner's principal investigator with a copy to the Operations Committee.

When a requested major amendment is submitted shortly before a Coordinating Council meeting, the approval of the amendment will be placed on the Council Agenda.

The Deputy Director will notify NOAA Grants of any change in scope of work for final approval for non-federal proposals, and the Partner will need to request a Change in Scope through Grants Online. Necessary communications will be maintained between the concerned Partner, the Program and NOAA Grants. Any changes must be approved through the normal NOAA Grants process.

Requesting a No-cost Extension

If additional time is needed to complete the project, Program Partners can request a no-cost extension to their award period. Partners should let the Program know of the need for additional time and then request the extension as an Award Action Request through NOAA Grants Online at least 30 days before the end date of the award.

Necessary communications will be maintained between the concerned Partner, the Program, and NOAA Grants office. Any changes must be approved through the normal NOAA Grants process.

Declaring Unused/Returned Funds

In an effort to limit the instances in which funds are not completely used during the award period, draw down reports from the NOAA Grants offices indicating remaining grant balances will be periodically reviewed during each fiscal year.

While effort should be made to complete the project as proposed, if Program Partners find that they will not be able to make use of their entire award, they should notify the Program and their NOAA Federal Program Officer as soon as possible. Depending on the timing of the action, the funds may be able to be reused within the Program, or they may have to be returned to the U.S. Treasury.

Program Partners must submit a written document to the Deputy Director outlining unused project funds potentially being returned. The Partner must also notify their Coordinating Council member (if applicable) for approval to return the unused funds. If the funding is available for re-use within the Program, the Director and Deputy Director will confer with the Operations Committee Chair and Vice-Chair and the Advisory Committee Chair, and then submit a written recommendation to the ACCSP Leadership Team of the Coordinating Council for final approval on the plan to distribute the returned money.

Necessary communications will be maintained between the concerned Partner, the Program, and NOAA Grants office. Any changes must be approved through the normal NOAA Grants process.

Reporting Requirements

Program staff will assess project performance.

The Partner project recipients must abide by the NOAA Regional Grant Programs reporting requirements and as listed below. All semi-annual and final reports are to include a table showing progress toward each of the progress goals as defined in Step 2b and additional metrics as appropriate. Also, all Partner project recipients will submit the following reports based on the project start date to the Deputy Director:

- Semi-annual reports (due 30 days after the semi-annual period) throughout the project period including time periods during no-cost extensions,
- One final report (due 90 days after project completion).
- Federal Partners must submit reports to the Deputy Director, and State Partners must submit reports to both the Deputy Director and the appropriate NOAA Grants office.

Program staff will conduct an initial assessment of the final report to ensure the report is complete in terms of reporting requirements. Program staff will serve as technical monitors to review submitted reports. NOAA staff also reviews the reports submitted via Grants Online.

A project approved on behalf of a Program Committee will be required to follow the reporting requirements specified above. The principle investigator (if not the Chair of the Committee) will submit the report(s) to the Chair and Vice Chair of the Committee for review and approval. The Committee Chair is responsible for submitting the required report(s) to the Program.

Joint projects will assign one principle investigator responsible for submitting the required reports. The principle investigator will be identified within the project proposal. The submitted reports should be a collaborative effort between all Partners involved in the joint project.

Project recipients will provide all reports to the Program in electronic format.

Partners who receive no-cost extensions must notify the Deputy Director within 30 days of receiving approval of the extension. Semi-annual and final reports will continue to be required through the extended grant period as previously stated.

Partners that have not met reporting requirements for past/current projects may not submit a new proposal.

A verbal presentation of project results may be requested. Partners will be required to submit copies of project specifications and procedures, software development, etc. to assist other Program Partners with the implementation of similar programs.

Report Format

Semi-Annual(s) – Progress Reports: (3-4 pages)

- Title page - Project name, project dates (semi-annual period covered and complete project period), submitting Partner, and date.
- Objective
- Activities Completed – bulleted list by objective.
- Progress or lack of progress of incomplete activities during the period of semi-annual progress – bulleted list by objective.
- Activities planned during the next reporting period.
- Metrics table
- Milestone Chart – original and revised if changes occurred during the project period.

Final Report:

- Title page – Project name, project dates, submitting Partner, and date.
- Abstract/Executive Summary (including key results)
- Introduction
- Procedures

- Results:
 - Description of data collected.
 - The quality of the data pertaining to the objective of the project (e.g. representative to the scope of the project, quantity collected, etc.).
 - Compiled data results.
 - Summary of statistics.
- Discussion:
 - Discuss the interpretation of results of the project by addressing questions such as, but not limited to:
 - What occurred?
 - What did not occur that was expected to occur?
 - Why did expected results not occur?
 - Applicability of study results to Program goals.
 - Recommendations/Summary/Metrics
- Summarized budget expenditures and deviations (if any).

Programmatic review

Project reports will inform Partners of project outcomes. This will allow the Program as a whole to take advantage of lessons learned and difficulties encountered. Staff will provide final reports to the appropriate Committee(s). The Committees then can discuss the report(s) and make recommendations to modify the Data Collection Standards as appropriate. The recommendations will be submitted through the Program committee(s) review process.


Appendix A: Maximum Funding for Maintenance Projects Entering Year 5 or 6/7 of Funding in FY22

Projects in Year 6/7 of Maintenance Funding	Calculated Base (formula used)	Maximum Funding Year 5	Maximum Funding Year 6/7
ME DMR: Portside commercial catch sampling and bycatch sampling for Atlantic herring, Atlantic mackerel, and Atlantic menhaden	\$133,452.50 (2-year base)	\$88,968.33	\$44,484.17
ME DMR: Managing Mandatory Dealer Reporting in Maine	\$183,934.50 (4-year avg)	\$122,623.00	\$61,311.50
RI DEM: Maintenance and Coordination of Fisheries Dependent Data Feeds to ACCSP from the State of Rhode Island	\$82,563.50 (2-year base)	\$55,042.33	\$27,521.17
NJ DFW: Electronic Reporting and Biological Characterization of New Jersey Commercial Fisheries	\$163,803.75 (4-year avg)	\$109,202.50	\$54,601.25
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Social and Economic	0 – 4	
Data Delivery Plan	+ 2	Additional points if a data delivery plan to Program is supplied and defined within the proposal.

Project Quality Factors	Point Range	Description of Ranking Consideration
Multi-Partner/Regional impact including broad applications	0 – 5	Rank based on the number of Partners involved in project OR regional scope of proposal (e.g. geographic range of the stock).
> yr 2 contains funding transition plan and/or justification for continuance	0 – 4	Rank based on defined funding transition plan away from Program funding or viable justification for continued Program funding.
In-kind contribution	0 – 4	1 = 1% - 25% 2 = 26% - 50% 3 = 51% - 75% 4 = 76% - 99%
Improvement in data quality/quantity/timeliness	0 – 4	1 = Maintain minimum level of needed data collections  4 = Improvements in data collection reflecting 100% of related module as defined within the Program design. Metadata is provided and defined within proposal if applicable.
Potential secondary module as a by-product (In program priority order)	0 – 3 0 – 3 0 – 3 0 – 1	Ranked based on additional module data collection and level of collection as defined within the Program design of individual module.
Impact on stock assessment	0 – 3	Rank based on the level of data collection that leads to new or greatly improved stock assessments.


Other Factors	Point Range	Description of Ranking Consideration
Properly Prepared	-1 – 1	Meets requirements as specified in funding decision document Step 2b and Guidelines
Merit	0 – 3	Ranked based on subjective worthiness

Ranking Guide – Maintenance Projects: (to be used only if funding available exceeds total Maintenance funding requested)

Ranking Factors	Point Range	Description of Ranking Consideration
Achieved Goals	0 – 3	Proposal indicates project has consistently met previous set goals. Current proposal provides project goals and if applicable, intermediate metrics to achieve overall achieved goals.
Data Delivery Plan	0 – 2	Ranked based if a data delivery plan to Program is supplied and defined within the proposal.
Level of Funding	-1 – 1	-1 = Increased funding from previous year 0 = Maintained funding from previous year 1 = Decreased funding from previous year
Properly Prepared	-1 – 1	-1 = Not properly prepared 1 = Properly prepared
Merit	0 – 3	Ranked based on subjective worthiness

Ranking Guide – New Projects:

Primary Program Priority	Point Range	Description of Ranking Consideration
Catch and Effort	0 – 10	Rank based on range within module and level of sampling defined under Program design. When considering biological, bycatch or recreational funding, rank according priority matrices.
Biological Sampling	0 – 10	
Bycatch/Species Interactions	0 – 6	
Social and Economic	0 – 4	
Data Delivery Plan	+ 2	Additional points if a data delivery plan to Program is supplied and defined within the proposal.

Project Quality Factors	Point Range	Description of Ranking Consideration
Multi-Partner/Regional impact including broad applications	0 – 5	Rank based on the number of Partners involved in project OR regional scope of proposal (e.g. fisheries sampled).
Contains funding transition plan / Defined end-point	0 – 4	Rank based on quality of funding transition plan or defined end point.
In-kind contribution	0 – 4	1 = 1% - 25% 2 = 26% - 50% 3 = 51% - 75% 4 = 76% - 99%
Improvement in data quality/quantity/timeliness	0 – 4	1 = Maintain minimum level of needed data collections  4 = Improvements in data collection reflecting 100% of related module as defined within the Program design. Metadata is provided and defined within proposal if applicable.
Potential secondary module as a by-product (In program priority order)	0 – 3 0 – 3 0 – 3 0 – 1	Ranked based on additional module data collection and level of collection as defined within the Program design of individual module.
Impact on stock assessment	0 – 3	Rank based on the level of data collection that leads to new or greatly improved stock assessments.

Other Factors	Point Range	Description of Ranking Consideration
Innovative	0 – 3	Rank based on new technology, methodology, financial savings, etc.
Properly Prepared	-1 – 1	Meets requirements as specified in funding decision document Step 2b and Guidelines
Merit	0 – 3	Ranked based on subjective worthiness