Atlantic Coastal Cooperative Statistics Program
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Executive Committee

Tuesday, October 29, 2013, 2:15 pm

The King and Prince Beach Golf Resort
201 Arnold Street
St. Simons Island, GA

DRAFT AGENDA

1. Welcome/Introductions – Chair M. Alexander
2. Committee Consent – Chair M. Alexander
   a) Approval of Agenda (Attachment 1)
   b) Approval of Proceedings from August 2013 (Attachment 2)
   c) Approval of Proceedings from September 10 Conference Call (Attachment 3)
3. FY 2014 ACCSP Funding Recommendations (Attachment 4)
4. Governance Review (Attachment 5)
5. ACCSP Update – M. Cahall
   a) Status of Independent Program Review Recommendations implementation
   b) Status of Standard Operating Procedures Document
   c) Status of 2014 Strategic Plan
6. Recreational Technical Committee's Marine Recreational Information Program (MRIP) Recommendation (Attachment 6)
7. NOAA Fisheries Electronic Technology Initiative - Lapointe
8. List of Action Items from May 20, 2013 and status as of 10/7/2013:
   a) Mike Cahall will complete the budget templates for the FINs.
      - Mike Cahall will forward the budget templates to the other relevant contacts for completion. **In Progress, all FINs contacted**
   b) Mike Cahall will gather program reviews from the FIN's to examine how they addressed review recommendations**. In progress see above**
9. List of Action Items from August 7, 2013 and status as of 10/7/2013:
   a) Bob Beal will get ACFCMA funding history and the fate of the $152K reallocated from ACCSP to ASFMC and email it out to Executive Committee.
   b) Mike Cahall will talk to Margo Schulze-Haugen regarding ACCSP being reimbursed for its services related to HMS/SAFIS. **Completed**
   c) Cheri Patterson will talk to Harry Mears regarding lost NY funds. **Completed**
10. Other Business
11. Closed Session (Executive Committee members)

12. Adjourn – M. Alexander

Future Meetings/Conference Calls

- Tuesday, November 5 at 10:00 am.
- Tuesday, December 17 at 10:00 am.

ATLANTIC COASTAL COOPERATIVE STATISTICS PROGRAM
EXECUTIVE COMMITTEE MEETING
AUGUST 7, 2013

ATTENDANCE

COMMITTEE MEMBERS		STAFF
		Mike Cahall
Mark Alexander	Ned Cyr	Laura Leach
Bob Beal	Paul Diodati	
Robert Boyles	Wilson Laney	OTHERS
Gordon Colvin	Cheri Patterson	Steve Meyers

Chair Alexander called the meeting to order at 5:10 pm and reviewed the agenda.

REVIEW OF INDEPENDENT PROGRAM REVIEW RESPONSE

Mr. Cahall reported that the recommendations of the Independent Program Review (IPR) will be implemented. He worked with a small group of partners to prepare a response plan for the Coordinating Council which is organized into 4 major areas, and the plan will use these 4 areas to implement responses. The 4 areas are Strategic Plan, Outreach Strategic Plan, Standard Operating Practices and Procedures, and the Governance Review.

He does not intend to go over all 66 recommendations with the Council, but he will ask for approval of this approach. Mr. Cahall recommends the same committee that developed the response plan to the IPR be the standing committee to monitor progress. Committee members are Mark Alexander, Cheri Patterson, Kathy Knowlton, Tom Hoopes and Mike Cahall.

The Executive Committee agreed to recommend the Coordinating Council approve the strategy/process for implementing the IPR recommendations.

TELECOMMUTING POLICY

Mr. Cahall brought forward a request from an ACCSP staff member (on the data team) requesting an exception to the Commission's telecommuting policy. The individual is requesting that he be allowed to be in the office three 10 hour days a week, work from home one day and have a flex day every week. There was considerable discussion among the Committee members, with the final decision made to deny the request. It was noted that an exception is made for a Commission staff person, but that was described as a unique situation. It was noted that we are trying to align our cultures (ASMFC and ACCSP) since we share space. Mr. Cahall

requested and was granted permission to make occasional exceptions without having the approach the Executive Committee each time.

GOVERNANCE DISCUSSION

It was suggested that there might be additional documents that can help future discussions on the governance of ACCSP and the relation to ASMFC. Mr. Colvin noted that a white paper was prepared in 1998 regarding governance. It defined options, analyzed pros and cons which led to a motion contained in minutes of the Executive Committee. Ned Cyr has a binder in his office regarding ACCSP governance. He will share the binder with ACCSP staff and hopefully it will contain the governance white paper.

Mr. Beal noted that the governance issues might be even more important with MRIP and at-sea observer issues coming down the pike. He suggested it will take a working group to develop process. This group should include the Federal Services and Regional Fishery Management Councils. It was thought that it should be the Executive Committee that does this work.

ACTION ITEMS FROM PREVIOUS MEETING

Mr. Cahall was tasked with gathering financial info from the various FINS; he is still waiting for some. He suggested that we integrate a couple of systems together to track hours of staff. This should help determine the fiscal impact of doing other work, such as the work ACCSP does for HMS.

Mr. Cahall also noted that PACWest and PACGulf FINs do not conduct formal program reviews.

OTHER BUSINESS

A question was raised regarding the 150K that was reallocated from ACCSP to the Commission's ACFCMA grant. It was noted that this was done in the form of a motion at the Commission's Executive Committee meeting. That motion was then conveyed to National Marine Fisheries Service.

An additional question was raised asking if there would be an opportunity for ACCSP to advocate for itself to the ASMFC Executive Committee? Mr. Beal reminded the group that all 15 states are represented on the ASMFC ExCom, however an ACCSP representative can be invited when ACFCMA allocation is being discussed.

Finally, it was determined that ACFCMA funds were not restored from ASMFC to ACCSP, however it's unclear of the impact because the funds appeared to have been restored from NMFS Science and Technology.

Mr. Boyles reminded the committee that the ACCSP ExCom was not regularly meeting for quite some time. When the ACFCMA line was reduced the Commission had to decide how to distribute that? The ACCSP ExCom did not discuss this, so the ASMFC ExCom made the decision.

Mr. Cahall noted that the Gulf States Marine Fisheries Commission has been very aggressive in getting more funding from the Office of Sustainable Fisheries. ACCSP has not done that. Mr. Cahall will work with Margo to see if they can get reimbursed from the Feds for the services provided for HMS activities.

A brief discussion ensued with regard to the $110,000 Cornell project. The funds were not provided to ACCSP but ACCSP had already awarded the contract to Cornell. The funds were not able to be provided later because it lapsed over a fiscal year so they could not recover the funds.

The meeting was adjourned at 5:55.

Coordinating Council - Executive Committee
Conference Call
Tuesday, September 10, 2013
10:00am

DRAFT SUMMARY

Attendance:

Name	Organization	Email	Phone
Mark Alexander, Chair	CT DEEP	mark.alexander@ct.gov	(860) 434-6043
Robert Beal	ASMFC	rbeal@asmfc.org	(703) 842-0740
Gordon Colvin	NOAA Fisheries	gordon.colvin@noaa.gov	(240) 357-4524

ACCSP staff: Mike Cahall

Chair Alexander brought the meeting to order.

The agenda and previous meeting minutes were approved with no objection.

Action item Status:

FIN Budget Templates / FIN Program Review:

Mike has still been unable to get a written response from PacFIN / AkFIN. However he was able to present a brief summary of his understanding of the present process and is hopeful of getting written responses as Dave Colpo and Kimberly Lowe, principals in PacFIN/AkFIN and WestPacFin respectively are participating in the FIN review that he's attending. In summary, PacFIN/AkFIN use a formula to distribute funds to the state agencies. Mike commented that the process is less flexible than ACCSP. PacFIN and AkFIN do not do routine reviews like GulfFIN does, which uses facilitated sessions to set future years priorities.

Gordon noted that it's his perception that for GulfFIN and PacFIN, nearly all funding goes to states for data collection; they mostly send money to states. Gordon commented that he has looked into Gulf process and the sense with the states and the NMFS SE Center has basic data needs are not being met.

Mike noted that comparatively speaking, the Atlantic coast in good shape. PACFin and AkFIN share services, but have staff in different places and are in the process of merging. In the case of AkFIN, about 30% goes to admin, the rest to Alaska.

Mike will synthesize a summary of FIN budgets and program structure for the Oct ExComm meeting.

Follow up:

Mike was able to get most of the information from Dave Colpo and Kimberly Lowe.

HMS Reimbursement:

Mike C will continue to work with Jackie on HMS program reimbursement. She seems to be moving toward accommodating the request. The amount of money would be about $25-30k per year. Mike will let Gordon know if the request gets elevated in SF. The eDealer program got attention and interest at the FIN review meeting.

Telecommuting:

Mike explained the telecommuting policy to staff and they were ok with it; everyone in compliance. Ed Martino, who the request originated with, is now in transition to the shared IT position with ASFMC. He will be under joint oversight under Mike and Laura.

Governance:

There was a discussion of the 2001 Governance option paper that was presented to the Coordinating Council as during the earlier decision process. It was generally agreed that further separation of ACCSP and ASMFC is not fiscally advisable at this time as that would duplicate executive oversight and admin functions. As a result, there is no need to consider any options toward that direction from status quo. At the other end of the spectrum, Bob Beal pointed out that things are working well in the office now and do we want to move toward further integration? Mike agreed, pointing out that comingling of staff has had a beneficial effect. There is good coordination between Mike and Bob in accordance with the current policy.

Gordon pointed out that the Operations Committee was very involved in the development of the 2001 options, and should be involved in the consideration of new options. Mike and Gordon agreed to work on redefining new options drawing Kathy Knowlton into the discussion if she has time available. Also, the FIN review results will be timely and useful in development of new options. The preliminary FIN report is supposed to be available by end of week.

Mike, while he is in Portland at the FIN review meeting will discuss governance with the other FIN managers especially with regard to how the organizations structure is set up and which partners would most likely have reservations (Gordon felt it would most likely be the councils). How have their respective councils and council interests been worked into the FIN governance? Mike thought that those councils set a lot of regulatory policy.

Follow Up (from the FIN review):

All three of the Western Fins incorporate their respective councils into the decision making process. The Councils provide the FINS with likely management actions and the FINs attempt to produce the data products necessary to support them. The FINs primarily support federal partners with data products while providing funding to state partner to conduct data collection activities.

NY funding:

Cheri discussed the matter with Susan Olsen at NERO, suggesting that the region forego the 5% administrative fee charged to process ACCSP awards until the lost NY funds are recaptured. NERO's

response was no. Mike sees ACCSP moving from individual grants to a coop agreement, so the RO will lose the 5% in the long run anyway.

Program review response:

ACCSP staff has developed a large spreadsheet as a checklist to track the progress in addressing the peer review responses and where how they are addressed. They have developed a skeleton version of the Strategic Plan, which has references to the relevant IPR recommendations. This version is based on the previous SP. However, Bob Beal will provide Mike with ASFMC's current draft SP to use as a model. Mike has met with staff to work on SOP document. He noted that there are some things not in IPR recommendations that should also be included in the SOP. The Operations Committee is interested in working on their section of the SOP. They are waiting for staff to hand off the outlines of the documents to start their work. Mike said an outline of the SOP and SP should be available to share with the Coordinating Council at the October meeting. Gordon wondered if the tracking sheet is something that can be provided on a regular basis at Exec Comm meetings. Mike stated yes, and that he will provide the spreadsheet as first cut for October meeting.

ACCSP/ASMFC ACFCMA Funding History

Bob said he will supply this information.

FY2014 ACCSP Project Proposal Rankings

		Operations		Advisors		Average			
		Score	Ranking	Score	Ranking	Score	Ranking	Cost	Cumulative Cost
Increase at sea sampling levels for the recreational headboat fishery on the Atlantic Coast (New Hampshire through Florida) (20 pages)	M-8	54	1	50	4	50	1	$ 155,490	$ 155,490
ACCSP Data Reporting from South Carolina's Commercial Fisheries 1) 100 % Trip-Level Catch and Effort Data Collection (70%) 2) Biological Sampling for Hard Part/Aging of Offshore Species (30%) (11 pages)	M-7	52	2	53	2	50	3	$ 175,716	$ 331,206
FY14: Managing Mandatory Dealer Reporting in Maine (25 pages)	M-2	51	3	45	7	47	6	$ 164,663	$ 495,869
FY14: Maintenance and Coordination of Fisheries Dependent Data Feeds to ACCSP from the State of Rhode Island (18 pages)	M-4	50	4	56	1	50	2	$ 85,408	$ 581,277
Observer Program for Mid-Atlantic (New Jersey, Maryland, Virginia) and Rhode Island Small Mesh Otter Trawls (30 pages)	M-1	50	5	49	5	47	5	$ 236,000	$ 817,277
Electronic Reporting and Biological Characterization of New Jersey Commercial Fisheries (18 pages)	M-6	50	6	50	3	47	4	$ 152,602	$ 969,879
Portside commercial catch sampling and comparative bycatch sampling for Atlantic herring (Clupea harengus), Atlantic mackerel (Scomber scombrus), and AtlanticMenhaden (Brevoortia tyrannus) fisheries (50 pages)	M-3	48	7	46	6	45	7	$ 130,599	$ 1,100,478
Improving Trip-level Reporting and Quota Monitoring for New York Commercial Permit Holders (11 pages)	M-5	46	8	36	8	41	8	$ 172,643	$ 1,273,121
Swipe Card Pilot Implementation for Massachusetts Trip-Level Shellfish Transactions (11 pages)	N-9	52	1	50	1	49	1	$ 139,094	$ 139,094
North Carolina Commercial and Recreational Fisheries Age and Sex Data Collection (12 pages)	N-11	47	2	49	2	46	2	$ 143,144	$ 282,238
Pilot study: Characterization of bycatch and discards, including protected species interactions, in the commercial skimmer trawl fishery in North Carolina (9 pages)	N-12	40	3	38	3	38	3	$ 35,886	$ 318,124
Characterization of finfish bycatch and discards, including protected species interactions, in the cobia hook-and-line fishery (14 pages)	N-10	40	4	27	4	34	4	$ 50,549	$ 368,673

FY2014 ACCSP INITIAL PROPOSALS

		Partner	Title	Primary Module	Others		Cost
MAINTENANCE	1	ASMFC/MAFMC	Observer Program for Mid-Atlantic (New Jersey, Maryland, Virginia) and Rhode Island Small Mesh Otter Trawls (30 pages)	Biological (50%)	45%), Catch and I	$	236,000
	2	ME DMR	FY14: Managing Mandatory Dealer Reporting in Maine (25 pages)	atch and Effort (95%	Metadata (5%)	$	164,663
	3	ME DMR	Portside commercial catch sampling and comparative bycatch sampling for Atlantic herring (*Clupea harengus*), Atlantic mackerel (*Scomber scombrus*), and AtlanticMenhaden (*Brevoortia tyrannus*) fisheries (50 pages)	Biological/Bycatch	Metadata	$	130,599
	4	RI DFW	FY14: Maintenance and Coordination of Fisheries Dependent Data Feeds to ACCSP from the State of Rhode Island (18 pages)	atch and Effort (100%)		$	85,408
	5	NYS DEC	Improving Trip-level Reporting and Quota Monitoring for New York Commercial Permit Holders (11 pages)			$	172,643
	6	NJ DFW	Electronic Reporting and Biological Characterization of New Jersey Commercial Fisheries (18 pages)	atch and Effort (55%	Biological (45%)	$	152,602
	7	SC DNR	ACCSP Data Reporting from South Carolina's Commercial Fisheries 1) 100 % Trip-Level Catch and Effort Data Collection (70%) 2) Biological Sampling for Hard Part/Aging of Offshore Species (30%) (11 pages)	atch and Effort (70%	Biological (30%)	$	175,716
	8	ACCSP RTC	Increase at sea sampling levels for the recreational headboat fishery on the Atlantic Coast (New Hampshire through Florida) (20 pages)	Catch and Effort	Biological, Bycatch	$	155,490
					Total Maintenance	**$**	**1,273,121**

		Partner	Title	Primary Module	Others		Cost
NEW	9	MA DMF	Swipe Card Pilot Implementation for Massachusetts Trip-Level Shellfish Transactions (11 pages)	Catch and Effort		$	139,094
	10	NC DMF	Characterization of finfish bycatch and discards, including protected species interactions, in the cobia hook-and-line fishery (14 pages)	Bycatch (100%)		$	143,144
	11	NC DMF	North Carolina Commercial and Recreational Fisheries Age and Sex Data Collection (12 pages)	Biological (100%)		$	35,886
	12	NC DMF	Pilot study: Characterization of bycatch and discards, including protected species interactions, in the commercial skimmer trawl fishery	Biological (50%)	Bycatch (50%)	$	50,549
					Total New	**$**	**368,673**
Admin	13	ACCSP	ACCSP Administrative Grant	Admin		$	1,715,747
					Grand Total Proposed	**$**	**3,357,486**

Melissa Paine
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July 8, 2013

Michael Cahall
Atlantic Coastal Cooperative Statistics Program
Operations and Advisory Committees
1050 N. Highland St., Suite 200A-N
Arlington, VA 22201

Dear Mr. Cahall,

Please find attached a maintenance proposal from the Atlantic States Marine Fisheries Commission and Mid-Atlantic Fishery Management Council entitled, "Observer Program for Mid-Atlantic (New Jersey, Maryland, Virginia) and Rhode Island Small Mesh Otter Trawls". The proposal seeks continued funding for the ongoing project to conduct observed trips in New Jersey, Maryland, Virginia, and Rhode Island. This year's proposal does not include coverage for the state of New York in the sampling allocation as requested in the previous year (FY13). We are pleased to report New York has secured state funding for observer coverage of the small mesh otter trawl fisheries. The funding requested reflects the sampling days needed to carry out 5% coverage in Virginia and 4% coverage in Rhode Island, New Jersey, and Maryland. The reason for the reduced coverage amount in RI, NJ and MD is that the number of trips has increased while the number of observed days has decreased, creating a greater number of trips/days needed to achieve 5% coverage in those states and beyond the scope of what we would like to request for the fourth year of this project.

Another significant change from prior years is the decrease in funds requested (~$64,000) for a fish ageing technician to process age samples collected during observed trips. A technician has been hired and is processing samples from all previously completed trips. During FY14 project leads intend to complete an ageing frequency analysis for observer samples, consulting closely with the technician and stock assessment scientists, in order to evaluate whether age samples are needed every year, or only periodically, to accurately inform assessment analyses.

Thank you for your consideration. Please do not hesitate to contact me with questions.

Sincerely,

Melissa Paine

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

Observer Program for Mid-Atlantic (New Jersey, Maryland, Virginia) and Rhode Island Small Mesh Otter Trawls – Revised Proposal

Submitted by:
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OBSERVER PROGRAM FOR MID-ATLANTIC SMALL MESH OTTER TRAWLS

Applicant Name:	Atlantic States Marine Fisheries Commission and Mid-Atlantic Fishery Management Council
Project Title:	Observer Program for Mid-Atlantic (New Jersey, Maryland, Virginia) and Rhode Island Small Mesh Otter Trawls
Project Type:	Maintenance
ACCSP Program Priorities:	1) Biological (50%), 2) Bycatch (45%), and 3) Catch/Effort (5%)
Principal Investigator:	Melissa Paine, Scientific Committee Coordinator; ASMFC Rich Seagraves, Senior Scientist; MAFMC
Requested Award Amount:	$ 236,000
Requested Award Period:	1 August 2014 – 31 July 2015
Date Submitted:	September 9, 2013

Objective:
To collect biological and discard data for commercially and recreationally important species from the small mesh otter trawl fisheries in the mid-Atlantic (New Jersey, Maryland, Virginia) and Rhode Island using at-sea observers.

Need:
Obtaining discard and biological information is critical to adequately characterize the quantity and length and age compositions of fishery catches. A recurring high priority recommendation from stock assessments and fishery management plans (FMPs) for several species managed by the Atlantic States Marine Fisheries Commission (ASMFC) is to increase at-sea observer coverage to obtain commercial discard and associated biological data. Recent examples include the assessments of black sea bass, scup, weakfish, and Atlantic croaker (NEFSC 2008, Northeast Data Poor Stocks Working Group 2009, SEDAR 2010). Further, ASMFC (through its Management & Science Committee and ISFMP Policy Board) maintains a list of coast wide critical research priorities which identifies the need for at-sea observer data of discards, age/length samples and/or catch/effort data for river herring, weakfish, scup, black sea bass, spiny dogfish, and bluefish. All of these species, except bluefish, are indentified in the upper quartile of the Atlantic Coastal Cooperative Statistics Program (ACCSP) FY 2014 Biological Priority Matrix.

Table 1 describes species of interest that are commonly caught in directed fisheries or as bycatch in the mid-Atlantic using small mesh (<5.5") otter trawls, the fifth highest priority fishery as determined in the ACCSP FY 2014 Bycatch Priority Matrix. The ASMFC Fishing Gear Technology Work Group (FGTWG) evaluated all Atlantic fisheries and their gears for magnitude of gear interactions (i.e., bycatch, protected species), and also identified small mesh otter trawls as a high priority fishery (ASMFC 2008).

Table 1. Priority ranking by ACCSP and ASMFC FGTWG for species and gear to be observed.

Fishery/Species	ACCSP Biological Sampling Priority Matrix Ranking	ACCSP Bycatch Priority Matrix Ranking	ASMFC FGTWG Matrix Ranking
Black Sea Bass	1		
Winter flounder	2		
Shad	4		
Spiny Dogfish	5		
Scup	8		
Summer flounder	10		
River herring	12		
Weakfish	13		
Summer Flounder Trawl		5	5
Scup Trawl		5	9
Croaker/Weakfish Trawl		5	10
Black Sea Bass Trawl		5	26

Concerns have been expressed by governmental and non-governmental groups regarding the discarding of river herring by commercial fishing fleets operating off the northeastern and mid-Atlantic coast of the United States (Wigley et al., 2009). A recent paper on river herring discards recommends increasing observer coverage, particularly in the mid-Atlantic region, to determine adequate catch sample sizes and derive discard estimates (Wigley et al., 2009). Concerns at the State level on this issue resulted in a letter (Attachment 1) from the ASMFC requesting the MAFMC to consider the bycatch of river herring in all small mesh fisheries under its jurisdiction. The ASMFC also asked that the Council develop and implement monitoring and management provisions to address the bycatch of river herring in all small mesh fisheries under its management authority.

The Council has approved and submitted Amendment 14 to the Atlantic Mackerel, Squid and Butterfish (MSB) Fishery Management Plan. The primary goals of this Amendment are 1) to develop an effective river herring and shad catch monitoring program for the Atlantic mackerel and longfin squid fisheries, and 2) to limit incidental river herring and shad catches. A proposed rule for the Amendment is expected in mid-2013 – a suite of reporting and monitoring provisions will be proposed, as well as a catch cap for river herring and shad for the mackerel fishery, which appears to have more river herring and shad catch than other MSB fisheries. The efficacy of the cap to be implemented under Amendment 14 will depend largely on the accuracy and precision of alosine catch estimates in the mackerel fishery. Accurate and precise estimates of alosine catch in other fisheries could assist consideration of additional actions in the future. While the development of Amendment 14 is a step in the right direction towards evaluating the level of alosine bycatch in the Atlantic mackerel and *Loligo* fisheries, funding of increased at-sea observers under Amendment 14 remains problematic. There is an acute need to find alternative funding sources to expand or increase at-sea observer coverage to assess oceanic bycatch of alosines in the Mid-Atlantic region.

Furthermore, the MAFMC SSC noted the following source of scientific uncertainty for scup: “commercial discard estimates are imprecise and represent a considerable portion of the total catch.” Therefore there is a need to increase at-sea observer coverage of the directed scup fishery and squid fishery to address imprecision of the discard estimates for scup.

In addition, age-structured models have become the gold standard for stock assessments, and the need for detailed age data to support them continues to grow. The age structure of the discards is a critical input to assessments, particularly in fisheries with a large regulatory discard component where it cannot be assumed that the age structure of the harvest represents the age structure of the discards. Moreover, at-sea sampling can help fill gaps in the age-length key that are not adequately sampled from the landed catch. Increased collection and processing of age samples is an established need for improvement of stock assessments of many managed species, including all of the focal species in this proposal. Age sampling through this project will significantly improve catch-at-age information gaps for several species, with emphasis on the discarded component of populations that is not characterized through age sampling of landings.

Results and Benefits:

Improving collection of bycatch/discard and biological data is a goal for all ACCSP partners and data collection standards have been developed by ACCSP. The ASMFC Management & Science

Committee and Policy Board of state Commissioners have identified high priority research needs for the various species it manages, and a comprehensive need deemed critical from this list was to develop a region wide observer program for trawl fisheries. Many states view a multi-state or regional program as the best approach to address observer coverage needs, given the transient nature of vessels involved in many fisheries. In addition, ACCSP encourages regional or multi-partner participation in proposed projects. This regional proposal will encompass the mid-Atlantic small mesh otter trawl fishery occurring in four states. A regional approach has lower operational costs and more effectively addresses the need for at-sea observer data for many species, rather than a species-by-species or state-by-state basis. Employment of a regional program also promotes consistency in data collection and utilization in coast wide stock assessments.

This project will fulfill data needs for three of the ACCSP modules in order of priority: 1) Biological Data (50%), 2), Discards, Bycatch and Protected Species Data (45%) and 3) Catch and Effort, and Landings Data (5%). In addition to collecting discard and biological data, observers will be able to record information on catch and effort from the vessels on which they are observing to validate reporting or provide information where there may be gaps in reporting versus landings. Data will be collected via NMFS protocols and submitted in accordance with ACCSP requirements along with associated metadata descriptions. ACCSP is currently developing biosampling and bycatch data reporting formats to receive the data produced from these types of projects. The observer project will provide an opportunity to test these formats and develop revised reporting methods for the Program. Additionally, the catch and effort data obtained from these trips will be supplied to the appropriate partner to be able to validate vessel reported and landings information. The data collected from this project will address many needs identified as critical for advancing stock assessments and improving fisheries management across the mid-Atlantic region (Table 2).

Table 2. Benefits for stock assessments, FMPs and ACCSP priorities from this project.

SPECIES	BENEFIT/RESULT	IN RESPONSE TO
Scup	Characterize the quantity, length and age composition of fishery landings and discards	Assessment recommendation, ACCSP Bio Matrix, and ASMFC Research Priorities
Longfin Squid	Growth information for older squid is still uncertain.	Assessment recommendation, ACCSP Bio Matrix.
Weakfish	Provide discard data for all commercial gear types from both directed and non-directed fisheries. In particular, quantify trawl bycatch. Improved estimates would best be obtained through increased observer coverage.	Assessment recommendation, ASMFC Weakfish FMP, ASMFC Research Priorities and ACCSP Bycatch Matrix.
	Collection of catch and effort data including size and age composition of the catch. Increase length frequency sampling, particularly in northern fisheries.	Assessment recommendation, ACCSP Bio Matrix.
Black sea bass	Collection of at-sea samples to improve understanding of the timing of sex change and potential influence of population size on sex switching.	Assessment recommendation, ACCSP Bio Matrix.
	Collection of data for quantification of discard	Assessment recommendation, ACCSP Bio Matrix.
	Increased sea sampling to provide better estimates of	ASMFC Research Priorities,

	discards	ACCSP Bycatch Matrix.
	Increased age sampling across all components of the fishery	ASMFC Research Priorities, ACCSP Bio Matrix.
River herring/ Shad	Expand observer coverage to quantify additional sources of mortality for alosine species, including bait fisheries, as well as rates of bycatch in other fisheries	ASMFC Research Priorities, ACCSP Bycatch Matrix.
Summer flounder	Collection of age/length samples and catch/effort data from commercial fisheries throughout range. More comprehensive collection of otoliths.	ASMFC Research Priorities, ACCSP Bio Matrix
Atlantic croaker	Increased observer coverage for studies of discards for commercial fisheries	Assessment gap, ACCSP Bycatch Matrix.
	Fishery-dependent biological sampling, including extraction of ageing structures, to improve age-length keys	ASMFC Research Priorities
Bluefish	Provide data for evaluation of magnitude, length frequency, and age composition of discards from the commercial fisheries	ASMFC Research Priorities, Management Board directive
Spiny dogfish	Characterization and quantification of spiny dogfish in other fisheries	ASMFC Research Priorities, ACCSP Bycatch Matrix
	Provide data for determining coastwide discard mortality rate for fixed and mobile gear fisheries with dogfish bycatch	ASMFC Research Priorities, ACCSP Bycatch Matrix

In the most recent Standardized Bycatch Reporting Methodology (SBRM) fisheries prioritization, the mid-Atlantic fleets and small-mesh fleets remain very under-supported due to funding constraints (2013 SBRM Standard Sea Days needed to achieve a 30% CV for river herring: approximately 1,093; currently funded: 722 sea days). The Northeast Fisheries Science Center (NEFSC) administers the SBRM which determines the number of sea days needed to observe a fishery for appropriate coverage and is carried out by the Northeast Fisheries Observer Program (NEFOP). This multistate project will complement information currently obtained through the NEFOP, while ensuring state and Council priorities are addressed. Many of the primary species taken in small-mesh trawl fisheries are co-managed by ASMFC and the MAFMC, such as black sea bass, scup, summer flounder, and bluefish. By collecting small mesh otter trawl fisheries data in this under sampled region, this project will provide a well documented need identified by both state and federal fisheries management.

Furthermore, the proposed project will build upon the time series of an established ACCSP funded program underway which is beginning to address the great need for at-sea observer coverage in the mid-Atlantic region for small mesh otter trawl fisheries. In 2012, ASMFC received enough funding from ACCSP to continue and expand an observer program of the mid-Atlantic small mesh otter trawl fisheries in the states of New Jersey, Virginia, Maryland and Rhode Island. The new funding allowed for coverage of trips from the state of New York, as well as increasing coverage in Rhode Island and New Jersey to try to obtain observed trips of the Atlantic mackerel fishery, which are all critical in describing scup and river herring discards. The ACCSP funded ASMFC observer program continues to obtain discard, biological and catch/effort data for bluefish, scup, black sea bass, weakfish, summer flounder, Atlantic croaker, *Loligo* squid, river herring and shad. Furthermore, the expansion included the hiring of a technician to process the age samples collected which completes the description of the catch and discard data obtained from observing these fisheries. In 2013, funding was received for a third

year of the project which will enable further analyses on whether adding extra sea days improves bycatch and discard estimates, as well as characterization of the discards improving characterization of the population. Preliminary sample size analyses of additional sea days provided by this observer program indicate that the increased number of trips increased precision for four species groups: small mesh groundfish, squid/butterfish/mackerel, large mesh groundfish, and summer flounder/scup/black sea bass.

In addition, the Council implemented in 2011 Amendment 10 to the Atlantic Mackerel, Squid and Butterfish FMP which instituted a butterfish mortality cap, that will require the closure of the directed *Loligo* fishery if the butterfish mortality cap is attained. The effectiveness of the butterfish mortality cap program relies heavily on the veracity of the bycatch estimates from the NEFOP program. Increased sampling of the *Loligo* fishery under the current proposal should provide a collateral benefit to the butterfish mortality cap program through increased precision of butterfish bycatch estimates in the *Loligo* fishery. Increasing observer coverage in both the *Loligo* fishery and directed scup fishery should result in more precise discard estimates for the species and reduce scientific uncertainty in the stock assessment. This should result in increased confidence in the assessment overall and a smaller buffer between OFL and ABC (i.e., resulting in greater benefits to fishermen through increased allowable harvest levels).

Approach:
The ASMFC and MAFMC will contract with the well-established NMFS Northeast Fisheries Observer Program (NEFOP) to buy at-sea observer sea days for the states of Rhode Island, New Jersey, Maryland and Virginia. ASMFC will designate number of sea days (Appendix 1) by state, by month and by target gear (small mesh otter trawl) type in order to achieve coverage on vessels in areas and times of year where fisheries of interest are most active. Table 4 provides the sea day schedule determined by ASMFC for number of sea days to observe in each state and month on vessels using small mesh otter trawls. The directed fishery to target is not dictated so as to not bias the data collected for later use in stock assessments. By conducting the observed trip in a state at a particular time of year when the fishery of interest is known to be active, it is likely that trips will be conducted in the desired fishery. ASMFC provides a vessel selection list to the observer provider as a tool to look for effort. The list is derived from the list NEFSC uses of active vessels, but identifies vessels by state. This helps the provider figure out who has fished in the past in each port/state. The order in which the vessels appear on the list is randomized. If they are unable to find these exact vessels, they randomly select vessels at the docks for coverage.

Observers follow protocols from the NEFSC Fisheries Observer Program manual to record information on vessel and trip, and the NEFSC Fisheries Observer Program Biological Sampling manual for biological sampling on both the kept and discarded catch: actual weights, length frequencies, and age structures. Observers will make note of the species of interest (scup, black sea bass, summer flounder, weakfish, croaker, bluefish, squid) and bycatch species (scup, river herring, black sea bass, summer flounder, weakfish, croaker, bluefish, spiny dogfish) of concern, and prioritize these species for biological data to be collected. Data collected via NEFOP observers will be made available to the ACCSP at the end of each year.

A Memorandum of Understanding (Attachment 2) has been established between ASMFC and NEFSC in sampling small mesh otter trawl vessels in the Mid-Atlantic, which will be carried out for the states of Virginia, Maryland, New Jersey and Rhode Island, whereby NEFSC will provide at-sea observer coverage as designated by ASMFC.

A benefit of this approach is that the funding is transferred within NOAA so does not incur any indirect charges nor NOAA grant administration fees, enabling more of the award to be most efficiently and directly applied to the project to address state and Council priorities.

All four states (RI, NJ, MD, VA) have expressed support and commitment to participating in the project. States have promised dedicated staff time and oversight to assist with the observer assignments as needed (Table 3). ASMFC will oversee all project coordination and be in contact with each participating state regularly.

Table 3. Roles of **s**tate personnel to work on this project

Rhode Island	John Lake	State contact for NEFOP assignments
New Jersey	Peter Clarke	State contact for NEFOP assignments
Virginia	Joe Cimino	State contact for NEFOP assignments
Maryland	Steve Doctor	State contact for NEFOP assignments

All observers will be deployed on commercial vessels involved in mid-Atlantic small mesh (<5.5”) otter trawl fisheries beginning in August 2014 through tasking via NEFOP. Allocation of days and time periods will be adjusted by region to ensure observer coverage is proportionally applied to fishing effort for species of interest (Appendix 1). Appendix 1 identifies the active months for directed fisheries most likely to capture the species of interest either as directed catch or bycatch. Trip level information for this gear type by state, as well as commercial landings data from dealer reports for species of interest taken by small mesh otter trawl (ACCSP 2008), will be used to determine areas of greatest effort for this gear type. This will be compared to available discard data from the SBRM Annual Discard Reports to help prioritize coverage. Based on trips and confidential landings which capture species of interest from previous years, observed trips will be allocated proportionally to define observer coverage objectives. Allocation will also be adjusted depending on how much coverage NEFOP is able to employ in a given year. This project will adopt the NOAA Fisheries National Observer Program as the standard for training and certifying at-sea observers. Observers will follow data collection protocols from the NEFOP Fisheries Observer Program Manual and Biological Sampling Manual, including associated codes, metadata description and random selection of vessels and trips. This project will make available observer trip data for purposes of validation, but does not propose to actively validate collected data. Collected specimens will be sexed, enumerated, measured, weighed, and submitted in accordance with ACCSP standards. Complete catch information for all kept and discarded species will be recorded as time allows, as well as lengths and weights taken from as many species as possible. Whenever possible, the observer should collect detailed biological information, such as length measurements and age structures from species managed through ASMFC and MAFMC FMPs. The number of biological collections will be based on the ACCSP Biosampling Targets FY2014. Data collections will adhere to all ACCSP bycatch module minimum data elements including: enumerating, measuring, and weighing of all target and bycatch species; date, time, location, and net characteristics (length, height, hang ratio, twine

size, etc.) of all sets and retrievals; and data on all protected species interactions including identification, disposition, measuring, inspection, and all standard resuscitation, tagging, release, and reporting protocols.

Additionally, age sample collections will encompass the following:

· scup – scale samples, priority on large specimens

· black sea bass, river herring – scale samples; otolith samples from unmarketable individuals (mortalities)

· summer flounder, bluefish, Atlantic croaker, weakfish – otolith samples from unmarketable individuals (mortalities)

Project leads plan to evaluate the three years of ageing data that have been collected and are being processed, to compare the size-at-age of observer fish to the size-at-age of fish from fishery independent surveys to see if there are significant differences. If there are not, we may be able to conduct observer fish ageing more periodically (only every 3-5 years) and in 'off years' apply age-length keys from independent surveys to estimate the ages of fish that would've been observed. If feasible, the approach would reduce the support needed to collect and age samples via fishery observers in future years.

For 2014-2015, we propose to sample a similar number of sea days as was funded in 2011-2012, which would achieve a 4% coverage level in the four states (5% in VA which is important to get weakfish trips). The number of trips has increased in the states necessitating a much higher number of sea days to achieve 5% coverage. There may be rollover sea days from FY13 that can be used in FY14 to get closer to the 5% coverage level. Please see the budget narrative for a table explaining what was proposed and funded each year. The actual schedules vary slightly due to changes in observer coverage (what NEFOP was able to cover in all four states with their own funding) and effort (the number of trips taken in each state), so adjustments to days within each state were made.

Geographic Location:

The location and scope of observer coverage will be in the Mid-Atlantic Bight, in state and federal waters, aboard vessels departing from and landing in the states of Rhode Island, New Jersey, Maryland and Virginia. Cape May, NJ, is the principal port for the small-mesh trawl fishing mode, with over 16 million lbs landed (42% of total landings for this mode) each year. Point Pleasant, NJ takes in 2.3 million lbs annually. Additional ports of origin for the observers will be: Point Judith, RI, Ocean City, MD, Hampton, VA, Chincoteague, VA, and Newport News, VA.

Milestone Schedule:

Table 4. Milestone schedule by state and month.

	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Small mesh otter trawl observations and biological sampling:													
Rhode Island		X	X	X		X	X	X	X	X	X	X	
New Jersey	X	X	X	X	X	X	X	X	X	X	X		
Maryland	X		X	X	X	X		X	X	X	X		
Virginia	X	X	X	X	X		X	X				X	
Data coding/verification	X	X	X	X	X	X	X	X	X	X	X		
Data transfer to ACCSP, partners											X	X	X

2014/2015 Sea days to be sampled each month in each state

	RI	NJ	MD	VA
JAN	4	20	1	
FEB	4	20		7
MAR	4	20	1	7
APRIL	4	3	1	
MAY	4	3	1	
JUNE	4	2	1	
JULY	4			7
AUG			1	7
SEPT	8	15		7
OCT	10	25	1	7
NOV	4	10	1	7
DEC		15	1	7

Project Accomplishments Measurement:

Table 5. Progress tracking by observations and biological data collection.

Project Goals	**Progress**
Small Mesh Otter Trawl Observations	Success will be measured by the number of trips observed per state toward 4-5% coverage. Coverage will be monitored via monthly check-ins between observers and state contacts on trips accomplished and data entry. ASMFC will check in with state contacts on a monthly basis.
Biological Data Collections	The ACCSP Biosampling Targets for FY14 will be followed for lengths by quarter as applicable and age sample numbers. Data will be inputted to the ACCSP Bio-tracking system quarterly.
Scup	Scales
Black sea bass	Scales and Otoliths
Summer flounder	Otoliths
Weakfish	Otoliths
Atlantic croaker	Otoliths
Bluefish	Otoliths
River herring	Scales and Otoliths
Spiny dogfish	Lengths only
Longfin squid	Lengths only

Budget Narrative:

Table 6. Cost Summary for Observer Sampling of Mid-Atlantic Small-mesh Otter Trawl Fisheries.

Item OBSERVER COVERAGE maintenance	Funding Source			
	In-kind from States		Request from ACCSP	
	Personnel	Other	Personnel	Other
1. Contract Observers				
A. 248 sea days			$235,600	$400
2. Project Oversight (12 months at 6 hours per month, 4 States)+(12 months at 12 hours per month, 3 agencies)	$15,912			
Column Subtotals	$15,912		$235,600	$400
Funding Source Subtotals	$15,912		$236,000	
Indirect (35%)*			N/A	
Funding Source Subtotals + Indirect	$15,912		$236,000	
Funding Source Grand Totals	$15,912		**$236,000**	
Total Project Cost	$251,876			
Percent Contribution by Source	6%		94%	

Cost Details:

1. Contract Observers:
   - A. 248 days at NEFOP rate of $950/day and $400 incidentals
   - RI – 50 sea days ($47,500) squid, scup, Atlantic mackerel
   - NJ – 133 days ($126,350) scup, black sea bass, weakfish, croaker, bluefish, squid, summer flounder, Atlantic mackerel
   - MD – 9 days ($8,550) summer flounder, weakfish, croaker
   - VA – 56 days ($53,200) summer flounder, weakfish, croaker, black sea bass
   - Includes all observer costs: salary, indirect, fringe, training, insurance, travel, data entry
2. Project Oversight:
   - In RI, NJ, MD, and VA, state fisheries agency personnel, one biologist from each state, currently serving in fishery-dependent sampling capacities will consult on observer coverage to advise where trips are needed and when boats are going out.
   - 12 months at 6 hours per month, 4 States, $37.25/hour: $10,728
     - $37.25/hour is an average of the 4 biologists
   - In-kind from ASMFC, MAFMC, NEFOP staff who are administering the project, including assignment of observer trips to directly address fisheries assessment and management needs
   - 12 months at 12 hours per month, 3 scientists, $27.00/hour: $5,184
     - $27.00/hour is an average of the 3 agency scientists

*There is no indirect charge nor any NOAA grant administration fee as the funding is distributed within NOAA to NEFOP directly.

Comparison of Observer Program funding for all years

The costs proposed for FY14 are to carry out 248 sea days.

FY11 (four states) started 8/17/11	FY12 (five states) start 8/17/12	FY13 (five states) start 8/17/13	FY14 proposed (four states)
257 Sea days – $245,084	Maintenance – 257 SD $245,084	Maintenance – 188 SD $178,609	Maintenance – 248 SD $236,000
	New (w/ MAFMC) – 190 SD $179,897		
	Ageing personnel $64,171		
Total $245,084	Total $489,152	Total $178,609*	Total $236,000

**Sea days not observed in FY12 carry over to FY13, resulting in more than 188 SD sea days allocated for FY13*

Future Costs and Funding Outlook

Future Operational Costs are similar, dependent on the need for observer coverage done by NEFOP and ASMFC.

No long-term funding has been identified to date among the project partners. The approach for obtaining long-term observer program funding is to complete pilot years using ACCSP support, then provide evidence of success to state and federal fisheries agencies towards garnering future support from those agencies. Another consideration is the potential to expand observer coverage to additional states and fisheries, dependent upon success of initial sampling activities. Additional fisheries would be those identified by ACCSP as biological sampling and bycatch priorities. The ASMFC continues to work with its Northeast Regional Coordinating Council partners – NMFS-NERO, NEFSC, MAFMC, and NEFMC –to identify outstanding observer coverage needs and approaches to funding more coverage. Outstanding needs are based on the Standardized Bycatch Reporting Methodology process and would complement existing observer coverage. An NRCC recommendation is to develop a multistate or regional program as the best approach to improving observer coverage given the transient nature of vessels involved in many fisheries. We envision initial support via ACCSP providing 'proof of concept' for a multistate observer program that will lead to establishing long-term support from state and federal agencies, and potentially the fishing industry.

Additionally, the New York Department of Environmental Conservation has identified state funds to support continuation of small mesh fishery observer trips from vessels departing New York ports. That support has directly reduced the FY14 observer program request to ACCSP.

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Project History Table

August 2011	Begin first year of observed trips with biological sampling
Continue through July 2012	
August 2012	Begin second year of observed trips with biological sampling
Continue through July 2013	
July 2013 *through June 2014*	Begin one year contract work processing biological samples from August 2011 through January 2014
August 2013	Begin third year of observed trips with biological sampling
Continue through July 2014	

Total Project Cost by Year

2011/2012	$245,084
2012/2013	$489,152 *($424,981 for observed trips; $64,171 for an ager)*
2013/2014	$178,609*

**Sea days not observed in FY12 carry over to FY13, resulting in more than 188 SD sea days allocated for FY13*

Summary Table of Metrics

Summary of proposed and actual trips/days observed beginning August 1, 2012 through April 2013. Proposed trips/days are on the left side of the column then actual trips/days in italics on the right side of the column. The unobserved days will rollover for FY13.

	RI				NJ				NY				MD				VA				Proposed Days	Actual Days
	Trips		Days		Trips		Days		Trips		Days		Trips		Days		Trips		Days			
JAN	4	5	8	11	3	5	6	4	18		36						1		4		54	15
FEB	5		10		2	5	4	8	6	1	12	4	2		2		2		8		36	12
MAR	5	2	10	20	5	5	10	13	24	1	48	2	2		2		3	2	16	12	86	47
APR	5	2	10	2	5	2	10	6	8	3	16	6	2		2		2	3	12	11	50	25
MAY					2		4		2		4		2		2						10	0
JUN					9		18		1		2		2		2						22	0
JULY					10		20		1		2		1		2						24	0
AUG					8		16		1	7	2	7	2		2						20	7
SEPT					1	1	2	2	6	3	12	3	2		2						16	5
OCT	2	4	2	4	5	2	10	2	8	9	16	9	3		4		2		7		39	15
NOV	2	5	2	5	5	2	10	4	10	4	20	8	2	1	2	1	2	1	12	6	46	24
DEC	6		12		5		10		4	1	8	1	2	5	2	5	2	1	12	9	44	15

Biological samples collected from August 2011 – March 2013

- **~ 1760 scale samples, ~545 otolith samples**

Scup	Scales	854
Black sea bass	Otoliths/Scales	67/357
Summer flounder	Otoliths/Scales	201/275
Weakfish	Otoliths	142
Atlantic croaker	Otoliths	38
Bluefish	Otoliths/Scales	2 /112
River herring	Scales	71
Winter flounder	Otoliths/Scales	32/31

APPENDIX 1. Observer coverage proposed to be conducted by NEFOP by state (RI, NJ, MD, VA) and by season, based on 4% coverage of average trips 2010-2012 across the fleet in each state. Number of trips derived from ACCSP data query for small mesh bottom otter trawl gear. Observer coverage in trips is listed with number of associated sea days in parentheses. The coverage by NEFOP (present observer coverage for 2012) was then subtracted from the 4% trips for each state to derive the proposed trip coverage. Last column denotes month of needed trips and sea days with goal of targeting species listed underneath.

RHODE ISLAND	Season	4% Coverage	Observer Coverage 2012	Trip length avg	Needed trips	Proposed sea days	Month to cover
OT sm trips	**2135**	85	60 (130 SD)	2	**25**	**50**	
Squid – Longfin Inshore	Apr				2	4	**Jan**
	May						Atl M
	Jun				2	4	**Feb**
	July						Atl M
	Sept				2	4	**Mar**
	Oct						Atl M
					2	4	**April**
Scup	Sept						Squid
	Oct				2	4	**May**
	Nov						Squid
					2	4	**June**
Atlantic mackerel	Jan						Squid
	Feb				2	4	**July**
	Mar						Squid
					4	8	**Sept**
							Squid
							Scup
					5	10	**Oct**
							Squid
							Scup
					2	4	**Nov**
							Scup

Appendix 1. Continued.

NEW JERSEY	Season	4% Coverage	Observer Coverage 2012	Trip length avg	Needed trips	Proposed sea days	Month to cover
OT sm trips	**3243**	130	77 (204 SD)	2.5	**53**	**133**	
Scup	Jan				8	20	**Jan**
	Feb						Scup
	Mar						BSB
	Oct						SF
	Nov						AtlM
	Dec				8	20	**Feb**
							Scup
Black sea bass	Jan						BSB
	Feb						AtlM
	Oct				8	20	**Mar**
	Dec						Scup
							Squid
Weakfish/ Croaker	Sept						AtlM
	Oct				1	3	**April**
							Squid
Bluefish	May				1	3	**May**
	Jun						BF
	Sep				1	2	**June**
	Oct						BF
	Nov				6	15	**Sept**
							WK/Crkr
Squid – Longfin Inshore	Mar						BF
	Apr						SF
	Oct				10	25	**Oct**
							Scup
Summer flounder	Jan						BSB
	Feb						WK/Crkr
	Sept						BF
	Oct						Squid
	Dec						SF
					4	10	**Nov**
Atlantic mackerel	Jan						Scup
	Feb						BF
	Mar				6	15	**Dec**
							Scup
							BSB

1_Maintenance_ASMFCMAFMC		SF

Appendix 1. Continued

MARYLAND	Season	4% Coverage	Observer Coverage 2012	Trip length avg	Needed trips	Proposed sea days	Month to cover
OT sm trips	**638**	26	17 (21 SD)	1	**9**	**9**	
Summer flounder	Mar				1	1	**Jan**
	April						BSB
	May				1	1	**Mar**
	Aug						SF
	Oct						BSB
	Dec				1	1	**Apr**
							BSB
Weakfish/Croaker	Apr						SF
	May				1	1	**May**
	Jun						SF
	July						BSB
	Aug						Wk/Crkr
	Oct				1	1	**June**
							BSB
Black sea bass	Jan						Wk/Crkr
	Mar				1	1	**Aug**
	Apr						SF
	May						Wk/Crkr
	June				1	1	**Oct**
							SF
Bluefish	Nov						Wk/Crkr
	Dec				1	1	**Nov**
							BF
					1	1	**Dec**
							SF
							BF

Appendix 1. Continued.

VIRGINIA	Season	5% Coverage	Observer Coverage 2012	Trip length avg	Needed trips	Proposed sea days	Month to cover
OT sm trips	**638**	32	24 (162 SD)	7	**8**	**56**	
Summer flounder	Jan				1	7	**Feb**
	Feb						SF
	Mar						BSB
	April						RH
	Dec				1	7	**Mar**
							SF
Weakfish/Croaker	May						BSB
	Jun						RH
	Jul				1	7	**July**
	Aug						Wk/Crkr
	Sep				1	7	**Aug**
	Oct						Wk/Crkr
	Nov				1	7	**Sept**
							Wk/Crkr
Black sea bass	Jan				1	7	**Oct**
	Feb						Wk/Crkr
	Mar				1	7	**Nov**
	Apr						Wk/Crkr
							BF
River herring	Feb				1	7	**Dec**
	Mar						SF
							BF
Bluefish	Nov						
	Dec						
Scup	Jan						

Curriculum Vitae for Principal Investigator

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PROFESSIONAL EXPERIENCE

Scientific Committee Coordinator, Atlantic States Marine Fisheries Commission, Washington, DC
Coordinate meetings of all ASMFC Science Department committees: Management & Science, Assessment Science, NEAMAP (Northeast Area Monitoring & Assessment Program), SEAMAP (Southeast Area Monitoring & Assessment Program), Multispecies Technical, Economics & Social Sciences, Protected Species. Prepare meeting documentation. Completed SEAMAP 2006-2011 Management Plan and other annual reports and operations plans for SEAMAP and NEAMAP. Coordinated and facilitated external peer review of the NEAMAP. Prepare SEAMAP grants and oversee budget allocation. Disseminate all science and policy information associated with these committees. Authored several science articles in ASMFC newsletter, white papers for committee discussion, meeting summaries for all Science committees meetings. Maintain and update SEAMAP and NEAMAP websites. Member of the Atlantic Coastal Cooperative Statistics Program (ACCSP) Biological Review Panel and Bycatch Prioritization Committee. Member of Take Reduction Teams for the National Marine Fisheries Service. Received Employee of the Quarter Award in Fall 2008 for exceptional work.

Have conducted over 30 committee meetings and given several presentations at these meetings. Routinely facilitate conference calls of committees. Present updates to Management Boards at quarterly meetings. Cooperatively work with NMFS Northeast Fisheries Science Center, academics and various state agency scientists. Proficient in Dreamweaver, Microsoft Excel, Microsoft Power Point and Microsoft Word. August 2006 – Present

Research Technician, The Scripps Research Institute, San Diego, CA
Genetically modified a plant virus for structural studies and application in nanotechnology. Managed general lab maintenance. 2001 – 2003

Lab Technician, AMEC Earth and Environmental, Inc., San Diego, CA
Performed toxicity studies on various water samples from San Diego County using several fish species. 2000 – 2001

Lab Assistant, Scripps Institution of Oceanography, San Diego, CA
Assisted and performed physiological experiments (salinity tolerance) on copepods. Maintained animal (copepod) populations for experiments. Managed general lab maintenance. 1999 – 2000

Lab Assistant, The Scripps Research Institute, San Diego, CA
Assisted with cellular structure experiments using standard molecular biology techniques. Catalogued inventory of lab and assisted with general lab maintenance. 1999
Awards: Glenn Foundation for Aging Research Summer Internship

EDUCATION

MASTER OF SCIENCE, April 2006
Virginia Institute of Marine Science
School of Marine Science, College of William and Mary, Gloucester Point, VA
Master's thesis: Specific identification of western Atlantic Ocean scombrids using mitochondrial DNA cytochrome c oxidase subunit 1 (CO1) gene region sequences
Concentration: Fisheries Science. Courses in marine fisheries, coastal and estuarine processes and issues, ichthyology, marine molecular genetics, fundamentals of marine science, evolutionary ecology, biostatistics. 2003 – 2006

BACHELOR OF SCIENCE, June 2000
University of California at San Diego, Revelle College, San Diego, CA
Major: General Biology. *Minor*: Environmental Studies.

VOLUNTEER EXPERIENCE

- International Commission for the Conservation of Atlantic Tuna 2005
  Rapporteur for the Spring United States Advisory Committee Meeting
- The Governor's School of Virginia 2004-2005
  Mentor for Andrew Pao, a high school senior who is a member of this science and mathematics program for highly gifted students
- Southwest Fisheries Science Center, National Marine Fisheries Service 2000
  Assistant to Dr. Sarah Mesnick. Analyzed data for a study on dolphin behavior response to large shipping vessels. Also researched existing data on testes size/body mass in cetaceans to infer mating system.

PUBLICATIONS/ PRESENTATIONS

- **Paine, M.A.**, J.R. McDowell, and J.E. Graves. 2008. Specific identification using CO1 sequences analysis of scombrid larvae collected off the Kona coast of Hawaii. Ichthyological Research 55:7-16.
- **Paine, M.A.**, J.R. McDowell, and J.E. Graves. 2007. Specific identification of western Atlantic Ocean scombrids using mitochondrial DNA cytochrome c oxidase subunit 1 (CO1) gene region sequences. Bull. Mar. Sci., 80:353-367.
- American Fisheries Society Annual Meeting 2005. Anchorage, AK. Poster presentation: "*Specific identification of western Atlantic Ocean scombrids using mitochondrial DNA cytochrome c oxidase subunit 1 (CO1) gene region sequences"*
- MontDiego Structural Biology and Virology Conference 2003. Oral presentation: *"Distance-dependent reactivity on the surface of cowpea mosaic virus (CPMV) using multiple cysteine residues"*
- Chatterji, A., W.F. Ochoa, **M. Paine**, B.R. Ratna, J.E. Johnson, and T. Lin. 2004. New addresses on an addressable virus nanoblock; uniquely reactive Lys residues on cowpea mosaic virus. Chemistry & Biology 11(6):855-863.

RICHARD J. SEAGRAVES
Mid-Atlantic Fishery Management Council
800 N. State Street, Dover, DE 19901
302-674-2331/rseagraves@mafmc.org

EDUCATION

Master of Science, College of Marine Studies, University of Delaware, Newark, DE. Thesis: A comparative study of the size and age composition and growth rate of weakfish (*Cynoscion regalis*) populations in Delaware Bay. May, 1981.

Bachelor of Arts, Biological Sciences. College of Arts and Sciences, University of Delaware, Newark, DE. June, 1977.

EMPLOYMENT

Senior Scientist, Mid-Atlantic Fishery Management Council, Dover, DE. May 2006 - present.

Fishery Management Specialist, Mid-Atlantic Fishery Management Council, Dover, DE. Sept. 1991 - May 2006.

Fish and Wildlife Scientist II, Delaware Division of Fish and Wildlife, Dover, DE. February 1980 - August 1991.

Research Associate and Graduate Teaching Assistant, College of Marine Studies, University of Delaware, Lewes, DE. January 1979 - January 1980.

Senior Research Biologist, Ichthyological Associates, Middletown, DE. March 1977 - January 1979.

PROFESSIONAL ORGANIZATIONS/ACTIVITIES

Atlantic Scientific Review Group for Marine Mammals

Atlantic States Marine Fisheries Commission Advisory Committee

Chairman, ASMFC Weakfish Technical Committee

ASMFC Shad and River Herring Technical Committee

ASMFC Northeast Statistical and Technical Committee

ASMFC Marine Recreational Fisheries Committee

ASMFC Summer Flounder Technical Committee and NE Regional SAW S. Demersal Working Group
ASMFC Winter Flounder Technical Committee
NE Regional SAW Pelagic Working Group
NE Regional SAW Invertebrate Working Group

Co-Chairman, ASMFC/NEFSC Woods Hole Trawl Symposium

Consultant, U.S. Environmental Protection Agency E-Map Program

MMPA Take Reduction Team Member: Atlantic Bottlenose Dolphin; Harbor Porpoise; Atlantic Large Whale; Atlantic Trawl Gear; Pelagic Longline

PUBLICATIONS

Shepherd, G.R., C.M. Moore and R.J. Seagraves. 2002. The effect of escape vents on the capture of black sea bass, *Centropristis striata*, in fish traps. Fisheries Research, Vol. 54, No. 2, pp.195-207.

Seagraves, R.J. 1992. Weakfish Fishery Management Plan Amendment #1. Atlantic States Marine Fisheries Commission, Fishery Management Report No. 20. Washington, DC. 68p.

Vaughan, D.S., R.J. Seagraves, and K. West. 1991. An Assessment of the Atlantic Weakfish Stock, 1982-88. Atlantic States Marine Fisheries Commission, Washington DC. Special Report No. 21. 29p.

Azarovitz, T.A., J. McGurrin, and R. Seagraves. 1989. Proceedings of a Workshop on Bottom Trawl Surveys. Atlantic States Marine Fisheries Commission, Washington, DC, Special Report Report No. 17. 70p.

Seagraves, R.J. and R.W. Miller. 1988. Striped bass by-catch in Delaware's commercial shad fishery. Delaware Division of Fish and Wildlife, DNREC, Dover, DE. 25p.

Boreman, J. and R.J. Seagraves. 1984. Status of the weakfish stock along the Atlantic coast, 1984. National Marine Fisheries Service, Woods Hole, MA, Woods Hole Laboratory Reference Document No. 84-19. 43p.

Seagraves, R.J. 1988. Survey of the sport fishery of Delaware Bay. Project F33-R-7 Annual Report. Delaware Division of Fish And Wildlife, Dover, DE. 40p. (Published Annually, 1982-88).

Seagraves, R.J. and R.W. Cole, 1990. Monitoring fish populations in Delaware Bay. Project No. F37-R-2 , Annual Report. Delaware Division of Fish and Wildlife, Dover, DE. 65p. (Published Annually, 1980-1990).

Seagraves, R.J. 1989. Stock identification of weakfish along the Atlantic coast of the U.S. Project No. F38-R-2 Final Report. Delaware Division of Fish and Wildlife, Dover, DE. 16p.

Seagraves, R.J. 1982. Commercial fishery landings in Delaware. Delaware Coastal Zone Management Program, Annual Report. Delaware Division of Fish and Wildlife, Dover, DE. 89p. (Published Annually, 1980-1982).

Seagraves, R. 1989. Delaware Recreational Fisheries Statistics Program. In: A Handbook for Recreational Fisheries Statistics Programs of the Atlantic Coast. J. McGurrin and C. Moore eds. Special Report No. 16, Atlantic States Marine Fisheries Commission, Washington, DC. 74.

DEPARTMENT OF
MARINE RESOURCES
MARINE RESOURCES LABORATORY
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PAUL R. LEPAGE
GOVERNOR

PATRICK C. KELIHER
COMMISSIONER

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

September 5, 2013

We are pleased to submit the revised proposal titled "FY14: Managing Mandatory Dealer Reporting in Maine" for your consideration. This is a maintenance proposal which has not changed in the scope of work, but DMR is piloting a swipe card initiative for elver dealers during the 2014 season and DMR is paying for the cost of this project, although other partners may benefit from its results. DMR also passed a new law that authorizes license suspensions for those who fail to report timely which will improve the timeliness and quality of data being submitted. Please view all graphs in color. This proposal addresses the following 2014 ranking criteria: catch and effort, metadata, regional impact, funding transition plan, in kind contribution, improvement in data quality and timeliness, impact on stock assessment and properly prepared. For a summary of the proposal for ranking purposes, please see page 18. Contact Heidi Bray at the Maine Department of Marine Resources with any questions. Thank you for your consideration of this proposal.

Sincerely,

Heidi Bray
Marine Resources Scientist
heidi.bray@maine.gov
(207) 633-9504

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

FY14: Managing Mandatory Dealer Reporting in Maine

(Revised)

Total Cost: $164,663 [not including the NOAA administration fee]

Submitted by:

Heidi R. Bray
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Applicant Name: Maine Department of Marine Resources (DMR)

Project Title: FY14: Managing Mandatory Dealer Reporting in Maine

Project Type: Maintenance

Requested Award Amount (without the NOAA administration fee): $164,663

Requested Award Period: For one year, beginning after the receipt of funds

Change in Scope/Cost from Previous Year Project:
This is a maintenance proposal which has not changed its scope from the FY13 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, DMR is piloting a swipe card project with the elver fishery that includes a "limited species" version of the Trip Ticket software as well as a mobile app for dealers to report and DMR is paying for the cost of this project. Reporting frequencies have increased for elver dealers from monthly to weekly. DMR also passed a new law that authorizes license suspensions for those who fail to report timely which will greatly improve the timeliness and quality of the data being submitted. DMR is paying for a new position to administer this suspension authority, so 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 enforcement, data entry and data 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. DMR will go through the rulemaking process to implement mandatory electronic reporting for elver dealers in 2014, using swipe card technology. 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 a large number of dealers who can buy directly from harvesters, and thus has to spend significant resources tracking compliance, entering and auditing a large numbers of records. In 2012, 680 dealers were licensed to buy from harvesters and 203 (30%) of them were required to report to National Marine Fisheries Service (NMFS). Regardless of their federal permit status, DMR works with all dealers to ensure all landings are reported either to DMR or to SAFIS, and staff audits all records with a state landed of Maine. Of the 680 dealers, 365 (54%) chose to report on paper; 197 (29%) chose Trip Ticket (electronic reporting software developed by Bluefin Data LLC); 78 (11%) chose file upload; 62 (9%) chose key entry SAFIS; and 6 (1%) would report using the NMFS quahog database (Figure 1).

Figure 1: Reporting Methods for 2012 Dealers

Report Type	Combo Dealers	State Dealers	Total
Paper	16	349	365
Quahog Electronic Reporting System*	6	0	6
Key Entry SAFIS*	44	18	62
Trip Ticket*	114	83	197
File Upload*	44	34	78
Total Electronic ( )	**20**	**135**	**343**
Grand Total	**224**	**4 4**	**0**

**24 dealers have multiple methods of reporting

Some dealers opted to report using multiple methods, (largely due to the exemption of certain species in the federal reporting requirement). Of the 1.68 million trips entered for 2012 in the data warehouse, almost 30% of them were landed in Maine which exceeds any other state (Figure 2 – view in color). These records were submitted by both "state-only" dealers (those that only report to DMR) as well as "combo" dealers (those that report to fulfill both NMFS and DMR requirements). Because DMR cooperatively works with NMFS to collect and audit data from federally permitted dealers, DMR staff devotes time and resources to help these "combo" dealers submit data and DMR staff audits all these records.

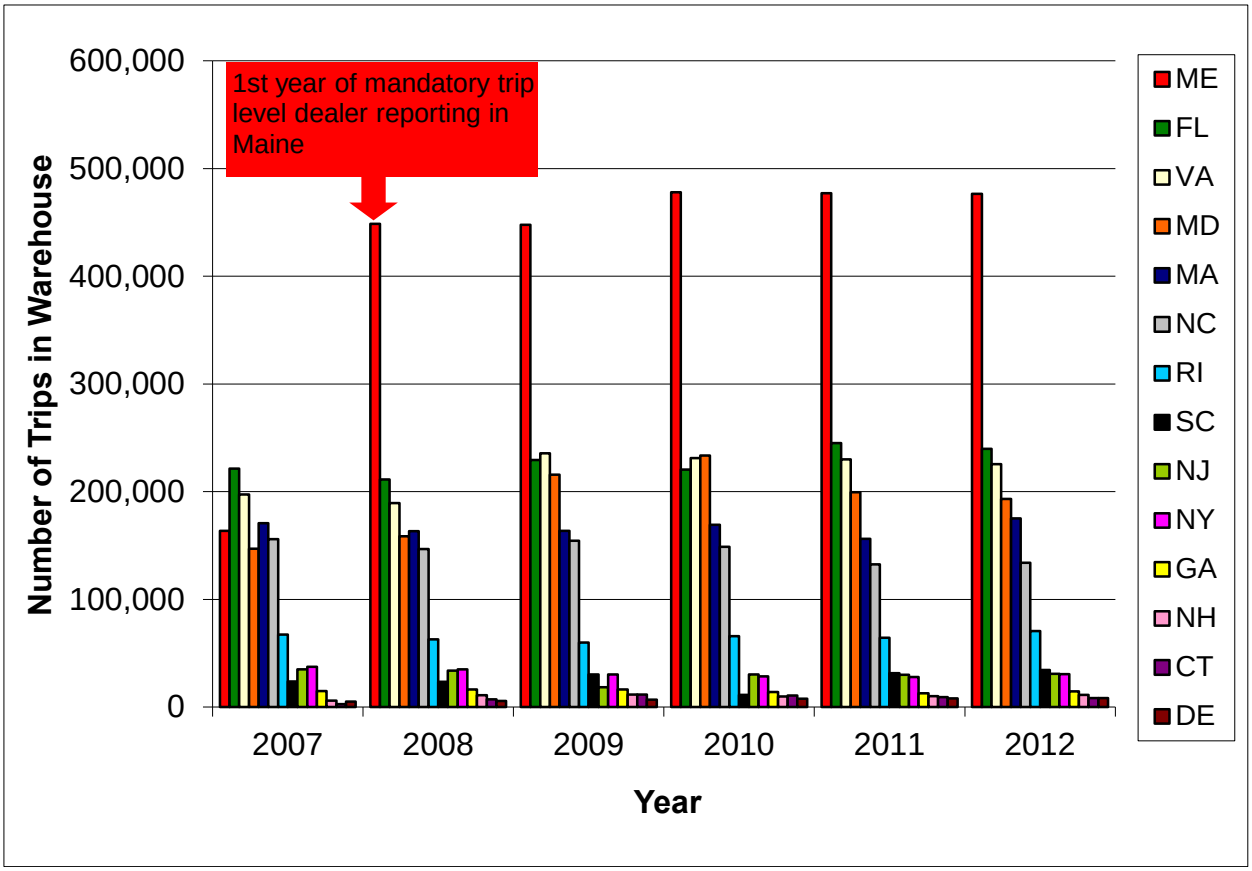


Figure 2: Number of Reported Trip Records by State Landed in ACCSP Data Warehouse

The number of trip records that DMR staff uploaded into SAFIS or data entered into MARVIN (DMR's database that contains all sampling, biological and landings data that DMR collects) has increased 87% from since 2007 (Figure 3 – view in color). When dealers submit reports on paper, they are entered into the MARVIN database. DMR uses MARVIN because we want a copy of all the paper data submitted directly to us, it is faster to enter the data into MARVIN and we wish to use this tool to

audit the data before sending a copy of it to ACCSP. Routines are set up to convert the MARVIN data to ACCSP codes before they are uploaded to the ACCSP warehouse.

The numbers in Figures 2 and 3 differ because they contain different data sets. Figure 2 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 3 only shows Maine-landed records from MARVIN dealer data and SAFIS data.

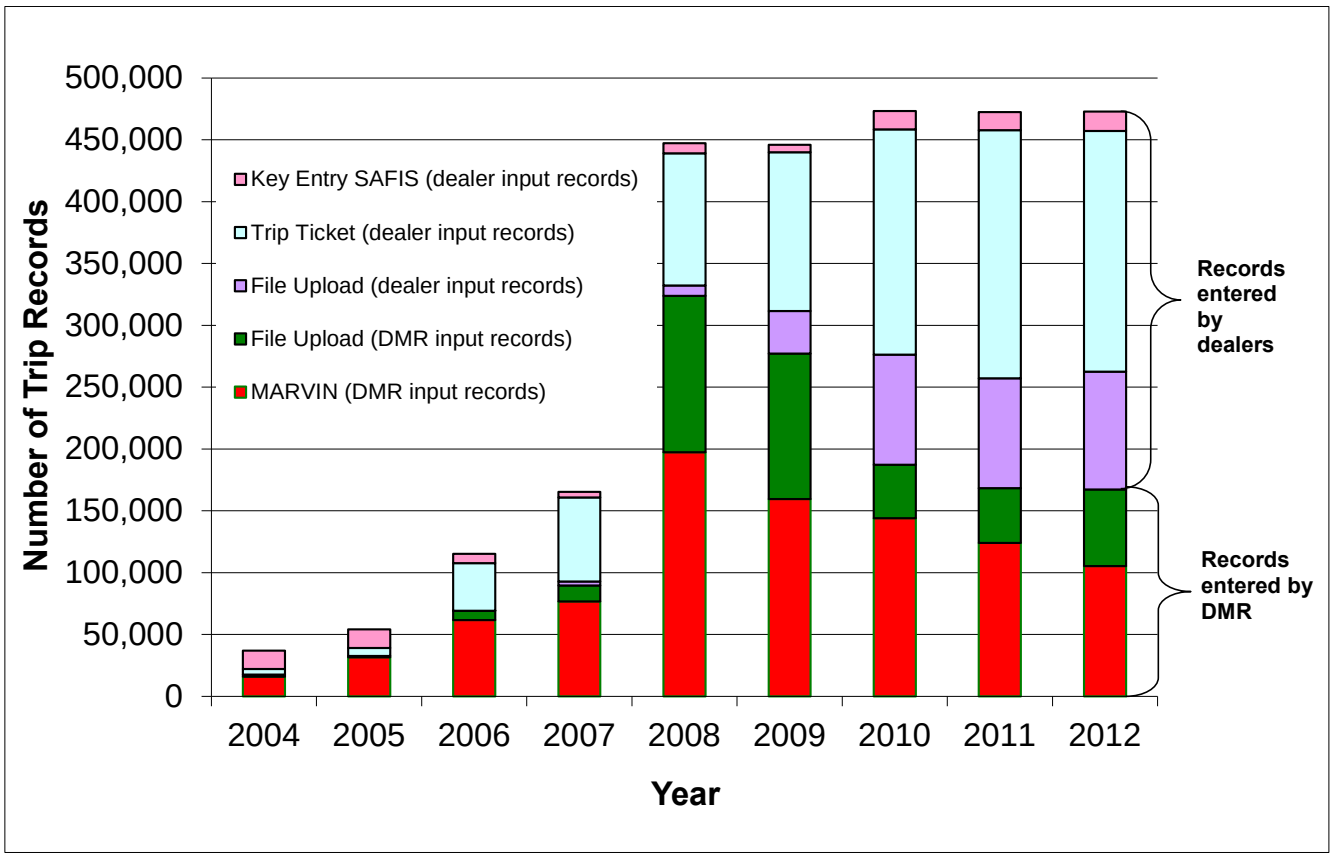


Figure 3: Number of Dealer Reported Trip Records entered in MARVIN and SAFIS

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. DMR absorbed the cost of two of the four positions previously funded by ACCSP grants, and DMR is also funding the new position who will administer the license suspension part of the program. DMR is now requesting funding for two existing positions: one specialist I who audits data, uploads data for "state-only" dealers, trains and supports "combo" dealers to report their own data, and provides the personal outreach with industry; and one office associate I who key enters dealer landings submitted on paper. 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 6/24/13), Maine ranked the second highest state on the Atlantic Coast in commercial value ($528 million) and fourth highest in whole pounds landed (312 million) in 2012. This comprehensive dealer reporting program is also an ASMFC (Atlantic States Marine Fisheries Commission) compliance issue for several fisheries, including for American lobster which is Maine's largest fishery.

Summary of staffing:

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

- Scientist IV: makes decisions on the general Landings Program direction.
- Scientist III: oversees the Landings Program, participants in ACCSP committees, transfers data to ACCSP and responds to data requests.
- Scientist I: 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, 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 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 DMR 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 timely; 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.
- Contract employee: help implement the new swipe card/mobile app reporting project in the elver fishery.

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

- Specialist I: 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 DMR reporting requirements. DMR 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.
- Office associate I: key enters dealer reports into MARVIN, files the dealer reports submitted to DMR and performs other office duties as requested (assists with mailings, compliance entry, opening mail, etc.).

The FY13 grant was ultimately cut 10% and will run for 11 months instead of 12, which is why it appears (in attachment 2) that this proposal is an increase from last year's project. However, DMR has been absorbing positions to transition off ACCSP grant money, and the new positions/resources needed for the license suspension authority and the elver reporting project are absorbed by DMR and are not included in this funding request. DMR will continue to try to identify alternative sources of

funding for the dealer 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 at this time.

Results and Benefits:

The data collected so far have shown how valuable this information is for Maine's fisheries. In the lobster industry, DMR 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. DMR has learned how many harvesters are active in each fishery (Figure 4 – view in color).

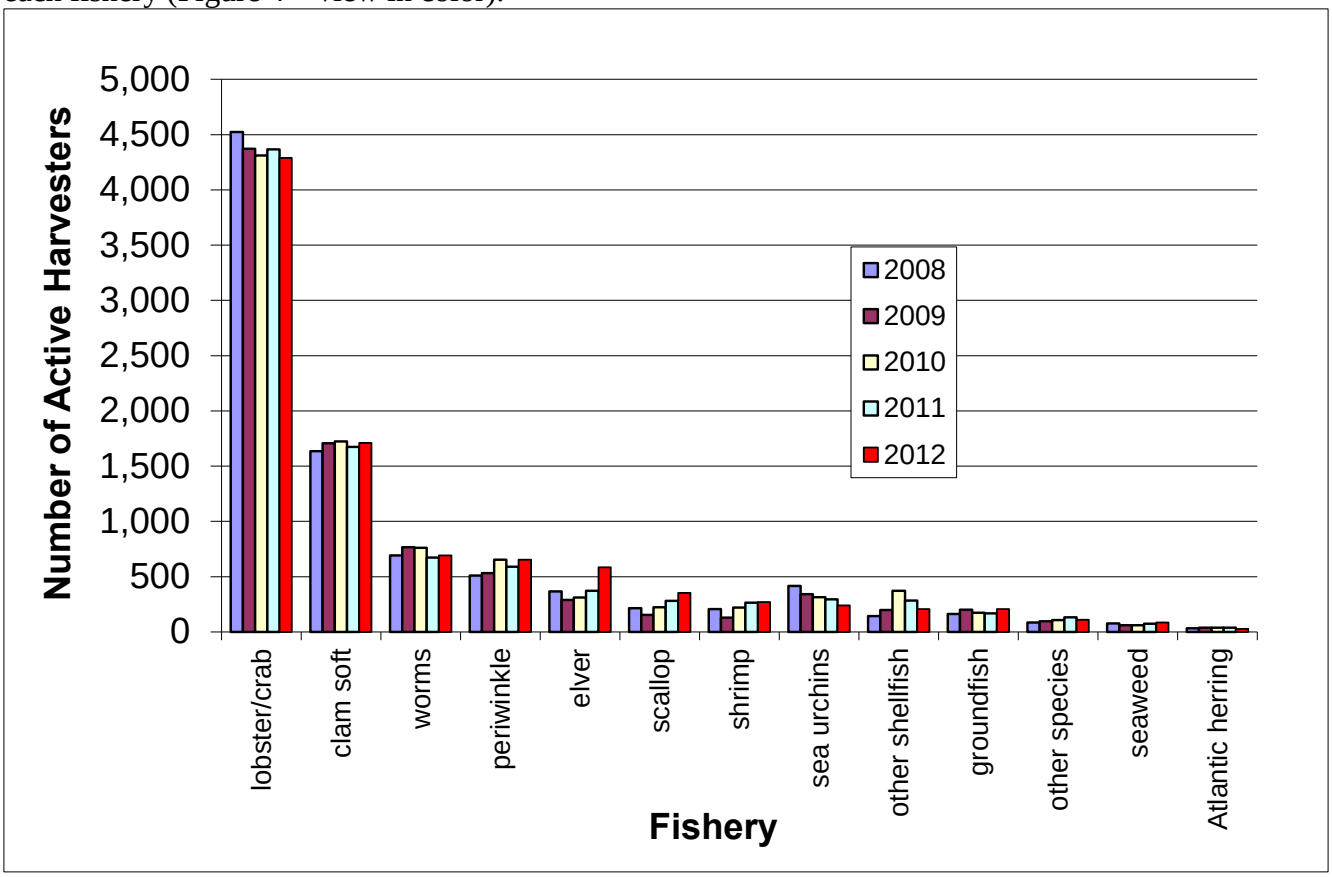


Figure 4: Number of Active Harvesters Reported in Dealer Data

This grant will allow DMR to complete a seventh 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. DMR hopes to encourage more dealers to move from paper reporting to electronic reporting as dealers become more comfortable with trip level reporting, and will mandate electronic reporting in the elver fishery for 2014. DMR is already uploading data reported to MARVIN to ACCSP every two weeks, 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 DMR 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 may also benefit from the technologies built and lessons learned from the elver dealer swipe card/mobile app project to be rolled out to elver dealers in 2014.

Approach:

1. Enforce compliance

DMR 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 DMR. 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, DMR will contact industry to correct reporting mistakes. If a dealer cannot be contacted by phone, the report will be returned for correction.
- Complete at least 20 compliance calls monthly to delinquent dealers.
- Complete two compliance mailings throughout the year to warn dealers of consequences for failing to comply with the reporting regulation.
- DMR will withhold future licenses of dealers who fail to report required data.
- DMR will also begin to suspend licenses for those who fail to report in a timely manner. See Attachment 3 for the new law, which dictates suspension procedures DMR 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

DMR 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). DMR 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. DMR 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.

DMR believes the electronic reporting can benefit many in the industry as much as it benefits DMR by reducing the amount of key entry required of staff. Electronic reporting will be mandatory for all elver dealers in 2014, which includes a swipe card component to provide a more accurate way to identify harvesters and the landing date. If this pilot phase of electronic swipe-card reporting is a success, DMR may look into phasing this type of reporting for other fisheries, based on how data are used in management decisions, how timely the information needs to be submitted, and how much staff time DMR devotes to auditing/correcting inaccurate data.

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

DMR 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. Staff will work with established industry organizations, such as the DMR advisory councils, lobster zone councils, and dealer and harvester associations to reiterate the program goals

and show results of mandatory reporting. A newsletter will be distributed to dealers containing a summary of landings data reported, as well as information about the Landings Program, data confidentiality and the importance of the data collection. Staff will also focus on explaining the new statutory authority for suspending licenses for those who fail to report timely, and how this will help gather more accurate data.

5. Audit of dealer data submitted.
Staff will audit data submitted on a monthly basis. 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. DMR staff audit data submitted by "combo" dealers because these dealers submit data in order to also fulfill DMR reporting requirements. DMR 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, DMR audits all records to flag those harvesters selling without a license for that species. DMR also compares dealer-reported landings with harvester-reported landings and identifies dealers with discrepancies. In all of these audits, DMR contacts dealers when discrepancies are discovered and works to correct records or recover missing data.

6. Transmission of dealer data to ACCSP.
DMR will upload dealer data from MARVIN to the ACCSP data warehouse every other week. 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. DMR enters data every day, and is usually not backed up with data entry so the data being uploaded include what was recently submitted. DMR staff also continually audit data each week, so the data being uploaded to the warehouse are a mix of pre- and post-audited records. DMR does not keep track of what percentage of the uploaded records are "reloads" due to errors, but simply reloads <u>all</u> the data in MARVIN to the warehouse every other week.

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, DMR 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.

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

Milestone Schedule:

	Months											
	1	2	3	4	5	6	7	8	9	10	11	12
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	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:

Goal	Measurement	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Enforce Dealer Compliance	Number of licenses rejected due to failure to report	43	155	48	56	66	81	16	35	15	13
Dealer Data Entry	Number of trip records in data warehouse	16,518	27,455	121,940	163,516	448,653	447,573	477,782	477,097	476,374	42,373
Dealer Data Entry	Number of catch records in data warehouse	53,909	75,037	182,947	279,438	687,992	702,698	737,097	724,604	738,458	80,080
Dealer Data Entry	Number of positive trip records by year landed in MARVIN	15,830	31,488	61,656	76,742	197,283	159,432	143,953	124,057	105,336	23,438
Encourage Electronic Reporting	Number of dealers submitting positive reports for Maine in SAFIS	68	78	98	142	204	229	274	291	312	263
Transmission of Dealer Data to Data Warehouse	Frequency of submission by year landed	Yearly	Yearly	Yearly	Yearly	Yearly/2 times per mo	2 times per mo	2 times per mo	2 times per mo	2 times per mo	2 times per mo
Outreach	Number of custom data requests (other than what was posted on the DMR website)	-	11	95	155	204	269	275	281	302	282

*2013 data are incomplete at the time of proposal submission

Cost Summary: FY14 Managing Mandatory Dealer Reporting in Maine			
Personnel[A]	**Calculation**		**Cost**
1 Specialist I (Eileen Burk)	full time position for 12 months		$41,967
1 Office Associate I (Debra Whitehouse)	full time position for 12 months		$36,691
		Subtotal	**$78,658**
Fringe Benefits[A]			
1 Specialist I (Eileen Burk)	Includes health, dental, workers comp, FICA, life insurance and retirement		$19,485
1 Office Associate I (Debra Whitehouse)	Includes health, dental, workers comp, FICA, life insurance and retirement		$18,807
		Subtotal	**$38,292**
		Total Personnel	**$116,950**
Travel			
1 seasonal vehicle[B]	1 car * $113.51/mo * 12 mo		$1,362
Mileage fee	1 car * 1,000 mi per mo * $.16/mi * 12 mo		$1,920
Toll allowance	Estimated		$75
4 Overnight stays[C]	5* $100/night		$500
Per diem (includes extended days)	(5 overnights + 5 extended days) * $50/day		$500
Supplies			
Filing Supplies	folders, folder labels, year labels		$500
Contractual			
Trip Ticket 1 yr maintenance	$350/mo fee * 12 mo		$4,200
(Software support and upgrades)			
Other			
Printing and binding of dealer report forms	300 logbooks * $2.50 per logbook		$750
Postage for logbooks	Mail 300 logbooks * $4.75 per logbook		$1,425
Postage for info packets and letters	(.44*680 compliance letters)+(.44*680 letters explaining compliance enforcement)+(5.75*200 certified letters to delinquent dealers)		$1,748
Telecommunication charges[D]	3 phones * $50/mo * 12 mo		$1,800
		Subtotal	**$14,781**
Total Direct Costs			**$131,731**
Indirect Costs (25%)			**$32,933**
Total Award to DMR			**$164,663**

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 for the scientist working on the project.

Partner Contribution – For ACCSP Purposes

Scientist IV (15% time)	$14,596
Scientist III (50% time)	$36,492
Scientist I (50% time)	$28,791
Specialist II (75% time)	$42,173
Office Associate I (15% time)	$7,163
Elver swipe card/mobile app reporting project:	$70,000
Office Associate II (100%)	$59,405
Total	$258,620

Budget Narrative for Proposed FY14 Grant:

Personnel and Fringe Benefits: The Specialist I named in the grant is Eileen Burk and the Office Associate I is Debra Whitehouse. These positions are funded full time (100%) by this award and they are Department of Marine Resources' employees (not contract workers). Salaries and benefits for these employees 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 for the purpose of installing reporting software, training dealer staff how to electronically report or troubleshooting reporting problems. Staff provides 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 in order to submit their landings information.

The monthly fee for the seasonal 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 Chevy Cobalt car which is a state owned vehicle that DMR leases from the State of Maine Central Fleet Agency.

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.

Supplies: Filing supplies are needed each year.

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 DMR. 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 DMR regulations. The information is used by DMR, National Marine Fisheries Service and other state agencies for fisheries management.

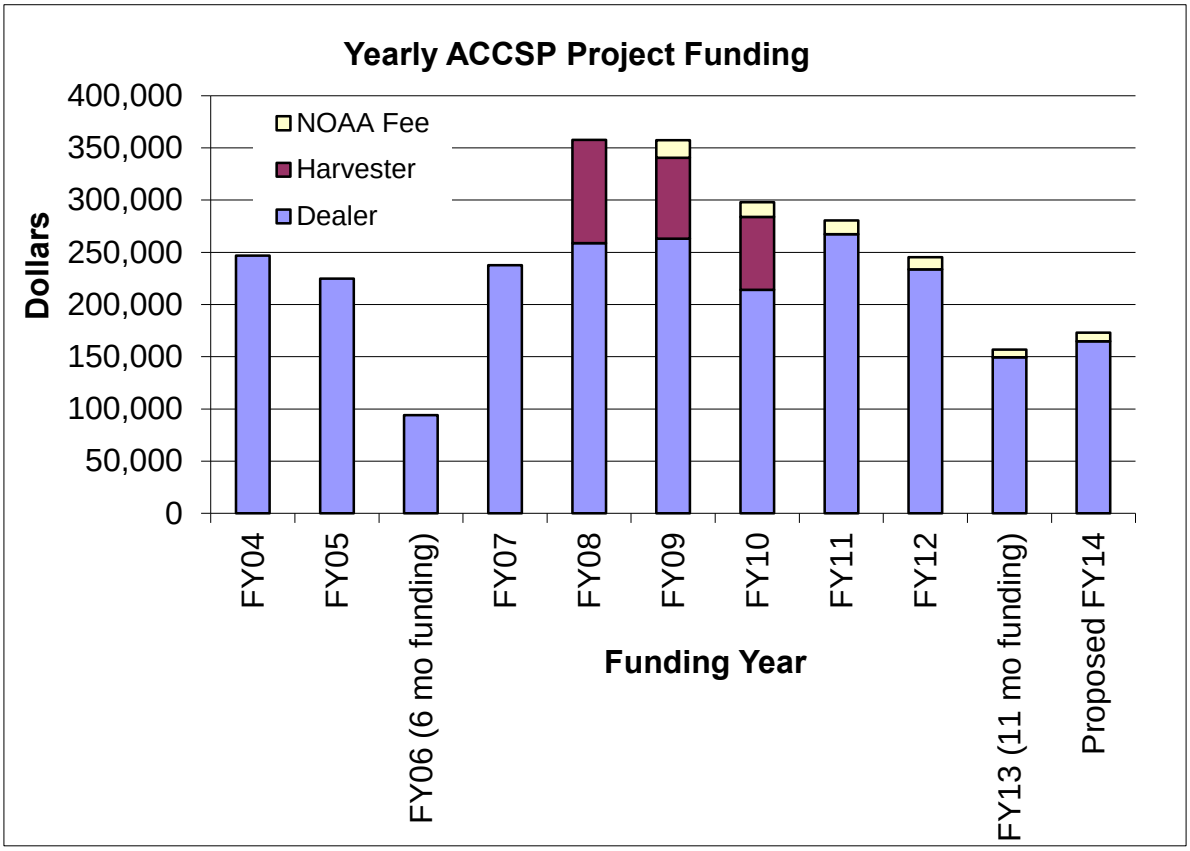
Other: Cell phones for the Specialists and the Scientist are necessary for communication and safety when on travel to dealer locations. The Scientist position is not mentioned in the personnel costs because the position is paid for with state money (not grant money), although the staff member travels 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. The Specialists do not have office phones, so the cell phones also serve as the only phone through which dealers can contact them with questions.

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.

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 2006	Jul 2004-Apr 2006 (extension required when Ops Committee asked DMR 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 DMR'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 2007	May 2006-Jun 2007 (extension required because FY04 was extended and a Specialist I was promoted in DMR, 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 2007	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	Oct 08	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	Oct 09	Nov 2008-Sept 2009	Complete 1st 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	Nov 10	Oct 2009-Sept 2010	Complete 2nd 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	Nov 11	Oct 2010-Oct 2011	Complete 3rd 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	Nov 12	Aug 2011 – July 2012	Complete 4th 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	Nov 13	Aug 2012-July 2013	Complete 5th 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	Oct 14	Aug 2013-June 2014	Complete 6th year of mandatory dealer reporting; enter, audit and transmit data to ACCSP. Expanding audits, including dealer data vs. harvester data submitted for different fisheries.

Attachment 2: Yearly Breakdown of ACCSP Funding



Attachment III: Negotiated Indirect Cost Agreement

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 April 30, 2013 to establish indirect cost billing rates for July 1, 2012 through June 30, 2013 are allowable in accordance with the requirements of the federal awards to which they apply and OMB Circular 87, "Cost Principles for State, Local, and Indian Tribal Governments". 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 25.84%, 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, 2011 thru June 30, 2012 to obtain a federal indirect cost billing rate for fiscal year beginning July 1, 2012.

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: Gilbert Bilodeau Date: 5/2/13

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

Dept Head Signature: [signature] Date: 5/2/13

Name/Title Authorized Official: Patrick Keliher, Commissioner

Department of Marine Resources

INTEROFFICE MEMORANDUM

TO: FILE

FROM: PATRICK C. KELIHER, COMMISSIONER

SUBJECT: RATE USED FOR COST ALLOCATION

DATE: 5/6/2013

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 2013 ending June 30, 2013. The indirect cost rate proposal is 25.84%. I am authorizing the use of the lesser rate of 25% to be used during this period.

Patrick C. Keliher, Commissioner

Attachment 3: New 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 (95%): 100% of licensed dealers must report trip level information on 100% species they purchase from harvesters.

Metadata (5%): will be created with ESRI ArcCatalog 10 in order 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: all partners will benefit, as the all 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. DMR will contract to have a mobile app built for dealers to use in conjunction with swipe card technology, and will roll it out to industry for use in the 2014 season. DMR is paying for all costs associated with this project, but will share findings with ACCSP.

Funding transition plan: through DMR's recent reorganization, the cost of one of the positions was absorbed by state and DMR is no longer asking for funding for salary and benefits. DMR will also fund the new office associate II that will be responsible for license suspensions for those who fail to report, and all costs associated with that additional position. DMR paid for the development of a "limited species" version of the Trip Ticket software that will be used in conjunction with harvester swipe cards and is contracting to have a mobile app built for elver dealers to report with swipe card technology. DMR will pay for the ongoing monthly maintenance fee associated with this program.

In-kind Contribution: the partner contribution is listed on page 10.

Improvement in Data Quality/Timeliness: DMR is able to audit data at a more detailed level, including checking dealer reported data against harvester reported data. DMR 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. DMR also passed a new law that authorizes license suspensions for those who fail to report timely which will improve the timeliness and quality of the data being submitted. DMR will mandate electronic reporting through a swipe card system for the elver fishery in 2014, which will improve timeliness and data quality.

Impact on Stock Assessment: Regional management organizations which carry out stock assessments would 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: DMR followed ACCSP guidelines and pertinent documents when preparing this proposal.

Heidi Ryder Bray
Maine Department of Marine Resources
(207) 633-9504
heidi.bray@maine.gov

July, 2013

PROFILE:

- Knowledgeable of the distribution, abundance and migration patterns of many commercial species as well as fishing practices in the Gulf of Maine.
- Knowledge of Maine statues and regulations as well as federal regulations pertaining to commercial fishing through working with Department of Marine Resources, National Marine Fisheries Service and Atlantic Coastal Cooperative Statistics Program.
- Expertise in Microsoft Access database programming, including experience with Visual Basic and SQL.
- Certified SCUBA diver and member of Maine Department of Marine Resources Dive Team.

EDUCATION:

Writing Queries Using Microsoft SQL Server Transact-SQL 2008, VTEC, Portland, ME 2009
Mastering Microsoft Access Programming, VTEC, Portland, ME 2004
Introductory VBA, State Training and Development Office, Augusta, ME 2003
B.S. Biology, Eckerd College, St. Petersburg, FL 1998

EMPLOYMENT EXPERIENCE:

Dec 2011-Present **Marine Resources Scientist III**
Maine Department of Marine Resources
West Boothbay Harbor, ME

- Directs Maine's Commercial Landings Program, which collects, compiles and distributes commercial fishery statistics for Maine's commercial fisheries.
- Runs the Boothbay Harbor environmental monitoring program, which is a program that collects weather and sea condition data.
- MARVIN database development coordinator.
- Oversees Maine's Recreational Fishing Program.
- Oversees the Maine/NH Inshore Trawl Survey.
- Serves as key contact for Maine commercial landings information in order to provide fishery managers, scientists, industry members and the public with commercial fishery 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.

Aug 2004 – Dec 2011 **Marine Resources Scientist I**
Maine Department of Marine Resources
West Boothbay Harbor, ME

- Managed Maine's Commercial Landings Program.
- Supervised seven Landings Program employees.
- Designed and built databases used by Landings Program.
- Served as key contact for Maine commercial landings information in order to provide fishery managers, scientists, industry members and the public with commercial fishery information.

• Communicated 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.
• Promoted Maine's partnership with Atlantic Coastal Cooperative Statistical Program (ACCSP) through serving on the Commercial Technical Committee, Information Systems Technical Committee and Outreach Committee; worked to bring the Landings Program into compliance with ACCSP standards.

Nov 2001 - Aug 2004 **Marine Resource Specialist**
Maine Department of Marine Resources
West Boothbay Harbor, ME

• Managed Maine's Commercial Landings Program.
• Served as State of Maine contact for Maine commercial landings statistics.
• Informed industry of reporting requirements, monitored reporting compliance and helped enforce these regulations.
• Promoted Maine's partnership with Atlantic Coastal Cooperative Statistical Program (ACCSP).

May 1999 – Sep 2002 **Naturalist**
Boothbay Whale Watch
Boothbay Harbor, ME

• Identified different whale species off coast of Maine and presented biological information to the public regarding different marine mammals and other marine species found in the Gulf of Maine region.

Apr 2000 – Nov 2001 **Conservation Aide**
Maine Department of Marine Resources
Augusta, ME

• Maintained fishway at Brunswick Hydro Facility; conducted alewife tagging program; aged alosids via scale and otolith reading; transported and stocked alosids; conducted river and pond sampling; entered an analyzed sample data; inspected fish passages at regional dams; evaluated capability to pass fish up and/or downstream; investigated fish kills; coordinated and supervised volunteer program.

Mar 2000 – May 2000 **Contract Employee**
Maine Department of Marine Resources
West Boothbay Harbor, ME

• Coordinated and entered Vessel Trip Report data; interviewed fishermen for sample data; identified different shrimp species and processed samples.

May 1997 – Aug 1999 **Intern & Scientific Technician**
Darling Marine Center, University of Maine
Walpole, ME

• Processed samples for research to study affects of trawling on the ocean bottom; research on Cumacean taxonomy; drew and described new species of Cumacean; processed benthic samples; participated in ROV research cruise in the Gulf of Maine; assisted in international trawling workshop; participated in mudflat inventory in the Damariscotta River.

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

June, 2013

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:

Access 2003: Programming in Microsoft Access, VTEC, Portland, ME 2011
Access 2003: Advanced Topics, VTEC, Portland, ME 2008
B.S. Marine Science, Maine Maritime Academy, Castine, ME 2002

EMPLOYMENT EXPERIENCE:

Feb 2012 – Present **Marine Resource Scientist I**
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 five Landings Program personnel.
- Maintain Microsoft Access databases for licensing information, compliance, dealer and harvester 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 information in order to provide fishery managers, scientists, industry members and the public with commercial fishery information.

Oct 2007 – Jan 2012 **Marine Resource Specialist II**
Maine Department of Marine Resources
West Boothbay Harbor, ME

- 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
West Boothbay Harbor, ME

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

May 2001 – Jun 2005 **Conservation Aid**
Maine Department of Marine Resources
West Boothbay Harbor, ME

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

David Alton Libby
Maine Department of Marine Resources
(207) 633-9532
david.a.libby@maine.gov

July, 2013

EDUCATION:

Waterville Senior High School, Waterville, Me. 1967.
Ricker College, Houlton, Me. B.A., Biology, December 1971.
Benthic Ecology, University of Maine Darling Center, Walpole, Me. 1988.
Fisheries Population Dynamics, University of Maine, Orono, Me. 1984.

Employment Experience:

Nov 2006 – present **Marine Resources Scientist IV**
Maine Department of Marine Resources
West Boothbay Harbor, ME

- Directs and oversees the Biomonitoring and Assessment Division. Chief responsibilities are to oversee fishery monitoring programs for commercially important marine species; the commercial ; biological studies; population assessments; and gear research.
- Directs the collection and processing of Maine's Commercial Landings Program (CLP) statistics and processing.
- Program science manager for the Bureau's biological database Marine Resource and Environmental Information System (MARVIN).
- Directs and manages the laboratory's wet lab and sea water facility for holding and conducting experiments of marine organisms
- Promotes Maine's partnership with Atlantic Coastal Cooperative Statistical Program (ACCSP) through serving on the Biological Review Panel and developing and overseeing projects to bring the state into compliance with ACCSP.

Jul 2000 – Nov 2006 **Marine Resources Scientist III**
Maine Department of Marine Resources
West Boothbay Harbor, ME

- Oversees the Atlantic herring resource monitoring, assessment and advisory group.
- Directs the collection and processing of Maine's Commercial Landings Program (CLP) statistics and processing.
- Program science manager for the Bureau's biological database Marine Resource and Environmental Information System (MARVIN).
- Directs and manages the laboratory's wet lab and sea water facility for holding and conducting experiments of marine organisms
- Promotes Maine's partnership with Atlantic Coastal Cooperative Statistical Program (ACCSP) through serving on the Biological Review Panel and developing and overseeing projects to bring the state into compliance with ACCSP.

Jan 1988 – Jul 2000 **Marine Resources Scientist II**
Maine Department of Marine Resources
West Boothbay Harbor, ME

- Provides direction for the Atlantic herring landings and sampling projects. Supervises personnel as to their duties and tasks in carrying out the needs of the projects.

Scientific Publications:

Kanwit, J. K., and D. A. Libby. 2009. Seasonal movements of Atlantic herring (*Clupea harengus*): results from a four year tagging study conducted in the Gulf of Maine and Southern New England. J. Northw. Atl. Fish. Sci., 40:29-39. doi:10.2960/J.v40.ms577

Townsend, D. W., Radtke, R. L., Corwin, S. and D. A. Libby. 1992 Strontium:calcium ratios in juvenile Atlantic herring *Clupea harengus* L. otoliths as a function of water temperature. J. EXP. MAR. BIOL. ECOL. vol. 160, no. 1, pp. 131-140

Chenoweth, S. B., D. A. Libby, R. L. Stephenson and M. J. Power. 1989. Origin and dispersion of larval herring (*Clupea harengus*) in coastal waters of eastern Maine and southwestern New Brunswick. CAN. J. FISH. AQUAT. SCI. 1989. vol. 46, no. 4, pp. 624-632

Creaser, E. P. and D. A. Libby, 1987. Seasonal movements of juvenile and adult herring, Clupea harengus L., tagged along the Maine and New Hampshire coast in 1976-1982. J. Northwest Alt. Fish. Sci. vol. 8(1).

Creaser, E. P. and D. A. Libby. 1986. Tagging of age 1 herring (Clupea harengus L.) and their movements along the Maine and New Brunswick coasts. J. Northwest. Atl. Fish. Sci., Vol. 7 No. 1: 43-46.

Batty, R. S., J. H. S. Blaxter and D. A. Libby. 1986. Herring (Clupea harengus) filter feeding in the dark. Mar. Bio. Vol. 91: 371-375.

Libby, D. A. 1984. A comparing of scale and otolith aging methods for the alewife, Alosa pseudoharengus. Fish. Bull., U.S. 84(4).

Creaser, E. P., D. A. Libby and G. D. Spiers. 1984. Seasonal movements of juvenile and adult herring, (Clupea harengus. L.), tagged along the Maine coast.
J. Northwest. Atl. Fish. Sci. 5(1) pp. 71-78.

Libby, D. A. 1982. Decrease in predominant ages during a spawning migration of the alewife, Alosa pseudoharengus. Fish. Bull., U.S. 80(4):902-905.

Libby, D. A. 1981. Difference in sex ratios of the anadromous alewife, Alosa pseudoharengus, between the top and bottom of a fishway at Damariscotta Lake, Maine. Fish. Bull., U.S. 79:207-211.

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

PAUL R. LEPAGE
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 28, 2013

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 which has not changed its scope from the previously funded project in 2013. The top priority is the biological sampling of the Atlantic herring commercial fishery because the information derived has critical value that shows the health of the east coast herring meta population.

We have addressed all of the general comments. Changes from the original proposal are highlighted in yellow as directed. In addition specific comments were made (below). Our responses to these comments are also included.

- Comment: Where there is a discussion of FY2013 data that was collected, that data should be compiled and expressed somewhere in the proposal (especially, if these data are relevant to the ongoing work of the proposal).
- Response: FY2013 data were not discussed as FY2011 was granted an extension and is still ongoing. FY2013 work is not expected to begin until Sept 1. The most recent preliminary semiannual report for 2011 was included instead. Funds for FY2012 were not requested.
- Comment: Consider (if at all) how the new allocations (state by state) of menhaden will affect this project.
- Response: We have considered the comment, but have concluded that it should not affect the sampling. Menhaden are usually only available for a limited time in Maine compared to other states further south. Given that the quota is allocated by states, the closing of other states further to the south should not affect the availably of quota to the Maine fishery, nor the amount of fish to sample
- Comment: The FY2013 budget narrative should be moved closer to the text of the main proposal, not so far toward the end as one of the last appendices.
- Response: We have addressed this comment by moving FY 2013 budget and narrative to Attachment 1, directly below 2014 proposed budget

Sincerely,

Dr. Matthew Cieri and David Libby

Proposal for Funding made to:

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

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

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

David A. Libby
Maine Department of Marine Resources
P.O. Box 8, McKown Point Road
West Boothbay Harbor, ME 04575
david.a.libby@maine.gov
(207) 633-9532

Amount Requested: $130,599

July 8, 2013

Applicant Name: Maine Department of Marine Resources (ME DMR)

Principal Investigator: Matthew Cieri, Marine Resource Scientist

Project Title: Portside commercial catch sampling and comparative 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 which has not changed its scope from the previously funded project in 2013. The overall cost is ~15% more than the FY 13 award. This change is due to reductions in the FY13 ACCSP (Atlantic Coastal Cooperative Program) grant by 13% and unavoidable increases in personnel 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 with emphasis in increasing the number of co-occurring sampling trips targeting Atlantic herring between ME DMR's portside bycatch sampling and both the NMFS (National Marine Fisheries Service) at sea observer sampling and the MA DMF (Massachusetts Division of Fisheries) portside sampling program.

Need:

Each of the species involved in this study has been declared not overfished and not subject to overfishing. However each of these principle pelagic fisheries has recently become the focus of management action because of their status as forage species. In particular, Atlantic herring and Atlantic menhaden have been the focus of the emerging trend towards ecosystem management. 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. With an estimated complex-wide biomass of 1.8 million metric tons (mt) of herring, 1+ million mt of mackerel, and 2.5+ million mt of menhaden, these species provide a significant forage base for other fish species, marine mammals, and birds. Additionally, they support the first, second and third largest commercial fisheries on the east coast in terms of volume. Atlantic herring landings in 2011 (the last year that NMFS data was available) were reported at approximately 79,060 mt with an estimated value in excess of $25 million. In addition to the direct economic contribution of herring landings, this fishery supports a domestic value-added industry worth approximately $50 million and the North Atlantic lobster fishery estimated at $423 million. Atlantic mackerel landings in 2010 were reported at

approximately 9,877 mt with an estimated value in excess of $4.4 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 $25 million. The Atlantic menhaden 2011 catch was 227,000 mt valued at $40 million.

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 encountered.

This proposal will also continue to survey bycatch from Atlantic herring and mackerel catches at portside while primarily focusing on vessel trips that have been surveyed by NMFS At-Sea observers. This will provide additional comparisons between at sea (NMFS) and portside (MA DMF and ME DMR) bycatch sampling programs and further validate a recent change in portside sampling protocols.

Approximately seventy percent (70%) of project resources are needed to carry out the first and prime objective (or module) of the concurrent sampling portion of the project while thirty percent (30%) of resources are needed for the bycatch module.

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

ME DMR 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. ME DMR maintains primary responsibility for 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 ME DMR 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. In an effort to improve the commercial catch sampling program, ME DMR has supported a dedicated northeast herring sampler.

The Atlantic herring fishery has recently undergone significant management changes as a result of federal and state action. These consist of changes brought about by the recent actions of the New England Fishery Management Council (NEFMC) during Amendment 5 to the Atlantic herring Fishery Management Plan (FMP). Due to these changes, it is anticipated that fleet behavior will change markedly in response. As this fishery changes in response to these management measures, it is important to quantify the level of bycatch and document changes in selectivity of the fishery. Additionally without ACCSP support, samples would not be collected or aged; resulting in no catch-at-age information for 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 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 for 2013.

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 in the Mid-Atlantic Council's Amendment 14. Like Atlantic herring, fleet behavior may change markedly. And as such changes in selectivity may result. 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.

Continued commercial catch sampling has been put forth as an 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 in the bait fishery in general. This is particularly important as the menhaden assessment team analyzes the possibility of a dome, rather than the existing logistic function in selectivity for the northern bait fishery.

In discussions with other states it is clear that personnel resources are severely limited up and down the east coast. Therefore, without approval of this grant adequate commercial catch sampling of Atlantic herring and Atlantic mackerel will be lacking. ME DMR has contacted some of the other northeast states in regard to this proposal and no one expressed a desire or the ability to assume herring or mackerel port sampling.

Comparative bycatch sampling

During at-sea operations NMFS observers use basket sampling to document 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 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 so for co-occurring pelagic species such as river herring.

Until the spring of 2011 this was in contrast to the methods employed during the ME DMR port sampling procedure (see the *Approach* section of this document). During Portside sampling, bycatch was measured in "lots" of ~40,000 lbs. During most sampling events, data were taken as a census of all bycatch in that lot. Only on rare occasions was a sub-sampling method, similar to NMFS protocols, used.

Analysis of more than five years (2005-2009) of both portside and at sea bycatch data and results from the DMR, DMF and NMFS databases has revealed that sampling only portions or lot sampling of herring catches is not useful when comparing the portside and at-sea programs. Recent changes in both project protocol and the herring fishery have significantly altered this project's methods. 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, or looking intensively at a portion of a vessel's landings. The reasoning behind this stems from 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.

MA DMF uses a different set of protocols when sampling the bycatch in the Atlantic herring and mackerel fisheries. Generally, this project examines the entire offloading at plants in New Bedford and Gloucester, MA. Sub sampling occurs during off loading for bait in a similar basket design as used in NMFS at-sea observations. However much of their sampling is a direct census (examining the entire catch without subsampling) of the entire off-loading, as both of those facilities are primarily geared to a food quality product. As such, all of the bycatch is measured from the entire trip for the majority of MA DMF bycatch monitoring.

During an Atlantic herring PDT (Plan Development Team) meeting for the NEFMC (June 15th, 2010), an examination of 52 co-sampled trips was performed by one of the authors of this proposal (Matt Cieri) and a collaborator from MA DMF (Steve Correia). It was noted that there was no correlation in river herring magnitude for co-sampled trips between at-sea and portside projects. Further, while the at-sea observers documented higher rates of bycatch of river herring, the frequency of occurrence was significantly higher in portside observations of the same trips. Analysis on transformed data suggested no significant differences using a pair t-test, but the power of that analysis was dramatically reduced because of low numbers of co-occurring sampled trips, and high degree of variability. This led to a discussion on the basket sampling methodology employed by NMFS and the lot sampling protocols by ME DMR. It was noted that some settling and stratification could occur between pumping into the hold and sampling of by portside monitors, either by truck or at the plant. It also led to a discussion on variability associated with the NMFS at-sea sampling protocols and if ten basket samples per haul were an accurate representation of the bycatch pumped on board.

Of the 52 co-occurring trips (2005-2009) between both portside and at-sea observers, only 28 had occurrences of river herring bycatch in one program or the other. Documented species in the other 24 trips were so variable that selection of another species for analysis was impossible. As such, analysis of this issue could be greatly enhanced with a directed portside study of trips which have been observed by NMFS at-sea samplers.

In 2012 ME DMR, with ACCSP funding, implemented concurrent sampling of Atlantic herring trips portside that had also been sampled by at sea observers. Because the project only started in January 2012 and given the lag time before data are finalized in the NEFOP (North East Fishery Observer Program)database, analysis on the co-occurring trips are not yet available for analysis. However a preliminary examination suggests that differences have been resolved using a new portside protocol that only examines full off loads rather than the previous lot sampling. Continued co-occurring sampling will help to better document the few differences that have occurred, and to solidify and further validate the changes made to the portside protocols.

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 for Atlantic herring or to perform the Atlantic herring and mackerel bycatch study. Menhaden is strictly an ASFMC managed species. The catch at age analysis 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 process 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 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. In addition, 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 as such 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.

In addition to sampling Atlantic herring and mackerel for the purposes of developing 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 gills and stomachs were extracted for Paralytic Shellfish Poison testing due to the unusually high concentrations of *Alexandrium* in the Gulf of Maine. 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 have been added as a species to be sampled. 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. Further bait landings of menhaden in Southern New England and the Mid-Atlantic have tripled in the past two years along. 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, as older menhaden from the 2003 become more abundant in New England.

The commercial catch sampling 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. Further 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 allocation of quota among management areas.

Comparative bycatch sampling

The data collected through the bycatch survey supplements the federal at-sea observer coverage program and vastly increases 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. These efforts will complement but not replace the National Marine Fisheries Service (NMFS) at-sea observer coverage. This proposed bycatch survey represents a unique opportunity to collect data in an inexpensive but efficient and accurate way.

Since 2005, ME DMR has been documenting bycatch in the Atlantic herring fishery using protocols outlined in the Approach section of this document. Meanwhile the NMFS at-sea observers have been documenting retained bycatch using another set of protocols outlined in the "Need" section of this document. Recent analysis has found discrepancies between identified and expanded bycatch when sampling occurs on the same trips. Similar discrepancies also occur between MA DMF sampling and NMFS.

Both portside sampling programs use a number of different methods to document landed bycatch. NMFS protocols, as well as some of the portside sampling techniques, are sub-samples of the entire landed bycatch, with varying degrees of statistical power. Lot sampling and basket sub-sampling allow for the efficient use of time and resources in documenting bycatch in this important fishery. Direct census methods would dramatically reduce trip coverage for the portside projects, but would represent an insurmountable obstacle to the at-sea observers

For preliminary analysis on river herring bycatch it had been assumed that the portside bycatch sampling conducted by ME DMR and MA DMF was comparable to each other and to the NMFS observer sampling. However this was not the case. Expansion of the NMFS and Portside data separately may give differing results, increasing the management uncertainty on magnitude and occurrence of bycatch in the directed herring and mackerel fisheries. Even if observer and portside estimates were statistically similar, the increase in variability due to lower sample sizes in two separate analyses would further decrease the confidence in those estimations.

Proposed work will continue to investigate what sampling protocols may be causing these differences, and what methodologies can be changed to limit these differences in the future, and correct for them in the past. A concerted effort to sample co-occurring trips is necessary to accomplish the above tasks. This proposal seeks to increase the number of co-occurring sampled trips to elucidate discrepancies, as suggested in the preliminary analysis. Sampling the same trip with a different monitoring program does not increase sample size in the final estimations of bycatch. As such, portside sampling of the co-occurring trip can only be used to examine the differences among monitoring programs; and is not useful in calculation overall coverage of the fishery.

This study will also validate if the recent changes to the portside sampling protocol are working to limit the differences with at-sea observations. Given the recent management changes calling for industry funded 100% at-sea observer coverage as implemented by the NEFMC, portside sampling could provide a lower cost alternative if these protocols can be validated.

Beyond the immediate benefit to the NMFS, MA DMF, and ME DMR bycatch sampling in this fishery, the proposed project may provide guidance to other bycatch sampling programs in other fisheries. The resolution of possible discrepancies seen between these programs could be useful for other state and federal bycatch programs documenting bycatch in other fisheries; such as menhaden, and the small mesh bottom trawl fisheries for scup, sea bass and others. This proposed project represents the first known cross validation of high volume at-sea observer methods and portside sampling methodologies to estimate bycatch.

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 in order 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 to biological sampling along with a review of project costs. The Project for FY 11 was granted a no cost extension through Aug 2013, and as such is not yet complete. The FY13 Project is scheduled to begin shortly thereafter. While a final project report for FY11 is not yet available, the most recent semi-annual report is in Attachment 3.

Approach:

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

The bycatch survey will be conducted at herring and mackerel pumping and processing sites along the east coast. Therefore, commercial catch sampling can be easily incorporated into these efforts without the need for additional resources. Occasionally it might be necessary for one of the samplers to prioritize commercial catch sampling in order to adequately cover the fisheries. However, in these cases ME DMR can provide staff to assist with the bycatch survey or the commercial catch sampling program. 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.

It should be noted that sampling is made regardless of permit category as long as the vessel called in as an Atlantic herring vessel for the day (as per NMFS protocols). Also Bottom Trawl vessels are excluded as they rarely fish for Atlantic herring as a primary target. Bycatch sampling and commercial catch sampling of the bottom trawl fleet is conducted by NMFS and Maine DMR under a separate non-ACCSP funded project.

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 according to NMFS 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 due to the fact that 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 (2007), there have been increased menhaden catches in the New England Area when compared to previous years, and this trend is expected to continue. 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. These samples are critical to the assessment process for Atlantic menhaden and in accurately 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. Sampling targets for menhaden could not be derived because of the exploratory nature of this sampling and the uncertainty in the effort placed on this stock north of Cape Cod; where our sampling effort will be directed.

Comparative bycatch sampling

The program takes advantage of normal processing plant operations by quantifying bycatch that enter 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, linked to a federal vessel trip report (VTR) 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 wholesale dealer to smaller dealers and lobster wharfs 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.

The sampling takes place at processing plants and bait dealers in Maine, New Hampshire, Massachusetts, Rhode Island and New Jersey. A goal of observing 100+ mt per week will be targeted

which should require three site visits. The mackerel fishery will be sampled if the target levels for the herring fishery have been reached in a given week 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 will 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 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 ME DMR 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 ME DMR methods that had both NMFS and MA DMF bycatch sampling.

Once the data are collected, they will be housed and archived in a ME DMR relational database. Data requests and queries will be performing on the MA DMF and NMFS databases to identify trips which were co-sampled. Data will then be joined into one full database for further statistical analysis. While the examination of potential methods to use in the final analysis are ongoing, possibilities include two-tailed paired t-tests after transformation, the Wald test with continuity, and an index method using a Jaccard coefficient.

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 NEFMC in Woods Hole, NMFS, Beaufort, NC, 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 ME DMR 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 maybe landing at any given time. Sampling will thus occur after direct contact with vessel captains and plant managers to identify were sampling should take place.

In general herring bycatch sampling is primarily conducted spring, summer, and fall; 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 in-between regular commercial and bycatch sampling.

Data Management:

Data collected through this study are regularly entered into the MARVIN biological database housed at ME DMR. Data are first entered into MARVIN and run through Quality Assurance/ Quality Control (QA/QC) routines to insure accurate reporting.

Metadata will be created with ArcCatalog in order 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
Bycatch Sampling-co-occurring MA DMF	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, ME DMR 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

Comparative Sampling

With NMFS	At least 50 trips representing >25% of current NMFS coverage
With MA DMF	At least 15 trips representing >20% of current NMFS coverage
With both	At least 5 trips

Cost Summary: Portside bycatch sampling

Personnel Services[A]			**Description**	**ACCSP**
Salary	1 Marine Resources Specialist I (Becker)	12 months		$ 42,373
Benefits	1 Marine Resources Specialist I (Becker)	12 months		$ 21,126
Salary	1 Marine Resources Specialist I (Pinkham)	4 months		$ 12,693
Benefits	1 Marine Resources Specialist I (Pinkham)	4 months		$ 7,778
			Subtotal	**3,969.54**

All Other			
Field Equipment			
	PROJECT VEHICLE 12 months	350/mo	$ 4,200
	Mileage fee	30000 @ $.17/mi	$ 5,100
Travel Expenses			
	Toll allowance		$ 150
	35 Overnight stays	$102/night	$ 3,570
	Per diem (includes extended days)	$50/day	$ 2,750
Office Supplies	**Minor Equipment[B]**		
	2 Cell Phones	3 $50/month	$ 1,200
	1 air card	1 $75/month	$ 900
	Sampling Gear		$ 1,340
	Lab Supplies		$ 1,300
		Subtotal	**20,510**
Total Direct Costs			**104,4 0**
Indirect Costs (25%)			**26,119**
Award to DMR			**130,599**

A: Cost includes salary and benefits, which are dictated by contract with State of Maine and are non-negotiable.
B: The state specifies that its employees have all IT expenses and support managed by the Office of Information Technology. Fees are non-negotiable.

Partner Contribution – For ACCSP Purposes

Scientist IV (20% time)	$20,000
Scientist III (25% time)	$15,000
Specialist I (25%)	$12,000
Total	$47,000

Future Project Needs:

This project is designed to benefit all states from Maine to New Jersey, ASMFC and federal management agencies including the NEFMC and NMFS. This grant proposal's primary expense is for personnel to carry out the objectives of the study. ME DMR is pursuing long-term and permanent funding for this project through a commitment made by the participating states and the federal government; and has had some success. Additionally Amendment 5 to the Federal herring FMP is

currently exploring industry based funding for both at-sea and portside monitoring of bycatch in the directed fishery.

Budget Narrative:

Personnel and Fringe Benefits: One full time Specialist II (James Becker) funded at 100% and one part time Specialist I (Lisa Pinkham) funded at 33%. These positions are Department of Marine Resources' employees (not contract workers). Salaries and benefits for these employees 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. Currently, the State of Maine has re-constituted merit increases for FY14. As such these costs are reflected in this budget.

From approximately July until October the fleet generally land in Maine as well as NH/MA simultaneously. As such two people are required to adequately sample and perform bycatch duties during this time.

Travel and vehicles
Travel is requested for 35 trips overnight. The exact number of trips will depend of 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.

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 personnel. A second phone is request 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 pin point landing events.

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

Indirect costs: The Department of Marine Resources has an indirect cost rate of 25%. See Attachment 6 for the Negotiated Indirect Cost Agreement.

Attachment 1: FY 2013 Budget & Narrative

Cost Summary: Portside commercial catch sampling			
Personnel[A]	**Calculation**		**Cost**
1 Specialist II (James Becker)	80 hr/pay period * 24 pay periods/yr		$37,595
1 Specialist I (Lisa Pinkham)	80 hr/pay period * 6.5 pay periods/yr		$11,298
		Subtotal	**$48,893**
Fringe Benefits[A]			
1 Specialist II (James Becker)	Includes health, dental, workers comp, FICA, life insurance and retirement		$18,642
1 Specialist I (Lisa Pinkham)	Includes health, dental, workers comp, FICA, life insurance and retirement		$6,922
		Subtotal	**$25,565**
		Total Personnel	**$74,457**
Travel			
Project vehicles[B]	Pickup * $350/mo * 11 mo		$3,877
Mileage fee	Pickup * 23,529 mi * $.17/mi		$4,000
Toll allowance	Estimated		$150
30 Overnight stays[C]	30* $100/night		$3,000
Per diem (includes extended days)	(30 overnights + 10 extended days) * $50/day		$2,000
Supplies			
Telecommunication charges[D]	2 cell phones * $50/mo * 11 mo		$1,108
1Air card	$75/mo * 11 mo		$800
Sampling gear			$800
Lab supplies			$829
		Subtotal	**$16,564**
Total Direct Costs			**$91,021**
Indirect Costs (25%)			**$22,755**
Total Award to DMR			**$113,776**
Grand Total			**$113,776**

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 the state's Central Fleet Agency; this is non-negotiable. Vehicle costs include the following services and costs: maintenance, repairs, insurance, and gasoline.

C: For sampling coverage from Maine to New Jersey

D: One cell phone for the specialists and one for the scientist working on the project

Partner Contribution – For ACCSP Purposes

Scientist IV (20% time)	$20,000
Scientist III (25% time)	$15,000
Specialist I (25%)	$12,000
Total	$47,000

2013 Budget Narrative: Note project has been scaled back to reflect a reduction in award.

Personnel and Fringe Benefits: One full time Specialist I (James Becker) funded at 100% and one part time Specialist I (Lisa Pinkham) funded at 33% are requested for 11.5 months. These positions are Department of Marine Resources' employees (not contract workers). Salaries and benefits for these employees 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. Currently, the State of Maine has frozen all cost of living increases, so this is not included in the budget.

From approximately July until October the fleet generally land in Maine as well as NH/MA simultaneously. As such two people are required to adequately sample and perform bycatch duties during this time.

Travel and vehicles
Travel is requested for 30 trips overnight. The exact number of trips will depend of 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.

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 personnel. A second phone is request 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 pin point landing events.

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

Indirect costs: The Department of Marine Resources has an indirect cost rate of 25%. See Attachment 6 for the Negotiated Indirect Cost Agreement.

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
200	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
200	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 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 and mackerel catch sampling	herring 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 and mackerel catch sampling	herring 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 (*Clupea harengus*), Atlantic mackerel (*Scomber scombrus*) and Atlantic Menhaden (*Brevoortia tyrannus*) fisheries	$0	portside bycatch survey herring 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 (*Clupea harengus*), Atlantic mackerel (*Scomber scombrus*) and Atlantic Menhaden (*Brevoortia tyrannus*) fisheries	$113,774	portside bycatch survey herring and mackerel catch sampling	Ongoing: funding cut by 10% total

Summary of Proposal for ACCSP Ranking

Proposal Type: Maintenance

Primary Program Priority and Percentage of Effort to ACCSP modules:

Biological Sampling (100%): 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.

Bycatch/Species Interaction (100%): Mid-Water trawl gear targeting Atlantic herring and mackerel is currently the most scrutinized for bycatch of river herring and groundfish. Amendment 5 of the Atlantic herring FMP is calling for added increase in bycatch monitoring.

Metadata (100%): will be created with ESRI ArcCatalog 10 in order 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 (100%): all partners will benefit, as the 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 (100%): ME DMR will continue to seek alternative sources of funding in order to further transition from ACCSP grant money. There maybe an opportunity for future funding of this project through congressional allocation to ME DMR

In-kind Contribution (36%): the partner contribution is listed below the budget.

Improvement in Data Quality/Timeliness (100%): Data collected through this study are regularly entered into the MARVIN biological database housed at ME DMR. Data are first entered into MARVIN and run through QA/QC routines to insure accurate reporting. The biological sampling data is uploaded to the ACCSP data warehouse on a regular basis.

Potential secondary model (100%) Data collected through this proposed project is sued in assessment and management of river herring, Atlantic herring, Mackerel, and menhaden as outlined to the expected benefits section

Impact on Stock Assessment (100%): Regional management organizations which 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 (100%): ME DMR followed ACCSP guidelines and pertinent documents when preparing this proposal.

Attachment 3: FY2012 semi Report

Maine Department of Marine Resources
Bureau of Resource Management
West Boothbay Harbor, Maine

Atlantic Coastal Cooperative Statistics Program
Grant No. NA11NMF4740013
(DMR#3077)

Portside Bycatch Sampling and Comparative Sampling for Atlantic Herring (Clupea harengus), Atlantic Mackerel (Scomber scombrus), and Atlantic Menhaden (Brevoortia tyrannus) fisheries

Semi-Annual Report

July 1, 2012 thru December 31, 2012

Submitted by:

James Becker
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West Boothbay Harbor, ME 04575
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January 17, 2013

Project Background

The Atlantic herring is one of the most biologically and economically important species in the Gulf of Maine. Herring are oceanic plankton-feeding fish that occur in large schools, and inhabit coastal and continental shelf waters from Labrador to Cape Hatteras. Adults (age 3+) migrate south from summer/fall spawning grounds in the Gulf of Maine to over winter off southern New England and the Mid-Atlantic states. Important commercial fisheries for juvenile herring (ages 1 to 2) have existed since the last century along the coasts of Maine and New Brunswick up until the mid 1980's. Development of large-scale fisheries for adult herring is comparatively recent, primarily occurring in the Gulf of Maine, on Georges Bank, southern New England and Mid-Atlantic waters. Herring are an important food source for many species of fish, mammals, and seabirds. Commercial landings are currently around 150 million pounds annually with 90 percent going to the lobster bait market and 10 percent to processing facilities.

The Maine Department of Marine Resources (DMR) has collected and processed Atlantic herring commercial catch samples since 1960. Sampling was historically carried out with the cooperation of processors (canneries) and the National Marine Fisheries Service (NMFS). This system of sampling the commercial catch resulted in incomplete coverage of the fishery and insufficient collection of population data. DMR secured funding to hire a dedicated sampler in an effort to improve the commercial catch sampling program.

After the completion of a successful pilot study in late 2003, the DMR initiated an exploratory portside bycatch survey of the Atlantic herring fishery in 2004. This project was created in response to the lack of bycatch data available for the directed herring fishery. Interestingly, in 2004, NMFS received funding to expand their at-sea observer coverage of the herring fishery. In 2008 following in suit, Massachusetts Department of Marine Fisheries (MADMF) began their own portside bycatch program. Still, in a large volume fishery statistically significant sampling levels are hard to achieve. The Maine DMR portside bycatch program now complements both the MADMF portside program and the NMFS at-sea observer program by providing expanded coverage of the herring fishery and validation of the at-sea observer data.

After accruing and analyzing more than 6 years of both portside programs and at-sea bycatch data results from the data have revealed that sampling only portions or lot sampling of herring catches is not significant (P=0.05) when comparing the three independent programs. In the spring of 2011 changes to both project protocol and the herring fishery significantly altered this project from its initial focus. In an attempt to more closely align our data with MADMF's portside bycatch program and NMFS at-sea observer data, we moved away from the practice of "lot" sampling, or looking intensively at sometimes a portion of a vessel's landings. The reasoning behind this stems from 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 accordance with these changes, our sampling efforts have shifted to sampling direct vessel offloads, targeting sites with accessible dewatering boxes or offload pipes (used to distribute fish into a processing facility). This was problematic at first, as few sites offered adequate working space, and concerns over safety eliminated some options. To date our sampling sites are currently ten. In September of 2011 the completion of a safe and accessible sampling platform was attached to a dewatering tower in Portland and has allowed for increased sampling coverage to our domain. Successful offload sites in Maine where whole boatloads can be studied are currently: Jonesport, Prospect Harbor, Stonington, Rockland, Phippsburg, and Portland. Currently suitable sites for sampling entire offloads for this winter herring fishery (Southern New England to Cape May, NJ) are being compiled and assessed for feasibility. In November of 2011 the fabrication and installation of another sampling platform was completed and attached to a dewatering box in New Bedford, MA, in time for the Area 2 winter herring/mackerel fishery, adding a tenth site for sampling entire offloads. The dewatering tower in Pt Judith, RI, which has been part of our sampling rotation since 2009, has also been modified for one person to sample entire offloads. Lund's, LLC, in Cape May, NJ has had a suitable facility for one person to sample entire herring and mackerel offloads since 2005 and will continue be part of our sampling rotation this coming winter.

Objectives

1. Continue collecting herring and mackerel commercial samples throughout the Northeast.
2. Collect herring and mackerel bycatch data throughout the Northeast.
3. Expand the coverage of landed herring, mackerel, and menhaden monitored for bycatch.
4. Increase the number of co-occurring sampling trips between ME DMR's portside bycatch sampling and both the NMFS at sea observer sampling and the MA DMF portside sampling program.
5. Begin collection of river herring samples for UC Santa Cruz.
6. Continue collecting river herring samples for DMR.
7. Restart collection of female spiny dogfish for the University of New England (UNE).

Methods

Coordination and execution of the portside bycatch survey started in 2004. Twelve sites from Maine to Massachusetts were originally identified and then visited to assess suitability. Since the recent shift in protocol to sample entire boat loads a total of 10 sites are now part of the bycatch survey (Figure 1). At each site the survey method details were explained to industry members, including what data are collected, and how the data are processed and released. The target sampling level was to monitor up to 5% of the herring landings and 2% of the mackerel landings, but with the new protocol and fabrication of sampling platforms the coverage has yet to achieve 5% for herring.

All bycatch sampling events were arranged with the participating sites along with a request of their processing schedule. A sampling event started when the fish were delivered either by truck or boat to the location. As the fish were sorted, the bycatch was removed and set aside on a lot-by-lot basis.

Each lot was processed separately with the lot amount, gear type, general location and month of capture recorded.

After the bycatch was sorted, all species were identified and separated. Each species was then weighed and a random sub-sample (n=50) was taken if necessary. All individuals (of the entire sample or sub-sample) were measured and recorded on a length frequency log.

It is important to note that for the purpose of this report all non-targeted species (i.e. anything but herring) are referred to as bycatch. This includes species such as shad, alewives and blueback herring (river herring), Atlantic mackerel, and squid that are currently classified as incidental catch in the herring fishery.

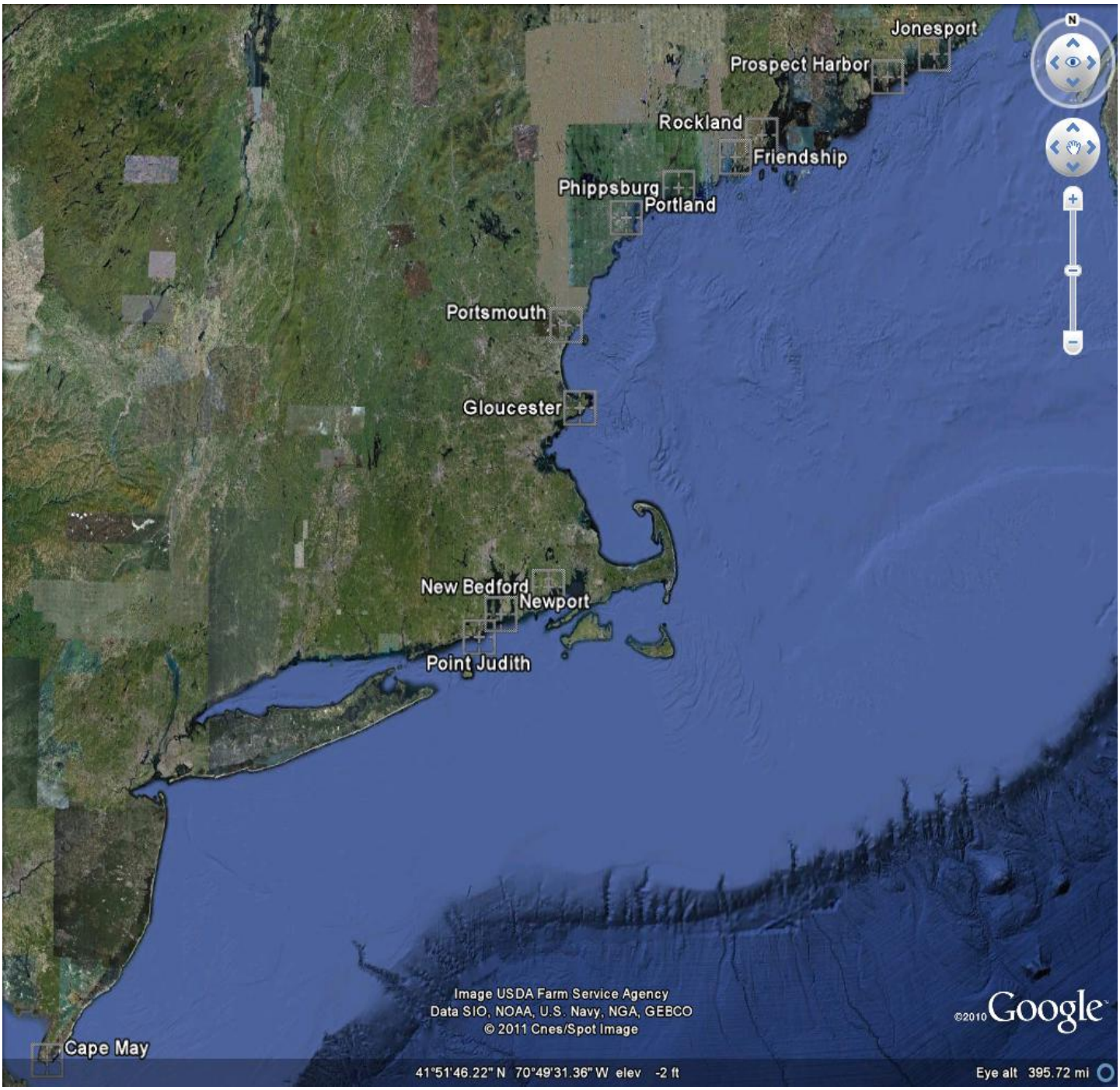


Figure 1: Range and locations of herring catch samples and bycatch studies.

Results

Atlantic Herring Sampling (Commercial Catch Samples)

It is important to note that the entire US North Atlantic Herring Fishery was closed when the quota was met by November 15th; therefore, no sampling activity took place after that. From July 2012 through Decemberoffshore 2012, 54 samples were collected. Herring samples were caught in the Gulf of Maine (GOM) and offshore on Georges Bank (GB). Approximately 83% of the herring samples were acquired from Maine ports (Figure 2.); 28 samples were collected from Rockland, 15 from Portland, 1 from Jonesport, and 1 from Stonington. For the remaining samples, 4 were collected from Newington, NH, 1 from Portsmouth, NH, and 4 from Gloucester, MA. These samples were transported to DMR where they were processed for length, weight, age (using otoliths), sex, gonad stage/maturity, and stomach contents/weight. Sampling for the Atlantic herring fishery occurs routinely during the course of bycatch sampling at many of the same locations. Data are then entered into a database and are available for statistical analysis as part of an ongoing NOAA interstate fisheries grant.

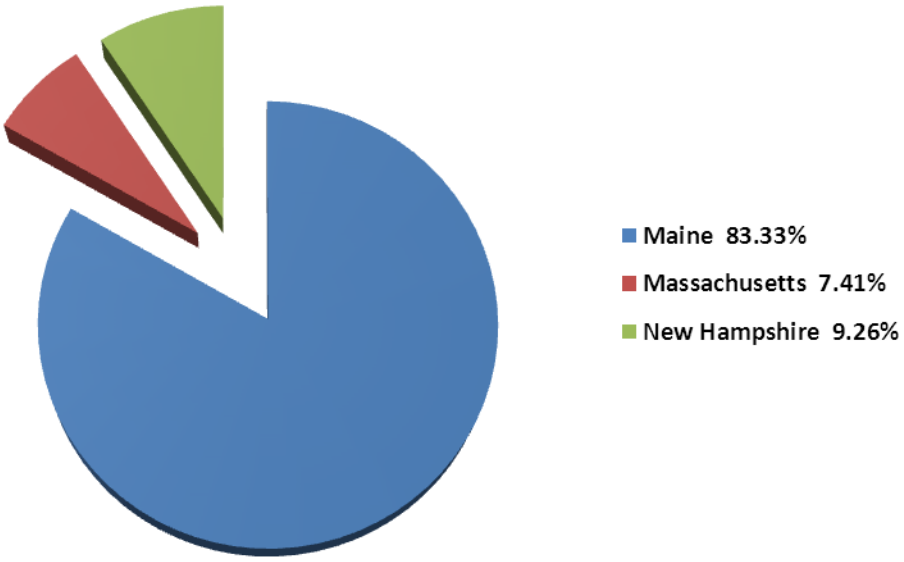


Figure 2. Percentage of herring samples collected by state July 1, 2012–December 31, 2012

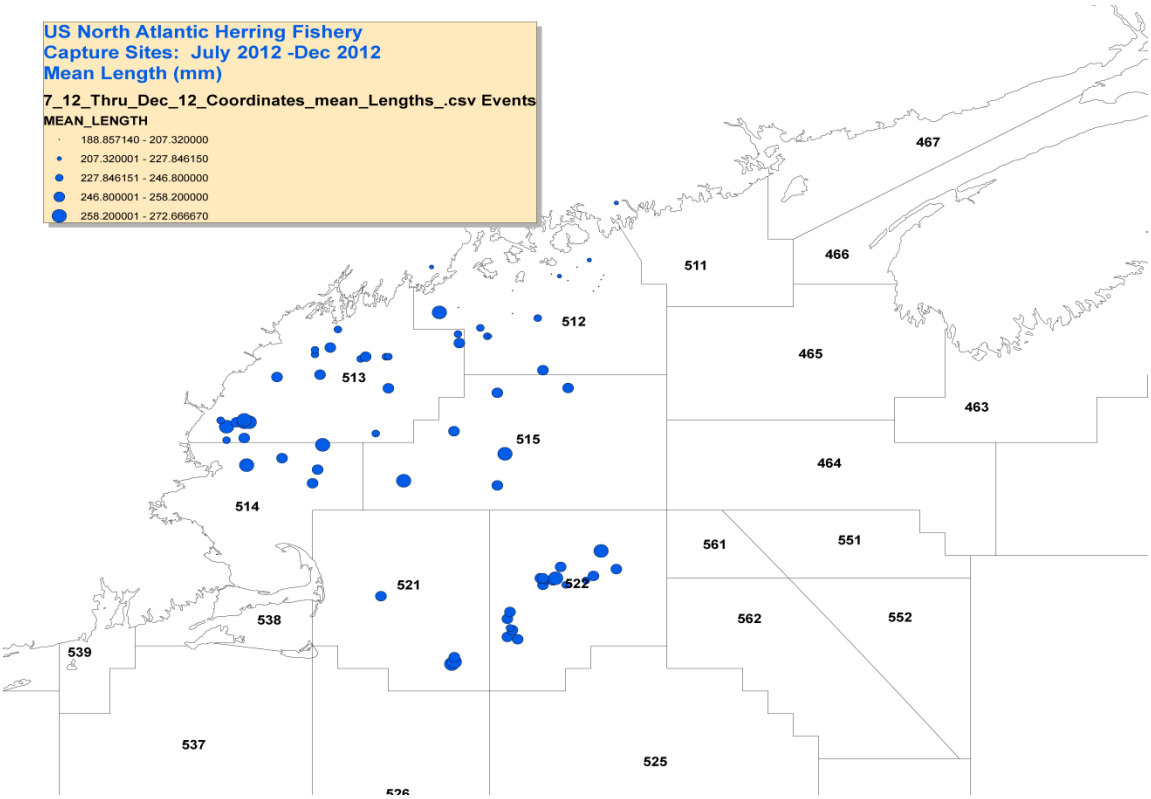


Figure 3a. Capture locations of Atlantic herring samples and mean lengths collected from the US North Atlantic Herring Fishery for July 2012 thru December 2012.

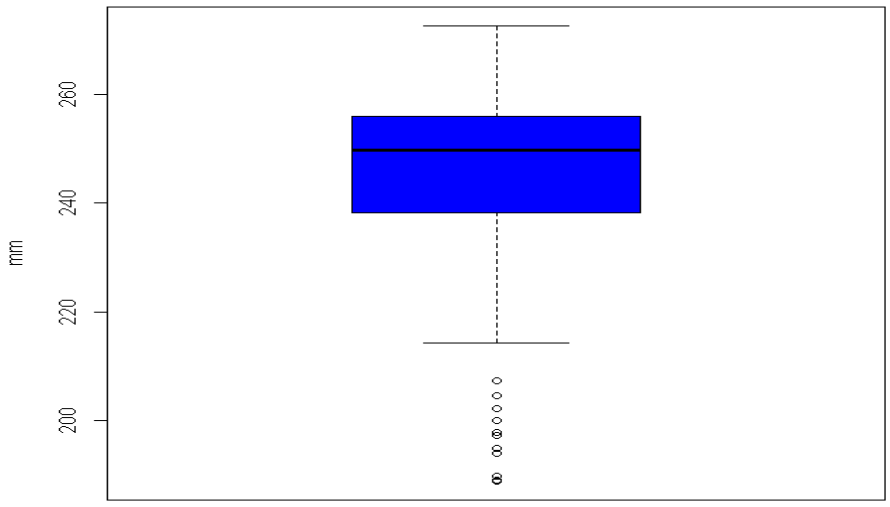


Figure 3b. Boxplot of Atlantic herring mean lengths collected from the US North Atlantic Herring Fishery for July 2012 thru December 2012.

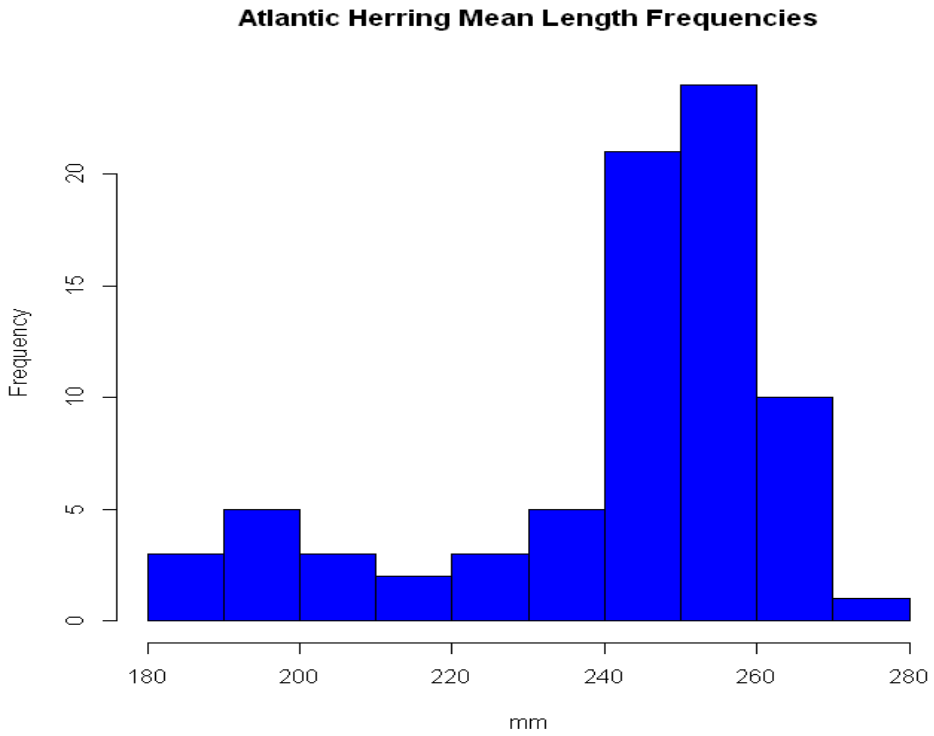


Figure 3c. Histogram of Atlantic herring mean lengths collected from the US North Atlantic Herring Fishery for July 2012 thru December 2012.

Table 1. Summary results of Atlantic herring mean lengths collected from the US North Atlantic Herring Fishery for July 2012 thru December 2012.

Length Type	Length (mm)
Minimum	188.90
1st Quartile	238.20
Median	249.70
Mean	242.20
3rd Quartile	255.90
Maximum	272.70

Distributions of Atlantic herring samples collected reflect the fishing locations of the second half of the 2012 fishery (Figure 3a). No fishing effort occurred off Southern New England or off the Mid-Atlantic States for this particular time period, therefore no samples were collected.

The pattern of herring sample capture sites appears to be anisotropic, displaying a pattern running at a 45% azimuth from the southwest to the northeast. Apparent also is the intensity of capture sites, which are not equally distributed across the northwest Atlantic, but rather in a non-stationary manner and clustered in two locations. The largest cluster located inshore and out into the GOM to the middle of area 515, and the other cluster on GB, mostly in area 522.

The majority of GOM herring fishing and sampling effort was focused in Area 513. A cluster of larger sized herring can be seen in the southwestern corner of Area 513, on Jeffery's Ledge. Offshore the majority of fishing and sampling effort was focused on GB inside Area 522. The largest sized herring on GB were documented near the northeastern half of Area 522, and small group in the southern end of Area 521.

Results from the boxplot of herring mean lengths revealed that the distribution is negatively skewed and the median is not centered between the second and third quartiles, suggesting the data is not normally distributed (Figure 3b). Outliers were shown below the lower whisker, emphasizing the presences of unusually small fish, more than likely juveniles caught inshore during the warmer months.

The histogram of herring mean lengths also displayed a negative or left skewed distribution and showed a high number of large sized fish between 240mm and 270 (Figure 3c). Interestingly, both the mean and median values are of similar value, with the median at 249.70mm and the mean at 242.20 (Table 1). Mean lengths ranged from a minimum of 188.90mm to a maximum value of 272.70.

Portside Bycatch of Atlantic Herring

Fourteen herring bycatch studies were completed from July 1, 2012 through December 31, 2012, 6 of which were observed at-sea, offering approximately 43% joint coverage (data on the co-occurring trips are not yet available for analysis). Over the course of this time period three gear types were sampled: single mid-water trawl (SMWT) pair mid-water trawl (PMWT), and purse seine (PS). Eight bycatch studies were executed on PS, 5 on PMWT, and 1 on a SMWT (Figure 4). For this specific time period the Atlantic herring fishery landings were approximately 53,570 t (NOAA Quota Monitoring Website 2012) and a total of 1,183.50 t of herring was sampled for bycatch (Table 2). The total weight of documented bycatch (including all incidental catches) was 1.44 t. The total percent of documented bycatch was 0.12% (Table 2). The overall mean percentage of bycatch per individual study was 0.15%, with a standard deviation of 0.38%, a minimum of 0.00% and a maximum 1.66%. Ten species of bycatch were documented (Table 3).

Three NMFS Statistical Areas were sampled for Atlantic herring bycatch for this particular timeframe (Figures 5 and 6). Area 522 contained the largest amount of bycatch, approximately 69.33% of the total documented bycatch. Area 512 contained the least amount, approximately 5.37% of the total documented bycatch.

The species encountered as bycatch varied spatially by NMFS Statistical Area (Figures 5 and 6), however conclusions drawn from this regarding the spatial nature of the bycatch encountered should be interpreted cautiously due to the small sample size. It is important to remember that bycatch in the herring fishery can be episodic, and isolated to one fishing event in one specific spatial location.

The most abundantly encountered bycatch species was Haddock (*Melanogrammus aeglefinus*) which accounted for approximately 41.62% of the total documented bycatch for this timeframe. All the haddock bycatch was landed offshore on Georges Bank in Area 522 (Table 3 and Figure 5). Almost all of the haddock documented for this report came from one fishing event.

Silver hake (*Merluccius bilinearis*) accounted for approximately 24.60% of the total documented bycatch (Table 3 and Figure 5). The bulk of this species was documented in Area 522 with a small portion landed in Area 513.

Atlantic mackerel (*Scomber scombrus)* made up about 17.65% of the total bycatch, an unusually low percentage in comparison to previous sampling timeframes (Table 3 and Figure 5). Normally, reports reveal mackerel as the most abundant bycatch species, but due to the relatively small amount of the herring that is sampled; these values may not reflect the true nature of the fishery. The majority of mackerel were landed in area 513, with a small potion from 512.

Lumpfish (*Cyclopterus lumpus) accounted for approximately 8.83% of the total bycatch and were landed entirely in area 513* (Table 3 and Figure 5). *This particular species made up an unusually high percentage in comparison to similar time periods from previous reports.*

Acadian redfish (*Sebastes fasciatus*) bycatch summed to a total percentage of about 5.21 (Table 3 and Figure 5). All redfish bycatch was landed in area 522.

Squids, which consists of both illex and loligo species (Illex illecebrosus and Doryteuthis pealeii) accounted for approximately 1.38% of the documented bycatch and all were landed in area 513 (Table 3 and Figure 5). Being cephalopods, no separation of species was recorded due to the common mutilation that occurs to most invertebrates during the herring fishing process, making differentiating between species of squid difficult.

The species with the lowest bycatch percent was Red hake (*Urophycis chuss*) , making up only 0.71%, all of which were landed offshore on Georges Bank in area 522 (Table 3 and Figure 5).

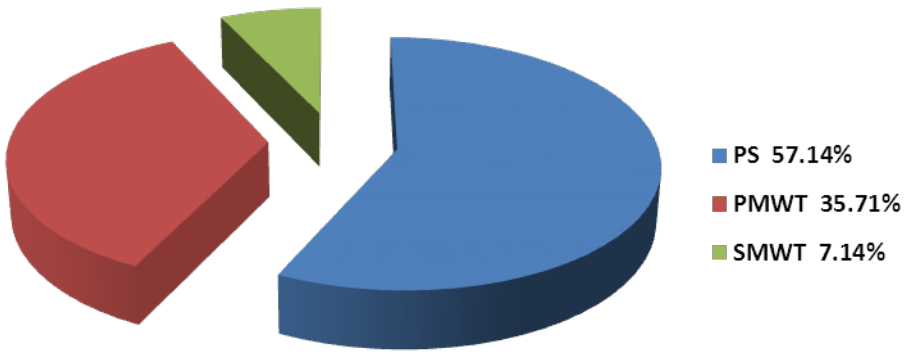


Figure 4. Percentage of herring bycatch studies by gear type July 1, 2012– December 31, 2012

Table 2. Atlantic herring bycatch data July, 1, 2012– December 31, 2012

a. Bycatch Data by Total Landings and Total Sampled	
Total Landings (t)	53,570.00
Total Sampled (t)	1,183.50
% of Total Landings Studied	2.21
Total Bycatch (t)	1.44
% Bycatch in Total Sample	0.12
b. Bycatch Data per Sampling Event	
Mean % Bycatch	0.15
Maximum % Bycatch	1.66
Minimum % Bycatch	0.00
Standard Deviation	0.38

Table 3. Documented bycatch including incidental species January, 1, 2012– June 30, 2012

Species	**Total Weight (kg)**	**% Total Bycatch**	**% Bycatch in Herring**
Haddock	**598.31**	**41.62**	**0.043**
Silver hake	**353.66**	**24.60**	**0.025**
Atlantic mackerel	**253.71**	**17.65**	**0.018**
Lumpfish	**127.00**	**8.83**	**0.009**
Acadian redfish	**74.89**	**5.21**	**0.005**
Squids	**19.77**	**1.38**	**0.001**
Red hake	**10.14**	**0.71**	**0.001**
Total	**1,437.47**	**100.00**	**0.103**

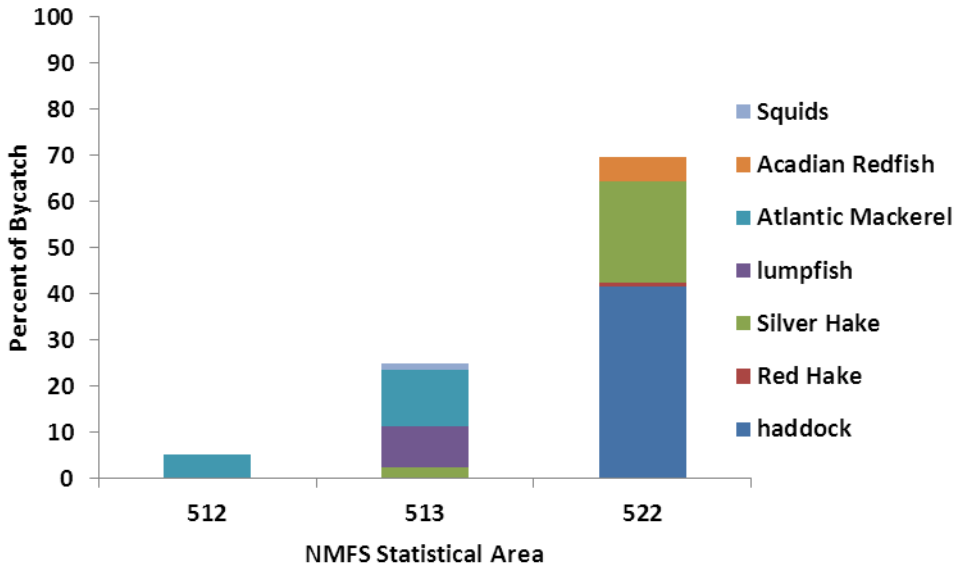


Figure 5. Documented bycatch species percentages by NMFS Statistical area, July, 1, 2012–December 31, 2012

Portside Bycatch and Commercial Catch sampling of Atlantic Mackerel

The DMR has sampled mackerel for the last eight years for the NMFS Northeast Fisheries Science Center (NEFSC) because the most recent stock assessment uncovered a severe lack of large mackerel in their biological samples. The directed mackerel fishery usually starts in January and ends in early May, therefore no samples or bycatch studies were documented. However this expansion of mackerel sampling will continue as requested by the NEFSC to provide broader coverage of the resource in time and space.

River herring

River herring is a category of fish containing both alewife (*Alosa pseudoharengus*) and blueback herring (*Alosa aestivalis*). Initially the collection of river herring via portside bycatch studies was implemented in November, 2006, for UMASS Dartmouth, since then various agencies have requested these samples for different studies. In September of 2011 we wrapped up sample collection for GMRI, but this past January began collecting river herring for DMR's own anadromous program and for UC Santa Cruz's genetic study. However, during this specific time frame river herring are found mostly in brackish and freshwater, significantly reducing the chances of the Atlantic herring fleet capturing them, therefore no samples were collected.

Female Spiny dogfish

Initially sample collection of female spiny dogfish from portside bycatch studies was coordinated with the UNE in January 2011 and finished August 2011, but as of February of 2012, UNE requested we start collection again. For this specific time period one female dogfish was collected and delivered to UNE's Marine Science Center for their on-going reproduction study.

Atlantic menhaden

Sample collection of Atlantic menhaden was incorporated into this study in July 2007. No menhaden samples were collected during this timeframe, but will be again when encountered as a bycatch.

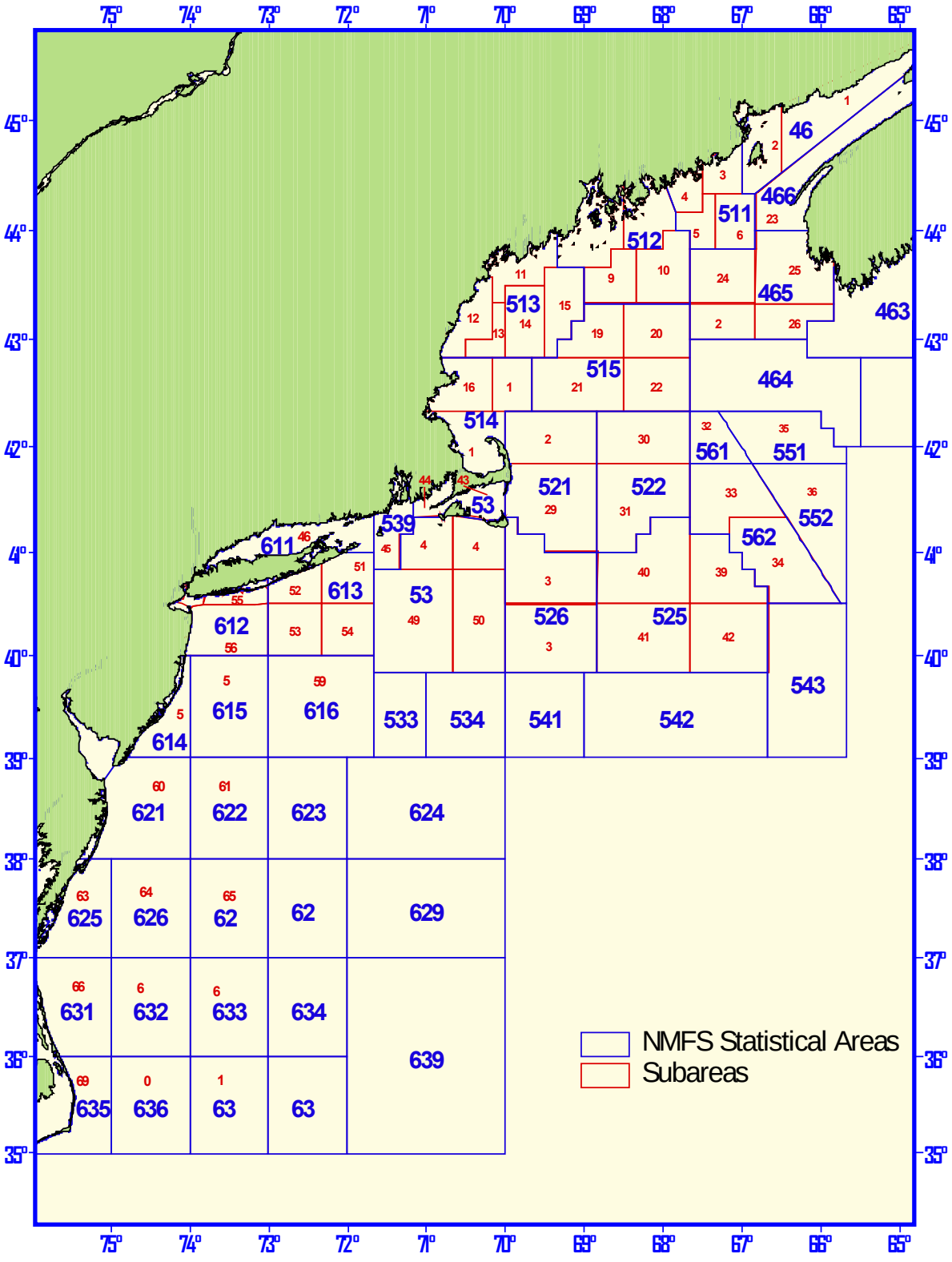


Figure 6. NMFS Statistical Areas.

Conclusions

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, minor levels of bycatch in the Atlantic mackerel fishery, and no bycatch in the Atlantic menhaden fishery for all gear types sampled. The results of this project are useful in quantifying and understanding the extent of retained bycatch in the Atlantic herring fishery and should prove as useful in the Atlantic mackerel and menhaden fishery.

Atlantic 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 before or during the pumping process. For these reasons the portside component is not designed to quantify all bycatch in the herring, mackerel, and menhaden fisheries, but only retained and landed bycatch.

Since the spring of 2011 the portside bycatch sampling protocol shifted towards analyzing entire boat loads only and eliminating partial boat or lot sampling. This new approach has made aligning portside data between Maine DMR, and Massachusetts DMF and the NMFS at-sea data more statistically useful for comparing bycatch percentages and to increase the coverage of landed herring, and mackerel, trips across both fisheries. These efforts will complement but not replace the National Marine Fisheries Service (NMFS) at-sea observer coverage. This bycatch survey represents a unique opportunity to collect data in an inexpensive but efficient and accurate way.

The data collected from both the Commercial Catch Sampling Program and the Portside Bycatch Program were useful this past June for the Atlantic herring stock assessment. In particular the Atlantic herring samples used for the catch-at-age matrix helped to determine spawning stock biomass and the 2013 and 2014 area fishing quotas.

Attachment 4

Protocol for the Atlantic Herring Commercial Catch Sampling

Project description:

The sampler collects herring (n=50/vessel) in ports throughout the north and mid-Atlantic coasts, encompassing an area from Maine to New Jersey. At each port, random herring samples are collected directly off the incoming vessels and brought back to the lab at ME DMR in Boothbay Harbor, Maine. Fish are processed in the lab and data are collected on gonad development, age (determined from otoliths), length, and weight.

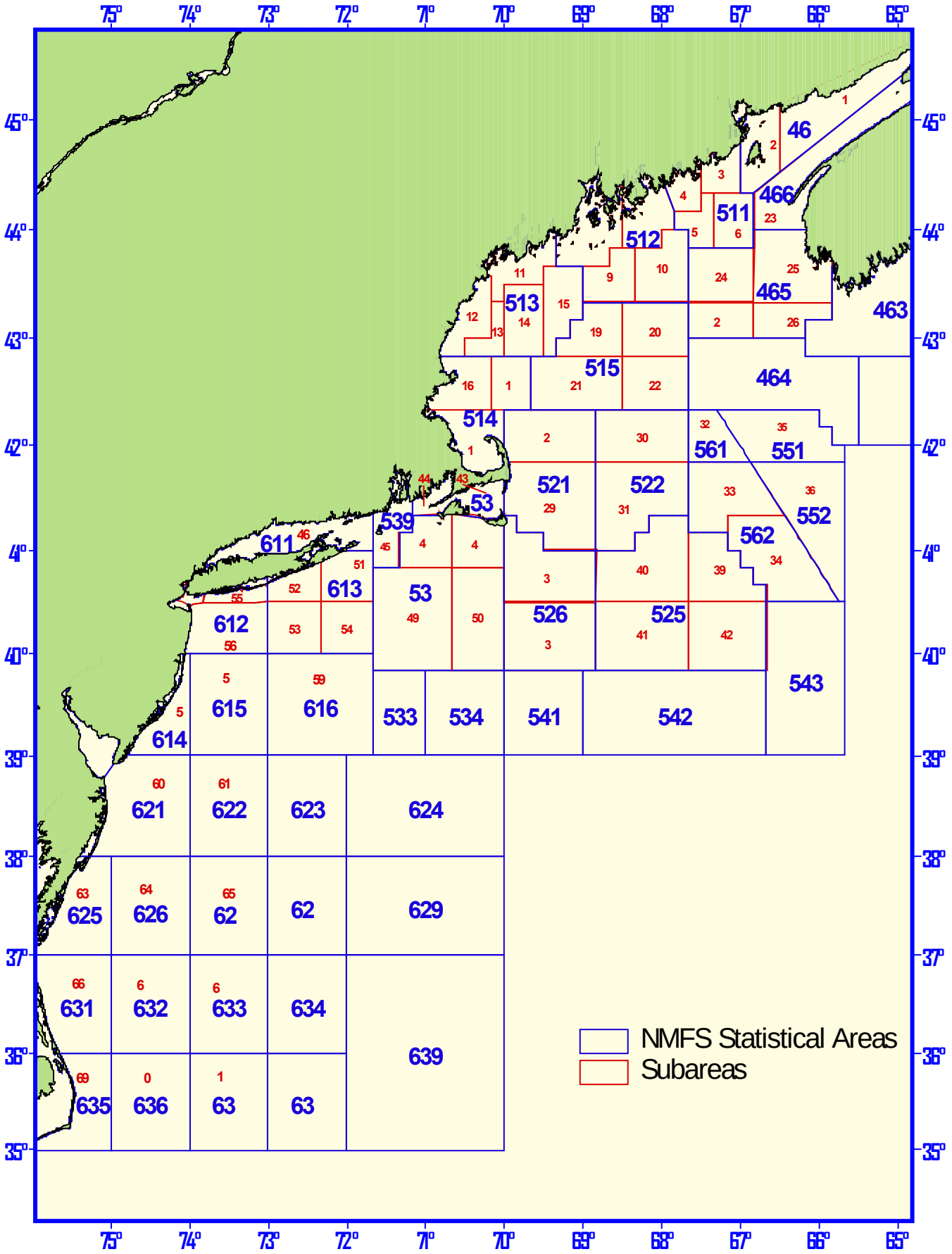
During the beginning of the year (January-March), the majority of the herring sampling is done in Gloucester and New Bedford, MA; Point Judith, RI and Cape May, NJ. These ports experience the largest landings from the winter fishery due to their proximity to the fishing grounds and accessibility to markets. As the herring migrate north along the coast, the sampling rotation includes ports along the Maine and New Hampshire coasts. During the "peak" season (June-October), the sampler will collect fish from fixed gear, seiners and Mid-water trawlers in up to 15 ports.

The ports the sampler will collect in **Maine** are: Lubec, Prospect Harbor, Stonington, Rockland, Sebasco, Bath, and Portland. **New Hampshire:** Newington and Portsmouth. **Massachusetts:** Gloucester, Fall River and New Bedford. **Connecticut:** Stonington and New Haven. **Rhode Island:** Point Judith and North Kingston. **New Jersey:** Cape May.

Parameters for sample collection:

1. Herring must have been caught in U.S. waters.
2. Two samples per week from each statistical area where the fish were caught (see chart).
3. One sample per week from each type of fishing gear where possible (mid-water trawl, pair trawl, purse seine, stop seine, weir).
4. 50 herring are to be randomly selected from the load (plus a couple to allow for damaged or otherwise useless fish). The fish are placed in ME DMR herring sample boxes.
5. The sample boxes are then stored in a freezer until time allows them to be brought to ME DMR headquarters in W. Boothbay Harbor. Samples should be delivered to ME DMR headquarters at a minimum of once per week.
6. The following information should be recorded on the sample boxes:
    a. Amount of herring landed (lbs or metric tons)
    b. Date of Catch
    c. Catch location: NMFS Statistical Area #, and Sub-Area #
    d. Port landed
    e. Fishing vessel
    f. Location of where sample was collected (sometimes different than where fish were landed)
    g. Name of collector

h. Under remarks note gear type (purse seine, midwater/pair trawl, stop seine, gillnet or weir)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NMFS Statistical Areas
Subareas

Protocol for the Atlantic Mackerel Commercial Catch Sampling

Project description:

Commercial catch samples of mackerel are collected by randomly selecting 100 fish from each fishing vessel. These fish are measured and weighed and then a subsample (n=25/vessel) is frozen and transported to the Northeast Regional Science Center, where they are aged and logged onto a database.

Currently the mackerel sample locations in **Maine** are: Bath, and Portland. **Massachusetts**: Gloucester, Fall River and New Bedford. **Rhode Island:** Point Judith and North Kingston. **New Jersey:** Cape May. As proposed new plants become operational the number of sampling ports will increase.

Parameters for sample collection:

1.) A length sample of mackerel will consist of **100** randomly selected fish from which a minimum of **25** fish should be taken for aging. Stratification for selecting fish for aging is as follows:

Centimeter interval	Number of fish
_ 35	**1 or more**
35	**2 or more**

2.) Atlantic mackerel must have been caught in US waters.

3.) The following data should accompany each sample:

a. Amount of mackerel landed (lbs, metric tons)

b. Date of catch

c. Catch location: NMFS Statistical Area #, and Sub-area

d. Port landed

e. Fishing vessel

f. Location of where sample was collected (sometimes different than where fish where landed)

Instructions for Sampling Atlantic Menhaden from the Maine Bait Fisheries

Acquiring the 'Sample'

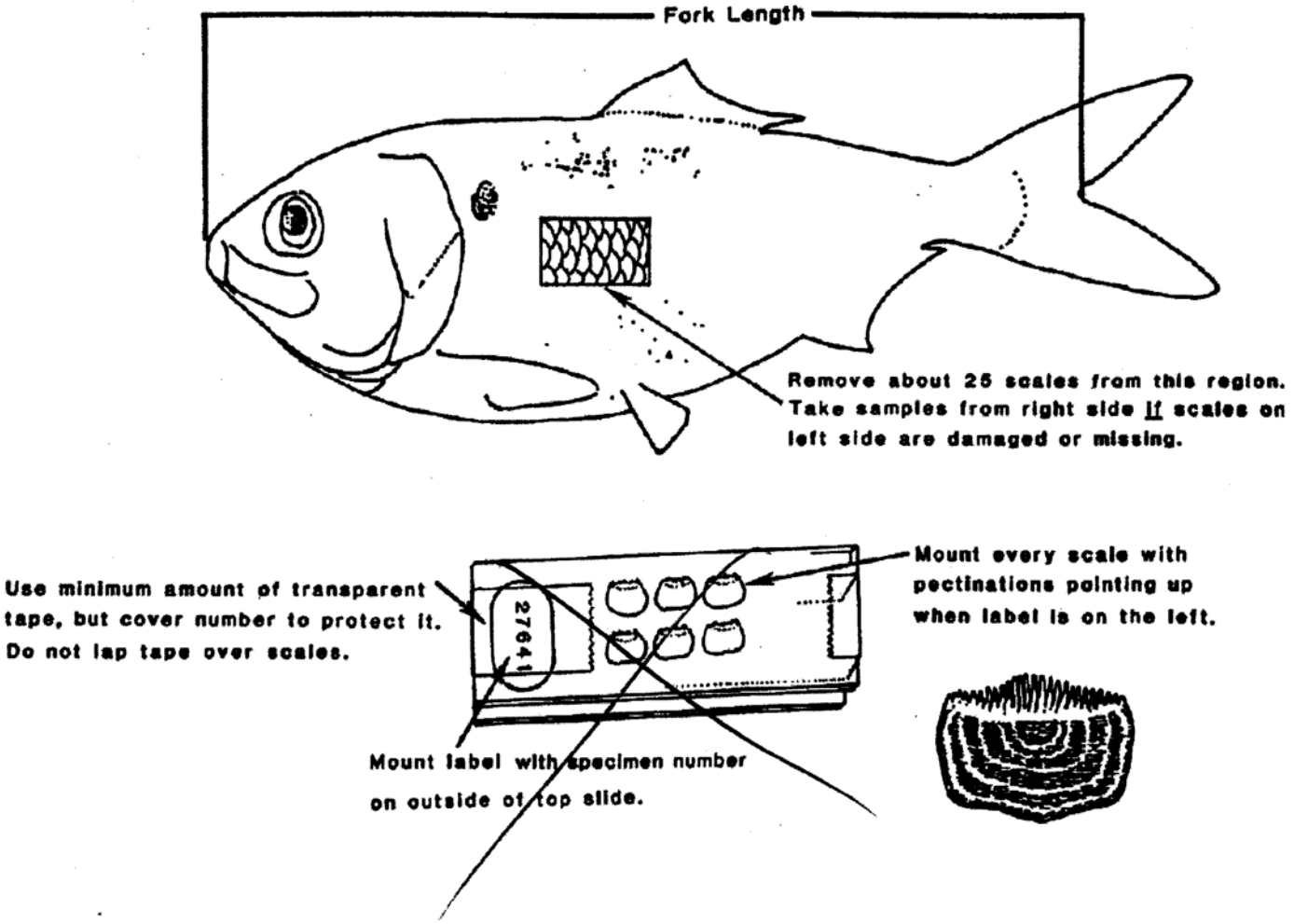
- Ideally, scoop a bucket of menhaden at random from the top of the fish hold.
- If the menhaden have already been packed out in flats or fish boxes, take 15-20 fish at random from the container.
- If available, record date of capture, location of capture, and vessel name. Usually we write this info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


Fork Length
Remove about 25 scales from this region.
Take samples from right side If scales on
left side are damaged or missing.
Use minimum amount of transparent
tape, but cover number to protect it.
Do not lap tape over scales.
27641
Mount every scale with
pectinations pointing up
when label is on the left.
Mount label with specimen number
on outside of top slide.

Attachment 5

COMMERCIAL PORTSIDE BYCATCH SURVEY PROTOCOL

E PLANATION:

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

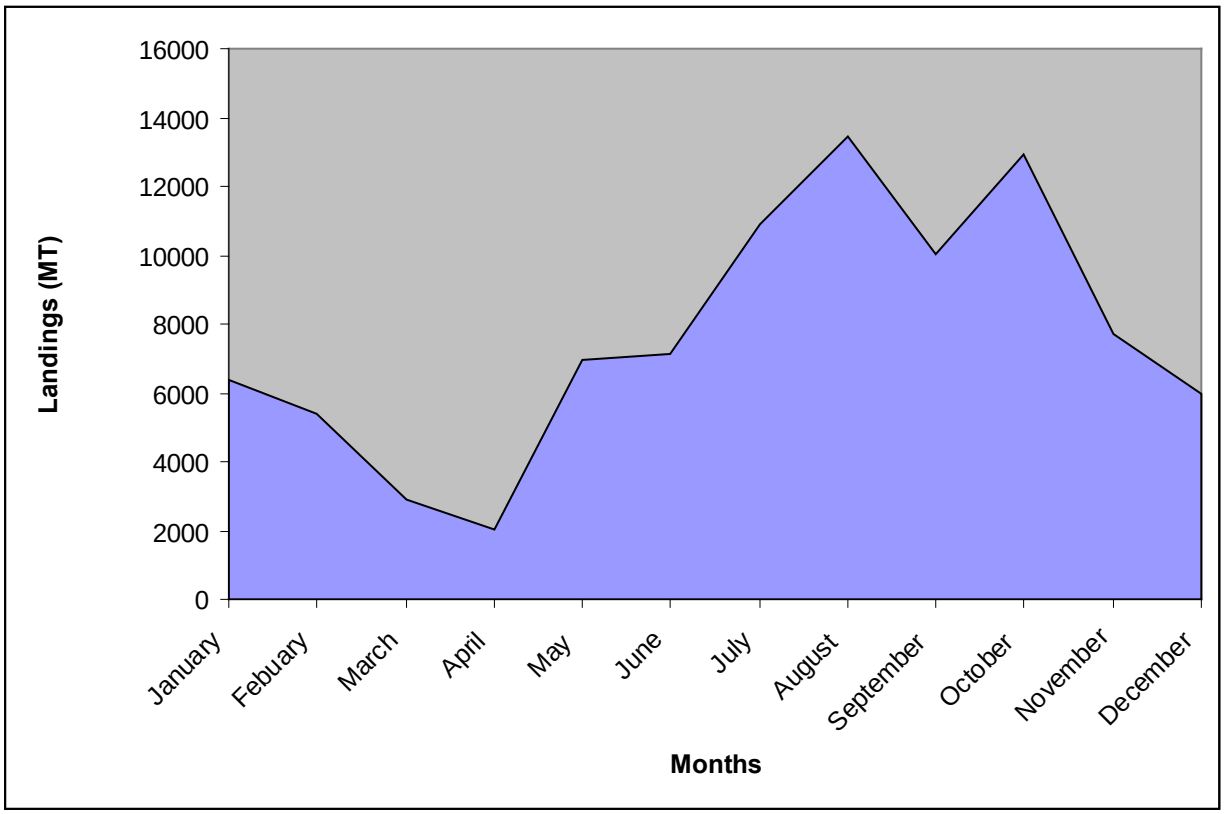


Figure 1: Five year average (2004-200) of monthly herring landings

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 ME DMR 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 lbs/10,000 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% Atlantic herring = 120,000 lbs x 0.99 = 118,800lbs 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% Atlantic mackerel = 120,000lbs x 0.01 = 1,200lbs of Atlantic mackerel

Attachment 6: Negotiated Indirect Cost Agreement

UNITED STATES DEPARTMENT OF COMMERCE
Chief Financial Officer
Assistant Secretary for Administration
Washington, D.C. 20230

April 20, 2012

Mr. Gilbert Bilodeau
Deputy Director
State of Maine, Department of Marine Resources
155 State House Station
Augusta, Maine 04333-0155

Referenced: Indirect Cost Rate Proposals for State and Local Government Entities

Dear Mr. Bilodeau:

This letter is to confirm that no further action is required under Department of Commerce Financial Assistance Standard Term & Condition A.05, *Indirect Costs*. Pursuant to OMB Circular A-87, Cost Principles for State, Local, and Federally-recognized Tribal Governments, 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 Circular A-87, Attachment E, section D(1)(a) 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 Circular A-133, Audits of States, Local Governments and Non-Profit Organizations, 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 U.S. Department of Commerce (DOC) an annual Certificate of Indirect Costs. The DOC acknowledges receipt of your most recent certificates pertaining to your rate for Fiscal Year 2012. The submission of this form is due to our office within six (6) months after the close of your fiscal year. Therefore, your next certification will be due on December 31, 2012.

A copy of this letter will be retained in your official award file. If you have any questions, please email Greg Coss of my staff at gcoss1@doc.gov or call him at (202) 482-3134.

Sincerely,

Gary W. Johnson
Senior Grants/Cooperative Agreement Specialist
Office of Acquisition Management

Attachment 7. Probable Biological Sampling Priority Matrix scoring for Atlantic herring, menhaden and mackerel without adequate sampling.

Without herring samples the current age based assessment could not be carried out in its current form which would affect the biomass estimations. The resulting Total Allowable Catch amounts for the four Atlantic herring management areas could not be properly assessed. The loss of such management tools would certainly raise the priority status of herring for NEFMC, NMFS and ASMFC as well as states with significant landings. If this project were unfunded and commercial samples of herring, mackerel and menhaden could not be collected the **Biological Sampling Priority Matrix** could be as follows (based on a 2009 scoring):

Biological Sampling	**Fishery**	**Most**	**Current/**	**Council**	**ASMFC**	**State**	**NMFS**	**Fishery**	**Sig. change**	**Sig. change**	**Adequacy**	**Stock**	**# sampling**	**Seasonality**	**TOTAL**
Priority Matrix Species	**Status**	**Recent**	**Next**	**Priority**	**Priority**	**Priority**	**Priority**	**Managed**	**in landings**	**in mgmt**	**of level of**	**Resilience**	**strata**	**of fishery**	
		Stock	**Stock**						**w/in 24 mo**	**w/in 24 mo**	**sampling**				
	K: known	**Assessment**	**Assessment**	0=NA	0=NA	0=NA	0=NA	0 = No	1= <25%	0= None	0=Over-	1 = resilient	1= <20	1= >9 mo	
	U: unkn	(Year)	(Year)	1=low	1=low	1=low	1=low	1 = Yes	3= 25-75%	1=Minor	sampled,	5 = vulnerable	3= 20-75	3= 1-9 mo	
	K/U: partly			5=high	5=high	5=high	5=high		5= >75%	5= Signif	5= none		5= >75	5= <1 mo	
Species	known														
Atlantic Herring *Clupea harengus*	**K**	**2012**		**5**	**5**	**2.4**	**5.0**	**1**	**3**	**5**	**5**	**3**	**5**	**1**	**40.40**
Atlantic Mackerel *Scomber scombrus*	**K**	**2010**		**3**	**0**	**1.6**	**3.0**	**1**	**3**	**3**	**3**	**4**	**3**	**3**	**2 .60**
Atlantic Menhaden *Brevoortia tyrannus*	**K**	**2011**		**3**	**5**	**3.2**	**3.0**	**1**	**3**	**3**	**2**	**2**	**3**	**1**	**29.20**

The current 2012 Biological Sampling Priority Matrix has the 75th percentile at 24.50 and the highest scored species, black sea bass, is at 35.50.

NMFS NE	**NMFS SE**	**NMFS HMS**	**NMFS**	**ME**	**NH**	**MA**	**RI**	**CT**	**NY**	**NJ**	**DE**	**MD**	**VA**	**NC**	**SC**	**GA**	**FL**	**State Avg**
			Score															
5			**5**	**5**	**5**	**5**	**5**	**3**	**3**	**3**	**2**	**2**	**0**	**0**	**0**	**0**	**0**	**2.4**
	4		**4**	**2**	**2**	**3**	**4**	**3**	**3**	**4**	**3**	**5**	**5**	**4**	**3**	**2**	**2**	**3.2**
3		**2**	**5**	**1**	**5**	**3**	**4**	**2**	**2**	**4**	**1**	**1**	**1**	**1**	**0**	**0**	**0**	**1.6**

David Alton Libby
Maine Department of Marine Resources
(207) 633-9532
david.a.libby@maine.gov

July, 2012

EDUCATION:

Waterville Senior High School, Waterville, Me. 1967.
Ricker College, Houlton, Me. B.A., Biology, December 1971.
Benthic Ecology, University of Maine Darling Center, Walpole, Me. 1988.
Fisheries Population Dynamics, University of Maine, Orono, Me. 1984.

Employment Experience:

November 2006 – present **Marine Resources Scientist IV**

Maine Department of Marine Resources,
Fisheries Research Station, P.O. Box 8
West Boothbay Harbor, Me. 04575
Bureau of Resource Management

- Directs and oversees the Biomonitoring and Assessment Division. Chief responsibilities are to oversee fishery monitoring programs for commercially important marine species; the ACCSP commercial landings program; biological studies; population assessments; and gear research.
- Directs the collection and processing of Maine's Commercial Landings Program (CLP) statistics and processing.
- Program science manager for the Bureau's biological database Marine Resource and Environmental Information System (MARVIN).
- Directs and manages the laboratory's wet lab and sea water facility for holding and conducting experiments of marine organisms
- Promotes Maine's partnership with Atlantic Coastal Cooperative Statistical Program (ACCSP) through serving on the Biological Review Panel and developing and overseeing projects to bring the state into compliance with

July 2000 – November 2006 **Marine Resources Scientist III**

Maine Department of Marine Resources,
Fisheries Research Station, P.O. Box 8
West Boothbay Harbor, Me. 04575
Bureau of Resource Management
Biomonitoring & Assessment Division

- Oversees the Atlantic herring resource monitoring, assessment and advisory group.
- Directs the collection and processing of Maine's Commercial Landings Program (CLP) statistics and processing.
- Program science manager for the Bureau's biological database Marine Resource and Environmental Information System (MARVIN).

- Directs and manages the laboratory's wet lab and sea water facility for holding and conducting experiments of marine organisms
- Promotes Maine's partnership with Atlantic Coastal Cooperative Statistical Program (ACCSP) through serving on the Biological Review Panel and developing and overseeing projects to bring the state into compliance with ACCSP.

January 1988 – July 2000 **Marine Resources Scientist II**,
Assessment and Statistics Division
Interjurisdictional Resource Monitoring and Assessment Project

- Provides direction for the Atlantic herring landings and sampling projects. Supervises personnel as to their duties and tasks in carrying out the needs of the projects.

July 1982- January 1988 Marine Resources Scientist I

- Herring tagging and migration study conducted in the Gulf of Maine. Performed the field tagging and planned and evaluated statistical analysis of the returned tag data.
- Sabbatical in Scotland, UK at the Dunstaffnage Marine Biological Laboratory, Oban. Reared herring and investigated juvenile herring feeding and swimming behavior
- Designed and assembled a hatching and rearing facility for herring used in various studies.
- Participated in herring larvae and britt surveys conducted in the Gulf of Maine for the Transboundary Herring Project.

November 1976-July 1982 Marine Resources Specialist.

- Anadromous alewife (*Alosa pseudoharengus*) project. Investigated the dynamics of adult immigration and juvenile emigration of alewife populations.
- Planned, analyzed, evaluated an alewife otolith and scale study pertaining to ageing.

December 1974-November 1976 Marine Resources Technician.

- Lobster (*Homarus americanus*) tagging project. Performed the tagging, release and recovery of commercial lobsters. Compiled and analyzed tag return data.
- Lobster trap vent escapement study. Planned, administered trap vent experiments and analyzed compiled data.

MATTHEW D. CIERI
Maine Department of Marine Resources
McKown Point Rd.
West Boothbay Harbor, ME 04575
(207) 215-3709
(207) 380-5016 (cell)
Matthew.D.Cieri@gmail.com

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.

Rhode Island
Department of Environmental Management

DIVISION OF FISH AND WILDLIFE
Marine Fisheries
3 Ft. Wetherill Road
Jamestown, RI 02835

401 423-1920
FAX 401 423-1925
TDD 401 222-4462

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

September 6, 2013

Dear Mr. Cahall:

The Rhode Island Division of Fish and Wildlife (RIDFW)- Marine Fisheries Section is pleased to submit the revised proposal titled "FY14: Maintenance and Coordination of Fisheries Dependent Data Feeds to ACCSP from the State of Rhode Island" for your consideration. This is a maintenance proposal which has not changed in scope since the previously funded 2013 proposal. However, one significant modification to the proposal is the electronic reporting transition plan for harvester reporting to be implemented in 2014. This will involve a large outreach program for the 1,600 fishers who currently are required to submit paper logbook forms. This transition will influence the funding transition plan, improve data timeliness, and provide a gateway for any future technological improvements, such as enhanced mobile technology, to be established in RI. The RIDFW is requesting ~$6,000 less than in 2013 partially as a result of this change. Additionally, please find text that supports the ranking criteria in bold with a summary on page 15, and any updates to the previous version of this proposal highlighted in yellow.

Thank you for your time and consideration reviewing this proposal. Please contact Anna Webb at the RIDFW with any questions.

Sincerely,

Anna R. Webb
Fishery Specialist II
RIDFW - Marine Fisheries Section
Office: 401-423-1926
Email: Anna.Webb@dem.ri.gov

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

FY14: Maintenance and Coordination of Fisheries Dependent Data Feeds to ACCSP from the State of Rhode Island

Submitted By:
Anna Webb
State of Rhode Island
Department of Environmental Management
Division of Fish and Wildlife
Marine Fisheries
3 Fort Wetherill Rd
Jamestown, RI 02835
anna.webb@dem.ri.gov

Applicant Name:	Rhode Island Department of Environmental Management, Division of Fish and Wildlife, Marine Fisheries
Project Title:	**FY14: Maintenance and Coordination of Fisheries Dependent Data Feeds to ACCSP from the State of Rhode Island**
Project Type:	Maintenance
Requested Award Amount:	**$85,408**
Requested Award Period:	FY 2014 (May 1, 2014 to April 30, 2015)
Primary Program Priority:	Commercial and Recreational Catch and Effort Module
Date Submitted:	July 8, 2013; revised proposal September 6, 2013
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Atlantic Coastal Cooperative Statistics Program (ACCSP) Proposal for the State of Rhode Island 2014

Objectives:

- Continue to provide new and existing 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.
- Continue to 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 fishers' primary reporting method to eTRIPS.
- Maintain and improve the existing data feed of RI supplemental fisheries data to the ACCSP data warehouse.

Need:

Between 2006 and 2007 the Rhode Island Division of Fish and Wildlife, Marine Fisheries Section (RIDFW) completed a statewide implementation of the marine fisheries commercial data collection program. Prior to 2007, RIDFW collected data from the commercial lobster sector through a mandatory catch and effort logbook. Rhode Island meets the ACCSP standard by establishing a two-ticket system for the crustacean, squid, finfish, and now whelk fishery sectors and a one-ticket system for the shellfish fishery sector. This program collects trip level landings data from all of the 137 dealers licensed in Rhode Island through direct dealer entry into the eDR SAFIS application. Catch and effort data are currently collected from 100% of the fishers in the state finfish, squid, whelk, and crustacean sectors either via paper logbooks that are uploaded to the eTRIPS SAFIS application by RIDFW staff or through direct eTRIPS entry by the fishers. In addition, crustacean dockside sales are collected through a supplementary logbook which captures trip level data of all sales. These data are transferred to the ACCSP data warehouse in the proper format annually. Between 2007 and 2010, catch and effort logbook data was entered into an in-house database, and since 2011, all logbooks submitted to the RIDFW were entered directly into eTRIPS by RIDFW staff. Beginning in 2012, RIDFW began an outreach program to transition fishers to using eTRIPS as their primary reporting method and to date, an additional 3% of license holders required to submit logbooks are now utilizing the program.

Maintenance and coordination of the SAFIS data entry is critical for successful fisheries management in Rhode Island. The collection of this data has been essential for the determination of commercial catch and effort statistics and establishing an efficient quota monitoring process as well as tracking active verses latent license holders. Quota monitoring is one of the most time-sensitive and labor-intensive processes utilizing this data as Rhode Island ACCSP staff members are responsible for daily tracking and monitoring of landings for quota managed species in Rhode Island. This is accomplished through analysis of trip level data on quota

monitored species entered by dealers into SAFIS eDR. ACCSP staff then use these analyses to make decisions regarding seasonal closures and possession limit changes.

In addition to providing and maintaining the ACCSP commercial catch and effort (eTRIPS) and landings data feeds (eDR), the ACCSP staff is responsible for outreach and support of the voluntary eLOGBOOK program in Rhode Island. This SAFIS application is used to enter and house recreational catch and effort data and is used by Rhode Island fisheries managers to determine possession limits and minimum sizes of important recreational species. Furthermore, RI ACCSP staff continues to provide data feeds for lobster at-sea and port sampling data via the ASMFC Lobster Database and supplemental horseshoe crab and aquaculture data for the Fisheries of the United States via ACCSP. Additionally, data feeds for finfish sampling programs to the ACCSP data warehouse are scheduled to be submitted for the first time during the current fiscal year and are expected to continue moving forward.

With these programs established and planned enhancements scheduled for 2014, 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 fishers. 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 management. This project would allow the current level of oversight and coordination of the ACCSP to continue in Rhode Island by providing funding for the staff necessary to maintain the project. The state relies on comprehensive SAFIS eDR and the RI Commercial Harvester Logbook data for fisheries management programs including quota monitoring, resource assessment, license tracking, and resource allocation. The state also relies on eLOGBOOK data as it enhances and adds to the existing MRIP dataset with regard to landings and discards, and most notably it increases our understanding of the length frequency distribution of recreational harvest. This comprehensive and timely data allows RIDFW 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 Rhode Island can be utilized by other partners as well as stock assessment scientists for regional management. Although the work outlined in this proposal is specific to Rhode Island, the presence of RI ACCSP staff provides many benefits to regional partners. These benefits include increased coordination between state and federal program partners, increased technical assistance, as well as the sharing of data collection methodology and troubleshooting techniques.

Approach:

Currently all 137 licensed seafood dealers in Rhode Island are electronically entering trip level data into SAFIS. This is mandated by Rhode Island Marine Fisheries Regulation 19.14, which states that dealers must enter all required data into SAFIS at least twice weekly (Monday and Thursday). Dealers that hold Federal and/or state dealer permits are provided support and initial SAFIS training regarding the SAFIS eDR system. Support is

provided to dealers who call or walk-in on a daily basis for questions regarding licensing, quotas, and possession limits, vessel and license searches, SAFIS enhancements, "favorites" improvements, file upload assistance, and other computer issues. Site visits are conducted if further support and training are necessary.

In order to ensure data quality and proper SAFIS reporting, the RIDFW strictly monitors dealer compliance. Dealers who do not report complete landings reports are not allowed to renew their dealer license for the following year. The Rhode Island Department of Environmental Management (RIDEM) Division of Law Enforcement becomes involved when a dealer has repeatedly violated compliance regulations. This model has been very successful in bringing problematic dealers into compliance and needs to continue in order to collect the highest quality data in a timely manner consistent with Marine Fisheries Regulations. To summarize a dealer's compliance performance, dealer "report cards" assigning qualitative grades are mailed quarterly to all dealers. These report cards detail the reporting history of each dealer from the previous quarter and help RIDFW track improvements in data quality. It contains information such as:

- # of reports made within the period
- # and percentage of reports without price
- # and percentage of reports without vessel
- # and percentage of reports without proper license
- # and percentage of tardy reports broken into 3 categories (1-5, 6-10, and 10+ days late).

Landings entered by dealers require quality control and assurance measures, which are carried out via SAFIS audit protocols daily. These plus additional audit queries run on a weekly basis highlight issues in data quality; these issues are routinely addressed with dealers and corrected via National Marine Fisheries Service (NMFS) JIRA or through eDR directly. Licensing and commercial vessel data generated from RIDEM must be kept up to date in SAFIS tables, and these updates occur via the SAFIS Management System (SMS) as needed and during scheduled monthly updates. 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 on a daily basis and appended to an in-house Microsoft Access database. The RI ACCSP staff also closely monitors the Research-Set-Aside (RSA) program and landings to maintain the accuracy of state landings of quota monitored species. In 2012, RI ACCSP staff initiated discussions with the commercial technical committee to add disposition codes for RSA landings. A new field is currently being developed, but disposition codes were added as a temporary solution and established in April 2013. RIDFW placed the temporary solution in regulation and the dealers were trained on using the new disposition code. This successful implementation allows RSA landings to be captured at the SAFIS level and eliminates the need to rely on adjustments made to landings data from biweekly reports from the NMFS IVR phone system. **Landings records are now more accurate and timely and the quota management process is much more streamlined particularly in the peak summer season.** Additionally, as in 2012 and 2013, there will not be a fluke sector program in RI and therefore sector landings will not need to be considered. However, discussions on this program continue

and if re-established, the ACCSP Coordinator would need to monitor the associated additional data elements and re-incorporate them into the quota monitoring process. Once state landings data are in the Access database, the data are sorted and filtered to detail daily landings of fluke, scup, black sea bass, striped bass, tautog, menhaden, and bluefish. Non-confidential, graphical updates of cumulative Rhode Island landings are then posted weekly to the RIDFW webpage as public information. The staff's role in maintaining a high level of accuracy and timeliness for quota managed species data is essential for successful management.

Data requests from fishers, academics, and the RIDEM Licensing Department and in support of fisheries management are also completed on a daily basis by RI ACCSP staff. These requests are necessary to maintain the level of support required by the RIDEM and other regional fisheries managers. **Both in-house and external data requests of SAFIS-generated data have been increasing as the data quality and quantity improves. The data obtained becomes available to support state and regional stock assessments, economic analysis, and research.** All requests include only non-confidential data unless confidential access is granted through ACCSP channels. RIDFW expects that increasingly rigorous management schemes in development will result in further heavy usage of the data.

In addition to monitoring SAFIS landings data, metadata and socio-economic data are collected by RI ACCSP staff. Examples of such data include but are not limited to water temperature from inshore and offshore data buoys, wind data, number of participants in specific fisheries by week or day, average price per week of quota monitored species, number of participants in different fisheries by gear type, and possession limits. This data continues to be used in generalized linear models and multiple regression equations to project landings of quota managed species. Another source of metadata is generated from weekly "Team Quota" meetings. "Team Quota" was established by the RIDFW in 2011 to track fisheries openings, closures, and possession limit adjustments. Meeting minutes also include landings data from SAFIS, opinions from RIDFW staff on quota management decisions, and dates for regulation filings. "Team Quota" has replaced the quota decision making document that has been used in the past to document all of these changes. Additionally, economic data entered by the dealers are used in monthly summaries for Rhode Island's two largest ports, Point Judith and Newport. The data are used to justify funding for port improvements and maintaining shoreside operations that enhance the commercial 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 for the RIDFW to provide efficient and effective management. **Harvesters in all commercial fisheries are required by Rhode Island laws to submit catch and effort data to the RIDFW. Currently, all finfish, crustacean, squid, and whelk commercial fishers are required to fill out a catch and effort logbook and submit it to RIDFW quarterly or enter their catch and effort data directly into eTRIPS. Logbooks submitted to RIDFW are entered into eTRIPS by RI ACCSP staff via eTRIPS Upload. Shellfish fishers are not required to submit catch and effort logbooks because the data is captured via a one-ticket system.** Dealers record and submit shellfish landings information such as quantity landed, gear type, area harvested, etc. In 2012, RIDFW successfully implemented a new endorsement for whelks in licensing regulations. This new

license endorsement identifies all participants in the whelk fishery and enables the RIDFW to require logbooks from these participants. In 2013, 208 fishers obtained this endorsement, and that number is expected to remain constant for 2014. As whelks are traditionally harvested by traps, data such as number of traps hauled, soak time, and total gear fishing are captured by these fishers on their catch and effort logbooks and then entered into eTRIPS by RI ACCSP staff or the fisher. Over the next year, another enhancement for collection of more complete catch and effort data in Rhode Island will require shellfish dealers to collect and enter hours fished information into the eDR with all shellfish landings at the trip level. An enhancement to the eDR will be requested to make "hours fished" a required field for all shellfish entries in RI. This data field entered by the dealer at trip level will capture the catch and effort data for the approximately 1,800 RI fishers licensed to harvest shellfish. This change will allow the RIDFW to collect catch and effort data from all licensed fishermen. In 2014 the RIDFW will continue to monitor the progress of this change while providing support to both fishers and dealers when and where necessary.

In order to standardize the reported catch and effort data, RIDFW provides harvesters with logbook forms to report landings on a quarterly basis. Postage-paid envelopes are provided by the RIDFW to ensure timely return of the logbooks. **The Rhode Island catch and effort logbook meets the ACCSP standard and completes the two-ticket system for finfish, crustacean, and whelks by collecting complete trip level data on catch, effort, gear, and area fished for all relevant species.** Submitted logbooks are processed by RIDFW staff and entered into eTRIPS. Harvester license number, dealer, and sale date are used to match records with dealer reports for quality control and assurance of the landings data. Audits identifying issues with catch and effort data reporting are conducted routinely, and fishers are contacted to amend logbooks when necessary via telephone or email. Any logbook not completed in full is returned to the fisher for correction. Rhode Island commercial licensees may not renew their licenses unless they have completed their catch and effort logbooks for the entire year. Providing these logbooks was paramount to the initial success of the program.

The large number of records makes the logbook program the most labor and fiscally intensive resource component of implementing the two ticket system; however utilizing the eTRIPS upload feature in 2013 has greatly improved efficiency and accuracy in data entry. In fact, the majority of the 2012 logbook data entry was completed approximately 3-4 months sooner than 2011 data due to the increased data entry capabilities with the upload feature. RI ACCSP staff is needed to oversee and conduct data entry and quality control of the catch and effort logbooks. The staff is also needed to communicate with ACCSP programming staff to suggest enhancements and to identify issues in the eTRIPS program, which aid in more efficient and accurate data entry. RIDFW also fields many technical support phone calls and walk-ins from the fishing community regarding the catch and effort logbook. In 2013, logbooks were required from approximately 1600 license holders, and that number is expected to increase each year. ACCSP has provided funding for the printing and mailing of the logbook since its inception through 2010. In 2011, in an effort to transition from ACCSP funds to state funds, the state of RI paid for the mailing of the logbook. RIDFW also provides a link to a PDF version on the website to reduce the cost of printing extra logbooks. In 2013, RIDFW began an outreach program to transition fishers to using eTRIPS as their primary reporting method through an advertising campaign in public offices as well as providing eTRIPS information with the 2013

logbooks that were mailed to each fisher. Staff also encourages any fisher who uses eTRIPS to spread the word amongst friends, family, and along the docks. This program has resulted in approximately 45 new registrants to date. Beginning in 2013 and continuing into 2014, RI ACCSP staff will dedicate time to develop further outreach and training materials for the commercial fishers interested in utilizing eTRIPS including holding training workshops and providing web-based tutorials as well as providing easy ways to sign up for an account. Furthermore, RIDFW intends to assume more of the cost of printing and distributing logbooks moving forward. RIDFW is proposing a new logbook endorsement for commercial license holders in 2014 that, if passed, will further subsidize the logbook printing costs in future years. Those fishers who choose not to get the endorsement would be required to use eTRIPS as their primary reporting method.

To ease duplicative reporting between logbooks and VTRs, federal permit holders required to submit VTRs to the NMFS are exempt from the Rhode Island catch and effort logbook. VTR submissions are only necessary to monitor compliance with RIDFW reporting standards for those federally permitted fishermen in RI. In 2012 RIDFW developed a partnership with NMFS that enables RIDFW to track compliance of those federal permit holders utilizing Fish Online and eVTRs. For a federal permit holder who does not participate in the eVTR program to be exempt from the logbook requirements they must submit all state paper copies of their VTRs to RIDFW if they contain RI landings. RIDFW is investigating the possibility of converting to a paperless monitoring system for federal VTRs through further partnership with the NMFS database. A completely paperless system will eliminate some of the data entry burden of the RIDFW staff allowing them to concentrate on data quality assurance, data requests, and other timely matters.

In addition to the harvester catch and effort logbook, fishermen who hold a RIDEM crustacean dockside sales endorsement must fill out a dockside sales logbook which details the quantity, market, grade, disposition, and price of all crustaceans sold at the dock and submit it to RIDFW quarterly. These data fields were originally included as part of the 2007 logbook format but have been relegated to a separate logbook for ease of reporting. This dockside sales logbook is mailed to the 268 dockside endorsement holders and must be completed regardless of federal permit status. The dockside sales data captures Rhode Island's important economic data such as price on all dockside transactions. This dockside sales data is transmitted to the ACCSP as supplementary data for the Fisheries of the US data feed. RI ACCSP staff is needed to oversee data entry, perform quality control checks, and transfer the dockside sale data to ACCSP in the proper format. In 2014, RIDFW will assume the mailing costs of these logbooks as in previous years. Staff will also investigate possibilities for direct SAFIS entry of this data.

In 2014, Rhode Island will continue to utilize and promote the voluntary eLOGBOOK program. This program enables recreational fishers to enter complete trip level catch and effort data online. This data can be used for recreational effort estimates as well as for important management decisions in Rhode Island. Currently there are 218 registered users (9% increase from 2012) and over 8,107 reports entered in the Rhode Island eLOGBOOK application with many users entering catch data regularly. Based on the number of saltwater recreational fishing licenses issued in 2011 and 2012, and the number issued so far in 2013, RIDFW estimates

~50,000 licenses will be purchased in 2014. The RI ACCSP staff will continue outreach to recreational fishers to achieve our goal of having 500 registered users in 2014 or 1% of all licensed anglers reporting recreational catch and effort data to the eLOGBOOK program.

In July of 2010, the RIDEM adopted Marine Fisheries regulation 7.9.1-2 that made the use of eLOGBOOK mandatory by all Rhode Island party and charter vessels participating in the tautog fishery. Compliance will continue to be monitored for party and charter fishers in the tautog fishery in 2014. Comparing the 2010 eLOGBOOK entries for party and charter harvested tautog in Rhode Island with MRFSS estimated figures produced a noticeable discrepancy in the number of fish harvested. As the eLOGBOOK is considered a census for the party and charter tautog fishery, logically the data can be considered more robust than MRIP (formally MRFSS) estimates. eLOGBOOK data also contains lengths of all fish harvested and released. This data proved very useful for fisheries managers in Rhode Island, specifically when it was utilized in a model to liberalize recreational size limits for the fluke fishery. While the use of the eLOGBOOK does not claim to fulfill any minimum data element of an ACCSP standard, it is useful for fisheries managers and a unique tool for recreational fisherman to log their catch. In 2014, the RI ACCSP staff will continue to oversee usage of the eLOGBOOK system by all users, provide assistance, and participate in outreach programs particularly at public saltwater fishing events.

RIDFW has both 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, scup, weakfish, black sea bass, tautog, bluefish, menhaden, summer flounder, and lobster. RIDFW's at-sea lobster sampling program focuses on ASMFC management needs as well as state specific data needs. RIDFW provides the data feed of lobster port and at-sea sampling data to ACCSP via the ASMFC Lobster Assessment Database. This feed is sent upon request via a flat file. Finfish port sampling data is scheduled to be fed into the data warehouse in 2013 and continue in 2014. Neither the lobster sampling programs nor the finfish sampling programs receive funding from ACCSP. ACCSP Staff is needed to organize this data and maintain the data feed to the ACCSP.

From 2002 through 2011, Rhode Island had a full-time state coordinator to manage and implement the ACCSP data collection program. The state coordinator's duties were to develop, monitor, and update ongoing and long-term programs relative to implementing the standards of the ACCSP in Rhode Island. For the majority of 2012, there were two Fisheries Specialists, one 100% ACCSP funded and the other 50%, to act at the capacity of the ACCSP coordinator and data entry staff, however, in the fall of 2012, one assumed another state position. Since that time, RIDFW has returned to the single ACCSP Coordinator model, with seasonal interns and other staff acting in the data entry role as time allows. RIDFW staff and the ACCSP Coordinator work closely on the quota monitoring, recreational monitoring, and biological sampling portions of this proposal. This model will continue through 2014 with the addition of assistance from a Technical Staff Assistant who will take over the majority of the data entry management role. Rhode Island is requesting funds to continue full funding for the Coordinator (Fishery Specialist II) position and partially support the Staff Assistant position to effectively administer the work put forth in this proposal. The ACCSP Coordinator is an Atlantic States Marine Fisheries Commission employee under the direct supervision of the RIDFW. Project staff will continue to

provide support with processing and data entry of harvester logbooks, aiding ACCSP staff 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 fourteen years. Figure 1 provides a graphical representation of the total budget of $1,715,009. Table 1 provides a brief project history of ACCSP Implementation in Rhode Island. ACCSP has funded the majority of Rhode Island RIDFW's data collection to date. Cost details for fiscal year 2014 are outlined in the requested budget while last year's requested funding is presented in Appendix A. This proposal is requesting 7% less than that requested for the 2013 fiscal year and does not provide a significant change from the 2013 proposed scope of work. In a RIDFW white paper, Gibson and Lazar (2006), documents the deficiencies of the Rhode Island Marine Fisheries program and argued that significant infusion of funding and staff is needed. The RIDFW Marine Fisheries section has undergone a peer reviewed evaluation and need assessment, which concluded that RIDFW 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 Rhode Island is experiencing fiscal shortfalls and is running a large budget deficit. RIDFW 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 Rhode Island implemented the Rhode Island 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 does outreach for eLOGBOOK, thus these funds now help support the ACCSP program. Additionally, encouraging commercial fishers to transition from paper logbooks to the eTRIPS reporting method through incentives, training programs and regulations ultimately will eliminate some of the costs surrounding the distribution and data entry required for paper logbooks. This will reduce the RIDFW's dependence upon ACCSP funds for maintaining timely and accurate data feeds and will be completed as funding and staff time allows.**

Geographic Location:

The project will be administered out of the Rhode Island Division of Fish and Wildlife 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:

- Dealer landings from SAFIS effectively used to monitor quota species, track fishing license activity, and support management programs.
- Catch and Effort and Dockside Sales Logbook program maintained through the eTRIPS program.
- Quality controlled data feeds to ACCSP to be delivered on time.
- Improved quality in data submitted to the ACCSP.

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

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

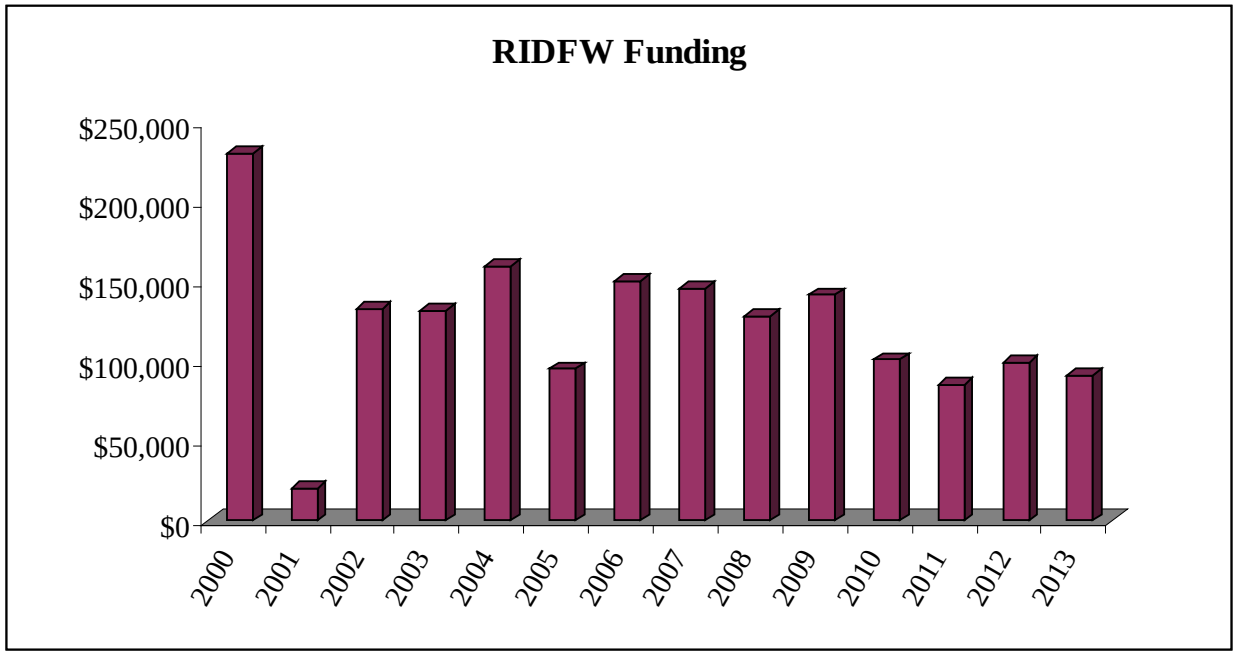


Figure 1. RIDFW past funding from ACCSP.

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.

Requested Budget FY 2014 (May 1, 2014 to April 30, 2015)

PERSONNEL COSTS:

Item	ACCSP Share	Direct State Share	Total
Supervising Biologist (FTE 10%)	$0	$11,633	$11,633
Principal Biologist (FTE 30%)	$0	$30,967	$30,967
Technical Staff Assistant (FTE 40%)	$20,250	$11,750	$32,000
Fisheries Specialist (Contract 100%)	$55,892	$0	$55,892
Seasonal Intern (RIDEM 75%)	$0	$8,083	$8,083
Indirect Charges (RIDEM FTE 15%)	$3,038	$0	$3,038
Total Personnel	$79,180	$62,433	$141,613

EQUIPMENT & SUPPLY:

Item	ACCSP Share	Direct State Share	Total
Logbook Printing @5.91 per logbook	$4,728	$4,728	$9,456
Logbook Mailing @ 4.75 per logbook	$0	$7,600	$7,600
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
Miscellaneous and Outreach mailing	$0	$3,000	$3,000
Office supplies	$0	$1,000	$1,000
Telephone & Fax Usage	$0	$500	$500
Vehicle Usage/Travel	$1,500	$1,500	$3,000
Total Supply	$6,228	$24,728	$30,956

TOTAL:

Item	ACCSP Share	Direct State Share	Total
Total Direct Charges	$85,408	$87,161	$172,569
Percentage	49%	51%	

COST DETAILS:

1. **Personnel Costs**
   a. **From ACCSP:**
      i. **Fishery specialist 2:** 100% ACCSP funded contract position to act as the ACCSP Coordinator; Salary plus fringe and benefits for one year = $55,892.

ii. **Technical Staff Assistant:** Partial support for one RIDEM employee to assist with logbook management and data entry; 40% of salary plus fringe and benefits = $32,000 split between ACCSP (63%) and RIDEM (37%).
iii. **Indirect** charges (15%) are associated with RIDEM state employees (FTE) funded by ACCSP.

b. From RIDEM:

i. **Supervising biologist:** 10% of salary plus fringe and benefits = $11,633.
ii. **Principal Biologists** working on ACCSP related tasks (quota, port sampling and data management, ACCSP and MRIP committee meetings, eLOGBOOK outreach, etc.); 30% of an average salary plus fringe and benefits = $30,967.
iii. **Seasonal Interns:** 647 hrs (75% of a 6 month position) @ $12.50/hr.

2. Equipment and Supply Costs:

a. From ACCSP:

i. **Logbook Printing**: 1,600 logbooks @ $5.91/logbook = $9,456; no extra logbook printing and RIDEM will assume half of the printing costs.
ii. **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 half of the costs.

b. **From RIDEM**:

i. **Logbook Mailing**: 1,600 logs @ 4.75/book = $7,600
ii. **Business Reply Envelope Printing**: 20,000 Envelopes @ $0.125/envelope
iii. **Business Reply Account**: $100/month Mar-Nov; $200/month Dec-Feb
iv. **Website Development and Updating**: Costs associated with maintaining current website and creating a website section dedicated to online reporting.
v. **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. **RSA Program**: 50 vessels * 2 mailings/vessel = 100*0.50 = $50
    6. **Miscellaneous/Outreach mailings:** ~$200

vi. Office Supplies:

1. Paper goods, miscellaneous office supplies, etc.

vii. Telephone and Fax Usage:

1. Dealer phone calls, fisher phone calls, dealer faxes of possession limit changes or closures, etc.

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 fishers report trip level catch and effort data via logbook entered directly into eTRIPS (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.
- Metadata that is detailed on page 6 is also collected to enhance and describe data sets that are important to Rhode Island's commercial fisheries.

Project Quality Factors:

Partners

- **Multi-Partner/Regional impact including broad applications** – This proposal outlines plans to collect and manage catch and effort, landings, and recreational data in Rhode Island, however data on many species such as American lobster, striped bass, black sea bass, and scup is collected. As these species are regionally managed many other partners will benefit from having access to this data.

Funding

- **Contains funding transition plan –** this proposal contains a transition to funding plan on page 10. In these difficult economic times it is difficult to determine when this transition can be fully implemented.
- **In-kind contribution-** 51% of this project is funded by the RIDFW.

Data

- **Improvement in data quality/quantity/timeliness –** This proposal highlights many ways that Rhode Island provides timely catch and effort data and landings data to the ACCSP. This is done by fully utilizing all ACCSP data entry products (eTRIPS, eDR, and eLOGBOOK) as well as having standards backed up by Marine fisheries regulations that require reporting that meets ACCSP standards.
- **Potential secondary module as a by-product –** Social and economic data that is described on page 6 is collected regularly and used in fisheries models to characterize and understand Rhode Island fisheries. This data has also been made available to regional partners upon request.
- **Impact on stock assessment-** Data that is 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. Partners, like surrounding states, or the ASMFC could and do use this information in different stock assessments.

Appendix A: Cost Summary from FY 2013 proposal (May 1, 2013 to April 30, 2014):

PERSONNEL COSTS:

Item	ACCSP Share	Direct State Share	Total
Supervising Biologist (FTE 10%)	$0	$13,699	$13,699
Principal Biologist (FTE 30%)	$0	$32,334	$32,334
Technical Staff Assistant (FTE 20%)	$0	$23,118	$23,118
Fisheries Specialist (Contract 100%)	$51,400	$0	$51,400
Fisheries Specialist (Contract 50%)	$24,738	$0	$24,738
Indirect Charges (RIDEM FTE 17.5%)	$1,935	$0	$1,935
Seasonal Intern (RIDEM 50%)	$0	$5,347	$5,347
Total Personnel	$78,073	$74,498	$152,571

EQUIPMENT & SUPPLY:

Item	ACCSP Share	Direct State Share	Total
Logbook Printing at $5.91/logbook	$10,343	$0	$10,343
Logbook Mailing @ 4.75 per logbook	$0	$6,650	$6,650
Business reply envelope printing	$0	$2,500	$2,500
Website development and updating	$0	$2,400	$2,400
Outreach mailing	$0	$2,150	$2,150
Office supplies	$0	$3,500	$3,500
Telephone & Fax Usage	$0	$500	$500
Vehicle Usage	$0	$1,500	$1,500
Travel (mileage, tolls for site visits and meetings)	$3,000	$0	$3,000
Total Supply	$13,343	$19,200	$32,543

Total:

Item	ACCSP Share	Direct State Share	Total
Total Direct Charges	$91,416	$93,698	$185,114
Percentage	49%	51%	

Cost Details:
Personnel Costs: Changed from last year's proposal budget (see appendix) based on personnel transitions (see page 8). RIDFW is seeking funding for one 100% ACCSP funded contract fishery specialist and one 50% ACCSP funded contract fishery specialist. Indirect charges are associated with RIDFW state employees (FTE).

Logbook Printing: 1750 logbooks @ $5.91/logbook = $10343; no longer including extra logbook printing in the proposed budget.

Travel: $3000 used for travel to ACCSP committee meetings by staff as well as travel expenses for dealer visits.

Appendix B: Curriculum Vitae for Principal Investigator

Anna R. Webb

Rhode Island Division of Fish and Wildlife
Marine Fisheries Section
3 Fort Wetherill Dr
Jamestown, RI 02835

Contact Information:
Email: anna.webb@dem.ri.gov
Office: (401) 423-1926
Cell: (570) 490-4121

EDUCATION

2008-2011 **SUNY Stony Brook**, Stony Brook, NY, GPA 3.97
M.S. in Marine and Atmospheric Science, *Focus: Fisheries*
Thesis title: Understudied Species in Coastal U.S. Waters: Issues, Solutions, and Implications for Ecosystem-Based Fishery Management

2005-2007 **SUNY Stony Brook**, Stony Brook, NY, GPA 3.92
B.S. in Marine Vertebrate Biology (*summa cum laude*)

2003-2005 **Southampton College,** Long Island University, Southampton, NY, GPA 3.98

RELEVANT WORK EXPERIENCE

2012-present **ACCSP Fishery Specialist**, Rhode Island Division of Fish and Wildlife-Marine Fisheries Section, Jamestown, RI; Supervisor: April Valliere
·Oversee SAFIS data entry and compliance by dealers, fishermen, 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
·Member of the Commercial Technical Committee and Vice Chair of the Informations Systems Committee at ACCSP

2011-2012 **Seasonal Field Technician**, New York State Department of Environmental Conservation, East Setauket, NY; Supervisor: Sandy Dumais, Julia Socrates
·Assist with the monitoring of 35 fish pots in a Long Island Sound fishery-independent survey of blackfish
·Assist with a trawl survey of Peconic Bay, NY targeting juvenile finfish species
·Participate in onboard sampling and measurement of recreational charter boat catch including local species such as summer flounder, black sea bass, and scup
·Work with the striped bass unit to monitor populations in Western Long Island bays

RESEARCH EXPERIENCE

2009-2011 **Master's thesis**, Stony Brook University, Stony Brook, NY.
Advisors: Drs. Ellen Pikitch and Michael Frisk
·Identifying under-represented species in fishery management
·Evaluating significant increasing or decreasing abundance trends
·Applying measures of extinction risk

2007-2008 **Research Technician**, Stony Brook University, Stony Brook, NY.
Supervisor: Michael Doall
·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

2005-2007 **Undergraduate Research Assistant,** Stony Brook University, Stony Brook, NY.
Supervisor: Dr. Dianna Padilla
·Assisted a graduate student with molecular genetics and microsatellite analysis
·Expanded upon previous experience with PCR and agarose gels
·Mastered extraction procedures of DNA from preserved tissue
·Cared for a three-tiered invertebrate aquarium, cultured *Isochrysis*

2005 **Undergraduate Research Assistant**, Long Island University, Southampton, NY.
Supervisor: Dr. Maria Kretzmann
·Introduced to molecular genetics
·Participated in a project that monitors bay scallop populations of Long Island
·Learned how to run agarose gels and PCRs

PUBLICATIONS/PRESENTATIONS

2011 **A. R. Webb**, E. K. Pikitch, A. Jordaan, M. G. Frisk. Detecting potential population trends in non-commercial Northeast species, American Fisheries Society Annual Meeting presentation, Seattle, WA, 9/6/2011.

2010 **A. R. Webb**, M. G. Frisk, E. K. Pikitch. Identifying and evaluating under-represented species in the Northeast fishery management regions, American Fisheries Society Annual Meeting presentation, Pittsburgh, PA, 9/15/2010.

2009 R. Przeslawski and **A. R. Webb**. 2009. Natural variation in larval size and developmental rate of the northern quahog *Mercenaria mercenaria* and associated effects on larval and juvenile fitness. *Journal of Shellfish Research* 28(3) 505-510.

2008 M. H. Doall, Padilla, D. K., LoBue, C. P., Clapp, C., **Webb, A. R.**, Hornstein, J. 2008. Evaluating northern quahog (hard clam, *Mercenaria mercenaria* L.) restoration: are transplanted clams spawning and reconditioning? *Journal of Shellfish Research* 27(5) 1069-1080.

SPECIAL SKILLS

·Experience with Microsoft Office Suite, R, GIS
·Experience with various fish survey methods
·PADI Open Water Diver Certification
·Large dataset management
·Care of aquatic invertebrate tanks
·Basic construction skills

New York State Department of Environmental Conservation
Division of Fish, Wildlife and Marine Resources
Bureau of Marine Resources
205 North Belle Mead Road, Suite 1, East Setauket, New York 11733
Phone: (631) 444-0450 • **Fax:** (631) 444-0434
Website: www.dec.ny.gov

Joe Martens
Commissioner

September 9, 2013

Mr. Michael Cahall, Director
Atlantic Coastal Cooperative Statistics Program
1050 N. Highland Street, Suite 200A-N
Arlington, Virginia 22201

Dear Mr. Cahall:

In response to the Request for Proposals, the New York State Department of Environmental Conservation (DEC) is submitting a proposal for the continuation of a maintenance project. New York State has successfully sought previous grants from the Atlantic Coastal Cooperative Statistics Program (ACCSP) to fund the development of a state program to collect fishery dependent data from the commercial fishing community in New York State. Using funds from ACCSP, DEC has been able to initiate this program and expand it for several years. After a two year hiatus, DEC is once again seeking ACCSP support to continue this project.

The project proposed here is slightly different from those proposed in the past. DEC is not seeking ACCSP funds to support the collection of biological samples as was accomplished under previous grant awards. ACCSP funds will be used to collect and process current VTRs and facilitate the transition to electronic reporting, two goals common to previous projects. New York State has allocated funds for the collection and processing of biological samples.

The last two grants that were awarded to New York were returned to the Treasury, unused. Changes in administrative procedures for New York State and National Marine Fisheries Service and a loss of personnel prevented New York State from utilizing the funds in a timely manner. DEC did not pursue ACCSP grant opportunities for 2012 and 2013 in anticipation of similar circumstances. At this time it is not likely that DEC can successfully pursue a grant opportunity for 2014 using the standard grant process. Consequently, DEC has requested that ACCSP includes the 2014 proposal for New York State in its annual ACCSP administrative grant, and should New York be awarded the requested grant, that ACCSP administers the grant award.

During the two years DEC had not requested ACCSP funding, DEC continued to purse the goals of the original project. DEC staff assumed the responsibility reviewing and processing dealer reports and DEC developed an in-house database to house VTR data submitted by state licensed fishermen. State regulations were amended to authorize and promote electronic reporting for dealers and fishermen. Lastly, New York State has allocated funding for the collection and processing of fishery dependent data and the collection of biological samples. ACCSP support is needed now to process current VTR data submitted to DEC.

We are respectfully submitting our proposal for review. If there are any questions or concerns regarding the proposed project, please feel free to contact me at your convenience.

Sincerely yours,

Maureen Davidson
Marine Biologist 2

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

Improving Trip-level Reporting and Quota Monitoring for New York Commercial Permit Holders

Submitted by;
Maureen Davidson
Bureau of Marine Resources
Division of Fish, Wildlife and Marine Resources
New York State Department of Environmental Conservation
205 N Belle Mead Rd, STE 1
East Setauket, NY 11733

Applicant Name:	New York State Department of Environmental Conservation 205 North Belle Mead Road, Suite 1 East Setauket, New York 11733
Project Title:	Improving trip-level reporting and quota monitoring for state licensed participants in New York's marine fisheries
Project Type:	Maintenance
Project Investigator:	Maureen Davidson, Biologist 2 Marine
Requested Amount:	$172,643
Requested Award Period:	July 1, 2014 to June 30, 2015

Objective

The objective of this proposed project is to improve the collection, processing and auditing of fishery dependent data collected from New York state licensed fishermen and dealers; monitor and document reporting compliance by license holders, and facilitate the transition to electronic reporting in New York State. The accomplishment of these objectives will facilitate the collection and processing of fishery data in a more timely fashion than currently possible and lead to improved quota management in New York State. The fishery-dependent data collected and processed during this project will provide the New York State Department of Environmental Conservation (NYSDEC) with the best available scientific information needed to carry out the State's research and fisheries management mission and bring New York State closer to meeting ACCSP data standards. The term of work for the proposed project is one year, from July 1, 2014 through June 30, 2015.

Need

New York State initiated trip level reporting for harvesters and dealers in 2003, working cooperatively with NOAA National Marine Fisheries Service (NMFS) and Cornell Cooperative Extension Marine Program (CCE). In 2008 New York developed its own state vessel trip reports and full implementation of standardized trip level (catch, effort, landings and purchasing) reporting for all harvested species began in 2011. Up until this point, reporting had ranged from trip level reports to annual recall surveys.

New York State executed several contracts with CCE to carry out marine fishery data processing tasks: data collection, data entry, and auditing. The last contract expired in March 2009 and New York had been unable to successfully execute a contract to carry out these tasks until 2013. In 2012, ACCSP provided support for CCE to carry out data entry on backlogged trip reports. NYSDEC executed a contract with CCE in June 2013 to continue to process the remaining backlog of trip level data from 2008-2011. During these intervening years, 2009 – 2013, NYSDEC staff members collected and processed a portion of the VTRs and all dealer purchase reports submitted to NYSDEC.

Most trip and purchasing reports are submitted on paper forms which require manual entry into a database. A small number are entered into SAFIS by individual fishermen and dealers. Electronic reporting for dealers through SAFIS eDR became mandatory on January 1, 2012, while commercial harvesters have the option to submit electronically through SAFIS eTRIPS or on paper VTRs.

It is estimated that approximately 18,000 to 20,000 VTRs are submitted to NYSDEC each year. As efforts increase to improve reporting compliance, the number of VTRs submitted and processed by NYSDEC staff will grow. Currently, tasks associated with reporting, data entry and compliance monitoring are split among a number of programs at NYSDEC, which decreases efficiency and the ability to fully comply with ACCSP standards. Despite the recent contract with CCE, there remains significant backlog of current trip reports and biological sampling that must be processed for New York to satisfy ACCSP data standards. New York does not have sufficient staff to adequately manage data processing tasks at the current level of reporting. New

York State needs an individual to coordinate the activities of NYSDEC and CCE staff, appropriately utilize NYSDEC resources to process fishery dependent data and function as a liaison between New York State and ACCSP. In addition, NYSDEC faces an increase in reporting compliance by fishermen and dealers and will have a corresponding increase in reports to process. Additional personnel will be needed to handle and process these incoming reports. This proposal details a plan to improve NYSDEC's ability to fully implement ACCSP standards for data collection and processing. In addition, it is hoped that regular data feeds to ACCSP can be developed and maintained for inclusion in SAFIS and the Data Warehouse in a timelier manner.

Approach

New York State's marine fisheries regulations currently require all state licensed commercial fishermen and recreational for-hire operators to report trip-level data and submit them monthly within 15 days after the end of each month. This program of data collection is modeled after the federal vessel trip reports distributed by NOAA Fisheries Service. Fishermen can currently submit trip level data on paper VTR forms or electronically online. In a similar manner, state licensed food fish and crustacean dealers must report their purchases within 3 days after the end of each week. Dealers have been required to submit these reports online since January 2012. Holders of federal fishing and dealer permits must instead satisfy reporting requirements as specified by NOAA Fisheries Service.

New York State is focused on collecting and processing fishery-dependent data from all (100%) state licensed fishermen who harvest and land marine species in New York State and all (100%) the state licensed dealers who buy marine species from them. This data collection task is applied to all (100%) finfish, crustacea, gastropod and horseshoe crab species harvested and landed in New York State. The only species excluded from this task are the bivalve mollusks. DEC submits bivalve landings to SAFIS in an annual summary of landings complied from monthly shellfish dealer reports.

Only a small portion of state licensed harvesters and dealers currently enter fishery data directly into ACCSP's SAFIS. The remainder of state license holders submits their fisheries data using paper forms. The tasks involved with processing this large volume of reports include: review of each form for completeness and correctness, follow-up with the submitting license holder to correct omissions or incorrect data, data entry, and auditing. The data reports are entered into a NYSDEC proprietary database and uploaded to SAFIS periodic ally. The responsibilities for the above tasks, in addition to scanning VTRs for archival purposes, compliance monitoring, and database maintenance, are spread across a number of programs in the NYSDEC Bureau of Marine Resources. Unfortunately, current staffing levels cannot keep up with the volume of reporting.

NYSDEC proposes to hire an ACCSP Fisheries Specialist II to oversee the daily processing of vessel trip and dealer reports, monitor compliance, and promote electronic reporting. NYSDEC also requests that two data entry workers be hired to assume the tasks of data entry and auditing. NYSDEC staff will continue to participate in data processing tasks as their other responsibilities allow. Consistent staffing levels, with staff members dedicated to the handling and processing of

fishery data, will provide reliable support for the NYSDEC data collection and processing program. State licensed fishermen and dealers and data users will also benefit from the efficient and timely processing of collected fishery data. In particular, the accomplishment of several tasks, such as follow-up on problematic VTRs, compliance issues, and training of license holders who wish to report electronically will be improved by staff dedicated to handling fishery data reports.

The fisheries specialist will be responsible for the handling and processing of submitted state VTRs, monitoring quality control of submitted forms, data auditing, and assigning tasks to the data entry workers. The specialist will also monitor reporting compliance of fishermen and dealers, send out delinquent reporting notices, and forward information about non-compliant fishermen and dealers to the appropriate supervisor. The fisheries specialist will function as a source of reporting information and support to fishermen and dealers. The specialist will also be responsible for promoting online reporting and training fishermen and dealers to use electronic reporting. In addition, the ACCSP fisheries specialist will be able to fully participate in meetings and confer with ACCSP to identify and troubleshoot issues, participate in technical committee meetings, and enhance New York State compliance with evolving fishery data standards.

Although the fisheries specialist will be responsible for providing information and support to fishermen and dealers and for promoting online reporting, the majority of the public outreach and education tasks concerning data collection will be accomplished by Cornell Cooperative Extension Marine Program (CCE). Now under contract to NYSDEC, CCE will be responsible for providing information and training for state fishermen and state dealers on complying with sate reporting requirements, completing VTRs and dealer reports, entering fishery data online; and for facilitating the transition to electronic reporting for both dealers and fishermen.

CCE will also be responsible for the collection of biological samples at fishing ports from state commercial fishermen. NYSDEC staff members will continue to collect biological sampling to meet program needs for a limited number of species.

The ACCSP fisheries specialist will be supervised by the NYSDEC biologist currently working with ACCSP on SAFIS, eTRIPS and eDR issues. The specialist in turn will supervise the two data entry workers.

NYSDEC has recently increased the frequency of general reminders to state licensed fishermen and dealers requesting compliance with reporting requirements. In response, trip level reporting has increased by 52% as compared to the same period in 2012. In addition, in June of 2013 NYSDEC mailed letters to 820 delinquent reporters. It is anticipated that this will result in a significant increase in the volume of trip reports submitted to NYSDEC. The additional staff requested in this proposal will allow NYSDEC to maintain a high level of compliance monitoring and improve data processing.

Diminishing the volume of paper reports that must be entered by staff has work load, storage and environmental benefits. A major benefit of having the ACCSP fisheries specialist on staff will be the time they will be able to commit to encouraging, training and assisting commercial harvesters

and dealers to report electronically through SAFIS. In addition to paper work reduction, required fields built into the interface will cut down on staff time spent dealing with data omissions.

Fishery dependent data collected by NYSDEC will be uploaded to ACCSP for eventual placement in its Data Warehouse where the data will be utilized in stock assessments and by the Atlantic States Marine Fisheries Commission and the regional Fishery Management Councils in their deliberations and decisions. It is essential that New York State fishery data be accurate and processed in a manner that complies with all ACCSP standards. The assessment of data quality includes not only in-house data entry QA/QC, but also auditing and data verification utilizing NY's two-ticket system of separate dealer and harvester reports. The ACCSP fisheries specialist and the two data entry workers will be able to conduct full and complete audits of New York State fishery data. The fisheries specialist can audit dealer reports against vessel trip reports, checking for concurrence across landings, gear types, areas, and individual harvesters. This will ensure that New York State data are complete and accurate and will serve as valued data inputs where needed.

Results and Benefits

Implementation of the proposed project will allow New York to adequately staff its fishery data collection and processing program, enhance the State's ability to process fishery data in a timely fashion and to continue to bring the State fishery dependent data collection program up to ACCSP standards. The program proposed here will provide support for complete and timely processing of data collected from state licensed dealers and fishermen in the state.

The major benefits of this proposal include:

- Enhancement and improvement of New York's program for collecting and processing fishery data, bringing the program closer to full compliance with ACCSP data standards;
- Complete processing of backlog VTRs collected from state licensed fishermen in 2008, 2009, 2010, and 2011, making this data available for inclusion in SAFIS and the Data Warehouse;
- Increase in the accuracy of collected data as catch (eTRIPS) and landings (eDR) data reconciliations are conducted;
- Development of a reporting compliance program that will promote reporting by state licensed fishermen and dealers, document levels of compliance among fishermen and dealers, and prepare documentation on non-compliant license holders, if needed for administrative or legal measures;
- Development of a program to promote electronic reporting by fishermen and dealers that will reduce the costs of printing and mailing VTRs, reduce paper handling by NYSDEC staff and fishermen, reduce retention and storage needs for paper VTR and dealer report records, and enhance the timeliness of the submission of fishery data into SAFIS.

Most species targeted by New York State licensed fishermen are managed on a regional basis. Collected and processed data on these species may have broad reaching regional impacts or

benefits. Until all New York State fishery dependent data are entered into SAFIS, as proposed in this project, catch data for the State and the region are incomplete. Any improvement in the completeness and quality of the data, collected and processed by the proposed addition of staff dedicated to these tasks, has the potential to impact many commercial and recreationally harvested species managed at the regional Council and Commission level.

5. Geographic Location

The project will be administered from the New York Department of Environmental Conservation Bureau of Marine Resource's headquarters in East Setauket, New York. The location and scope of this project will include all the marine and coastal waters of New York State.

Table 1. Month Milestone Schedule (start date depending on time of grant award):

	Month														
Task	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Data Entry	x	x	x	x	x	x	x	x	x	x	x	x			
QA/QC	x	x	x	x	x	x	x	x	x	x	x	x			
Compliance						x						x			
Quota Management	x	x	x	x	x	x	x	x	x	x	x	x			
Electronic reporting training	x	x	x	x	x	x	x	x	x	x	x	x			
ACCSP Committees	As needed														
Data Uploads to SAFIS	x	x	x	x	x	x	x	x	x	x	x	x			
Grant Report Writing						x						x	x	x	x

Project Goals and Metrics

The goal of the proposed project is to improve the collection and processing of trip level fishery dependent data submitted to NYSDEC by state licensed fishermen and dealers. New York State seeks to collect and process fishery related information for all species targeted by New York license holders, including those species not monitored by National Marine Fishery Service such as American lobster, Atlantic menhaden, American eel, tautog, and weakfish. An additional project goal is to facilitate the transition to electronic reporting and the training of fishermen and dealers to enter their fishery data directly into ACCSP's various online databases. The ultimate goals of this project are to have all trip and purchase report data submitted to NYSDEC (both current and backlog) entered into SAFIS, the achievement of 100% reporting compliance, and the transition of all state dealers to online reporting. Table 2 summarizes these project goals and the accomplishment measures for these goals.

Table 2: Project Goals and Accomplishment Measure Summary

Project Goal	Accomplishment Measure
Collection and processing of VTRs	Numbers of VTRs collected, reviewed and processed monthly
Collection and Processing of dealer reports	Numbers of dealer reports collected, reviewed and processed monthly
Correspondence with fishermen and dealers for correction of submitted reports.	Numbers and summaries of contacts with fishermen and dealers for report corrections monthly
Auditing of data entered into NYSDEC database and SAFIS	Summaries of audit results for VTR and dealer purchase data entered into NYSDEC database and SAFIS
Promoting compliance with New York State reporting requirements	Monthly analyses of reporting rates and the number of licensed fishermen and dealers contacted by NYSDEC for failure to submit reports monthly
Promoting the transition to electronic reporting	Number of fishermen and dealers who submit reports online Number of fishermen and dealers who are trained in the use of SAFIS for submitting reports for each month

Cost Summary

The NYSDEC Bureau of Marine Resources is supported by both state and federal funds. DEC contributions to this project include telecommunications, office space, general office supplies, postage, project oversight, existing VTR infrastructure; and the time that NYSDEC staff will

commit to data collection and data entry, compliance monitoring, and quota monitoring. In addition, vehicle use, mileage, and travel costs associated with training fishery participants in electronic self-reporting will be supported by NYSDEC.

New York State has made funds available for the collection and processing of fishery-dependent data through the Environmental Protection Fund (EFP) Ocean and Great Lakes Program. The State has committed $500,000 for the tasks of collecting fishing trip and dealer data, collecting biological samples and for providing outreach and education to the State licensed fishermen and dealers. Using the EPF funds, NYSDEC executed a three year contract with CCE (2013 – 2016) to carry these tasks. CCE will be responsible for review and processing of state VTRs collected from 2008 – 2011 and resuming the collection of biological samples. DEC staff members will continue to collect and process dealer reports and current state VTRs.

In Table 3 is a summary of the budget for the proposed project.

Table 3: Cost Summary

(a) Personnel:	
Fisheries Specialist II (NYSDEC Biologist grade 18)	55,712
Data Entry Workers (2 items) (NYSDEC Laborer)	54,054
Total Salaries	**109,766**
(b) Fringe (0.25)	27,441
(j) Indirect (0.2364)	32,436
Total Personal Services	**169,643**
Non-Personal Costs	
(c)Travel	
(d) Equipment (computer)	3,000
Total Non-Personal Services	**3,000**
Total	**$172,643**

Budget Narrative

a. The Fishery Specialist II and data entry workers are all full time positions. The salaries were determined by comparing the tasks and workloads to NYSDEC job responsibilities. The Fisheries Specialist II is most similar to the Biologist 1 title at NYSDEC with a starting salary of $55,712 for New York State fiscal year 2014/2015. The data entry worker is most similar to the NYSDEC laborer position with a starting salary of $27,027

for fiscal year 2014/2015. The salaries will be supported in total by funding from the ACCSP grant.

b. Fringe is 25% on all salaries.
c. Travel costs related to tasks described in the proposal will be supported by NYSDEC, such as vehicle use to visit dealers for training in electronic reporting. Other travel will be to attend ACCSP committee meetings and will be covered by ACCSP.
d. NYSDEC is also requesting support to purchase 3 computers for the use of the fisheries specialist and the two data entry workers.
j. The indirect costs are 23.64% on all salaries and fringe added together.

History of New York State Projects Funded by ACCSP

New York State is requesting $172,643 in funding to support fishery data collection and data processing efforts in 2014. The State has received 7 previous ACCSP grants, as listed in Table 4. These grants awards supported the development of New York's fishery-dependent data collection program, as the State sought to work cooperatively with NMFS and CCE to collect and process fishery information collected from fishermen and dealers. In 2007 NYSDEC used the grant award to fund a contract with CCE to collect, process, and audit New York State fishery dependent data. Under that two year contract CCE processed 12,295 vessel trip reports and 2,518 seafood dealer purchase reports and collected 18,499 biological samples (fish body length measurements and scale, otolith, and spine samples for ageing).

The 2007 grant award was the last award New York State was able to utilize as proposed. None of the funds from the two subsequent grants (2010, 2011) were expended. After being awarded the grants, NYSDEC was not able to successfully complete the contract process for either year. A reduction in the state workforce, especially in administrative support, and an increase in the fiscal and justification criteria for contracts significantly increased the time needed for the processing of contacts. At NYSDEC the contract process was delayed until after the administrative unit was reorganized and staff reassigned and trained. Yet, six months after NYSDEC received the 2011 grant award, it had become clear that a contract would not be executed with CCE before the end of the award period. At that six month point DEC requested that the 2011 grant be terminated and the funds re-obligated to ACCSP. Unfortunately, the funds were not re-obligated to ACCSP.

The inability to draft and execute a NYSDEC/CCE contract in a timely fashion was a major setback for the fishery data collection and processing program in New York. VTRs submitted by New York State licensed fishermen in 2008, 2009, and 2010 are being stored until they can be processed (2011 VTRs are now being processed by CCE). NYSDEC is now seeking funding to support the processing of the stored VTRs and maintain the collection and processing of the current ones. To prevent the recurrence of the past events described above for the current grant proposal, New York State will work cooperatively with ACCSP to ensure the grant funds are used as described and the proposed tasks are accomplished.

Table 4: History of New York State Projects Funded by ACCSP

FY	Project Name/Project Dates	Amount Funded	Description/Results
2001	Development of New York's Fishery Dependent Data Collection Program/ 2001 - 2003.	$ 195,200	NYSDEC and NMFS sought to implement vessel and dealer reporting in NY's commercial food fish and crustacean fisheries through a contract with CCE.
2002	Implementation of New York's Fishery Dependent Data Collection Program and Development of a State Biological Sampling Program./ 2002 - 2003	$ 256,800	NYS adopted regulations requiring reporting by commercial fishermen and dealers. VTRs and dealer reports entered into NMFS database (NMFS Codes).
2005	Continuation and Expansion of NY State Fishery Dependent Data Collection and Continuation and Expansion of NY State Biological Sampling Program./ 2005 – 2006	$ 218,900	11,000 VTRs and 3,900 dealer reports were entered in NMFS database by CCE. 13,000 biological samples were collected.
2006	NY State Fishery Dependent Data Collection and Continuation and Expansion of NY Biological Sampling Program. 2006 – 2007	$ 193,783	16,000 VTRs and 5,200 dealer reports were entered into NMFS database by CCE. 13,000 biological samples were collected.
2007	Continuation and Expansion of Fishery Dependent Data Collection and Biological Sampling in the State of NY./ 2007 – 2009	$ 113,967	12,000 VTRs and 2,500 dealer reports were entered into SAFIS/Cygnet. 18,000 biological samples were collected
2008	No funding requested		NYSDEC implements state VTRs. VTR data entered into eTRIPS. Dealer data entered into SAFIS.
2009	No funding requested		Contract with CCE expires. NYSDEC staff assumes dealer data entry tasks. VTR forms are collected from fishermen.
2010	Continuation and Expansion of Fishery Dependent Data Collection and Biological Sampling in the State of NY.	$ 174,816	Funding not disbursed. NYSDEC continues to enter dealer data and collect VTRs.
2011	Continuation and Expansion of Fishery Dependent Data Collection and Biological Sampling in the State of NY.	$ 104,500	Funding not disbursed. NYSDEC continues to enter dealer data and collect VTRs.
2012	No funding requested		NYSDEC develops in-house VTR database. All 2012 VTR data uploaded into eTRIPS. Dealer data entered into eDR
2013	No funding requested		Fishery data entered into state database and uploaded into eTRIPS. Dealer data entered into eDR.

Proposal Summary for Ranking Criteria

Proposal Type: New

Primary Program Priority:

Data Collection and Processing: NYSDEC seeks to collect and process 100 % of the VTRs submitted during the 2013/2014 project period, process all of the backlog of VTRs collected in 2008, 2009, 2010 and 2011 and continue to collect and process 100% of dealer reports submitted. New York State regulations stipulate that 100% of species landed by state licensed food fish harvesters, crab, and lobster harvesters and purchased by state licensed dealers must be reported to NYSDEC.
Compliance: NYSDEC seeks to increase reporting compliance by state licensed fishermen and dealers to 100% during project period, and increase the number of licensed dealers that submit dealer reports online into SAFIS eDR to around 100%. New York State regulations stipulate that all state licensed dealers must submit purchase reports online into eDR. There is considerable reluctance on the part of the industry.

PROJECT QUALITY FACTORS (Partners, Funding, and Data):

Partners/Multi-Partner/Regional Impact Including Broad Application:
The goal of this proposed project is to collect and process trip level data from all state licensed fishermen and dealers participating in New York's marine fisheries. These data will include information concerning regionally managed species such as American lobster, Atlantic menhaden, American eel, tautog, and weakfish and have the potential to impact many commercial and recreational fisheries managed at the regional Council and Commission level. This proposed project can result in improved management of these important species.

In-kind Contribution:
NYSDEC cannot provide any monetary in-kind contribution. However, the agency will provide project supervision, office space, existing VTR infrastructure, and NYSDEC staff time to participate in data collection and data entry, compliance monitoring and quota monitoring. In addition, vehicle use, mileage, and limited travel costs directly related to the project goals will be funded by NYSDEC.

Data: Improvement in Data Quality/Quantity:
NYSDEC has developed an in-house fishery database where all state VTR data are being entered and audited. 100% of 2012 VTR data were entered into this database and uploaded into SAFIS eTRIPS. 100% of New York State's submitted dealer data has been consistently entered into SAFIS in a timely manner for the past 4 years. Through the proposed project, NYSDEC seeks to continue to process 100% of each year's collected data to improve quota management, provide timely data to NMFS, the Councils and ASMFC and facilitate suitable management of the shared marine fisheries.

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

Electronic Reporting and Biological Characterization of New Jersey Commercial Fisheries

Submitted by;
Peter J. Clarke
New Jersey Division of Fish and Wildlife
P.O. Box 418
Port Republic, NJ 08241

Proposal for FY2014 ACCSP Funding

Revised-September 9, 2013

Applicant Name:	New Jersey Division of Fish and Wildlife Bureau of Marine Fisheries P.O. Box 418 Port Republic, NJ 08241
Project Title:	Electronic Reporting and Biological Characterization of New Jersey Commercial Fisheries
Project Type:	Maintenance
ACCSP Program Priorities:	1) Catch/Effort (55%), 2) Biological (45%) GC3
Project Supervisor:	Thomas Baum, Supervising Biologist (NJDFW)
Principal Investigator:	Peter Clarke, Assistant Biologist (NJDFW)
Project Staff:	2 NJ Fisheries Specialist (ACCSP)-Vacant
Requested Amount:	$152,602
Requested Award Period:	September 1, 2014 to August 31, 2015

Revision Notes:
General comments are highlighted in yellow, numbered according to the order in which they appear in the advisory recommendations and are placed above the text (e.g. xxxx GC1). Comments specific to NJ are treated similarly.

GC1:Reviewed
GC2:N/A
GC3:pp.2, pp.15
GC4:Addressed
GC5:pp.3, pp.7
GC6:pp.13
GC7:pp.19
GC8:Reviewed
GC9: pp.3, pp.4, pp.7
GC10:pp.3
NJC1:pp.8
NJC2:pp.8
NJC3: pp.12
NJC4:pp.12
NJC5: pp.12

1. Objective

Continue New Jersey commercial fisheries catch and effort data collection, dependent at-sea observer coverage, and biological characterization.

2. Need

Since 2001, several programs have been implemented in the State of New Jersey (NJ) [GC9] through funds provided by the Atlantic Coastal Cooperative Statistics Program (ACCSP). These funds have been vital in proactive management of the marine resources in New Jersey. Loss of funding for these critical programs would result in a significant loss of commercial fisheries data collection for the State of NJ, the ACCSP, and the Atlantic States Marine Fisheries Commission [GC9] (ASMFC).

NJ programs currently funded under the ACCSP grant include commercial trip level data collection via eTRIPS for blue crab, American eel, and tautog; port sampling of the Atlantic croaker, weakfish, American eel, American shad, and Atlantic menhaden fisheries; at sea observer coverage for American lobster off the NJ coast, and trip level dealer reporting and quota management through the Standard Atlantic Fisheries Information System [GC9] (SAFIS) electronic Dealer Reporting [GC9] (eDR). Seven of the species that NJ collects biological data for occur in the upper quartile of the ACCSP Biological Priority Matrix. The major scope of work for the current FY 2014 proposal has not changed from the accepted FY 2013 proposal [GC5]. As part of the ACCSP funding process, NJ has submitted all progress reports covering the FY 2012 project to the ACCSP and NMFS Grants Online (Progress Reports). The final 2012 Report will be due on November 30, 2013 [GC10]. The NJ FY 2014 project will begin on September 1, 2014.

2.A. Fisheries Dependent At-Sea Observer Program

NJ ACCSP staff has used at-sea observer coverage to describe fishing activities and aid in biological characterization of American lobster, Black Sea Bass and Tautog. The information collected is critical to accurate stock assessments and ultimately sustainable harvest practices for these species. Characterization of the NJ commercial tautog fishery began in 2007 and will continue into 2014, to document sex ratios, length:weight relationships and age information. NJ ACCSP staff have been sampling federally and State permitted American lobster pot vessels since 2008 and will continue to do so based on Addenda VIII and X of the American Lobster Fishery Management Plan, which mandates at sea observer coverage as a means of describing the fishing activities in southern New England. The ASMFC American Lobster Technical Committee encourages sampling at sea as a way of monitoring commercial by-catch and discards in the fishery. In addition, port sampling is also recommended as a source of characterizing the commercial landings.

2.B. Biological Characterization of Commercial Fisheries

The NJ biological characterization sampling program provides accurate length, weight, age, and temporal data for stock assessment and management of commercial harvest for the New Jersey Division of Fish and Wildlife [GC9] (NJDFW), ASMFC, and the National Marine Fisheries Service [GC9] NMFS. Target sample sizes identified through ASMFC Fishery Management Plans (FMP) achieved from 2006 through the present are found in Table 1 of the Appendix. Sampling is conducted through port of landings intercepts and will be continued in FY2014 for weakfish, Atlantic croaker, Atlantic menhaden, American shad, tautog, and American eel. NJ will continue sampling for Black Sea Bass, Summer Flounder, and River Herring through independent sampling on the NJ Ocean Trawl Survey. Data collected will provide information on sex ratios/mean length/weight as identified by the Stock Assessment Review Committee (SARC) on June 20, 2008.

2.C. ACCSP Data Feeds

NJ is currently conducting several projects under the auspices of the ACCSP, most of which are mandates from the ASMFC and require compliance by the State of NJ in order to fulfill various ASMFC Fisheries Management Plans. Equally important to the collection of fisheries dependent data is the assurance of accurate data entry and quality assurance before these data are used as fisheries management tools. The ACCSP has increasingly taken on more duties as the data depot starting with SAFIS and moving to Fisheries of the US for NMFS. As such, it is advantageous to the success of not only the ACCSP but to all 23 ACCSP partners that partner data be supplied to the ACCSP in a timely and accurate fashion facilitating the movement of data into fisheries management.

2.D. Electronic Vessel Trip Reporting (eTRIPS) & Electronic Dealer Reporting (eDR)

The importance of a standardized trip and dealer reporting system is clear. The effort put forth to use an all-inclusive standardized data entry program is critical for the NJDFW to provide a single location to find harvest data for multiple fisheries/species/years. Further, the importance of single source harvest data is similar to that for dealer data entry and warehousing: allowing managers and scientists to pull accurate landings data through a query database using common ACCSP data formats. The NJ ACCSP Fisheries Specialists' provide support to federal/state permitted dealers facilitating weekly eDR reporting. Additionally, it is the responsibility of ACCSP staff to monitor landings through eDR, correct erroneous data when trip landings and dealer reports are inconsistent, and recommend closures when seasonal quotas are reached within the state.

3. Results and Benefits

The ACCSP Coordinating Council approved NJ's proposal "Continued Dealer Reporting, Trip Level Reporting, and Biological Sampling for Commercial Fisheries in NJ" for fiscal year 2013. Included again in the FY2014 proposal is the request for salary for staff on the project with a small amount of funds allocated towards aging summer

flounder and black sea bass otoliths by the NMFS Woods Hole Aging Lab. The FY2014 proposal will ensure that ongoing projects in NJ will continue to maintain NJ's participation in ACCSP/ASMFC mandated compliance programs. In kind state match has averaged over 50% for the past four fiscal years (2010-2013) for the NJ ACCSP Program and continues to be the case for FY2014 (Table 3).

3.A. Fisheries Dependent Sampling Program

Lobster At-Sea Observer Coverage. In January 2008, at-sea sampling commenced aboard lobster vessels fishing in Lobster Conservation Management Areas (LCMA) 4 and 5 off the coast of NJ. Staff will continue at sea observer coverage in FY2014 to characterize the NJ lobster fishery. All data collected resulting from this program will be delivered to the ACCSP for inclusion into the Lobster Database. As this is the only at-sea observer program in LCMAs 4 and 5, it is imperative to continue at sea sampling.

3.B. Biological Characterization of Commercial Fisheries

Biological sampling for weakfish, Atlantic croaker, American shad, Atlantic menhaden, American eel, summer flounder, black sea bass, tautog and river herring is a maintenance project for 2014. Sampling targets were near 100 % of set goals during the first 7 years (2006-2013 Table 2) and will be similar for 2014.

Commercial weakfish, American eel, Atlantic croaker, tautog, river herring, and American shad samples collected are processed and aged at the NJDFW Nacote Creek aging facility in Port Republic, New Jersey. Atlantic menhaden bait samples collected from the NJ commercial purse seine fishery are processed at the NJDFW Nacote Creek facility and forwarded to the NMFS Beaufort Laboratory, Beaufort, North Carolina for aging. Summer flounder and black sea bass collections made on the NJDFW Ocean Trawl Survey are processed for length, weight, and sex at the NJDFW facility, hard parts are sent to NMFS Woods Hole for processing and age determination. Future samples collected will be processed and aged using the same protocol as in previous years. A current summary of species processed and aged by NJDFW staff in support of this proposal are found in Table 2 of the Appendix.

A NJDFW Biological Characterization data entry system was developed in 2006 to warehouse all data collected under the commercial biological characterization program. The NJ biological database consists of trip level effort information from which the samples were taken and biological data taken from each individual sample. To date, all biological data collected for tautog, weakfish, Atlantic croaker, American shad and Atlantic menhaden have been entered, checked for quality assurance and are available for assessment purposes.

The ACCSP and ASMFC have established species specific biological sample size goals for each partner state based on the total annual landings for each specific species. All

data entry is standardized in ACCSP format and queried when needed by NJDFW staff members for inclusion in technical reports, stock assessments, etc.

3.C. ACCSP Data Feeds

The NJDFW/NJ ACCSP staff provides ACCSP with support tables to facilitate timely and accurate landings for all species in which trip level data are collected. Quality assurance is performed monthly by NJ ACCSP staff to ensure a smooth transfer of data for the "End of the Year" Fisheries of the U.S. report submission.

3.D. Electronic Vessel Trip Reporting (eTRIPS) & Electronic Dealer Reporting (eDR)

The ACCSP and the State have gained a significant amount of commercial landings data while improving accuracy and efficiency through the use of eTRIPs and eDR. The eTRIPS program encourages fishermen to enter their own catch and effort data providing each fisherman the ability to review data without staff involvement. Additionally, commercial trip level data are available to authorized NJDFW staff for query purposes used in harvest compliance, and stock management. NJ has gained a significantly higher amount of commercial landings data through eDR for tautog, eel, menhaden, and blue crab. Duplicate reporting between state and federally permitted fishermen is removed from end of the year data reports by NJ ACCSP staff, ensuring accurate final landings data. Continuation and maintenance of eDR is imperative for the improvement of New Jersey's commercial fishery landings data collection. SAFIS eDR is the exclusive method of quota monitoring in NJ and has proven itself as a central management tool for monitoring fisheries status in NJ.

4. Approach

4.A. Fisheries Dependent Sampling Program
30% Allocated Funds

Lobster At-Sea Observer Coverage. The primary location of commercial lobster landings during the past 5 years off NJ takes place in LCMA 4 (69%) with some landings occurring in LCMAs 3 and 5 (26% and 3%). Therefore, at sea observer sampling will consist of 16 trips per year in LCMA 4. During each sampling effort, every lobster brought aboard the vessel is measured for carapace length in addition to biological observations including sex, egg development on females, cull status (number of claws), shell condition (diseased or not), and shell hardness.

Tautog At-Sea Observer Coverage. NJ will continue to collect racks from the recreational hook and line fishery. Data collected include sex, length, weight, area fished, intended market, and effort data. Sampling targets can be found in Table 2 of the Appendix. Data from the commercial fishery will be entered through the ACCSP SAFIS eTRIPS system along with at sea and port sampling of commercial fisheries.

4.B. Biological Characterization
15% Allocated Funds

Sampling of weakfish, Atlantic croaker, American shad, Atlantic menhaden, American eel, summer flounder, black sea bass, and river herring (alewife and blue back) will continue in 2014 based on 2013 annual landings of each species. Seven of the species 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 the ASMFC FMPs for each species. NJ ACCSP staff and NJDFW seasonal technicians will collect biological samples. Seasonal employees will process (cut and/or mount) all hard structures to be aged. The full time staff of Principal Biologist, Assistant Biologist, and Fisheries Specialists' will age all otoliths. All age samples collected except menhaden, summer flounder, and black sea bass are aged at the NJDFW Nacote Creek facility in Port Republic NJ. Menhaden are sent to the NMFS aging lab in Beaufort NC, summer flounder and black sea bass are sent to the NMFS aging lab in Woods Hole, MA. NJ DEP and ACCSP staff have received the necessary training to process and read all the targeted otolith samples (Table 2 of the Appendix). New Jersey will coordinate with NMFS's- Northeast Regional Office [GC9] (NERO) to avoid duplicate aging.

Data collected from each sample is initially recorded on paper data sheets and then transferred to electronic format by NJ ACCSP staff (ACCSP Fisheries Specialists) [NJC5]. After data are successfully entered and quality control measures have been performed, NJ ACCSP staff will send data feeds to the ACCSP for integration into the ACCSP warehouse. This method will allow stock assessment committees, technical committees, and operations committees to view the status of the NJ biological sampling program. Species specific sampling and data collection methodology will follow previous sampling protocol (see section 4.B. of "Continued Dealer Reporting, Trip Level Reporting, and Biological Sampling for Commercial Fisheries in NJ-2013"). species specific target samples sizes for 2014 can be found in Table 2 of the appendix.

4.C. ACCSP Data Feeds
15% Allocated Funds

The NJ ACCSP Program supplies the ACCSP with data from multiple sources including paper/electronic landings data and biological characterization programs. Some NJ landings data are not collected via eTRIPS or eDR and must be converted from paper to electronic records. Included in paper reports are commercial trip level landings of blue crab, American eel, and tautog. Biological characterization data are collected for American lobster, tautog, weakfish, American shad, American eel, Atlantic croaker, summer flounder, black sea bass, and river herring. Following collection, the data are then input into an electronic database for future use and analyses.

4.D. Electronic Vessel Trip Reporting (eTRIPS) & Electronic Dealer Reporting (eDR) 40% Allocated Funds

The continuation of SAFIS implementation includes components for web-based dealer reporting (eDR), web-based fishermen reporting, paper-based data entry by NJDFW staff, report compliance monitoring, and site administration (user access, look-up tables, data correction, etc.). The NJ ACCSP fisheries specialists supervise the implementation of the NJ eTRIPS system. NJ ACCSP staff provide state permitted fishermen with user accounts, establish favorites lists and facilitate the usage of the eTRIPS system, a web based trip level reporting form. NJ ACCSP staff (Fisheries Specialists') and NJDEP staff (Principal Investigator) develop and present training seminars for groups and conduct individual meetings when necessary to support fishermen in the use and customization of the eTRIPS system. These training tools include power point presentations at local libraries, firehouses, and other public meeting venues. The NJ ACCSP project attempts to train multiple individuals at each meeting, however, there are frequently cases when individual attention and support is required outside of these announced seminars [NJC2]. In addition, NJ staff conduct compliance monitoring of reporting (when mandatory reporting exists: blue crab, eel, tautog, menhaden) and perform QA/QC analyses of data entered into the system. NJ Fisheries Specialists identify and complete data gaps/user support for state-permitted dealers, fishermen, and managers. Cross validation for all species entered into eTRIPS with SAFIS eDR is completed during each reporting period to assure that duplicate reporting is not taking place by comparing electronic reports to those received in paper logbook format by the NJDEP for species such as tautog and Atlantic menhaden [NJC1]. Compliance of fishermen monthly reports is facilitated using the eTRIPS program.

NJ ACCSP staff lends support to the majority of state permitted dealers, typically providing logistical information regarding quota status, vessel recognition, gear selection, and general state regulations. NJ ACCSP staff will travel to commercial fishing facilities providing assistance to permitted dealers pertaining to data entry for the eDR system as needed. All NJ ACCSP staff travel for dealer and fishermen support pertaining to SAFIS and eTRIPS data entry, meetings for the further development of NJ commercial fisheries landing statistics program, and training expenses incurred will be covered by the NJ ACCSP.

5. Geographic Location

The NJDFW Fisheries Biologist will serve as the Principle Investigator for this with NJ ACCSP Fisheries Specialists (2) serving as staff. The project will be administered from the New Jersey Department of Environmental Protection, Division of Fish & Wildlife's Nacote Creek Research Station in Port Republic, New Jersey.

6. Milestone Schedule: Month 1 following receipt of grant approval.-Black sea bass at-sea-observer coverage removed from table.

Description of Activity	Month														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Electronic Vessel Trip Reporting (monitor existing fishermen reports, train new fishers, rollout system for additional species, data entry of data collected via paper based reports)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Biological Characterization of Commercial Fisheries (Collect lengths, weights and age structures from NJ's commercial fisheries. Process and age scales, opercula or otoliths collected)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Lobster Landing Statistics (Lobster harvest data collection with components of eVTR, dealer data, at-sea sampling, port sampling)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Tautog Landing Statistics (collection of commercial at-sea coverage data)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ACCSP Data Feeds (data entry of all biological samples collected by the NJDFW, transmission of all data to the ACCSP through monthly data feeds, SAFIS support tables)			X			X			X			X			
Electronic Dealer Reporting (continue to perform quota monitoring and the online reporting of commercial fisheries landings data for summer flounder, black sea bass and scup)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Semi-annual report 1						X									
Semi-annual report 2													X		
Final report															X

7. Project Accomplishment Measurements update

Project Component	Goal	Measurement
SAFIS Electronic Trip Reporting (eTRIPS) Phase I	Successfully collect data from fishermen reports, check for compliance, and perform quality assurance.	All data checked and compliance performed prior to the 10th of the following month.
SAFIS Electronic Trip Reporting (eTRIPS) Phase II	Enter all received data submitted by fishermen, perform quality assurance measures.	All data entered and checked prior to the 10th of the following month.
Biological Characterization of Commercial Fisheries	Meet all target sample sizes for length, sex, age for each species.	Number of samples collected.
Dependent Fisheries At Sea Observer Program	Conduct the prescribed number of trips and collect target number of samples by species and management area.	Number of trips made and number of samples collected.
ACCSP Data Feeds	Supply the ACCSP with data feeds as described including participant, and landings data on the schedule described	Were the data feeds performed by the deadlines identified?
SAFIS Electronic Dealer Reporting (eDR)	Supply support to participating eDR dealers with NJ state dealer permits when requested. Perform report compliance on a monthly basis. Manage summer flounder, black sea bass, and bluefish quota as allocated to the State of NJ.	Was support provided and quotas managed?

8. **FY 2014 Budget** (Letters in parenthesis pertain to Federal Grant Object Codes)

	Item		*Total NJ DFW in-kind support*
	Salaries (NJDFW)	***Calculation***	***Cost***
	Supervising Biologist 5% in-kind		$6,027
	Principal Biologist-Age and Growth Lab Supervisor- 50% in-kind (current FTE)		$47,286
	Assistant Biologist- 25% in-kind (current FTE)		$19,029
	Technician I-Data Processing and Entry 50% ACCSP, 50% in-kind, (current FTE)		$39,372
	Clerical 10%		$6,223
	Supplies & Materials		
	Scientific Equipment (Measuring boards, scales)		$250
	Materials for collection and preparation of scales, otoliths, operculi, etc.		$350
	purchase of samples (eel otoliths)		$700
	Other		
	NJDFW Trawl Survey (502 samples collected in 2012 x $20 per sample)		$10,040
	Department Network account (OIRM)		$4,900
	NJ DFW indirect costs (20.29% of salaries)		$25,050
	Subtotal NJ funds		**$159,227**
	Append to ACCSP Administrative Grant		
(a)	***Salaries (NJ ACCSP Staff)***		
	2 ACCSP Fisheries Specialists (ASMFC employees)	2 x (2080 hrs x 19.07/hr)	$79,343
(b)	Benefits 25%	25% of total salaries	$19,836
	Other		
(c)	Travel (mileage and tolls)	8,390 miles x $0.55/mile	$4,615
(f)	NMFS Contract; process and age summer flounder/black sea bass otoliths	$12.48/sample x 1,000 samples	$12,480
(j)	* ACCSP Overhead (35%)	35% of items a,b, and c	$36,328
(k)	**ACCSP Admin Grant Project Costs**		**$152,602**
	Total Project Costs-Includes ACCSP Admin Grant and NJDEP In-Kind Match		**$311,829**

Budget Narrative NJC4

(a). Salaries; ACCSP Fisheries Specialists:
(2) NJ ACCSP fisheries specialists' annual salary. NJC5

(b). benefits of above employees
25% of the annual salary for the two NJ ACCSP staff.

(c). Travel (mileage and tolls):
The average amount of miles traveled over the last three years to commercial docks, vessels, and instate meetings with industry representatives for the entire project = 8,390 miles / year.
8,390 x $0.55 = $4,615 dollars.

(f). NMFS Contract:
For aging otoliths from summer flounder and black sea bass collected by NJ ACCSP Staff:
500 black sea bass otoliths x $12.48 per otolith = $ 6,240.
500 summer flounder otoliths x $12.48 per otoliths = $ 6,240.
1,000 total otoliths to be aged x $ 12.48 per otoliths = $12,480.
purchase of 350 American eels from fishermen.

(j). ASMFC Overhead:
35 % of the sum of budget items a, b, and c.

(k). ACCSP Administrative Grant Project Costs:
Total of (a) through (k) does not include in-kind support. No funds are being directly received by the State of NJ.

The FY2014 budget is in two parts, the first part details the amount that is being provided as in-kind match by the NJ Division of Fish & Wildlife, while the second part is the amount to be amended to the ACCSP Administrative Grant. The $152,602 covers the salaries for two Fisheries Specialist positions that were hired by ACCSP and work out of the NJ Division of Fish & Wildlife's field office in Port Republic, NJ. This covers their fringe and indirect and ASMFC's overhead, their travel for mileage and tolls during port sampling and at-sea observer trips in addition to attendance at ACCSP Committee meetings. New Jersey is unable to hire any new employees, even if funding is available, therefore, ACCSP is able to hire and take care of any administrative and human resource needs for these personnel, to ensure that the objectives of the project are accomplished. The ACCSP also is able to administer funds to have the summer flounder and black sea bass otoliths prepared and ages determined by the NMFS North East Fishery Science Center staff.

The In-Kind funding provided by the NJDFW includes; salaries for NJDFW full time employees under the titles of Supervising Biologist, Principal Biologist, Assistant Biologist, Technician I, and Clerical; supplies for port sampling, aging laboratory materials, and purchasing eel samples; and staff time for independent samples taken aboard the NJ Ocean Trawl Survey and processed at the NJDFW Port Republic field station, as well Department network support for online reporting systems, and computer support for staff working under the ACCSP Project. Sources of in-kind funding come from the annual state appropriation for the NJ Bureau of Marine Fisheries and from the Atlantic Coastal Grant. NJC3

The FY 2014 proposal requested amount from the ACCSP is reduced by $85,288 relative to the FY 2013, transitioning away from ACCSP funding. NJC4

8.1 FY 2013 Budget (Letters in parenthesis pertain to Federal Grant Object Codes)[GC6]

	Item	*Total Requested from ACCSP*	*Total NJ DFW in-kind support*
(a)	***Salaries (NJDFW)***		
	Principal Biologist 25% (5% ACCSP funds, 20% in-kind)	$4,128	$16,513
	Principal Biologist-Age and Growth Lab Supervisor-50% (10% ACCSP funds, 40% in-kind) (current FTE)	$6,478	$25,910
	Assistant Biologist- 50% (25% ACCSP funds, 25% in-kind) (current FTE)	$13,033	$13,033
	Technician I-Data Processing and Entry 100 % (50% ACCSP, 50% in-kind) (current FTE)	$26,967	$26,967
	Clerical 10%		$4,263
(b)	Fringe benefits (34.85% on FTEs)	$17,636	$28,724
(d)	***Supplies & Materials***		
	Scientific Equipment (Measuring boards, scales)	$1,000	
	Materials for collection and preparation of scales, otoliths, operculi, etc.	$1,600	
(f)	NJDFW Trawl Survey ($5,900 per 12 hr day x 10 days)		$59,000
	purchase of samples (eel otoliths)	$600	$600
(h)	***Other***		
	Department Network account (OIRM)		$4,900
(j)	NJ DFW indirect costs (20.29% of salaries)	$13,846	$24,513
	Subtotal NJ funds	**$85,288**	**$203,823**
	Append to ACCSP Administrative Grant		
(a)	***Salaries (NJ ACCSP Staff)***		
	2 ACCSP Fisheries Specialists (ASMFC employees)	$79,343	
(b)	Benefits 25%	$19,836	
(c)	Travel (mileage and tolls)	$4,615	
(f)	NMFS Contract; process & age fluke/black sea bass otoliths, ($12.48/sample, 1,000 samples)	$12,480	
(i)	Total Direct Charges	$116,274	
(j)	* ACCSP Overhead (35%)	$36,328	
	Total to append to ACCSP Administrative Grant	$152,602	
(k)	**Total Project Costs =** Subtotal NJ Funds + Total to append to ACCSP Admin Grant	**$237,890**	

9. Maintenance Projects

Table 3. Amount of funds received directly by the NJDFW, the amount appended to the ACCSP Admin. Grant for NJ ACCSP Staff salaries, and the amount and percentage of In-Kind funds supplied by the NJDFW for ACCSP projects. *Fiscal Year 2013 Requested Amount.

History Details for NJDFW ACCSP Funded Projects

Fiscal Year	Period	Project	Results	NJ ACCSP Funds Requested	Appended to ACCSP Admin Grant	NJDFW In-Kind	In-Kind Percentage of Total Project Cost
2001	9/01/2001 through 8/31/2002	Integration of Commercial Blue Crab Harvest Data into the ACCSP	Implemented reporting of commercial blue crab harvest reports for the state of NJ using the NMFS CODES data entry system.	$133,988	$0	$0	0%
2005	5/01/2005 through 4/30/2006	Implementation of Phase 2 of the ACCSP for the State of New Jersey	Hired NJ ACCSP Statistical Coordinator; brought NJ dealers into compliance with state reporting regulations for summer flounder, black sea bass, scup, and bluefish. Began the weekly monitoring of the annual/seasonal quotas for summer flounder, black sea bass, bluefish, and scup for NJ.	$89,180	$84,375	$41,831	19%
2006	9/01/2006 through 8/31/2007	Biological Characterization of Four New Jersey Commercial Fisheries	Initiated biological characterization of four commercially important marine species.	$79,722	$0	$59,986	43%
2006	9/01/2006 through 8/31/2007	Continuance of Phase 2 of the ACCSP for the State of New Jersey	Continued dealer reporting quality control/assurance. Preliminary development of electronic vessel trip reporting system in NJ.	$81,264	$78,975	$63,556	28%
2007	9/01/2007 through 8/31/2008	Implementation of eVTR, Biological Characterization and Continuance of SAFIS Coordination for the State of New Jersey	Terminated paper based dealer reporting in NJ, transitioned to SAFIS eDR. Continued biological sampling in NJ for commercial fisheries. Began NJ system requirements for electronic vessel trip reporting system in NJ.	$167,544	$87,413	$111,617	30%
2008	9/1/2008 through 8/31/2009	NJ Implementation of ACCSP Commercial Fisheries Data Collection; Electronic Vessel Trip Reporting, Electronic Dealer Reporting, and Biological Characterization.	Initiated the ACCSP electronic vessel trip reporting (eTRIPS) for state only fisheries in NJ for blue crab and American eel. Implemented the first year of at sea observer coverage for commercial lobster and tautog. Continued biological characterization of weakfish, Atlantic croaker, American shad, and American eel.	$128,536	$150,525	$86,609	24%
2009	9/1/2009 through 8/31/2010	Introduction & Continuation of SAFIS and Biological Characterization of Commercial Fisheries in NJ	Implemented Phase II eTRIPS for blue crab. Continued biological sampling for weakfish, American eel, American shad, Atlantic croaker, at sea observer coverage for American lobster and tautog. Continued monitoring commercial fisheries for summer flounder, bluefish, black sea bass, and scup.	$52,814	$174,096	$132,008	37%
2010	9/1/2010 through 8/31/2011	Further Development of SAFIS and Biological Characterization of Commercial Fisheries in NJ	Implemented Phase II eTRIPS for Tautog and American eel. Continued the fifth year of biological sampling for weakfish, American eel, American shad, Atlantic croaker. Completed the third year of American lobster and tautog commercial at sea observer sampling. Implemented the first year of independent summer flounder, black sea bass, and river herring biological sampling. Supplied the ACCSP with NJ state harvest data for American eel trip level information. Continued quota managment for the summer flounder, bluefish, black sea bass, and scup commercial fisheries.	$24,301	$174,096	$191,008	49%
2011	9/1/2011 through 8/31/2012	Continued Expansion of SAFIS and Biological Sampling for the Commercial Fisheries of NJ	Continue currently funded NJ programs under the ACCSP grant including; eTRIPS for blue crab, American eel, and tautog fisheries; port side sampling of croaker, weakfish, American eel, American shad, and menhaden fisheries; at sea observer coverage for lobster in LCMA 4 and 5 and the black sea bass pot fishery off NJ; Continued monitoring of dealer reporting and quota management through SAFIS eDR.	$0	$188,779	$191,008	50%
2012	9/1/2012 through 8/31/2013	Continued Dealer Reporting, Trip Level Reporting, and Biological Sampling for Commercial Fisheries in NJ	Electronic vessel trip reporting (eTRIPS), electronic dealer reporting, biological charectarization, fisheries sampling data programs and ACCSP data feeds were successfully monitoried, maintained and integrated into existing data warehouses.	$0	$192,100	$240,897	56%
** 2013*	*9/1/2013 through 8/31/2014*	*Continued Dealer Reporting, Trip Level Reporting, and Biological Sampling for Commercial Fisheries in NJ*	Electronic vessel trip reporting (eTRIPS), electronic dealer reporting, biological charectarization, fisheries sampling data programs and ACCSP data feeds were successfully monitoried, maintained and integrated into existing data warehouses.	*$75,988*	*$152,601*	*$203,823*	*47%*
Total Amount for all ACCSP Projects				$833,337	$1,282,960	$1,322,343	35%

Proposal Summary for Ranking Criteria

PROPOSAL TYPE: ***Maintenance***

PRIMARY PROGRAM PRIORITY:

Catch and Effort: **100 %** of permitted dealers in NJ will be submitting dealer reports through SAFIS eDR, for **100%** of the species they purchase. **67%** of the 21 commercial harvester license types will be submitting trip level catch and effort data, the remaining 33% of harvester licenses are collected through the federal NMFS VTR program.

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 and dealers, it includes the data collection of species harvested regionally such as lobster, bluefish, summer flounder, black sea bass, scup, tautog, weakfish. Thus the ASMFC will benefit from the dealer and harvester data collected from this project.

Funding-

Contains funding transition plan/ Defined end point:
The NJ ACCSP Project in fiscal year 2013 included funds that went directly to the NJDFW for salaries and supplies. The NJDEP has proposed a landing license for all state fisheries several times over the years. The efforts have been thwarted by industry lobbyists who are opposed to any license. The NJDEP has been able to create an Atlantic menhaden landing license, the funds of which will be directed towards commercial fisheries research and management for that specific fishery. This specific license is limited entry with very specific qualifying factors to remain in the fishery. Because of this recent development, there are several commercial bases realizing the importance of mandatory reporting. These license funds will provide NJ with a source of revenue further relieving funding away from the ACCSP. In fiscal year 2014, these costs have been removed and are now covered as In-Kind match from the NJDEP. GC3

In-kind Contribution:
NJDFW is providing 51% of the project cost (see table 3).

Data:

Improvement in data quality/quantity:
NJDFW has been able to provide commercial harvest landings data to the ACCSP for American Lobster, Atlantic Menhaden, blue crab, and American eel through annual data feeds. The NJ eDR program continues to be monitored by the NJ ACCSP staff. This type of project and data management has ensured improvements in data quality, quantity and timeliness.

SECONDARY PROGRAM MODULE:

Biological Sampling:
NJ is collecting biological characterization data through port sampling and at-sea observer coverage for 10 species, 7 of which are listed in the upper 25% on the ACCSP Biological Priority Matrix.

PROJECT QUALITY FACTORS (Partners, Funding, and Data):

Partners:

NJ is collecting biological characterization data for ten species of which seven have regional management through ASMFC fisheries management plans including weakfish, Atlantic croaker, American shad, tautog, American lobster, black sea bass, and summer flounder.

-American lobster at-sea observer data coverage includes trips in LCMAs 4 and 5.

-American eel sampling covers water bodies bordered by NY, NJ, PA, and DE.

-Atlantic menhaden samples are used by Seton Hall University to conduct chemical contamination studies through bioassay analysis.

Data:

All biological data collected by the NJDFW/NJ ACCSP staff are available for coast wide stock assessment. NJ Blue Crab harvest trip level catch and effort data are used by the state of Delaware to conduct their stock assessment within the Delaware Bay. NJ Tautog biological sampling and aging data are used by coast-wide and regional stock assessment committee. NJ at-sea lobster observer data are utilized regionally for stock assessment and recruit abundance.
NJ weakfish and American eel biological characterization data are used for stock assessment.

Bycatch/Species Interactions:

The NJ At-sea Observer Program covering the lobster and black sea bass fishery collects by-catch data on all pots sampled during the directed trips.

Appendix:

Table 1. History of ALL biological samples collected by the NJ ACCSP program. ACCSP FY2012 rankings for each species appear in parenthesis after each species name, anything ranked 1-20 is in the upper 25% of the matrix.

NJ ACCSP Biological Sampling Summary

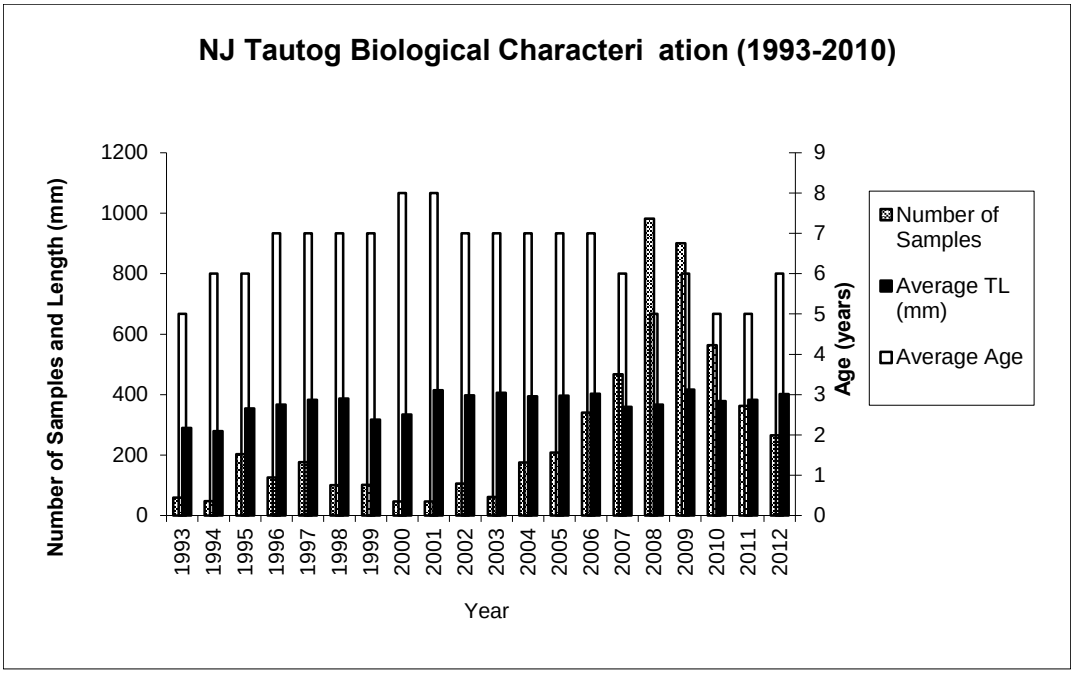
	Weakfish (13)			American Eel (24)			Atlantic Croaker (71)			American Shad (4)			Atlantic Menhaden (adequately sampled)			Tautog (21)			American Lobster (20)		Black Sea Bass (1)			Summer Flounder (10)		
Year	Lengths	Otoliths	Otoliths Aged	Lengths	Otoliths	Otoliths Aged	Lengths	Otoliths	Otoliths Aged	Lengths	Otoliths	Otoliths Aged	Lengths	Scales	Scales Aged	Lengths	Opercles	Opercles Aged	Lengths	Trips Made	Lengths	Otoliths	Otoliths Aged	Lengths	Otoliths	Otoliths Aged
2004	71	57	57	0	0	0	0	0	0	0	0	0	0	0	0	176	176	176	0	0	N/A	N/A	N/A	N/A	N/A	N/A
2005	150	150	148	0	0	0	0	0	0	0	0	0	0	0	0	208	208	208	0	0	N/A	N/A	N/A	N/A	N/A	N/A
2006	379	377	377	457	141	48	364	364	364	0	0	0	310	310	230	339	339	339	0	0	N/A	N/A	N/A	N/A	N/A	N/A
2007	566	549	549	237	0	0	340	340	338	7	0	0	630	630	486	467	313	313	0	0	N/A	N/A	N/A	N/A	N/A	N/A
2008	457	451	451	547	508	0	608	500	498	36	34	0	760	760	667	982	505	200	6330	11	N/A	N/A	N/A	N/A	N/A	N/A
2009	254	254	254	478	418	0	960	560	558	28	28	0	430	430	386	901	569	200	6785	14	N/A	N/A	N/A	N/A	N/A	N/A
2010	650	571	571	399	384	346	750	750	749	42	42	0	560	560	421	563	487	200	5569	10	1282	91	90	247	247	231
2011	313	313	310	289	265	265	274	274	240	0	0	0	530	530	448	363	346	346	8661	14	106	106	106	340	340	335
2012	202	202	156	140	60	60	660	635	635	220	0	0	890	890	826	265	259	259	23690	20	109	109	108	393	393	377
***2013**	103	103	0	61	61	0	0	0	0	55	55	0	410	410	0	67	65	0	7374	7	7	7	0	116	116	0
TOTAL	**3145**	**3027**	**2873**	**2608**	**1837**	**719**	**3956**	**3423**	**3382**	**388**	**159**	**0**	**4520**	**4520**	**3464**	**4331**	**3267**	**2241**	**58409**	**76**	**1504**	**313**	**304**	**1096**	**1096**	**943**

*2013 is the current sampling year for the NJ ACCSP project. All samples collected thus far have not been entered/processed at the time of submission.

Table 2. 2013 sampling targets for each of the nine species currently funded through the ACCSP.

2013 NJ ACCSP Sampling Targets		
Species	**Target Lengths**	**Target Ages**
American Eel	1750	350
Atlantic Croaker	930	465
Atlantic Menhaden	380	380
Weakfish	33	17
Shad	250	250
Summer Flounder	500	500
Black Sea Bass	500	500
River Herring	500	500
Tautog	480	480

Figure 1. Historical summary of the NJDFW tautog aging program (1993-2012).



Peter J. Clarke GC7

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OBJECTIVE

Conservation and management of marine/estuarine fishes through scientific sampling, data collection, and research.

EDUCATION

2006 M.S., University of Massachusetts, Fisheries and Wildlife Conservation, Thesis Title: Winter Recruitment of Age-0 Bluefish, *Pomatomus saltatrix*, into a Northeast Florida Estuary.

1998 B.S., Massachusetts Maritime Academy, Marine Safety and Environmental Protection.

PROFESSIONAL EXPERIENCE

2011-Present	Fisheries Biologist, NJ Division of Fish and Wildlife, Bureau of Marine Fisheries, Nacote Creek, NJ.
2005-2011	Fisheries Specialist, Atlantic States Marine Fisheries Commission; NJ Bureau of Marine Fisheries, Nacote Creek, NJ.
2005	Research Technician, New Jersey Department of Environmental Protection, Bureau of Marine Fisheries, Nacote Creek, NJ.
2002-2006	Masters Candidate / Research Assistant, University of Massachusetts, Department of Natural Resources Conservation, Fisheries and Wildlife Conservation, Amherst, Massachusetts.
2000-2002	Research Technician, Rutgers University Marine Field Station, Tuckerton, NJ.
1999-2000	Research Volunteer, National Marine Fisheries Service, James J. Howard Marine Laboratory, Highlands, New Jersey.

PUBLICATIONS AND PRESENTATION

Clarke, P.J. and F. Juanes. In Prep. Winter Recruitment of Age-0 Bluefish, *Pomatomus saltatrix*, in a Northeast Florida Estuary. Target Journal: Fishery Bulletin, 2012.

Able, K.A., P. J. Clarke, and R.C. Chambers. Transitions in the morphological features, habitat use, and diet of young-of-the-year goosefish (Lophius americanus). Fishery Bulletin. Volume 105, Number 4, October 2007.

Clarke, P.J. 2001. Materials and Methods for Preparing and Analyzing Otoliths from *Lophius americanus* (Northwestern Atlantic Goosefish). Technical Report. Rutgers University Marine Field Station.

Juanes, F., J. Murt and P. Clarke. 2007. Winter recruitment of YOY bluefish: habitat use, feeding ecology, and energetics. NAFO/ICES/PICES/Symposium, Reproductive and Recruitment Processes of exploited marine fish stocks. Lisbon, Portugal, 1-3 October 2007.

Winter Ecology of Young-of-the-Year Bluefish in a Northeast Florida Estuary. Mid-Atlantic American Fisheries Society. 2006.

Winter Recruitment of Age-0 Bluefish, *Pomatomus saltatrix*, in a Northeast Florida Estuary. 28th Annual Larval Fish Conference. Clemson, South Carolina, USA, 23-26 May 2004.

Winter Recruitment of Young-of-the-Year Bluefish, *Pomatomus saltatrix*, into Northeast Florida Estuaries; aspects of distribution, critical habitat, diet, and condition. 133rd Annual American Fisheries Society Conference . Quebec City, Quebec, Canada, 10-14 August 2003.

Examination of the Early Life History of *Lophius americanus* (Northwest Atlantic Goosefish). New Jersey Academy of Science, Kean University, New Jersey. 2002.

FY 2014 Atlantic Coastal Cooperative Statistics Program (ACCSP)
Funding Request Proposal – July 8, 2013
Revised – September 6, 2013

Applicant: South Carolina Department of Natural Resources (SCDNR)
Marine Resources Division, Charleston, SC

Project Title: ACCSP Data Reporting from South Carolina's Commercial Fisheries
1) 100 % Trip-Level Catch and Effort Data Collection (70%)
2) Biological Sampling for Hard Part/Aging of Offshore Species (30%)

Project Type: Maintenance Project: One-year
(No scope of work change, major emphasis on Electronic Data Reporting)

Principal Investigator: Amy Dukes, SCDNR Statistics Coordinator

Requested Award Amount: **$175,716.00** (Excludes 5% NOAA Administrative Fee)

Requested Award Period: One-year, July 1, 2014 thru June 30, 2015, or after receipt of funds

Objectives: The objectives of this study incorporate two ACCSP Primary Program Priorities including Catch/Effort Data Collection (70%) and Biological Sampling (30%) with no changes to the scope of work.

Currently, SCDNR is actively engaged in collecting consistent ACCSP-compliant trip-level data for 100% of all marine and diadromous commercial fisheries in South Carolina. These data are used to aid in the management of Atlantic Coast fisheries. The proposed funding would allow SCDNR to maintain compliance with ACCSP data requirements and standards through the continuation of data collection, data entry, database management, and limited administrative support; and collect biological samples, including otoliths and length frequency, from commercial fisheries in the snapper/grouper complex, along with pelagic and coastal migratory species landed in South Carolina.

Needs:
It is crucial to assess comprehensive catch/effort data and collect biological samples in order to effectively and efficiently manage fisheries. These data can directly impact commercial fishing activities and can affect both the state and the southeast region. These data are used to support stock assessment analysis for state and federally managed species, and are responsible for the assessment of finfish stocks to identify fisheries trends, assess management priorities, and meet regulatory requirements under the Magnuson-Stevens Act. Atlantic States Marine Fisheries Commission also needs reliable and detailed data to evaluate the effectiveness of Fisheries Management Plans. There is no direct long-term state funding available through SCDNR to accomplish ACCSP Catch/Effort or Biological Sampling priorities.

Catch and Effort - Since 1976, South Carolina has required mandatory reporting (regulatory authority, Title 50, Section 50-5-380, SC Code of Laws) of monthly totals of commercial landings from licensed wholesale seafood dealers, and since 2003 these data have been provided on a trip-level basis. **Currently, 100% of all commercial fisheries products landed in South Carolina are reported through ACCSP compliant trip-level ticket logbooks by over 200 licensed wholesale seafood dealers.** These data are collected through a one-ticket system, meaning that all fishing effort (provided by the harvester), pounds of catch, and product values are obtained and reported by the wholesale seafood dealer on logbook forms provided by the agency. Commercial fishermen and wholesale seafood dealers who fail to make accurate, timely, and complete reports are subject to Law Enforcement actions, including fines and possible suspension of licenses.

The initiation of Electronic Data Collection has continued to be a major focus, as National Marine Fisheries Service has required electronic data reporting for all federal seafood dealers since 2010 and 2013, respectively, in order to track species for quota monitoring. The initial and continued efforts by SCDNR have been restricted solely to federal dealers. This was primarily due to limited Statistics staffing. Hiring a dedicated staff member to be target-focused on electronic data reporting would allow for the expansion of efforts to include state-only dealers. With these proposed funds, SCDNR will be able to hire a fulltime biologist to provide outreach, education, and support to federal dealers while initiating efforts to have state-only dealers utilize the electronic infrastructure as well. Although the concept of electronic data reporting has not been well received by the majority of state and federal dealers in South Carolina, having a dedicated staff member to directly assist these customers will aid in bridging the gap while continuing to be extensively involved in outreach and technical support to ensure compliance. Table 1 below tracks the number of federal dealers over the past several years. The noticeable initial decline in the numbers of dealers was directly linked to the requirement to report electronically. In 2010, SCDNR staff surveyed these 27 federal dealers prior to the initiation of the electronic data requirement to determine hardware, software and skill level for computers. Most of those that did relinquish their federal dealer permits indicated no computer/skills or time constraint/added work-load associated with electronic data.

The requested funding for this project would allow SCDNR to continue to employ Fisheries Statistics Section (FSS) staff, including the to-be hired electronic data coordinator, data manager, compliance coordinator, and data entry positions, as well as support for printing and postage costs associated with data collection. In addition, the current logbooks being used to report catch and effort data can be phased out and potentially allow for cost savings as more dealers utilize electronic data reporting.

Table 1. Number of Licenses sold annually to Commercial Fisherman and Wholesale Seafood Dealers by SCDNR and the number of SC Dealers that are also Federal Dealers required to report trip landings data electronically. (Fiscal year = July 1 – June 30). * The only year in which HMS federal dealers are included. *

FSS Data Collections and Compliance Tracking	# of Licensed Commercial Fisherman	# of Licensed Dealers	# of Licensed Dealers Reporting Electronically
FY10	1,473	293	27
FY11	1,362	258	14
FY12	1,449	277	19
FY13*	1,311	281	21*

Biological Sampling - SCDNR currently conducts dock-side sampling efforts on finfish, which includes the collection of biological samples of otoliths and length measurements. **ACCSP-compliant biological sampling data from the snapper/grouper complex as well as coastal migratory and pelagic fisheries are collected through the SEFSC Trip Interview Program (TIP).** Port agents often collect additional biological data, including tissue samples, from related species over and above the set sampling targets, as these species are of interest for SCDNR and related project goals under the agency's overall mission to manage and protect South Carolina fisheries. These additional samples will be analyzed in-house under the direction of MARMAP staff, and will not utilize ACCSP requested funds except for sampler salary time/travel time, as these additional samples are taken cohesively. This will increase the available data in future stock assessments. Through ACCSP funding, SCDNR will be able to maintain this consistent sampling by two port agents.

Results and Benefits:

FSS staff and port agents facilitate the partnership between the private sector and state/federal management entities to maintain a positive working relationship between all parties. SCDNR will work to maintain open and effective lines of communication with all commercial fishermen and wholesale dealers **to ensure** that everyone understands the importance of **timely, accurate, and complete data submissions** associated with these managed fisheries.

Catch and Effort - The information collected will provide comprehensive and comparable data which will be used to evaluate the current effectiveness of fisheries management, set priorities, and develop new Fisheries Management Plans in conjunction with state and federal partners and councils.

Biological Sampling - This level of biological sampling is essential for the evaluation of finfish stocks, and the resulting comprehensive and comparable dataset will be essential to set priorities and evaluate the effectiveness of current and future fisheries management plans.

Approach:

Catch and Effort Tasks

1. Collection and entry of all commercial fisheries trip-level catch and effort data through a mandatory trip ticket reporting system in accordance with ACCSP protocols and standards.
    - SCDNR will continue to employ two Data Specialists, one Data Administrative Assistant, one Data Manager and one Section Manager Leader responsible for all commercial catch and effort compliance, data entry, editing, and submission to ACCSP.
    - Individual trip tickets will be required from dealers and tracked for compliance for all commercial fisheries products landed in South Carolina.
    - Non-compliance offenders will be reported to SCDNR Law Enforcement and are subject to action. Statistics staff will assist with prosecution efforts by providing evidence in court.
    - Trip tickets will be reviewed for completeness, edited as necessary, entered and verified.
    - Trip ticket logbooks will periodically undergo a review process in order to identify areas for data collection improvements, and to ensure that dealers understand all data fields.

- Efforts to QA/QC licensing data will continue as necessary to ensure the cohesion and integrity of FSS databases.
- Data will be converted to ACCSP codes and transmitted to ACCSP in a timely manner, at minimum quarterly.

2. Editing and verification of commercial fisheries trip level catch and effort data through electronic data reporting.
    - **To-be hired dedicated** staff will continue to focus on outreach and education efforts to these dealers and introduce to state dealers the ACCSP's Standard Atlantic Fisheries Information System (SAFIS) or Bluefin software to report catch and effort data electronically.
    - FSS staff will verify consistencies and edit as necessary catch and effort data reported between mandatory trip tickets and electronic data submissions.

Biological Sampling Tasks

1. Collection of biological samples from commercially landed species within the Snapper/Grouper, Coastal Migratory and Pelagic fisheries, in compliance with ACCSP Biological Sampling standards.
    - SCDNR will continue to employ one full-time and one part-time Port Agent to collect age structure and length frequencies from targeted species landed in South Carolina.
    - Port Agents will focus their efforts on intercepting commercial finfish trips at specific wholesale dealers/docks where these species are typically landed.
    - Specimens will be randomly selected and identified as the catch is unloaded, length will be recorded and otoliths extracted. Otoliths will be collected through the gill plate so that the market condition of the fish is not compromised.
    - Target species for sampling will follow the ACCSP Biological Review Panel species list and/or Fisheries Science Center staff and will be adhered to in order to avoid sampling bias. However, Port Agents will have the ability to collect biological samples for species of interest to SCDNR.
    - Port Agents help to ensure that Wholesale Dealers are completing the mandatory trip tickets both accurately and in a timely manner.
2. Biological sampling data will be edited, entered and verified in the TIP on-line database and submitted on a monthly basis.
    - As part of the TIP protocol, in-person interviews will be conducted at the time of the biological sampling to gather necessary catch and effort information from vessel captains.
    - Catch, effort, and length frequency data collected will be verified and entered into the TIP on-line database following established protocols.
    - Age structure samples (otoliths) will be prepared, packed and shipped to be analyzed at the SEFSC Beaufort Laboratory aging and data processing following TIP protocols.

Geographic Location:

The project will be headquartered at the SCDNR Marine Resources Division facility in Charleston, South Carolina. Project personnel are responsible for all data collections for marine commercial fisheries from multiple ports along the South Carolina coast.

Milestone Schedule:

Catch and Effort	J	A	S	O	N	D	J	F	M	A	M	J	J	A
Task 1 Collection of commercial fisheries trip level reporting and related data in accordance with ACCSP standards.	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**		
Task 2 Data entry, editing and verification of fisheries trip level reporting data.	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	
Task 3 Conversion of data to ACCSP codes and data transmission to ACCSP in a timely manner.	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	
Task 4 Report writing period.											**X**	**X**	**X**	**X**
Biological Sampling	J	A	S	O	N	D	J	F	M	A	M	J	J	A
Task 1 Collection and preparation of data on length frequencies and hard-part samples for commercially landed Snapper/Grouper, Pelagic, and Coastal Migratory species.	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**		
Task 2 Preparation and shipment of hard-part samples to Beaufort Marine Lab in North Carolina for processing and aging.	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**		
Task 3 Data editing (coding), verification and entry into the TIP online database.	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	
Task 4 Report writing period.											**X**	**X**	**X**	**X**

Project Accomplishments Measurement:

Catch and Effort - SCDNR will continue to meet a data dissemination goal, which will deliver South Carolina landings data to ACCSP no more than 90 days after the product was landed.

Biological Sampling - SCDNR will continue to achieve set TIP sampling targets yearly, with data entry into the TIP online database and delivery of collected samples monthly.

Program Priorities/ Project Component	Goal	Measurement
Catch and Effort	Collection of 100% of all SC commercial fishery products landed at trip-level in accordance with ACCSP standards.	Data entered, verified and delivered to the ACCSP no more than 90 days after the landing date.
Catch and Effort	Initiation of Electronic Data Reporting by Federally Permitted Dealers.	Dealers reporting on a bi-weekly basic, completely and accurately. NMFS SERO to establish regulation.
Biological Sampling	Collection of all sampling targets set through the ACCSP Biological Committee and TIP.	Number of samples collected.
Biological Sampling	Validate, enter, and edit all biological data into TIP on-line and provide samples to Beaufort Lab.	Time and accuracy of data/samples provided.

Cost Summary:

BUDGET TEMPLATE FOR PROPOSAL PLANNING – FY14

	ACCSP Operational Costs Request		SCDNR In-Kind Contributions	
Personnel Expenses: All current staff, no new hires.	**Monthly Time**	**Salary Funds**	**Monthly Time**	**Salary Funds**
Statistics Leader (Catch & Effort, & Biological - AWD)	0	$0	9	$32,068
Database Manager (Catch & Effort - EH)	3	$9,718	3	$9,718
Biologists II (Biological) **To Be Hired**	10	$24,378	2	$4,876
Data Administrator (Catch & Effort - VG)	4	$11,352	4	$11,352
Data Coordinator I (Catch & Effort - SM)	4	$8,090	4	$8,090
Data Coordinator II (Catch & Effort - CB)	6	$13,454	5	$11,212
Biologists I (Biological - DP)	7	$18,634	4	$10,648
Biologist I (Biological - EM)	6	$15,972	5	$13,310
Total Salary Costs	**$101,599.00**		**$101,274.00**	
Fringe Costs (38%)	**$38,607.00**		**$38,484.00**	
Indirect Costs (23.14%)	**$23,510.00**		**$23,435.00**	
Total Personnel Expenses	**$163,716.00**		**$163,193.00**	
Miscellaneous Expenses				
Printing & binding (forms, surveys, tickets) SCDNR currently has 8 logbook forms necessary to collect 100% mandatory trip level data. Printing of the logbooks based on size and quantity ordered. Average price per book: $8.50. Typical usage of these logbooks varies from year to year. During the last fiscal year, # 396 logbooks were distributed to dealers, with a replacement coast estimated at $3962.50	$4,000		$1,000	
Postage (incoming, business reply mail) The yearly fee to hold a USPS Business Reply is $835.00. SCDNR paid an additional $2,122.56 in returned mail during the 2013 fiscal year, which primarily includes dealer reports. Providing free return mail is an incentive for accurate and timely reporting from dealers. It has proven to be very successful.	$3,000		$1,000	
Postage (outgoing, forms, notices) This amount reflects the average amount typically spent to send mail to dealers. Monthly reminder letters are sent to delinquent dealers, and upon request, user manuals, logbook, and additional forms are sent out to dealers.	$1,500		$1,500	
Office and Sampling Supplies General supplies including envelopes (letter and large mailers), pens, printing paper, three-ring binders (for user manuals), and file organizational materials, clip boards, fin-clip vials, filet knives.	$1,000		$1,000	
Uniforms / clothing (hats, shirts, etc.) Staff often interact with the public and must represent SCDNR. Polo shirts ($24.00) and Oxford shirts (29.55) are available for purchase with the DNR embroidered logo.	$500		$500	
Travel Port Agents will travel to dealers to intercept commercial fishing vessels to collect Biological samples. Current rates for SCDNR vehicles are 50.5 cents per mile. Round trip daily trips can average as high 200 miles.	$2,000		$8,000	
Total Miscellaneous Expenses	**$12,000.00**		**$13,000**	
Total Costs	**$175,716.00**		**$176,193.00**	
Total Project Cost	**$351,909.00**			
Percentage Contribution	**49%**		**51%**	

BUDGET NARAVTIVE
(Previous Funding Period, FY13)

Project:	**ACCSP Data Reporting from South Carolina's Commercial Fisheries**
	1) 100 % Trip-Level Catch and Effort Data Collection
	2) **Biological Sampling for Hard Part/Aging of Offshore Species**
FFO#:	**NOAA-NMFS-SE-2013-2003488**
Project Period:	**1 July 2013 - 30 June 2014**
1 Year Funding:	**$163,627 (Reduced from the original approved requested funds, $181,814)**
Prepare by:	**Amy Dukes (PI)**

Personnel (Salaries): $103,178
Seven SCDNR employees salary time will be utilized with these funds. The seven current employees are 1 Wildlife Biologist III, Amy Dukes, Project PI, for 3 months ($10,689); 1 Wildlife Biologist II George Steele, Database Manager, for 6 months ($24,987); 2 Wildlife Biologist I, David Player, Port Agent, for 7 months ($18,634) and Ernest Muhammad, Port Agent, for 6 months ($15,972); a Data Administrator, Vanessa Geddis for 4 months ($11,352); and 2 Data Coordinators, Carol Barber of 6 months ($13,454) and Shonda Miller for 4 months ($8,090).

Fringe Benefits: $39,208
The current SCDNR fringe benefit cost is set at 38% for salary employees. These rates are within the maximum range set forth by NOAA.

Contractual: $5,000.00
The contractual budgeted funds will be used to cover expenses to the grant associated with monthly cell phone charges, printing, copying and freight charges. A primary function of this project will entail the printing of carbon copied logbooks that will be distributed to licensed individuals to collect data. During an average fiscal year, 550 logbooks are distributed to dealers, with an average price of $15.00 each.

Supplies and Materials: $2,000.00
General office supplies including envelopes (letter and large mailers), pens, printing paper, three-ring binders (for user manuals), and file organizational materials will be purchased with these funds. In addition, postage paid envelopes are distributed through a business reply account with the US Postal Service. These funds will cover the yearly accounting fees and postage, both to and from licensed individuals.

Travel: $1,000.00
Vehicle mileage is to be covered under this category. Staff will travel to seafood docks to collect catch and biological data. The current SCDNR travel rate is 50.5 cents per mile.

Fixed: $808.00
Due to a new state accounting system, some expenses associated with vehicle charges fall under fixed charges. The current SCDNR travel rate is 50.5 cents per mile

Indirect Charges: $12,433.00
The current SCDNR indirect cost is set at 12.057% which only is applied toward salaries and wages.

Totals: $163,627.00

Maintenance Projects History for Primary Program Priorities:

Catch and Effort (White), Biological Sampling (Grey) – Beginning in 2011, the funded proposal included both Primary Program Priorities.

Funding Year	Amount	Time Period	Results/Comments
2001	$132,228	1 June 2001 – 31 May 2002 (extended thru 31 May 2003)	Implementation of ACCSP Commercial Module
2003	$94,760	1 June 2003 – 31 May 2004 (extended thru 30 April 2006)	Continuation of ACCSP Commercial Module
2004	$39,532	1 June 2004 – 31 May 2005	Biological Sampling. Grant money was awarded in August 2004. State hiring freeze in effect. One year no-cost extension awarded in May 2005.
2005 and 2006		1 June 2005 – 31 May 2006 (extended thru 30 November 2006)	Biological Sampling. State hiring freeze still in effect, lifted in Sept. 2005. Port sampler hired Oct. 2005. Award period extended to Nov. 2006. Over the time period 265 commercial trips sampled resulting in 8,163 length frequencies and 5,007 age structures.
2006	$60,990	1 May 2006 – 30 April 2007 (extended thru 30 April 2008)	Continuation of ACCSP Commercial Module
2007	$34, 958	1 May 2007 – 30 April 2008	Biological Sampling. Grant money was awarded in August 2007.
2008	$42,261	1 May 2008 – 30 April 2009	Biological Sampling.
2009	$0	1 May 2009 – 30 April 2010	Biological Sampling. No proposal submitted, approved for a 6-month no cost extension
2009	$0	1 May 2009 – 30 April 2010	Continuation of ACCSP Commercial Module. No proposal submitted, approved for a 6-month no cost extension to spend remainder of funds
2010	$92,098	1 July 2010 – 30 June 30 2011	Catch and Effort data collection from the Commercial Module
2010	$54,091	1 July 2010 – 30 June 30 2011	Biological Sampling.
2011	$191,807	1 July 2011 - 30 June 2012	Catch and Effort data collection from the Commercial Module and Biological Sampling efforts.
2012	$186,558	1 July 2012 - 30 June 2013	Catch and Effort data collection from the Commercial Module and Biological Sampling efforts.
2013	$163,627	1 July 2012 - 30 June 2013	Catch and Effort data collection from the Commercial Module and Biological Sampling efforts.

ACCSP - Ranking Criteria Summary

Proposal Type – Maintenance, no change in scope of work

Primary Program Priority – This proposal contains two Primary Program Priorities that fit the current ACCSP Program Design.

- Catch and Effort (70%) – SCDNR collects data from 100% of all commercial fisheries products landed in this state on a trip-level basis, following standardized data elements and code formats required by ACCSP. The state adopted one-ticket system requires each licensed Wholesale Seafood Dealer to collect and provide all effort information from the licensed commercial fisherman, the volume of product landed, and the product value**. Increased efforts to improve and further promote electric data reporting by hiring a target-focused staff to support electronic data collections.** Metadata is not collected.
- Biological Sampling (30%) (**to be considered during the Project Quality Factors**) – SCDNR collects biological samples, including length measurements and otolith collections, from many species within the snapper/grouper complex, coastal migratory and pelagic species. Seven of the species sampled fall within the upper quartile of the ACCSP Biological Sampling Priority Matrix.

Project Quality Factors –

- Partners – Although this proposal does not have a multi-state partnership, it does have a regional impact. The South Atlantic Fisheries Management Council makes recommendations to NMFS based regionally collected fisheries data collection, both independent and dependent data. The Catch and Effort data and Biological Sampling data provided to ACCSP impacts these regional recommendations.
- Funding Transition – SCDNR has no transition plan in place, and given recent and continuing state budget cuts, it is highly unlikely that we will develop one in the future. If we are to continue to provide ACCSP with representative commercial landings data and biological samples from SC, funding assistance through ACCSP is necessary. Without funding, there is the potential for loss of staff and positive data collections. Funding has slightly decreased over the past three fiscal years.
- In-kind Contribution - The agency does utilize other funding sources to offset the non-existent state funds, which represents the 51% in-kind contributions.
- Data Improvement – Through the initiation of electronic data collection, primarily from dealers that handle offshore fisheries products, SCDNR will be improving the timeliness of data. QA/QC checks of the data prior to quarterly submission will continue in order to insure accurate and complete data.
- Secondary Program Priority – Biological Sampling (see above).
- Impact on Stock Assessments – The Catch and Effort data collected and provided to the ACCSP Data Warehouse is suitable to be provided for future stock assessments. In addition, the fin fish lengths measured and otoliths collected through Biological Sampling efforts are also provided for stock assessments.

Other Factors –

- Properly Prepared – This proposal follows the guidelines under the ACCSP Funding Decision Process Document.

Curriculum Vitae

Name: **Amy Whitaker Dukes**

Position: **Fisheries Biologist III**
Office of Fisheries Management
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EDUCATION:

Spartanburg Methodist College (SMC), Spartanburg SC
Associate in Science, August 1994 to May 1996
Major: Biology

Coastal Carolina University (CCU), Conway, SC
Bachelor of Science, August 1996 to May 1999
Major: Marine Science

CAREER-RELATED EXPERIENCE:

Jan. 2008 - To present, Department of Natural Resources, Charleston, SC
Marine Resources Division in the Office of Fishery Management: Supervises and coordinates the collection of commercial and recreational fisheries dependent catch and effort data and biological sampling, including field activities, data compilation and transmission to ACCSP, report writing, and grants administration. Serve as SCDNR's representative to the ACCSP Operations, Information Systems, and Commercial Technical Committees.

Sept. 2000 - Jan 2008, Department of Natural Resources, Charleston, SC
ACE Basin National Estuarine Research Reserve (NERR): Participation in comprehensive research activities within the ACE Basin NERR. Manage data collection, sampling instrumentation, and compiling of databases in support of the Reserve's participation in the System-Wide Monitoring Program (SWMP). Responsible for entry, verification, editing, and statistical analysis of all data; assist with compellation of technical reports; preparing and delivering of presentations at conferences and workshops; and managing the ACE Basin NERR research budget.

Feb. 2000 - Sept. 2000, Department of Natural Resources, Charleston, SC
Marine Resources Division in the Office of Fishery Management: Assisting in the execution of an East Coast fin fish management plan. Anadromous species of American Shad and both Atlantic and Shortnose Sturgeon were collected, evaluated, tagged and released. Knowledgeable in the principles and practices of fish, statistical analysis, equipment maintenance and boat handling. Implemented the American Eel (elver) Young of the Year Survey; responsible for project set-up, daily sample collection, database design, management and analysis.

Sept. 1999 - Feb. 2000 Department of Natural Resources, Charleston, SC
Marine Resources Research Institute: Sorted plankton samples to collect and identify three species of post-larval Peneaid shrimp. Responsible for continuation of project organization and data management.

Proposal for FY2014 ACCSP Funding

APPLICANT NAME: ACCSP Recreational Technical Committee (RTC).

PROJECT TITLE: Increase at sea sampling levels for the recreational headboat fishery on the Atlantic Coast (New Hampshire through Florida).

PROJECT TYPE: Maintenance Project. The scope of work for this project has increased by one state (12 trips) since last yearôs accepted proposal.

REQUESTED AWARD: $155,490

REQUESTED AWARD PERIOD: January 1, 2014 through December 31, 2014.

OBJECTIVE:
Continue funding for at-sea sample coverage in the recreational for-hire headboat fishery for 12 ACCSP partner states from New Hampshire through Florida to measure catch-per-unit-effort for harvested and released fish and estimate total harvest and total catch for this fishery, as well as collect biological samples from harvested fish and regulatory discards for managed fisheries, and monitor and assess by-catch. Specifically, this proposed work would fund 314 at-sea sampling trips aboard headboats in New Hampshire, Massachusetts, Rhode Island, New York, New Jersey, Delaware, Maryland, Virginia, North Carolina, South Carolina, Georgia, and Florida.

RANKING CRITERIA SUMMARY

- Primary Program Priority:
  - Catch and effort (50%)
    - Additional samples requested will improve precision of landings (both in numbers and weight) and total catch statistics from NH to VA.
- Secondary Program Priorities:
  - Biological Sampling (25%)
    - Additional biological samples from this request will improve precision for landings estimated in weight from NH to VA.
    - Additional biological samples from this request will provide critical information on the length frequency of released catch (which is unobserved in dockside sampling programs) from NH to FL.
    - It should be noted that without the samples requested in this proposal no biological samples from released catch would be collected from GA or FL.
  - Bycatch (25%)
    - Samples requested in this proposal provide vital information on the numbers and size for all finfish species discarded in this fishery.
    - Samples funded by past ACCSP requests have been used to construct indices of abundance for sublegal sized pre-fishery recruits for important manages species, including red snapper, for use in regional stock assessments in the South Atlantic where fisheries independent samples do not exist. This time series in the South Atlantic would not be possible without continuous funding through ACCSP.
- Multi-Partner/Regional: 16 partners (12 states, NMFS, ASMFC, & 3 regional Councils)
- In kind Contribution: $3,250
- Improvement in data quality/quantity
  - Quality: improve precision of catch estimates of key state finfish species caught in headboat fishing mode

  - Quality: improve accuracy of headboat catch estimates based on observer identification, count and measurement
  - Quantity: Increase headboat sample size by 183 in 10 states from New Hampshire to South Carolina
  - Quantity: Fund 100% of HB at-sea sample in East Florida and Georgia (131 trips)
- Impact Stock Assessment: Improved accuracy and/or precision as well as live discards will directly affect regularly planned regional stock assessments
  - For South Atlantic species such as red snapper (SEDAR 24) where fishery independent indices are non-existent or have a short time-series, fishery dependent CPUEs are important inputs to the assessments. At-sea observers on headboats provide better species identification and more accurate numbers to develop these fishery dependent indices.
  - At-sea observers provide the only independent, non-volunteer-based dataset to characterize the size and age composition of recreationally released fish. Recreational releases make up a large component of the catch for many speciesð in some cases exceeding recreational harvestð and, due to regulations and angler behavior, may impact a different subset of the population than the recreational and commercial landings.
  - Continuing the headboat observer dataset will facilitate the following upcoming assessments that use this time-series:
    - South Atlantic ï In 2014, red snapper, king mackerel, red porgy, and small coastal sharks are scheduled for full assessments and gag and black grouper are scheduled for assessment updates by SEDAR.
    - Mid-Atlantic ï In 2014, scup, summer flounder, bluefish and black sea bass are scheduled for assessments by SAW/SARC, and tautog is scheduled for an assessment by ASMFC. In 2015, weakfish is scheduled for an assessment by ASMFC.
  - North Atlantic ï Atlantic cod, haddock

NEED

The headboat sampling allocations and funding requested in this proposal are needed to maintain improvements accomplished at the state level for catch estimates in headboat mode. The supplemented sampling level requested in prior proposals has provided more precise estimates at the state-level to support data needs for state, regional, and federal level stock assessments and fisheries management, as demonstrated in Appendix A. Renewed funding for FY2014 will preserve the only existing coast wide time-series on discarded catch from headboats. This project obtains information pertinent to the top three priority modules: catch and effort, biological sampling and bycatch. The primary work is focused on addressing the "Catch and Effort" module (50%) but also gathers significant biological information through fish lengths and weights to cover the biological module (25%), and bycatch information through observed and measured live discards to cover the Bycatch module (25%). Since biological and observed bycatch data are collected at the same time catch data are collected at-sea, no additional funds are being requested for the biological or bycatch portion. NOAA Fisheries funds sampling at the base level needed to accurately estimate catch and effort on a regional scale; however, the states are requesting additional at-sea sampling for headboats to improve landings at the state level to better support state and regional stock assessment and fisheries management needs. This funding is critical since the data are necessary for proper inter-state fisheries management decisions, allocations, and stock assessments on currently managed marine recreational finfish species (**Improvement in data quality/quantity/timeliness)**.

As part of the Marine Recreational Information Programs (MRIP) work to improve recreational fishing statistics, NOAA Fisheries implemented a new statistical method for calculating recreational catch

estimates. Catch estimates were recalculated for the Atlantic and Gulf Coasts going back to 2004. The new estimation method corrects for improper weightings of low pressure fishing sites and computations for variance. While the new method improves accuracy by eliminating bias, the precision was reduced (i.e. proportional standard error or PSE's are higher). Additional sample is needed to bring PSE's back to historical levels.

We are requesting continued funding from the ACCSP because the Marine Recreational Information Program (MRIP) requests proposals that concentrate on testing statistical assumptions, potential sources of bias, and investigating new pilot methodologies. MRIP is unlikely at this time to fund a proposal to increase the number of samples for current methodologies, but may be a potential funding source in the future as new methods are implemented.

Overview of Current Data Collection Methods for Headboat Fisheries:
For-hire fisheries include licensed headboat vessels where a professional captain and crew provide recreational fishing trips to the public for a fee. Headboats in the Atlantic differ from charter vessels in the numbers of passengers carried, species targeted, areas fished, and fishing methods employed; therefore, catch and effort statistics for the two different types of for-hire fishing trips are currently collected separately. A headboat is roughly defined as a for-hire vessel on which individual anglers are charged a per-person fee for recreational fishing. Headboats typically require a minimum number of paying passengers to make a trip and spaces are sold until the maximum capacity that the vessel is licensed for is reached. Most headboats in the Atlantic are licensed to carry more than 10 passengers and the maximum vessel capacity exceeds 100 passengers for larger vessels.

Two methods are used to collect catch and effort statistics from recreational headboat fisheries along the Atlantic coast. From Maine through Virginia, the For-Hire Survey (FHS) is the primary method for estimating total recreational fishing effort and catch from headboats. Effort is estimated by randomly sampling 10% of headboat vessels in each state each week and conducting a telephone survey with the vessel operators to collect information on the number of anglers and the area fished for each trip conducted during the sampled week. Effort from sampled vessels is expanded to the entire headboat fleet to estimate total effort. Catch is estimated by randomly sampling headboat anglers at the dock or at-sea to measure catch per unit effort (CPUE). During dockside interviews with headboat anglers, surveyors directly observe the harvested catch and, for fish that the surveyor cannot observe, anglers are asked to recall the numbers of fish harvested or released for each species. During at-sea sampling, one or two fishery observers board the vessel to conduct interviews with anglers while the trip is underway and directly observe the numbers and sizes of both harvested and released fish by species for each angler they sample during the fishing trip. Total catch for harvested and released fish is estimated by multiplying average CPUE by total effort estimated by the FHS.

From North Carolina through the east coast of Florida, headboat vessel operators are required to submit logbook trip reports to the National Marine Fisheries Service Southeast Regional Headboat Survey (SRHS) for each for-hire recreational fishing trip they conduct. Logbook trip reports are used to calculate total fishing effort, total harvest, and total catch for the headboat fishery in the South Atlantic region. Discards were added to the SRHS in 2004. Dockside sampling is employed to verify logbook reporting and collect biological information from harvested catch, and at-sea samples provide information which is used to verify logbook reporting and collect biological information from released catch for use in regional stock assessments. As fisheries management shifts towards bag limits and quotas, the need to verify self-reported harvest and discard information becomes a priority. The current system encourages under reporting for lengthened fishing seasons, consequently increasing the importance of these validation methods.

RESULTS AND BENEFITS

Conducting at-sea sampling aboard headboats improves the accuracy of catch estimates in the FHS by having trained observers identify and count the fish caught and released during recreational fishing. Appendix A illustrates examples of the increase in both observed harvest (Type 3) and observed discard (Type 9) data for regionally important species. Without continued ACCSP funding, affected partners face an estimated reduction of 33% in the quantity of headboat harvest and discard data. At-sea sampling has also increased the number of length and weight measurements obtained on harvested fish, as well as obtaining length measurements and relative condition of discarded (released) fish which are not collected in dockside samples (Appendices A and B). The discard lengths obtained from headboat trips in recent years have been used to estimate the effects of reducing size limits of summer flounder in the recreational fishery. More than half (11 out of 20) of the top quartile of species recommended by the ACCSP Biological Review Panel for priority funding in FY13 are intercepted in the recreational headboat fishery (Table 1). Projects that benefit multiple upper quartile species are highly recommended for funding. High and low priority is based on the average priority given by ASMFC, NMFS, regional Fishery Management Councils and Atlantic coast states. It should be noted that species with low overall priority are regionally important to the South Atlantic and many are scheduled for stock assessments in FY13 (Table 1). For species in the top quartile with inadequate biological sampling, headboat at-sea surveys contribute significantly to the limited data that are available, and for many of the species with adequate biological sampling, samples collected from headboat surveys contribute significantly. Numbers of biological samples collected from at-sea surveys are provided in Appendices A and B.

Table 1. Top quartile species in the FY14 ACCSP Biological Sampling Priority Matrix that are intercepted during headboat at-sea surveys on the Atlantic Coast. Species with single asterisks are scheduled for regional stock assessments or updates in 2014, and double asterisks are tentatively scheduled for 2015.

	Adequate Biological Sampling	Inadequate Biological Sampling
High Priority	Black Seabass* Winter Flounder Summer Flounder* Spiny Dogfish Scup*	
Low Priority	Weakfish**	Snowy Grouper Gag Grouper* Red Grouper Gray Triggerfish Winter Skate

Headboat landings data are used by regional Fisheries Management Councils along with landings from other segments of recreational fisheries to determine if Annual Catch Limits (ACLs) are exceeded and accountability measures must be implemented. The Magnuson-Stevens Fishery Conservation and Management Act (MSA) required Fisheries Management Councils to establish ACLs for all managed species. When an ACL is exceeded, accountability measures, such as paybacks and/or reductions in future allowable catches are required. Table 2 highlights key species managed with ACLs that are harvested by the recreational headboat fishery in each state.

Table 2. Key species managed with annual catch limits (ACLs) harvested in Atlantic coast headboat fisheries.

State	Species of Concern
Massachusetts	Winter flounder, scup*
New Hampshire	Atlantic cod, Atlantic mackerel, haddock
Rhode Island	Black sea bass*, Tautog
New York	Atlantic cod, black sea bass*, scup*, tautog*
New Jersey	Striped bass
Delaware	Atlantic croaker
Maryland	Tautog*
Virginia	Black sea bass*, Striped Bass, Tautog*, and Summer flounder*
North Carolina	Black sea bass*, gray triggerfish, red porgy*, vermilion snapper
South Carolina	Black sea bass*, vermilion snapper
Georgia	Black sea bass*, red snapper*, vermilion snapper
Florida	Black sea bass*, gray triggerfish, gag*, red grouper, red snapper*, vermilion snapper, red porgy*

*Indicates species scheduled for regional stock assessments, updates, or reviews in 2014.
**Indicates species tentatively scheduled for regional stock assessments, updates, or reviews in 2015.

At-sea sampling for headboats will be increasingly important in the South Atlantic as new ACCSP standards for data collection are adopted and MRIP pilot studies are implemented. ACCSP Standards for for-hire data collections specify that logbook reporting programs should have methods in place to independently validate self reported data and that levels of under/over reporting be documented and disclosed to all data users (http://www.accsp.org/forhire.htm). In recent years, the NMFS Southeast Headboat Program has received funding for several pilot studies to implement recommended improvements through the Marine Recreational Information Program (MRIP). An independent review of for-hire fisheries data collection methods was completed by MRIP in March, 2009 (http://www.st.nmfs.noaa.gov/mrip/projects/downloads/ForHireReportFinal.pdf) and pilot tests funded through MRIP to improve the Southeast Region Headboat Survey were designed to implement recommended best practice methods in this regional logbook data collection program. The recommended best practice method for for-hire fisheries data collections is the universal use of logbook reporting methods where practicable, and components that should be included in a logbook reporting system for it to be practical and valid include weekly (at minimum) reporting frequency; an electronic mode of reporting; statistically sound validation methods to account for unit non-response, missing or incomplete reporting, misreporting, and reporting error; 100% vessel tracking and frame maintenance; and statistically sound methodologies for intercept sampling.

Recent South Atlantic stock assessments for vermilion snapper (SEDAR 17), red snapper (SEDAR 24) and black sea bass (SEDAR 25) have utilized harvest data from at-sea observers to positively validate self-reported harvest rates with logbook reports from the Southeast Headboat Survey. When discard data for vermilion snapper and black sea bass were compared with logbook reports, at-sea observer data was selected in favor of self-reported data from logbook reports due to significant underreporting.
In addition, at-sea observer surveys provide more detailed data on the size and condition of released fish, which is not recorded in logbook reports. Size information on released Atlantic croaker obtained by headboat at-sea observers was used to develop catch-at-age matrices of recreational discards for the 2010 Atlantic States Marine Fisheries Commission (ASMFC) Atlantic croaker stock assessment.

The Southeast Data Assessment Review (SEDAR) 15, Stock Assessment Report 1 (SAR 1) for red snapper expressed the importance of increased sample sizes for headboat at-sea surveys by stating that, ñThe at-sea observer survey of headboat trips collects quality data on the species identification and size of discarded fishé . The workgroup recommends that this new survey continue to add to the

current time series for use in future assessment models.ò To date, headboat at-sea data have been used in stock assessments for the following species by the South Atlantic Fishery Management Council: greater amberjack, Spanish mackerel, red snapper, vermilion snapper, gray triggerfish, and black sea bass. Data from the increased sample requested in this proposal would directly improve SEDAR assessments for red snapper, king mackerel, red porgy, small coastal sharks, and gag grouper; ASMFC assessments for weakfish and tautog; and SAW/SARC assessments for bluefish, summer flounder, scup, and black sea bass that are scheduled for 2014-2015. (**Impact on Stock Assessment)**.

Partners influenced by this proposal:
11 States, NMFS, ASMFC, and 3 federal Fishery Management Councils (16).

APPROACH

Previously, sample sizes for additional at-sea trips were selected to keep each stateôs annual headboat mode PSEôs below 20% or bring below 20% for important species, which was in accordance with the standards of the ACCSP. The new ACCSP standard for precision of for-hire catch estimates states, ñDue to improvements in estimation methodology for historical PSE calculations, and the need for more rigorous discussions of risk associated with PSE values, the updated standard for precision will be developed in a technical source document to be created in 2012.ò This document is not yet available, and until there is more clear direction on accepted PSE levels, we are requesting no changes in sample size from FY2013 to FY2014. The scope of work for this project has not changed since last yearôs accepted proposal, with the exception of sample for Rhode Island (no sample was requested for RI in FY13 due to contractor staffing and cost considerations, but was funded in previous years).

Field Procedures
Headboat vessels are randomly selected each month from each state. Operators from selected vessels are contacted in advance to arrange for observers to be on board during a scheduled fishing trip. Dependent upon the number of customers on board, one or two biologists accompany passengers during the scheduled trip. The captain and mates cooperate by making sure fish caught by their anglers are observed by one of the biologists before they are stored in the fish hold or released overboard. For each fish, biologists record the species, disposition, size (fork length in mm), and the condition of fish that were released (Florida only).

Disposition is coded as:
1: thrown back alive, legal;
2: thrown back alive, not legal;
3: plan to eat;
4: used for bait or plan to use for bait;
5: sold or plan to sell;
6: thrown back dead or plan to throw away.

Release condition is coded (Florida only) as:
Good = 1: fish swam toward bottom immediately upon entry into the water;
Fair = 2: fish was disoriented upon release and slowly swam towards the bottom;
Poor = 3: fish was very disoriented upon release and remained at the surface;
Dead = 4: fish was either dead or unresponsive upon entering the water;
Eaten = 5: fish was eaten by a bird, another fish, or a marine mammal;
Unobserved = 9: unable to observe fish, not applicable.

In 2012, Florida also began collecting the following information from each discarded fish:
Hook location

Hook type (circle hooks only required north of Cape Canaveral)
Venting method (if vented)
De-hooking method (removed by hand, pliers, de-hooking tool, or hook not removed)
Barotrauma symptoms (swollen bladder, extruded stomach or intestines, exopthalmia)

Trip level information for each trip includes the area fished, duration of fishing (to the nearest half hour), number of anglers, and depths (feet, Florida only) of each fishing site within a trip.

Area fished is coded as:
1: 3 miles or less from shore; or
2: more than 3 miles from shore

A brief interview with each angler observed during a trip is also conducted to collect information on primary and secondary target species, angler avidity, and state and county of residence. The interviews conducted during the trips follow the standard procedures used for all FHS interviews. To maintain consistency between base sampling and the additional samples funded through this proposal, no additional questions or dispositions will be included.

GEOGRAPHIC LOCATION

The Atlantic coast of the United States from New Hampshire through Miami/Dade County, Florida.

MILESTONE SCHEDULE

As in previous years, the NOAA Fisheries staff will issue delivery orders to the current contractor for at-sea surveys to increase sample sizes as decided and funded by the ACCSP. Procedures, as documented in the Statement of Work for the 2013 contract, will be followed by the contractor and any states subcontracting to perform the intercept sampling. Additionally, all work associated with this proposal will occur within the dates as specified to the contractor for other deliverables associated with the intercept contract. Semi-Annual (30 days following month 6 and 12) and Final Progress Reports (90 days following month 12) will be completed as specified in the ACCSP Funding Decision Process Document.

Table 3. Milestones.

	1	2	3	4	5	6	7	8	9	10	11	12
NOAA Fisheries, deliver orders to contractor to increase sample sizes	x											
Contractor and states conduct at-sea sampling	x	x	x	x	x	x	x	x	x	x	x	x
Semi-annual and final progress reports						x						x

PROJECT ACCOMPLISHMENTS MEASUREMENT

Table 4 provides sample goals for each two month period (wave). Progress towards goals for this project will be measured in numbers of vessel trips sampled each wave.

Table 4. Requested headboat at-sea sample allocation and cost estimates for 2014.

State	Allocation = Number of Vessel Trips						
	Jan/Feb Wave 1	Mar/Apr Wave 2	May/Jun Wave 3	Jul/Aug Wave 4	Sep/Oct Wave 5	Nov/Dec Wave 6	Total Trips
New Hampshire		2	3	4	2	0	11
Massachusetts		0	6	10	5	0	21
Rhode Island			4	4	4		12
New York		3	5	6	6	3	23
New Jersey		2	6	7	6	2	23
Maryland		1	5	7	5	2	20
Delaware		1	4	5	4	2	16
North Carolina		4	7	8	5	2	26
Virginia		2	4	3	4	4	17
South Carolina		2	3	4	3	2	14
Georgia		0	3	3	3	2	11
Florida (east coast)	16	22	22	22	22	16	120
Total	16	38	68	79	66	35	314

COST SUMMARY (BUDGET)

In-kind contributions include NOAA Fisheries MRFSS/MRIP staff time to process contract documents and perform quality control on the data as well as the estimates. Personnel costs related to the HB portion of a staff personôs time are estimated to be equivalent to $10,000). The F/ST1 Division Chief is Dr. Dave Van Voorhees.

Object Classes (Table 5):

a. Contractual: Funds for the states of New Hampshire through Georgia will be delivered to NOAA Fisheries then a private contractor who conducts the sampling, or in some cases awards the individual state agency a sub-contract to perform the sampling
b. Personnel: In Florida, there is no contractor and funds for at-sea headboat trips will be dispersed to NOAAôs Southeast Fisheries Science Center (and charged a 5% administrative fee), before being dispersed to the state of Florida to conduct the work. A pool of six biologists employed by the state of Florida will contribute a portion of their time to this project.
c. Fringe: Medicaid and FICA on Florida personnel
d. Travel: travel costs are requested to pay for mileage to and from headboat sample sites. So that state employees are covered by liability insurance for the vessel, Florida pays the regular headboat fare for each sampler to board and sample vessels at-sea.
e. Supplies: items include measuring boards, clipboards, mechanical pencils, Write In the Rain (WITR) Paper
f. Other: Cell phone service for contact with vessel operators, copying and mailing costs.
g. Indirect charges: The state of Florida assesses an overhead charge to grants to cover the costs of administrating the grant. For ACCSP, the overhead is capped at 25% of total direct charges.

Table 5. Budget.

Description	Calculation	Cost
Contractual (a)		
NOAA contractor for New Hampshire through Georgia	194 trips x $400.00/trip	$77,600
Personnel (b)		
Florida Biologists	(10 hours/trip x $15.00/hour x 110trips x two samplers) + (10 hr/trip x $15.00/hour x 10 trips x one sampler)	$34,500
Fringe (c)		
Florida personnel	Fringe = 0.12*personnel (b)	$4,140
Travel (d)		
Vehicle mileage to and from Florida sample sites	$0.445/mile: 9,600 miles (120 assignments @ 80 mi RT)	$4,272
Headboat fare (required in Florida)	(2 samplers x $75/trip x 110 trips) + (1 sampler x $75/trip X 10 trips)	$17,250
Other travel expenses in Florida	Parking and highway tolls	$240
Supplies (e)		
Florida supplies	Measuring boards, clipboards, WITR paper	$750
Other (f)		
Florida other	Mailing, copying, Cell phone service	$1,160
Totals (d+e+f)		$23,672
Total Direct Charges		
Indirect Charges (g)	State of Florida Indirect (25% of TDC)	$15,578
Sum of Direct and Indirect		$155,490

FY2014 Budget narrative: A total of $155,490 based on the cost per headboat observer trip is requested for this proposal. Cost per trip includes headboat fees, data collection, supervision, sample frame maintenance, travel, postage, data entry, quality assurance and quality control, data editing and review, and all other survey related tasks. A summary of costs associated with this proposal for participating states is given in Table 2.

Funds for the states of New Hampshire through Georgia will be delivered to NOAA Fisheries then a private contractor who conducts the sampling, or in some cases awards the individual state agency a sub-contract to perform the sampling. In Florida, there is no contractor in place and funds for at-sea headboat trips will be dispersed to NOAAôs Southeast Fisheries Science Center (and charged a 5% administrative fee), before being dispersed to the state of

Florida to conduct the work. The state of Florida also charges an indirect fee of 25% of personnel costs to grants. The cost per trip is further increased in Florida by their large geographic size, which requires traveling greater distances and increasing man-hours charged for each sampling trip. In addition, due to liability, Florida pays the regular headboat fare for each sampler to board and sample vessels at-sea. All of these associated costs contribute to the elevated unit cost of headboat sampling trips for Florida, when compared to New Hampshire through Georgia. The total requested amount for this proposal is $155,490. These funds would be dispersed to the NOAA Fisheries Headquarters Office.

FY2014 In-kind contributions include NOAA Fisheries MRFSS/MRIP staff time to process contract documents and perform quality control on the data as well as the estimates. Personnel costs related to the HB portion of a staff person's time are estimated to be equivalent to 5% ($3,250) of one full time employee salary ($65,000). The F/ST1 Division Chief is Dr. Dave Van Voorhees.

Table 6. ACCSP Funding Related to the For-Hire Headboat Fishery: 1999-2012.

Year	Project Description	Funds Received	# At-Sea Trips
FY99	Outreach with SC for-hire constituents prior to For-Hire Pilot Study (SCDNR)	$5,000	
FY00	For-Hire Pilot Study comparing three data methodologies in SC	$94,082	
FY01	Independent evaluation of SC For-Hire Pilot Study	$7,695	
FY02	Outreach with for-hire constituents & development of vessel directory prior to implementation of For-Hire Survey	$66,000	
FY03	Increase charter and party/headboat sampling levels from ME through GA (100% increase)	$418,972	456
FY04	Increase charter and party/headboat sampling levels from ME through GA (100% increase)	$533,410	456
FY05	Increase charter and party/headboat sampling levels from ME through FL (100% increase in general, FL HB sampling added)	$666,740	565
FY06	Increase charter (100% increase) and party/headboat (50% increase ME-GA, FL level funded) sampling levels from ME through FL	$389, 700	560
FY07	Increase charter (100% increase) ME through GA and party/headboat (50% increase) sampling levels from ME through FL	$391,940	357
FY08	Increase charter (100% increase) ME through GA and party/headboat (50% increase) sampling levels from ME through FL (excluding GA)	$359,753	310
FY09	Increase charter (100% increase in most waves) NH through GA and party/headboat (50% increase) sampling levels from NH through FL (excluding ME, CT, RI, GA)	$309,279	327
FY10	Increase charter (between 50-100%) NH through GA (excluding ME, CT, RI, MD, RI) and party/headboat (50% increase) sampling levels from NH through FL (excluding ME, CT, RI, SC, GA)	$376,092	293
FY11	Increase charter (between 50-100%) NH through GA (excluding ME, CT, RI, MD, RI) and party/headboat (50% increase) sampling levels from NH through FL (excluding ME, CT, RI, SC, GA)	$299,591	276
FY12	Increase party/headboat (50% increase) sampling levels from NH through FL (excluding ME, CT, RI, VA)	$159,573	285
FY13	Increase party/headboat (50% increase) sampling levels from NH through FL	$147,707	302
FY14*	Increase party/headboat sampling levels from NH through FL	$155,490	314

*proposed (years prior to FY2012 included charter funding in addition to headboat funding whereas more recent years only include requests for increasing sampling in headboat mode).

Appendix A. State-specific examples of elevated biological measurements obtained through implementation of headboat methodology, 2005-2010.

Species	State	Released Fish Measured	Harvested Fish Measured	Total Measured
Atlantic cod	Delaware	0	2	2
	Maryland	5	1	6
	New Jersey	27	33	60
	New York	23	10	33
	Virginia	0	6	6
	Connecticut	1	5	6
	Maine	2,097	1,888	3,985
	Massachusetts	5,434	1,533	6,967
	New Hampshire	2,482	1,555	4,037
	Rhode Island	277	341	618
	Species Total	10,346	5,374	15,720
Atlantic croaker	Delaware	1431	6070	7501
	Maryland	522	2110	2632
	New Jersey	209	1420	1629
	Virginia	4879	9687	14566
	Georgia	42	0	42
	North Carolina	1874	65	1939
	South Carolina	44	119	163
	Species Total	9001	19471	28472
Atlantic mackerel	Delaware	0	29	29
	New Jersey	36	240	276
	New York	0	2	2
	Connecticut	1	1	2
	Maine	31	42	73
	Massachusetts	56	114	170
	New Hampshire	38	2,898	2,936
	Rhode Island	0	15	15
	Species Total	162	3,341	3,503
Black sea bass	Delaware	1,077	1,125	2,202
	Maryland	7,577	3,470	11,047
	New Jersey	5,769	2,835	8,604
	New York	2,777	1,246	4,023
	Virginia	2,084	635	2,719
	Connecticut	26	3	29
	Massachusetts	1,353	1,677	3,030
	Rhode Island	525	887	1,412
	North Carolina	15,100	3,081	18,181
	South Carolina	5,712	744	6,456
	Georgia	610	431	1,041
	Florida	17,279	4,427	21,716
	Species Total	59,889	20,561	80,450
	North Carolina	108	67	175
	South Carolina	13	3	16
Gag	Georgia	54	12	66
	Florida	274	100	374
	Species Total	449	182	631
Gray triggerfish	Delaware	0	10	10
	Maryland	3	90	93
	New Jersey	2	54	56
	New York	0	20	20
	Virginia	0	35	35
	Massachusetts	1	1	2
	Rhode Island	0	3	3
	North Carolina	33	594	627
	South Carolina	2	69	71
	Georgia	5	112	117
	Florida	631	1,485	2,116
	Species Total	677	2,473	3,150

Species	State	Released Fish Measured	Harvested Fish Measured	Total Measured
Haddock	Maine	91	702	793
	Massachusetts	225	2,433	2,658
	New Hampshire	337	3,823	4,160
	Species Total	653	6,958	7,611
Pollock	Maryland	0	2	2
	New Jersey	0	2	2
	Maine	231	1,304	1,535
	Massachusetts	283	1,122	1,405
	New Hampshire	451	1,729	2,180
	Rhode Island	8	9	17
	Species Total	973	4,168	5,141
Red grouper	North Carolina	62	53	115
	South Carolina	1	2	3
	Florida	649	50	699
	Species Total	712	105	817
Red porgy	Georgia	33	12	45
	North Carolina	316	315	631
	South Carolina	141	101	242
	Species Total	490	428	918
Red snapper	North Carolina	46	9	55
	South Carolina	3	8	11
	Georgia	104	73	177
	Florida	5,460	580	6,040
	Species Total	5,613	670	6,283
Scamp	North Carolina	67	52	119
	South Carolina	32	51	83
	Georgia	3	15	18
	Florida	64	20	84
	Species Total	166	138	304
Scup	Delaware	111	16	127
	Maryland	61	24	85
	New Jersey	310	586	896
	New York	1,372	1,776	3,148
	Virginia	22	7	29
	Connecticut	239	355	594
	Massachusetts	4,854	5,349	10,203
	Rhode Island	1,009	2,352	3,361
	Georgia	1	0	1
	North Carolina	183	379	562
	South Carolina	1	10	11
	Species Total	8,163	10,854	19,017
Striped bass	Delaware	80	133	213
	Maryland	736	487	1,223
	New Jersey	238	289	527
	New York	701	332	1,033
	Virginia	521	893	1,414
	Connecticut	106	149	255
	Massachusetts	13	1	14
	New Hampshire	33	1	34
	Rhode Island	6	10	16
	Species Total	2,434	2,295	4,729

Species	State	Released Fish Measured	Harvested Fish Measured	Total Measured
Summer flounder	Delaware	1,275	393	1,668
	Maryland	2,862	363	3,225
	New Jersey	3,715	911	4,626
	New York	7,070	857	7,927
	Virginia	1,028	144	1,172
	Connecticut	78	35	113
	Massachusetts	206	238	444
	Rhode Island	2,712	1,626	4,338
	Georgia	0	2	2
	North Carolina	1,030	85	1,115
	South Carolina	1	0	1
	Species Total	19,977	4,654	24,631
Tautog	Delaware	603	1,340	1,943
	Maryland	856	843	1,699
	New Jersey	618	466	1,084
	New York	896	539	1,435
	Virginia	48	104	152
	Connecticut	73	34	107
	Massachusetts	99	64	163
	Rhode Island	133	224	357
	North Carolina	0	5	5
	Species Total	3,326	3,619	6,945
Vermilion snapper	North Carolina	1,146	2,574	3,720
	South Carolina	371	1,839	2,210
	Georgia	213	258	471
	Florida	4,881	2,929	7,810
	Species Total	6,611	7,600	14,211
Winter flounder	Maryland	1	0	1
	New Jersey	28	34	62
	New York	27	100	127
	Massachusetts	68	105	173
	New Hampshire	12	51	63
	Rhode Island	3	8	11
	Species Total	139	298	437

Appendix B. Discarded fish observed during headboat at-sea surveys, 2005-2010.

Common Name	North Atlantic Region	Mid-Atlantic Region	South Atlantic Region	Total	Common Name	North Atlantic Region	Mid-Atlantic Region	South Atlantic Region	Total
Acadian redfish	109	.	.	109	Bullnose ray	.	1	.	1
African pompano			26	26	Butter hamlet			1	1
Alewife	.	1	.	1	Butterfish	.	1	.	1
Almaco jack	.	.	26	26	Carolina hake	.	1	.	1
Amberjack genus	.	.	3	3	Caesar grunt			1	1
American eel	.	12	10	22	Chain dogfish	.	1	.	1
American sand lance	3	.	.	3	Channel catfish	.	.	1	1
American shad	.	4	.	4	Chub mackerel	.	.	23	23
Atlantic bumper			17	17	Clearnose skate	.	1,250	44	1,294
Atlantic cod	10,892	59	.	10,951	Cobia	.	.	90	90
Atlantic croaker	.	7,908	2,086	9,994	Cod family	.	1	.	1
Atlantic cutlassfish	.	8	16	24	Coney			22	22
Atlantic guitarfish	.	.	1	1	Conger eel	.	47	7	54
Atlantic herring	28	44	.	72	Cottonwick			16	16
Atlantic mackerel	164	47	.	211	Cownose ray	.	42	1	43
Atlantic menhaden	.	3	.	3	Creole-fish				
Atlantic moonfish			2	2	Crevalle jack			2	2
Atl. sharpnose shark	.	3	1,298	1,301	Cubbyu	.	.	22	22
Atlantic spadefish	.	.	103	103	Cunner	555	513	.	1,068
Atlantic stingray	.	.	41	41	Cusk	62	.	.	62
Atlantic thread herring	.	2	27	29	Doctorfish			64	64
Atlantic tomcod	.	3	.	3	Dolphin			49	49
Atlantic torpedo	1	.	.	1	Dusky flounder			8	8
Atlantic wolffish	21	.	.	21	Dusky shark	.	25	1	26
Balloonfish			1		Dwarf sand perch	.	.	4	4
Banded rudderfish	.	1	132	133	Florida pompano	.	.	1	1
Bank sea bass	.	.	962	962	Fourspot flounder	14	3	.	17
Bar jack	.	1	4	5	French grunt			65	65
Barbfish			2	2	Gafftopsail catfish	.	.	6	6
Barndoor skate	.	2	.	2	Gag	.	.	447	447
Barracuda genus	.	.	1	1	Goldentail moray	.	.	1	1
Barred grunt	.	.	7	7	Gray triggerfish	1	5	640	646
Bearded brotula			1	1	Gray snapper			68	68
Bermuda chub			18	18	Graysby	.	.	70	70
Bigeye			34	34	Great barracuda	.	.	31	31
Bigeye scad			20	20	Great hammerhead	.	.	4	4
Bigeye soldierfish			1	1	Greater amberjack	.	.	129	129
Bighead searobin	.	1	1	2	Greater soapfish			6	6
Black drum	.	4	68	72	Green moray	.	.	49	49
Black grouper	.	.	14	14	Grunt family	.	.	1	1
Black sea bass	2,028	21,252	35,883	59,163	Grunt genus	.	1	.	1
Blackedge moray			2	2	Guaguanche			2	2
Blackfin snapper			19	19	Gulf flounder	.	.	4	4
Blacktip shark	.	4	75	79	Gulf kingfish			6	6
Blue runner	.	.	300	300	Haddock	690	.	.	690
Blueback herring	5	1	.	6	Hake genus	.	3	.	3
Bluefish	233	799	524	1,556	Hickory shad	.	3	.	3
Bluespotted cornetfish	.	.	4	4	Hogfish	.	.	13	13
Bluestriped grunt	.	.	77	77	Houndfish	.	.	4	4
Bluntnose stingray	.	.	1	1	Inshore lizardfish	.	12	585	597
Bonefish			1	1	Jolthead porgy	.	.	9	9
Bonnethead	.	.	75	75	King mackerel	.	.	176	176
Bull shark			2	2	Kingfish genus	.	1	.	1
Bullet mackerel	.	1	.	1	Knobbed porgy	.	.	4	4

Appendix B, continued. Discarded fish observed during headboat at-sea surveys, 2005-2010.

Common Name	North Atlantic Region	Mid-Atlantic Region	South Atlantic Region	Total	Common Name	North Atlantic Region	Mid-Atlantic Region	South Atlantic Region	Total
Ladyfish	.	.	9	9	Sand tiger	1	.	.	1
Lane snapper			126	126	Sand tilefish			147	147
Lefteye flounder	.	.	31	31	Sandbar shark	.	55	5	60
Lefteye flounder family	.	5	.	5	Scalloped hammerhead	.	.	8	8
Little skate	271	297	.	568	Scamp	.	.	165	165
Little tunny	.	2	443	445	Scorpionfish family	.	.	3	3
Littlehead porgy			7	7	Sculpin family	8	1	.	9
Longhorn sculpin	265	.	.	265	Scup	6,588	1,982	188	8,758
Longspine porgy	.	15	59	74	Sea bass family	.	.	1	1
Longspine squirrelfish			50	50	Sea bream	.	.	12	12
Mahogany snapper			1	1	Sea raven	79	4	.	83
Margate			1	1	Searobin family	1	10	7	18
Moray family	.	.	5	5	Searobin genus	19	110	12	141
Mummichog	7	.	.	7	Sharksucker	.	.	491	491
Mutton snapper			472	472	Sheepshead	.	.	3	3
Northern kingfish	.	16	11	27	Sheepshead porgy			10	10
Northern puffer	.	106	139	245	Shorthorn sculpin	7	.	.	7
Northern searobin	115	590	137	842	Silk snapper			1	1
Northern stargazer	.	22	1	23	Silky shark			15	15
Nurse shark	.	.	84	84	Silver hake	8	.	.	8
Ocean pout	37	34	.	71	Silver perch	.	77	136	213
Ocean triggerfish	.	.	2	2	Silver porgy			3	3
Oceanic whitetip shark			1	1	Silver seatrout	.	.	3	3
Ocellated frogfish	.	.	1	1	Skate genus	108	174	.	282
Offshore lizardfish	.	.	14	14	Slippery dick	.	.	1	1
Oyster toadfish	3	1,651	369	2,023	Smallmouth grunt			13	13
Peacock flounder			4	4	Smooth butterfly ray	.	2	.	2
Pigfish	.	156	1,201	1,357	Smooth dogfish	77	2,112	35	2,224
Pinfish	.	10	1,505	1,515	Smooth puffer			6	6
Planehead filefish			1	1	Snakefish	.	.	14	14
Pollock	1,113	1	.	1,114	Snowy grouper	.	.	2	2
Porgy family	.	.	4	4	Soapfish genus	.	.	1	1
Porcupinefish			2	2	Southern flounder	.	2	20	22
Porkfish			8	8	Southern hake	.	2	23	25
Princess parrotfish			3	3	Southern kingfish	.	40	338	378
Puddingwife	.	.	4	4	Southern puffer			3	3
Queen triggerfish			15	15	Southern stingray	.	1	18	19
Rainbow runner			8	8	Spanish hogfish			2	2
Red drum	.	8	23	31	Spanish mackerel	.	1	9	10
Red grouper	.	.	704	704	Speckled hind	.	.	1	1
Red hake	34	44	.	78	Spinner shark	.	1	160	161
Red hind	.	.	3	3	Spiny butterfly ray	.	1	.	1
Red porgy	.	.	515	515	Spiny dogfish	6,532	1,160	28	7,720
Red snapper	.	.	5330	5,330	Spot	.	1,605	118	1,723
Remora	.	.	48	48	Spottail pinfish	.	.	228	228
Requiem shark family	.	3	5	8	Spotted hake	1	34	1	36
Reticulate moray	.	.	6	6	Spotted moray	.	.	50	50
Rock hind	.	.	2	2	Spotted scorpionfish			91	91
Rock sea bass	.	.	71	71	Spotted seatrout	.	16	1	17
Round scad			40	40	Squirrelfish	.	.	254	254
Saddle bass	.	.	1	1	Star drum	.	.	5	5
Sailfish			10	10	Stargazer family	.	2	.	2
Sailors choice	.	.	21	21	Stingray family	.	.	4	4
Sand diver	.	.	11	11	Striped bass	167	2,436	.	2,603
Sand lance genus	1	.	.	1	Striped burrfish	.	1	3	4
Sand perch	.	.	139	139	Striped grunt			21	21

Appendix B, continued. Discarded fish observed during headboat at-sea surveys, 2005-2010.

Common Name	North Atlantic Region	Mid-Atlantic Region	South Atlantic Region	Total
Striped searobin	56	2,370	167	2,593
Summer flounder	3,117	16,887	1,032	21,036
Swordfish			2	2
Tautog	335	3,394	.	3,729
Thorny skate	4	.	.	4
Threadfin shad	.	.	1	1
Thresher shark	.	2	.	2
Tiger shark			1	1
Tomtate	.	.	10,394	10,394
Unident. flounder	.	1	.	1
Unidentified (sharks)	.	18	1	19
Unidentified eel	.	4	3	7
Unidentified fish	1	2	.	3
Unidentified skate	.	3	3	6
Vermilion snapper	.	.	6,485	6,485
Warsaw grouper			1	1
Weakfish	.	1,358	195	1,553
White grunt	.	1	519	520
White hake	6	.	.	6
White perch	.	106	.	106
Whitebone porgy	.	.	25	25
Whitefin sharksucker			35	35
Whitespotted soapfish	.	.	80	80
Windowpane	12	42	.	54
Winter flounder	83	63	.	146
Winter skate	30	150	.	180
Yellowhead wrasse	.	.	1	1
Yellowmouth grouper	.	.	1	1
Yellowtail snapper			513	513
Total	33,892	69,260	78,328	181,479

Appendix C. Summary of 2012 MRIP Headboat samples (count of Boat trips)

MRIP HEAD BOAT - 2012 Number of BOAT-Trips Sampled

	NMFS - base Proposed	ACCSP - Proposed	ACCSP Obtained (Total-NMFS)	TOTAL SAMPLED BOAT TRIPS
State	2012	2012	2012	2012
CT	20	0	0	14
ME	16	0	0	14
MA	44	21	20	64
NH	20	11	13	33
RI	28	0	0	27
DE	34	16	43*	77
MD	42	20	17	56
NJ	56	19	13	67
NY	50	16	10	59
VA	34	0	1	33
Region total	344	103	127	444
GA	0	11	11	11
NC	56	26	28	78
SC	28	2	10	36
FL	0	120	115	115
Region total	84	159	164	240
TOTAL	**428**	262	391	684

*Higher sample numbers in Delaware are expected to be from state add-on to contract not listed in this table.

Principal Investigator

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EDUCATION

Frostburg State University, B.S. in Fisheries Management, 1993.

WORK EXPERIENCE

January 2006—Present: Environmental Scientist. Delaware Division of Fish and Wildlife.
Data manager for the fisheries data office overseeing commercial, recreational and independent data for all finfish and shellfish. Serves on Spiny Dogfish, Coastal Shark, Tautog, Atlantic Menhaden, Atlantic Croaker, Red Drum and Black Drum technical committees and Spot plan review team for Atlantic States Marine Fisheries Commission; and serves on Recreational, Commercial, Biological, Information, Bycatch, and Operations technical committees for ACCSP.

December 2003—June 2006: Environmental Scientist, Delaware Division of Fish and Wildlife.
Primary researcher for the Estuary Enhancement Project to document the success of re-introduced tidal flow to impounded wetlands for the primary purpose of allowing alosids species access to potential spawning habitat and allow other species to utilize the wetland habitats for spawning and juvenile habitat. Perform other wetland restoration work as needed.

LICENSES AND CERTIFICATIONS

SCUBAð P.A.D.I. certified, May 2001.
Certified Fisheries Biologist, American Fisheries Society, March, 2012.

PROFESSIONAL SOCIETIES

American Fisheries Society, AFS General Membership

PUBLICATIONS

Hense, Zina, Whitmore, William, Newlin, Scott & Tinsman, Jeffrey. Aerial Flight Survey Estimating Fishing Effort on Delaware Artificial Reef Sites Over a Ten Year Period. Division of Fish and Wildlife. 37 pages.

Newlin, Scott & Glanden, Garry. 2010. Marine Recreational Fishing in Delaware 2010. A summary report of the Marine Recreational Fisheries Statistics Survey (MRFSS). Delaware Division of Fish and Wildlife, Dover, DE. July 2011. 98 pages.

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

Swipe Card Pilot Implementation for Massachusetts Trip-Level Shellfish Transactions

Submitted by:
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Revisions are highlighted in yellow. Sections of the proposal identified to help with the ranking process are highlighted in green with a summary on pages 10-11.

Applicant Name:	Massachusetts Division of Marine Fisheries
Project Title:	Swipe Card Pilot Implementation for Massachusetts Trip-Level Shellfish Transactions
Project Type:	New
Principal Investigator:	Thomas Hoopes MIS & Fisheries Statistics Project Leader
Requested Award Amount:	$ 44,294
Revised Requested Award Amount:	$ 139,094
Requested Award Period:	For one year, beginning after the receipt of funds
Date Submitted:	July 8, 2013
Date Revision Submitted:	September 9, 2013

Revisions are highlighted in yellow. Sections of the proposal identified to help with the ranking process are highlighted in green with a summary on pages 10-11.

Objective:

To begin a pilot swipe card transaction system in Massachusetts for shellfish buyers such that primary transactions, including all required attributes both from the dealer and harvester, are captured electronically at the trip level in a single ticket, and submitted directly into the ACCSP SAFIS database.

Need:

In 2005, following the National Marine Fisheries Service (NMFS) requirement for mandatory electronic dealer reporting of certain federally permitted dealers in the northeast, the Massachusetts Division of Marine Fisheries (MADMF), required all dealers, making a primary purchase of any marine species landed in Massachusetts, to be reported at the trip level.

In 2008, MADMF embarked on a follow-on program to collect comprehensive, standardized trip-level catch and effort data from all commercial harvesters in Massachusetts. Initially, only 10% of commercial lobster permit holders participated in this program. This was increased to 20% in 2009, and by 2010, all commercial harvesters were required to report. Furthermore, if a permit holder was already reporting through a federal reporting program (ie. VTR), they continued to do so, and not to MADMF. Thus, as of 2010, all commercial harvesters in Massachusetts report trip-level catch and effort data, either to NMFS (federal-reporting) or to MADMF (state-reporting), in a two-ticket scenario, and all state-reported data goes directly into the SAFIS database as the primary repository.

Along with fishing effort, a key piece of information provided by fishermen is area fished. However, due to requirements promulgated by the MA Dept of Public Health (MADPH), dealers are also required to collect the shellfish growing area where the shellfish was harvested when buying shellfish. As a result, the harvester reported catch of shellfish takes on less importance in this two-ticket scenario because the area has already been reported by the dealer. In fact, if effort information could be included with the area fished into the dealer transaction, then there would be no need to collect a report from those that harvest shellfish at all (except for those keeping their harvest for personal consumption). Furthermore, if the transaction could be consummated electronically at the point of sale, and submitted to the SAFIS database at that point, it would greatly enhance the timeliness of the information, help with law enforcement and also help with potential public health issues.

This new proposal details a plan to solicit bids through ACCSP from software contractors to develop a solution to create a one-ticket reporting solution (dealer and harvester data combined), which employs swipe card functionality, and runs both in a PC and a mobile environment, and which is provided to ACCSP at the end of the contract. This software would be piloted at up to ten MA shellfish dealers in Massachusetts by the end of the project period. This is a change from the original proposal submission which intended using Bluefin Data LLC to develop similar software as an add-on to the work they are currently doing for the state of Maine to help track elver fishery landings. The reason for this change was based on comments made by reviewers indicating a preference that, in the end, ACCSP should own the software developed for this project, so that it could be maintained by ACCSP going forward. MADMF agrees with this assessment and has re-budgeted accordingly.

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Approach:

The approach to this plan makes several (dependent) assumptions:

1. That ACCSP continues to develop the handheld solution as detailed in the 2012 proposal cycle.
2. The application programming interface (API) developed during that project is further modified, if necessary, to be used by this project.
3. That ACCSP can take a single ticket transaction, and populate both sets of tables in the SAFIS database (dealer and harvester), that are currently populated individually.

The conceptual idea behind the solution would be that at the time of the transaction, the permit holder would present the transaction card associated to the permit, on which is stored information about the permit and the permit holder's vessel. MADMF has already purchased a card printer, and is distributing cards that can store information in this way to shellfish harvesters in 2013, and has the capability of programming the information so that changes can be accommodated on new cards distributed in future years. The dealer would swipe or read the information from the card thereby populating the information in the transaction automatically without requiring the dealer to choose both the permit holder and vessel from a pick list, or enter it manually which is prone to error. The dealer would record all attributes about the transaction, including species (for all species purchased), quantity and price, as well as those typically provided by the harvester on a separate report, such as area fished and gear used. In the case of a shellfish transaction, some of these data fields could be automated (such as date, and possibly start time, which could be based on a local tide chart) or fine tuned to only allow certain areas or species that apply to that dealer. This could greatly improve the efficiency of the application not only with respect to performance, but also help to minimize the footprint of the application on a mobile device. GPS enabled mobile devices could also provide a location stamp on the transaction which could be used to enhance authentication, port of landing or provide additional help for enforcement purposes.

Once the transaction is completed, it would be sent directly to ACCSP and inserted into the SAFIS database. Contingencies would be built into the software to store the transaction temporarily if there is no network connection, with an upload taking place later. Furthermore, the transaction would be confirmed on the server end, before it is marked as complete and/or deleted on the sending device, in case of an interruption in service during the middle of a transmission. If certain information is not available at the time of the transaction, such as price, the dealer could log in afterwards and update that information. A printed receipt, or possibly an email receipt, could be generated and provided to the harvester. Assuming the dependent pieces come together over the remainder of 2013 and into 2014, MADMF would look to pilot this program with a few state-reporting Massachusetts shellfish dealers in early 2015. This would coincide well with any changes that needed to be made to the shellfish transaction card when those go out with permit renewals at the beginning of the year.

In 2012, 482 MA dealers indicated the intention of being a primary buyer when they obtained their permit, and 219 indicated the intention of buying shellfish. Of those, 123 dealers actually did buy shellfish, and of those, 61 were state-only permitted dealers. After first testing the software in-house, MADMF would identify 2-3 dealers willing to participate in a pilot, and would work with those dealers to (1) install both the software and hardware, and (2) train the dealers to use the application. If all went well, MADMF would look to expand that out to at most 10 dealers during the twelve month grant period.

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Dealers with federal permits would not be targeted as this would most likely involve buyers that purchase offshore species of shellfish, for which NMFS already has a reporting program, and/or dealers that buy other finfish species as well as shellfish.

MADMF is asking ACCSP to fund the development of the software application and fund the MADMF temporary contract employee's time who will work with the dealers to install and support the application.

Results and Benefits:

Initially, this project would start the process of creating a single ticket commercial data collection system in Massachusetts, for shellfish dealers only, where dealers collect and submit all information about the commercial trip. This would eliminate the cost of data entry for reports submitted by commercial harvesters who sell to these dealers, and it would eliminate the burden on these harvesters to report. It would increase the burden on dealers to collect the additional data attributes submitted by harvesters now, but, at least in the shellfish industry, these would be minimal, as area fished is already required to be reported by dealers for public health reasons in MA. All MA data would continue to be entered into the SAFIS database, as it has since 2010, and furthermore, it would be submitted immediately at transaction time, rather than a month (or longer) afterwards. There would no longer be a need to reconcile differences that occur in a two-ticket system, and with certain information stored on the transaction card, the accuracy of the data submission is enhanced.

Looking beyond the immediate benefits, this project could potentially drive further efforts to expand this technology to other fisheries. Of course questions would have to be addressed about requiring dealers to obtain effort information from harvesters, or whether harvesters should have to provide it, but the benefits of more accurate, timely information, coupled with the elimination of a required harvester report, may outweigh those issues. Additionally, other ACCSP partners could take advantage of this technology, or ones like it, to implement similar solutions.

Lastly, other long term benefits include greatly enhanced law enforcement capabilities, as a completed transaction could be available to law enforcement officers, through special access to the SAFIS database, assuming confidentiality issues are addressed, as soon as it has been committed to the database. Furthermore, if all primary transactions were collected in this fashion at some point, the information could potentially be used to electronically track or trace seafood through the distribution chain.

Geographic Location:

The location and scope of this project would cover all of Massachusetts and adjacent state waters fished by Massachusetts commercial shellfish permit holders.

Table 1. Milestone Schedule (start date depending on time of grant award, most likely Oct 1, 2014):

	Month											
Task	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Solicit bids, award contract	X	X										
Develop and test software			X	X	X	X						
Purchase hardware (swipe card readers)					X	X						
Install app at up to 10 dealer locations							X	X	X	X	X	X
Provide support to dealers and harvesters							X	X	X	X	X	X
Make modifications to software							X	X	X	X	X	X

Report writing would 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 grant award. This grant period would represent the first year ACCSP would fund these types of activities for MADMF.

Project Goals & Metrics:

With respect to those activities which would specifically be funded by ACCSP, the goal of the project would be to work with the software developer to complete and test a working version of the software which could be installed at up to ten MA shellfish dealer locations, such that the selected dealer is collecting a single ticket transaction, which meets all the standards set by ACCSP, and that is submitted real time to the SAFIS database at completion of the transaction (or shortly thereafter).

Cost Summary & Outlook on Future Funding:

The MADMF MIS & Fisheries Statistics Project currently derives its funding from both state and federal sources. In-kind support includes telecommunications, computer equipment, the cost of creating and distributing the transaction cards, and project coordination and oversight.

MADMF has secured funding from ACCSP over the last six years to help pay for the cost to enter trip-level data submitted on paper forms by MA commercial harvesters. A renewed "maintenance" request for this year was not submitted, as MADMF will take on this cost going forward.

Changing the nature of this proposal to require ACCSP ownership of the developed software has increased the cost from the initial submission by just under $95K. But assuming some economy of scale as the number of dealers were brought on board with respect to long term licensing fees imposed by Bluefin Data LLC, the estimated savings would be met probably in a couple of years.

It is hoped that the successful pilot of the project detailed in this proposal will lead to new efficiencies in the realm of fisheries-dependent data collections which may also result in reduced annual costs. Assuming the pilot goes well, and even if 10 dealers are using the application by the end of the project period, there are still about 50 others to go in MA which only purchase shellfish, and are not federally permitted. So there is still considerable work to be done to reach that plateau, and potentially additional plateau's beyond that (additional species and federally permitted dealers).

Table 2. Cost Summary for Trip-level Reporting from Commercial Permit Holders.

Letters in parenthesis pertain to Federal Grant Object Codes.

Item	Funding Source				
	MADMF In-kind		Requested from ACCSP		
	Personnel	Other	Personnel	Admin Grant	Other
1. (E) Estimated Software Costs					
Application development				$88,000	
Software license cost				$0	
2. (E) Swipe Card Devices					
10 at $126 per dealer					$1,260
3. (F) Contract Support 0.5 FTE at $15.40 per hour			$15,400		
Indirect (23.6 % of salaries)			$3,634		
4. Transaction Card Printer		$21,485			
5. Card Stock & Printer Supplies		$2,300			
6. Project Coordination (12 months at 10 hours per week)	$14,448				
7. Project Oversight & Support (12 months at 2 hours per week)	$4,169				
8. ASMFC Overhead (35%)				$30,800	
Column Totals	**$18,617**	**$23,785**	**$19,034**	**$118,800**	**$1,260**
Funding Source Grand Totals	**$42,402**		**$139,094**		
Total Project Cost	**$181,496**				
Percentage Contribution by Source	**23%**		**77%**		

Cost Details:

1 & 8. (E) Estimated Software Costs

Application development: Estimated development costs based on the 2012 funded project to develop a handheld application. This amount, plus the ASMFC overhead, will be amended to the ACCSP Admin grant.

Software Licenses: This cost goes away as the request for work will require that ACCSP owns the software at the conclusion of the project.

2. (E) Swipe Card Devices:

Swipe Card Devices: Cost of a typical magnetic stripe card reader with (a) USB interface for a PC ($50) and (b) for use with a mobile device via headphone jack ($76).

3. (F) Contract Support:

MADMF Temp Contract Employee: To provide support to dealers. Indirect is required by law in Massachusetts for contract employees.

4 & 5. Transaction Card Printer, Stock and Printer Supplies (In-kind):

Printer which prints on credit card sized stock and encodes the magnetic stripe on back, and additional bar codes as needed, with permit and vessel information as programmed. Stock and printer supplies are annual costs to issue approximately 4,000 cards.

Table 3. Totals by Federal Grant Object Classes:

Description	State Share	Federal Share
E. Supplies to MADMF:		$1,260
F. Contractual to MADMF:		$15,400
F. Contractual to ACCSP:		$88,000
Total Direct:	**$ 0.0**	**$ 104,660**
J. Indirect (23.6 % of contractual to MADMF):		$ 3,634
J. Indirect (35 % of contractual to ACCSP):		$30,800
Grand Total:	**$ 0.0**	**$ 139,094**

Table 4: History of Related MADMF Projects Funded by ACCSP

Funding Year	Title	Original Project Dates	Extension Through	Funded Amount	Description
2001	Research and Develop Plan for Implementation of ACCSP Compliant Data Collection Methodologies in Massachusetts	Oct 1, 2001 - Mar 31, 2002	June 30, 2002	$39,691	Hired UMass contractor to help research and develop plan to collect ACCSP compliant data.
2002	Develop Strategic Plan for Implementation of ACCSP in Massachusetts	Jul 1, 2002 - Jun 30, 2003	June 30, 2004	$36,691	Developed plan for implementation of ACCSP compliant data.
2004	Implementing Electronic ACCSP Compliant Dealer Reporting in Massachusetts	Feb 1, 2004 - Jan 31, 2005	June 30, 2005	$186,218	Implemented mandatory dealer reporting for all primary buyers (approximately 350 dealers) in MA.
2005	Continue Implementation of Electronic Dealer Reporting in Massachusetts	Jul 1, 2005 - Jun 30, 2006	N/A	$156,064	Second year of implementing mandatory dealer reporting for all primary buyers (approximately 350 dealers) in MA.
2008	Trip-level Reporting for Lobster Harvesters in Massachusetts (10%)	Apr 1, 2008 - Mar 31, 2009	N/A	$33,205	Implemented trip-level reporting for 10% of active lobster harvesters.
2009	Continuation & Expansion of Trip-level Reporting for Lobster Harvesters in Massachusetts (20%)	Apr 1, 2009 - Mar 31, 2010	N/A	$47,386	Implemented trip-level reporting for 20% of active lobster harvesters including 10% chosen in 2008.
2010	Trip-level Reporting for All MA Commercial Permit Holders	Apr 1, 2010 - Mar 31, 2011	Sep 30, 2011	$120,162	Implemented trip-level reporting for all MA commercial harvesters.
2011	Trip-level Reporting for All MA Commercial Permit Holders	Oct 1, 2011 - Sep 30, 2012	N/A	$93,175	Continue to collect trip-level data for all MA commercial harvesters.
2012	Continue Trip-level Reporting for All MA Commercial Permit Holders	Oct 1, 2012 - Sep 30, 2013	N/A	$76,050	Continue to collect trip-level data for all MA commercial harvesters.
2013	Continue Trip-level Reporting for All MA Commercial Permit Holders	Oct 1, 2013 - Sep 30, 2014		$53,504	Continue to collect trip-level data for all MA commercial harvesters.
TOTAL				**42,146**	

Revisions are highlighted in yellow. Sections of the proposal identified to help with the ranking process are highlighted in green with a summary on pages 10-11.

Summary of Proposal for Ranking Purposes

Proposal Type: ***New***

Primary Program Priority:

- Catch and Effort: Both catch & effort and landings data (single ticket) on all commercial shellfish species sold to piloted shellfish dealers in MA.

Project Quality Factors:

Multi-Partner/Regional impact including broad applications:

- Although this plan only covers the activities of MA commercial shellfish dealers and harvesters at up to ten piloted dealer locations, it proposes the development of software which could be used by any ACCSP partner. Furthermore, if this is expanded to more than shellfish transactions, it could be used by many, if not all primary buyers at some point.

Greater than year 2 contains funding transition plan and/or justification for continuance:

- Although this is a pilot, it is hoped that by the end of year one, a functioning application can be used at any shellfish dealer. To encompass other dealers that buy other species would require further development.
- MADMF has already purchased a card printer, and is distributing cards that can store information in this way to shellfish harvesters in 2013, and has the capability of programming the information so that changes can be accommodated on new cards distributed in future years.
- Eliminate the cost of data entry for reports submitted by commercial harvesters who sell to these dealers as all attributes would be collected and entered on a single ticket by the dealer.

In-kind contribution:

- 23% (see cost table on page 7).

Improvement in data quality/quantity/timeliness:

- Eliminate the burden on these harvesters to report.
- All MA data would continue to be entered into the SAFIS database, as it has since 2010, and furthermore, it would be submitted immediately at transaction time, rather than a month (or longer) afterwards.
- There would no longer be a need to reconcile differences that occur in a two-ticket system, and with certain information stored on the transaction card, the accuracy of the data submission is enhanced.
- This project could potentially drive further efforts to expand this technology to other fisheries.
- Other ACCSP partners could take advantage of this technology, or ones like it, to implement similar solutions.

Revisions are highlighted in yellow. Sections of the proposal identified to help with the ranking process are highlighted in green with a summary on pages 10-11.

Summary of Proposal for Ranking Purposes (con't)

Improvement in data quality/quantity/timeliness:

- In the case of a shellfish transaction, some data fields could be automated (such as date, and possibly start time, which could be based on a local tide chart) or fine tuned to only allow certain areas or species that apply to that dealer. This could greatly improve the efficiency of the application not only with respect to performance, but also help to minimize the footprint of the application on a mobile device.
- GPS enabled mobile devices could also provide a location stamp on the transaction which could be used to enhance authentication, port of landing or provide additional help for enforcement purposes.
- Other long term benefits include greatly enhanced law enforcement capabilities, as a completed transaction could be available to law enforcement officers
- If all primary transactions were collected in this fashion at some point, the information could potentially be used to electronically track or trace seafood through the distribution chain.

Potential secondary module as a by-product: None

Impact on stock assessment:

- Only insofar as the potential long-term benefit that more than just shellfish dealers could be using this technology.

Other Factors:

Innovative:

- The developed application would strive to provide a cutting edge single-ticket reporting tool, not only for the desktop, but the mobile computing environment as well, using swipe card authentication that would enhance accountability and improve timeliness of the data.
- In the case of a shellfish transaction, some data fields could be automated (such as date, and possibly start time, which could be based on a local tide chart) or fine tuned to only allow certain areas or species that apply to that dealer. This could greatly improve the efficiency of the application not only with respect to performance, but also help to minimize the footprint of the application on a mobile device.
- GPS enabled mobile devices could also provide a location stamp on the transaction which could be used to enhance authentication, port of landing or provide additional help for enforcement purposes.

Appendix A: Curriculum Vitae for Principal Investigator

THOMAS B. HOOPES

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Gloucester, MA 01930
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thomas.hoopes@state.ma.us

Education:

Implementing a Microsoft Windows 2000 Network Infrastructure. CompuWorks Systems, Boston, MA. September, 2001.
Implementing Microsoft Windows 2000 Professional & Server. CompuWorks Systems, Boston, MA. September, 2001.
Oracle Discoverer for Administrators. Oracle Education Ctr, Boston, May, 2000
MS Project. Educational Training Institute, Boston, MA. 1999.
Advanced MS Access 97. Educational Training Institute, Boston, MA. 1998.
Advanced SQL. MIACO, Boston, MA. 1996.
GIS ArcView. MassGIS & ESRI, Boston, MA. 1995.
GIS Arc/Info. MassGIS, Boston, MA. 1992.
VINES Fundamentals for Administrators. Connolly Data Systems, Lowell, MA.. 1990.
Structured Methodology. McDonnell-Douglas, Boston, MA. 1989.
Oracle Fundamentals. Oracle Computer Systems, Boston, MA. 1989.
C Programming. N Essex Community College, Haverhill, MA. 1987.
UNIX Overview and UNIX Fundamentals for Non-Programmers. Computer Technology Group, Washington DC. 1986.

Bachelor of Science Degree, Biology, University of Vermont, December, 1984.
Bachelor of Arts Degree, Mathematics, University of Vermont, May, 1983.

Work Experience:

Env Analyst, Massachusetts Division of Marine Fisheries.
March, 1992 – Present.

Ongoing Responsibilities:

- Leader for Division's MIS & Fisheries Statistics Project. The Project is an eight person team responsible for (1) managing all information systems and technology within the agency, Oracle and other relational database applications, GIS and web site development and maintenance; and (2) collecting catch and effort data from commercial fishermen and landings data from seafood dealers in Massachusetts. Job duties also include managing multiple ongoing federal grants as the principle investigator.
- Member of the Operations Committee and past Chairman of the Computer Technical Committee for the Atlantic Coastal Cooperative Statistics Program (ACCSP), a cooperative state-federal program to design, implement, and conduct marine fisheries statistics data collection program and to integrate those data into a single data management system that will meet the needs of fishery managers, scientists, and fishermen.

Major Milestones:

- Project architect and manager for implementation of mandatory comprehensive reporting for catch and effort data from all commercial harvesters in Massachusetts. First year of implementation: 2010.
- Project architect and manager for implementation of mandatory comprehensive reporting for landings from all seafood dealers acting as primary buyers in Massachusetts. First year of implementation: 2005.

Revisions are highlighted in yellow. Sections of the proposal identified to help with the ranking process are highlighted in green with a summary on pages 10-11.

- Project manager for the conversion of the Division's licensing and fisheries statistics application for commercial fishermen and seafood dealers. Working with Oracle Consulting, the Division's older client-server system was converted to a web-based application with new features and enhanced ease of use. System was put into full production in January, 2001. A subsequent conversion to Oracle version 10g and an application rewrite was completed in November, 2007.
- Project Manager for Department of Fisheries, Wildlife & Env Law Enforcement's conversion from Banyan Vines to Windows 2000 network operating system.
- Designed and developed an integrated Oracle relational database/GIS coverage for shellfish classification areas and sampling locations. Designed and developed a comprehensive biological sampling database application for the agency's Lobster Investigations Project.

Marine Fisheries Biologist, Massachusetts Division of Marine Fisheries. November 1985 – March 1992. Primary responsibilities included:

- Collection of commercial fisheries statistics; relational database application analysis, design, programming and maintenance using R:Base on a PC platform and Oracle on a Digital VAX platform
- LAN administration using Banyan Vines for the Cat Cove Marine Lab.
- Biological lobster sampling in coastal MA waters
- Technical consultant to various projects within the Department.

- **Intern,** Manomet Bird Observatory, Manomet, MA.
  May - November 1985.
- Involved in various facets of field research including land and shore bird banding, census and morphometric studies; vegetation analysis; mammal trapping and tagging; marine mammal and seabird observational studies at sea.

Biologist's Aid, Vermont Dept. of Fish and Wildlife, Swanton, VT.
April 1985.

- Assisted fisheries biologist in seining, tagging and collecting data on walleyes in Lake Champlain.

Lab Technician, Vincent Lombardi Cancer Center, Georgetown Univ. Washington, D.C.
Summer 1982, 1980 and 1979.

- Worked under the supervision of a cancer research physician to study the effects of interferon on granular monocytes and produce a tissue culture growth serum.

PROJECT STATEMENT

Applicant Agency: North Carolina Division of Marine Fisheries (NCDMF)

Project Title: Characterization of finfish bycatch and discards, including protected species interactions, in the cobia hook-and-line fishery

Project Type: New

Principal Investigator: Jacob Boyd, Protected Species Biologist, NCDMF

Requested Award Amount: $143,144

Requested Award Period: July 1, 2014 – June 30, 2015

Objective:
This project will provide observer data (i.e., protected species interactions, finfish bycatch and discards) for the cobia (*Rachycentron canadum*) recreational hook-and-line fishery and other recreational hook-and-line fisheries.

Need:
The NCDMF has obtained commercial gill-net fishery observations throughout the Pamlico Sound and outside of the Pamlico Sound Gill Net Restricted Area (PSGNRA), both spatially and temporally, since 2000 (Brown and Price 2005; Price 2007, 2008, 2009a-b, 2010a-b; Murphey 2011; Boyd 2012a-b, 2013). The purpose of these observations have been to characterize effort, catch, and finfish bycatch by area and season. Additionally, these programs were established to monitor fisheries for protected species interactions such as sea turtles. In 2010, in addition to continued estuarine gill-net observations statewide, the NCDMF obtained observations in the recreational hook-and-line fishery.

Traditionally, the NCDMF has collected data from commercial gill-net fisheries through an onboard (Program 466) Observer Program (Price 2007, 2009b, 2010a; Murphey 2011; Boyd 2012a-b, 2013). This program has allowed for the collection of data that are used for fishery management and monitoring protected species bycatch issues, the latter focused primarily on the PSGNRA. The traditional Observer Program is complemented by an alternative platform program (Program 467) where operations are monitored at close proximity from state owned vessels. Both programs are critical for NCDMF monitoring and management of gill-net fisheries, conservation of protected species, and for providing outreach opportunity to the fishing industry. Information gathered from these programs is used when making management decisions, in stock assessments, in the development of Fishery Management Plans (FMP), and for identifying bycatch (finfish, protected species) problem areas.

The target of the current program has been primarily to obtain large mesh commercial gill-net observations in the southern portion of North Carolina in response to sea turtle activity and abundance. In addition, resources have been provided statewide for large and small mesh observations due to the listing of Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*) as endangered. While the recreational fishery has had observer trips in the past (n = 167 from 2010 through 2011) the recreational fisheries throughout North Carolina waters lack onboard protected species interaction information and onboard finfish discard and release data. Some of North Carolina's recreational fisheries interact with protected species. The cobia fishery occurs in the spring and early summer during high levels of sea turtle activity. Fishermen often seek out sea turtles because cobias are known to inhabit the same areas that sea turtles do and many times

forage underneath larger turtles. Cobias are known to congregate underneath and around sea turtles (Capt. Joe Shute, personal communication). Capt. Shute has been a charter fisherman in Carteret County for approximately 20 years and explains that he frequently sees sea turtles during the spring, summer, and fall while recreational hook-and-line fishing.

From July 2010 through December 2011 there were 137 individual finfish observed for all recreational hook-and-line trips observed (n = 167) (Table 4). The majority of the catch was pinfish, *Lagodon rhomboids* (n = 25), Atlantic croaker (n = 20), black sea bass *Centropristis striata* (n = 18), and kingfishes (n = 13) (Table 4). Bonnethead shark*, Sphyrna tiburo* (n = 4.0), spiny dogfish (3.60 kg), sheepshead (3.50 kg), and Spanish mackerel (3.40 kg) contributed 37.5% to the overall weight (Table 4).

In 2006, the North Carolina Marine Fisheries Commission (NCMFC) formed the Sea Turtle Advisory Committee (STAC) in response to continuing problems with sea turtles interactions throughout North Carolina in multiple fisheries. The primary goal of the STAC was to develop solutions for reducing sea turtle interactions in commercial and recreational fishing gears including hook-and-line gear. NCDMF (2006) listed recreational rod-n-reel (hook-and-line) as a gear of primary concern because of the following reasons; 1) potential for interactions; 2) high recreational effort; 3) lost gear creating strandings; 4) known interactions of sea turtles striking baits; 5) unknown post-release mortality; and 6) documented mortality (NCDMF 2006).

The collection of recreational hook-and-line data via alternative platform in the spring cobia fishery and other recreational hook-and-line fisheries through the fall will greatly enhance the program by gathering onboard protected species interaction information and recreationally important onboard finfish discard and release composition. This year, NCDMF continued recreational hook-and-line data collections (n = 109 intercepts through May) directing observer coverage in Carteret County, North Carolina to quantify the amount of interactions that occur with protected species such as turtles and collect discard and release information for all other species. Protected species information is required under the Endangered Species Act (ESA 1973). Observers are collecting information from all recreational hook-and-lines fisheries in the study area during this time to determine if there are other recreational fisheries of specific concern as with the cobia fishery.

Cobia are managed by the South Atlantic Fishery Management Council (SAFMC) and the Gulf of Mexico Fishery Management Council (GMFMC). The data collected will aid the councils and provide valuable information for all states involved including North Carolina, Virginia, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, and Texas. Information from protected species interactions and finfish discards and releases otherwise not directly observed from dockside sampling programs will be obtained from the recreational observations. The catch, effort and bycatch data, and protected species interaction data will provide state and regional fishery managers with the information necessary to make timely and appropriate management decisions. The North Carolina fisheries management system has shown the ability to effectively manage fisheries throughout the state and reduce incidental bycatch of finfish and protected species. These data for various protected species and finfish species can be used in the Marine Recreational Information Program (MRIP) by providing onboard data that is otherwise collected via fishermen reporting.

Currently, the NCDMF expects to receive a state-appropriated budget of $300,000 in which to operate the statewide Observer Program from July 2014 through June 2015. These funds alone are not adequate to expand the Observer Program to characterize the recreational hook-and-line fisheries throughout areas in the state with high sea turtle abundance and recreational fishing activities. By expanding the Observer Program and providing more observed fishing trips, not only will valuable data be collected in areas where little observer data exist, but the existing data will be augmented and provided to the Atlantic Coastal Cooperative Statistics Program (ACCSP).

The NCDMF received funding for similar work titled "North Carolina Fishery Observer Response Team" under grant award #NA10NMF4740073; however, while the work proposed is similar in function, the scope of the work is different. For the previous grant, recreational hook-and-line observations served as a pilot study to determine the applicability of using the alternative platform as a tool in characterizing recreational hook-and-line fishery bycatch and finfish discard species composition and mortality statewide. The recreational hook-and-line objective for this application is to apply methods from the previous pilot study to specifically characterize the spring cobia fishery and other recreational hook-and-line fisheries through the fall in a well-defined area to determine levels of protected species interactions and finfish release and discard information. Another objective from the previous grant was to deploy observers in small mesh (< 5 inch stretch) gill-net fisheries aboard commercial vessels throughout the Pamlico/Pungo Rivers, the Neuse River, and Bay River to estimate effort, catch and bycatch. No gill-net observations are proposed.

Protected species interaction data has been gathered in North Carolina in the commercial fisheries for over 13 years. It is important that the interaction information be collected in the recreational fisheries to determine the level of interactions in these fisheries.

Results and Benefits:

Expansion of the North Carolina Observer Program is proposed to gather valuable characterization data from federal, interjurisdictional, and state managed species captured in recreation hook-and-line fisheries. North Carolina observer data are used throughout state and the Atlantic States Marine Fisheries Commission (ASMFC) Fishery Management Plans (e.g., ASMFC and NC striped bass and red drum, NC southern flounder, NC spotted seatrout) for bycatch and mortality estimates. Data on protected species interactions is critical for making informed management decisions to minimize interactions. Data collections from the recreational hook-and-line fisheries can be compared to existing MRIP data and provide managers with onboard information including protected species interactions, recreational discards, and discard species composition for all species. Currently, MRIP samplers work at marinas, boat ramps, and shore fishing areas which rely on fishermen for at-sea finfish discard and protected species interaction information for all inshore recreational fishing. An exception to this is MRIP's sampling of headboats and other for-hire vessels. By utilizing observer data, managers can validate relayed at-sea data from fishermen. Estimates of effort, catch and bycatch for these fisheries throughout the inshore waters of North Carolina can assist in managing sustainable fishery stocks and could allow user groups access to these resources by corroborating MRIP data. The data collected can be utilized by many agencies from multiple states including South Carolina, Georgia, Florida, and the Gulf states. Councils and commissions which manage finfish species and therefore would benefit from data collected include the SAFMC, GMFMC, the Gulf States Marine Fisheries Commission (GSMFC) and the ASMFC.

Information needs deemed critical (i.e., recreational rod-n-reel effort) by the STAC and NCMFC (NCDMF 2006) will be provided for federally protected species interactions including bottlenose dolphin (*Tursiops truncates*), Atlantic sturgeon, shortnose sturgeon (*Acipenser brevirostrum*), loggerhead sea turtle (*Caretta caretta*), green sea turtle (*Chelonia mydas*), Kemp's ridley sea turtle (*Lepidochelys kempii*), hawksbill sea turtle (*Eretmochelys imbricata*), and leatherback sea turtle

(*Dermochelys coriacea*), that are protected under the ESA or the Marine Mammal Protection Act (MMPA 1972).

Observer data is vital in North Carolina and coast-wide when evaluating the effectiveness of current management measures, implementing additional measures, and modifying existing measures, as needed, to provide a safeguard for protected species.

NCDMF does not know of any other alternative platform work being conducted in the recreational fisheries at this time. These data will give a better understanding of the amount of protected species bycatch that occurs in these popular fisheries including the cobia fishery. These data will also supply and validate discard information including species composition and disposition (dead or alive). These data could ultimately be used in adaptive management of federally and state managed species. NCDMF strives to develop FMPs that minimize bycatch and habitat impacts. To accomplish this, recreational and commercial fisheries require improved gear and fishing practices. By characterizing gears, fishermen can improve fishing practices that may result in less bycatch of finfish and protected species while still sustaining healthy stock levels and protecting endangered and threatened species.

This project will further enable North Carolina to work with federal and state agencies and private groups to facilitate participation in the National Marine Fisheries Service (NMFS) regulatory processes, including scientific review of permit applications and coordination of exchange of information on research and recovery. Information needs deemed critical by NMFS will also be provided for federally protected marine species interactions.

All generated data from observations, analyses, or model development will be made available to the public and other agencies. The data will be made available in a format and with documentation such that they may be used by others in the scientific community. The NCDMF Biological Database provides a very efficient and standardized means of storing, extracting, and analyzing biological data. Data can be distributed in a timely manner to be easily analyzed by others in the scientific community. All other observer data generated during this period and historical data will also be provided to the ACCSP for analysis. Historical data would not contribute in-kind; however, other observer data collected throughout the state during the same period can be provided.

Educational materials will be provided to each fisherman and to the public expressing the importance of the observer work being completed. Currently, NCDMF utilizes multiple outlets for education for the Observer Program including a website, business cards, and brochures explaining the Observer Program and its importance. The results of the project will be disseminated throughout the state at various venues for implementation of management decisions by these entities.

Approach:

In July 2014, four observers will be hired and trained to collect data under NCDMF protocols, which previously have met the requirements of federally-funded observer projects and largely coincide with NMFS guidelines (e.g. www.nefsc.noaa.gov/fsb). The observers collect information from the cobia recreational hook-and-line fishery and other recreational hook-and-line fisheries in estuarine and near-shore ocean waters from Bogue Inlet to north of Barden's Inlet due west of Harker's Island through Cape Lookout (Figure 1). The technicians will work out of the Central District Office in Morehead City, NC. Data collections from the recreational hook-and-line fishery will vary due to the nature of the operation and environmental conditions. The primary focus of this program will be to report onboard protected species interactions, assess onboard finfish discards, and onboard discard species composition (as MRIP data captures species that are kept and reported discards). All data will be coded into the NCDMF biological database. All data will be coded into the NCDMF Biological Database, and made available to the ACCSP.

This project will fulfill data needs for one of the ACCSP modules: Bycatch, Releases, and Protected Species Interactions **(100)**. Specifically, NCDMF will:

Objective: Conduct alternative platform observations in the recreational cobia fishery (spring) and other recreational hook-and-line fisheries (spring through fall) – 100 days, range of 300 to 350 intercepts *(NEW)*

Information from all other species encountered will be obtained. Valuable onboard protected species interaction data will be collected for: bottlenose dolphin, Atlantic sturgeon, shortnose sturgeon, loggerhead sea turtle, green sea turtle, Kemp's ridley sea turtle, hawksbill sea turtle, and leatherback sea turtle.

NCDMF realizes that the proposal does not address any target priority species in the top quartile of the Biological Priority Matrix or align with fisheries affecting the top quartile priority Species of the Bycatch Priority Matrix, but the protected species and gears targeted in this proposal are of great concern. All species of sea turtles found in North Carolina waters are protected under the ESA and are therefore illegal to interact with in any fishery. Recreational hook-and-line fisheries are of known concern for sea turtle interactions; therefore, NCDMF feels the priority should be higher for observing the recreational hook-and-line fisheries for protected species interactions and gathering this valuable data to provide continued protection for sea turtles and other protected species.

NCDMF will supply the ACCSP with all data from this program and work collaboratively with the ACCSP staff to ensure an efficient transfer of data to the ACCSP data warehouse. All other observer data can also be supplied to the ACCSP upon request.

Observers will work in teams of two to conduct alternative platform observations. Four NCDMF boats (21' to 23' Jones Brothers Flat Bottom Skiffs and 21' to 23' Parker Deep V Center Consoles) will serve as the alternative platforms. A minimum target of 100 days and 300 to 350 intercepts will be made from March through November in estuarine and near-shore ocean waters from Bogue Inlet to north of Barden's Inlet due west of Harkers Island through Cape Lookout (Figure 1).

The MRIP data and local knowledge of the fishery will be used to determine areas of concentrated effort by time, day, month, and location. The sampling area is broken into two management units (D1 and D2) with D2 having four subunits (D2-1 through D2-4) and D1 having five subunits (D1-1 through D1-5) with a stratified random sampling design (Figure 1). On each fishing day, observer teams will launch the boats, and travel to a specific subunit chosen randomly by management unit (Figure 1). The alternative platform will focus initial coverage in this area, but maintain flexibility to locate active fishermen while on the water depending on fishing effort and the variability of the fishery spatially and temporally.

When fishermen are sighted, observers will approach the boat, explain the program, and remain in the vicinity watching operations for 30 minutes to two hours depending on activity. If activity is minimal the minimum time will be used. If the fishing activity is high in the area the observers can stay the maximum amount of time allowed (two hours). When approaching a vessel, observers will be careful as to not disrupt the fishing activity aboard the vessel. When a positive intercept (e.g., willingness to participate, fishing actively) is made, observers will remain within approximately 50 yards of the operation not disrupting normal fishing activities. All species discards and releases will be recorded to genus or species level when possible. All protected species interactions will be recorded**.** During the fishing period observers will also look for protected species in the area of fishing and document approximately how far the species was from the fishing vessel.

The initial survey instrument will include an explanation of the program, request for participation, name(s), vessel size, access location, target species, type of bait used, and total time actively fishing. Other data collections will include: date, time, location, and discard and release counts and estimated total weights by genus or species (when possible). Data will be transcribed, coded, and verified before being entered into the biological database. Data coding includes verifying original data sheet to make sure all fields are filled out and that the parameters are correct.

Recreational hook-and-line observations will continue through the fall using the same methodologies as the cobia fishery. During the cobia fishery, fishermen will still be observed for the minimum time even if they are not cobia fishing.

Geographic Location:

The recreational hook-and-line observations via alternative platform will be conducted in estuarine and near-shore ocean waters from Bogue Inlet to north of Barden's Inlet due west of Harker's Island through Cape Lookout (Figure 1). This geographic location was chosen for multiple reasons including: 1) location of observers in the area; 2) high recreational hook-and-line activity; 3) known high sea turtle abundance; 4) accessibility

Milestone Schedule:

The efficiency of this program will be determined by weekly and monthly assessments of milestones (Table 1). Observers will be hired, trained, and data collections will begin in July 1, 2014. Observers will cover recreational hook-and-line trips from March through November. Data will be coded continuously and entered into the NCDMF Biological Database for analyses and final report writing completed by September 2015. Data will be collected for a total of 9 months. Following completion of data collections, final data coding and correcting errors will continue for two months at which time, analyses and report writing will begin (Table 1). In addition to milestones, project goals will be measured through monthly and collective activities in each of the Observation Program components (Table 2). The success of the project will not be graded on the amount of protected species interactions. Providing observer data for the recreational hook-and-line fisheries in Carteret County is the goal. Data which includes no interactions is just as important as data with interactions in order to characterize the fisheries.

Budget Summary:

The total cost for the activities proposed in this grant including in-kind costs is $463,816 (Table 3). This includes all operating expenses (i.e., observer compensation, equipment, supplies, and travel).

This funding will facilitate observations and characterizations of fisheries where limited onboard information exists. Observer data are valuable, used in multiple management decisions, and significantly contribute to understanding fishery specific issues. This knowledge will continue to be used by fishery managers to sustain stocks, reduce bycatch, and implement necessary rules and regulations to ensure the longevity of resources. Protected species interaction data is critical in determining interaction levels in certain fisheries.

Tables

Table 1. Activity schedule for 2014 through 2015 NCDMF Observer Program throughout North Carolina waters.

	Project Period Month														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Observer hiring	X														
Purchase supplies	X														
Observer training	x														
H & L observations	x	x	x	x	x				x	x	x	x			
Data Coding/Verification	x	x	x	x	x	x	x	x	x	x	x	x	x		
Data Analyses/Report Writing												x	x	x	x

Table 2. Measurement of milestones and project goals for the NCDMF Observer Program.

Project Goals	Measurement
Recreational H&L Observations	An alternative platform (use of NCDMF boats) will be used to determine discard and release composition and protected species interactions from recreational anglers. The initial success of these observations will be measured by positive trips where catches are being made, data collected, and industry is participating. The second tier of success of this will be measured by the total number of intercepts with a minimum goal of 300 intercepts ranging to a potential 350. The final measurement of success for this program will be the assessment of protected species interactions and recommendations to decrease interactions.
Biological Data Collections	This will be measured by the ability to obtain biological information for all species collected.

Table 3. Detailed budget for July 1, 2014 through June 30, 2015.

Category	Expense	Units	Cost	ACCSP Request	State In-Kind	Explanation
Personnel	Observer Wages	4	$32,486	$129,944		Four temporary technicians hired through Temporary Agency @ $16.92/hr for 40 hrs for 48 weeks
	DMF Staff				$10,149	The Protected Species Biologist will be responsible for supervising observers, data analysis, report writing, and outreach to fishermen (480 hours at $40,597/yr or 25%).
			Subtotal	$129,944	$10,149	
Travel	Boat Gas	100	$ 100	$ 10,000	$ 5,000	Recreational hook-and-line trips will require $100 of boat gas per trip for 100 trips. State vehicles will be used at $50 of gas per trip
			Subtotal	$ 10,000	$ 5,000	
Fringe	Retirement, Social Security, Health Insurance				$ 3,615	7.65% of salaries for social security, 14.68% of salaries for retirement, and $5,402/yr per employee is charged for permanent DMF employees for the period July 1, 2014 - June 30, 2015.
			Subtotal	$ 0	$ 3,615	
Supplies	Office	2	$50	$ 100		Rite in rain notebooks, paper, etc.
	Scientific	2	$100	$ 200		Measuring boards, baskets, and other sampling supplies
	Safety	4	$150	$ 600		Personal floatation devices for each observer
	Clothing/Uniforms	4	$500	$ 2,000		Raingear and floatcoats for safety
	GPS units	2	$150	$ 300		Each observer will carry a GPS unit to mark locations of protected species interactions.
			Subtotal	$ 3,200	$ 0	
Existing funding					$ 300,000	The data generated from the existing Observer Program funding will be reported.
			Subtotal	$ 0	$ 300,000	
Indirect					$ 1,908	18.8% of permanent DMF employee salaries for the period July 1, 2014 - June 30, 2015.
			Subtotal	$ 0	$ 1,908	
			Total	$ 143,144	$ 320,672	$ 463,816
			Total Request	$ 143,144		
			Percent	30.9%	69.1%	

Table 4. Species composition for the alternative platform observations (n = 167) in the recreational hook-and-line fisheries throughout the estuarine waters of North Carolina from July 2010 through December 2011.

Species		Total	
Scientific Name	Common Name	Weight (kg)	Number
L. rhomboides	Pinfish	2.70	25
M. undulatus	Atlantic Croaker	2.40	20
C. striata	Black Sea Bass	2.90	18
Menticirrhus spp.	Kingfishes	2.40	13
P. saltatrix	Bluefish	2.40	11
L. xanthurus	Spot	1.60	9
O. chrysoptera	Pigfish	0.80	7
S. maculatus	Spanish Mackerel	3.40	5
R. terraenovae	Atlantic Sharpnose Shark	1.40	4
S. acanthias	Spiny Dogfish	3.60	4
P. lethostigma	Southern Flounder	2.00	4
A. probatocephalus	Sheepshead	3.50	3
P. dentatus	Summer Flounder	1.10	3
S. tiburo	Bonnethead Shark	4.00	2
T. carolinus	Florida Pompano	0.40	2
C. nebulosus	Spotted Seatrout	0.40	2
C. regalis	Weakfish	0.60	2
C. plumbeus(milberti)	Sandbar Shark	2.80	1
Triglidae	Sea Robin	0.20	1
S. maculatus	Northern Puffer	0.10	1
Total		38.70	137

Figure

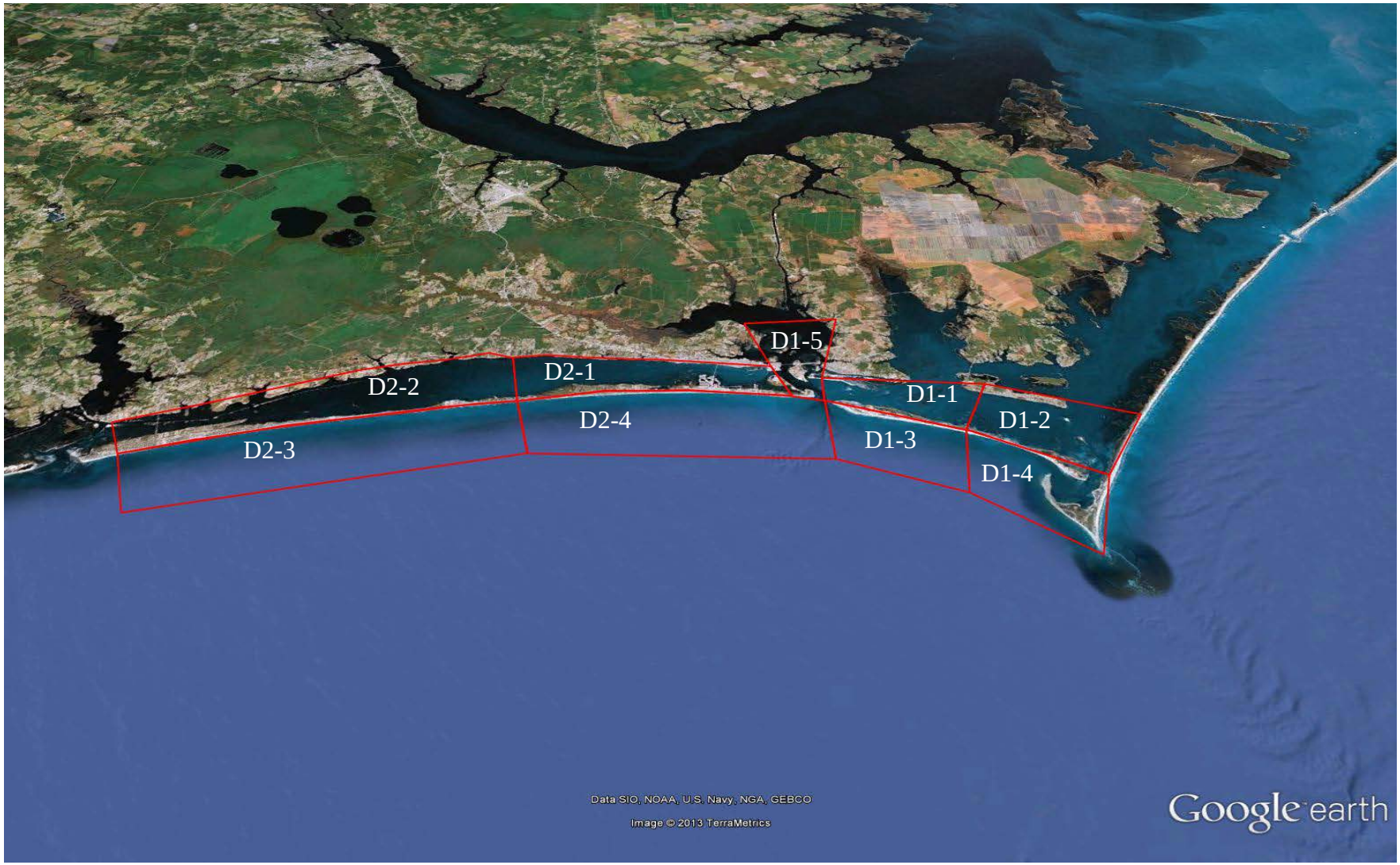

Figure 1. Study location for the NCDMF Observer Program's coverage of the recreational hook-and-line fisheries in estuarine and near-shore ocean waters from Bogue Inlet to north of Barden's Inlet due west of Harker's Island through Cape Lookout, NC using alternative platform.

Summary of Proposal for ACCSP Ranking

Proposal Type: New

Primary program priority and percentage of effort to ACCSP modules:
This project will fulfill data needs for one of the ACCSP modules*: Bycatch*, *Releases, and Protected Species Interactions* **(100).** Specifically, NCDMF will:

Objective: Conduct alternative platform observations in the recreational cobia fishery (spring) and other recreational hook-and-line fisheries (spring through fall) – 100 days, range of 300 to 350 intercepts *(NEW)*

NCDMF realizes that the proposal does not address any target priority species in the top quartile of the Biological Priority Matrix or align with fisheries affecting the top quartile priority Species of the Bycatch Priority Matrix, but the protected species and gears targeted in this proposal are of great concern. All species of sea turtles found in North Carolina waters are protected under the ESA and are therefore illegal to take in any fishery. Recreational hook-and-line fisheries are of known concern for sea turtle interactions; therefore, NCDMF feels the priority should be higher for observing the recreational hook-and-line fisheries for protected species interactions and gathering this valuable data to provide continued protection for sea turtles and other protected species.

To meet the objective NCDMF will collect discard and release information for managed species including striped bass (*Morone saxatilis*), weakfish (*Cynoscion regalis*), red drum (*Sciaenops ocellatus*), Atlantic croaker (*Micropogonias undulatus*), spotted seatrout (*Cynoscion nebulosus*), and flounder (*Paralichthys spp*.). Valuable protected species interaction data will be collected for: bottlenose dolphin, Atlantic sturgeon, shortnose sturgeon, loggerhead sea turtle, green sea turtle, Kemp's ridley sea turtle, hawksbill sea turtle, and leatherback sea turtle.

Project Quality Factors:
***Regional Impact*:** All of the data will be uploaded to the ACCSP database. Regional management organizations such as the ASMFC, SAFMC, and GMFMC will benefit from the protected species interaction and discard and release information collected from North Carolina for species such as cobia. Information gathered from this project is required under the MMPA and the ESA.

***In-kind Contribution**:* 69% (see cost table page 8).

***Improvement in Data Quality/Quantity/Timeliness**:* This proposal expands the effort NCDMF has taken to provide extensive, standardized observer sampling statewide, greatly improving biological data quality and quantity. NCDMF continues to provide timely data that is used for multiple FMPs and stock assessments. Providing real-time protected species interaction data, management decisions can be made quickly and accurately to provide ultimate protection for such species.

***Impact on Stock Assessment*:** This plan includes discard and release composition data collected for species which are managed regionally, such as striped bass, summer flounder, southern flounder, and cobia. Regional management agencies such as the ASMFC and the SAFMC would benefit from the data collected. Bycatch information on protected species such as sea turtles is valuable.

Properly Prepared: NCDMF followed ACCSP guidelines and documentation when preparing this proposal.

Literature Cited

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Curriculum Vitae

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EDUCATION

East Carolina University
M.S. Biology **December 2011**
Thesis: Maturation, Fecundity, and Spawning Frequency of the Albemarle/Roanoke Striped Bass Stock

The University of North Carolina at Chapel Hill
B.A. Environmental Studies **December 2006**

E PERIENCE

NC Division of Marine Fisheries, 2007 to Present

Marine Fisheries Biologist II, Protected Species Biologist **2012 to Present**

Responsibilities include project management, budget administration, project consultation/coordination, project design, supervision, employee training; grant writing, database management, statistical analyses (SAS), report writing, educational outreach, public response, and presentations. Coordinate a statewide gill-net Observer Program designed to monitor endangered or threatened species (ESA 1973, MMPA 1972) interactions and collect finfish bycatch information throughout North Carolina. Apply and receive grants annually for continuation of projects (USFWS, ACCSP, NC SeaGrant, NOAA/NFWF). Manage Section 10 ITP (ESA 1973) applications and habitat conservation plans that include an extensive monitoring and reporting program throughout the state gill-net fisheries for the purpose of minimizing interactions with protected species. Supervise 6-15 Fishery Technicians to ensure project goals are met, prioritize and schedule sampling activities, and conduct standardized employee performance evaluations. Participate and coordinate with regional, federal, and state management meetings.

Fisheries Technician II, Ageing Lab Technician **2010 to 2011**

Responsibilities include ageing structure extraction, creating and utilizing age-length keys, determining age composition, and describing trends in recruitment. Organize, manage, and track data/samples throughout four offices and multiple programs. Select, format, standardize, and summarize appropriate fishery and survey data. Extract data from the biological database for review and manipulation. Analyze data using software including MS Excel, SAS, and SAS Enterprise Guide. Help complete and edit progress and completion reports for the Sportfish Restoration Grant which includes multiple projects for NCDMF

Fisheries Technician II, Lead MRIP Technician **2009 to 2010**

Responsibilities include directly supervising four creel technicians on day-to-day activities including data management, scheduling, and performance reviews. Interact with recreational and commercial fishermen daily through collection of dependent biological data for demographic rates of catch. Work on for-hire vessels such as headboats observing, identifying, and measuring multiple marine reef fish species

Fisheries Technician II, Striped Bass Technician **200 to 2009**

Responsibilities include conducting fishery-independent sampling, collecting samples and recorded physical characteristics including length, weight, sex, maturity, stomachs, gonads, scales, spines, otoliths and tissue samples. Participate in response to marine mammal strandings by recovering bottlenose dolphins from the Albemarle Sound. Participated in the Atlantic Coast Sturgeon Tagging Program.

SOCIETY MEMBERSHIP AND AWARDS

American Fisheries Society **2009 to Present**

Tidewater Chapter of the American Fisheries Society **2009 to Present**
President, 2011

East Carolina University Student Sub-unit of the American Fisheries Society **2009 to Present**
President, 2010
Vice-President, 2009

Tidewater Chapter of the American Fisheries Society
Eileen Setzler-Hamilton Memorial Scholarship Award **2010**

North Carolina Department of Environment and Natural Resources
Sustainability Award **200**

Technical Reports

Boyd, J. 2012a. North Carolina Fishery Observer Response Team. Final Report to the NOAA National Marine Fisheries Service and Atlantic Coastal Cooperative Statistics Program. Grant Award #NA10NMF4740073. North Carolina Department of Environment and Natural Resources, North Carolina Division of Marine Fisheries.

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Boyd, J. 2013. North Carolina Division of Marine Fisheries Pamlico Sound Gill Net Restricted Area Report for 2012 Section 10 ITP # 1528 (September 19 – November 30, 2011). North Carolina Division of Marine Fisheries Completion Report for Incidental Take Permit # 1528. 4pp.

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 Commercial and Recreational Fisheries Age and Sex Data Collection

Submitted by:
Thomas F. Wadsworth
Marine Fisheries Biologist II
North Carolina Department of Environmental and Natural Resources
Division of Marine Fisheries
5285 Hwy70 West
Morehead City, 28557
Tom.Wadsworth@ncdenr.gov

Project Title:	North Carolina Commercial and Recreational Fisheries Age and Sex Data Collection
Principal Investigator:	Thomas F. Wadsworth, Marine Fisheries Biologist II
Application Agency:	North Carolina Division of Marine Fisheries (NCDMF)
Project Type:	New Project
Requested Award Amount:	$ 35,886
Requested Award Period:	One year, beginning upon receipt of funds
Date Submitted:	June 23rd, 2013

Objective:
To collect age structures and sex information from commercial and recreational fisheries in North Carolina for use in stock assessments of summer flounder (*Paralichthys dentatus*), black sea bass (*Centropristis striata*) north of Cape Hatteras, southern flounder (*Paralichthys lethostigma*) and other species with critical data needs. This project will fulfill data needs for the Atlantic Coastal Cooperative Statistics Program (ACCSP) biological module (100%).

Need:
Southern flounder, summer flounder and black sea bass were the first, third and fifteenth most valuable finfish caught by North Carolina commercial fisheries in 2012, with an ex-vessel value of over $8 million (NCDMF personal communication). Flounder species were the most highly targeted species by the North Carolina recreational fishery in 2012 with an estimated economic impact of $87.6 million to the state (NCDMF personal communication). Black sea bass is also very important to the North Carolina recreational fishery. Fishery management plans for these and many other fish species in North Carolina rely on age-structured stock assessment models to determine stock status and management measures. Catch at age from the commercial and recreational fisheries is a critical data need for these models to track and predict cohort success and understand changes in stock age structure from year to year. It is also crucial to know the sex ratios of harvested fish to accurately estimate parameters in stock assessment models. This is especially true for summer and southern flounder and black sea bass, species in which males and females have different growth rates and vulnerabilities to the fisheries. Based on historic North Carolina Division of Marine Fisheries (NCDMF) data, commercial and recreational fishery sectors produce different catch at age matrices and sex ratios for these species, therefore sampling one sector alone will not suffice. A year of funding for this work would enable data collection methods to be field tested and the results will provide estimates of crucial stock assessment parameters.

Southern flounder, summer flounder and black sea bass and many other species commonly targeted by both fishery sectors in North Carolina do not have a consistent fishery-dependent sampling program in place for collecting age structures or sex ratios. Changes to federal funding from the NC Sport Fish Restoration (Federal Grant #F-42), which provided some funding in past years for purchasing commercial samples for life history information, have resulted in very few

funds dedicated to collecting the needed samples. Purchasing fish for age and sex data has been necessary for two reasons: to maximize number of samples collected by NCDMF commercial fishery samplers without the extra time needed to collect otolith and sex data at fish houses where landings occur, and to minimize the damage to fish and operational slowdowns for the commercial industry. Summer flounder and black sea bass do not have fishery-independent surveys of adults to provide age data in North Carolina. Historic NCDMF southern flounder fishery-dependent catch at age data shows a marked difference from fishery-independent data. Based on the NCDMF historic data, sex ratios likely vary from year to year and are not the same for fishery-dependent and –independent surveys in North Carolina. This disparity is likely due to the different methods used for capturing fish for fishery-dependent data (several gears, targeting areas of highest abundance and fish size, including the ocean) and fishery–independent data (gill nets fished by NCDMF personnel at randomly selected estuarine locations, targeting a wide range of sizes). It is also important to characterize the age and sex structure of commercial and recreational fisheries to understand temporal and spatial changes in each fishery and stock.

The black sea bass commercial and recreational fisheries in North Carolina north of Cape Hatteras are not regularly sampled for age or sex information. **ACCSP Biological Review Panel recommendations rank black sea bass first in the upper 25% biological matrix.** Recent National Marine Fisheries Service (NMFS) black sea bass stock assessments have not been accepted, and therefore are not being used for management, largely due to data gaps. Providing age and sex data for these fisheries in North Carolina will benefit future assessments. Research recommendations from the 2011 black sea bass stock assessment (NEFSC 2012) and the 2013 Black Sea Bass Data Workshop included collection of commercial trawl and fish pot length, age and sex data throughout the stock range to minimize data gaps. The North Carolina commercial fleet's unique fishing locations and the potential for spatial patterns in age and sex structure within the stock make it critical that the NCDMF collect these data from the fisheries (Moser and Shepherd 2009). Sex ratios are also important to understand due to the protogynous hermaphroditic life history pattern of black sea bass that results in unequal spatial, temporal, and size distribution of sexes. Uncertainty about the impact of this life history pattern on the stock assessment is one reason that the 2012 black sea bass stock assessment was not accepted.

Currently, no sex information is collected for commercially harvested summer flounder in North Carolina and neither age nor sex data are collected on a regular basis for recreationally harvested summer flounder. **ACCSP Biological Review Panel recommendations rank summer flounder tenth in the upper 25% biological matrix.** North Carolina has the largest state share of the coast-wide commercial quota for summer flounder. Age data from the commercial fishery is an important component of the stock assessment for this stock. NCDMF is responsible for collecting scale samples for aging summer flounder from the commercial fishery in North Carolina, while National Marine Fisheries Service's (NMFS) Northeast Fisheries Science Center (NEFSC) collects age samples from all other states involved in the commercial fishery. North Carolina commercial and recreational fisheries target drastically different locations, using different methods, making data from both sectors critically important to collect. Recent expansions in the age-structure accompanying the recovery of the stock resulted in a larger percentage of older summer flounder in the commercial harvest and age samples (Terceiro 2012). Determining ages using scales from older fish has proven very difficult and often results in unusable samples. For aging older summer flounder, saggital otoliths are easier to read age

structures than scales and likely more accurate (Sipe and Chittenden 2001). NMFS Port Samplers are collecting otoliths from summer flounder fisheries in states north of North Carolina to compare with scale ages. NCDMF currently does not have the resources to undertake otolith collections due to substantial extra time required for collecting and processing samples. Understanding sex-ratios in the catch is important because of the known sexual dimorphism of summer flounder which leads to different fishery vulnerability by sex. In the 2008 Northeast Fishery Science Center (NEFSC) summer flounder stock assessment, collection of otoliths and sex data from both fishery sectors is considered a high priority research recommendation for improving future stock assessments.

Neither age nor sex data are regularly collected from the commercial or recreational fisheries for southern flounder, a stock managed within North Carolina by NCDMF. The most recent NCDMF stock assessment of southern flounder determined that the stock is overfished and overfishing is occurring. The North Carolina Fisheries Reform Act requires that a stock be rebuilt within ten years of being declared overfished, a deadline that is approaching in 2015 for southern flounder. This makes it even more imperative that we collect data that will enable us to accurately assess the stock and develop management strategies. Research recommendations from the 2009 southern flounder stock assessment include the need for improved collection of age samples that cannot be provided by the fishery-independent survey. Expansion of a stock's age structure is a potential indicator of recovery of the stock from overfishing, but we do not currently have the data necessary to detect these changes since older (4+ years old) southern flounder are not typically captured in fishery-independent surveys. Based on limited NCDMF historical data, commercial and recreational catch at age differ notably for southern flounder. Commercial fisheries target the estuaries while recreational fisheries target both estuaries and ocean habitats, and the two sectors use different gears. Therefore, data from both sectors are critical. Documenting sex ratios in the catch is important because the NCDMF stock assessments for southern flounder are female based. It is essential to understand the annual sex ratio in commercial and recreational harvest so the fishing mortality rate, a key parameter for managers, can be estimated accurately. Sex data can also be used to better understand how the two sexes use different habitats throughout the year.

Several other species caught regularly by North Carolina commercial and recreational fisheries are also in critical need of fishery-dependent age and sex data, including: weakfish (*Cynoscion regalis*), Atlantic croaker (*Micropogonias undulatus*), spotted sea trout (*Cynoscion nebulosus*), Spanish mackerel (*Scomberomorus maculates*), bluefish (*Pomatomus saltatrix*), black drum (*Pogonias cromis*) and kingfish (*Menticirrhus* spp.). **ACCSP Biological Review Panel recommendations rank weakfish thirteenth in the upper 25% biological matrix.** Nearly all of these species are under interjurisdictional management by the Atlantic States Marine Fisheries Commission (ASMFC) and NCDMF. Although NCDMF currently has a program designed to collect data from commercial fisheries in North Carolina, the current lack of funding for purchasing fish, or a viable alternative way to collect samples, has resulted in very few samples collected for these species. Recreational samples for these species are also rare. Collection of age and sex data for these species would greatly benefit future stock assessments.

Results and Benefits:
Collection of age and sex information for black sea bass, summer flounder, southern flounder, and other species (hereafter referred to as species of opportunity) including: weakfish, Atlantic croaker, spotted sea trout, Spanish mackerel, bluefish, black drum, and kingfish will greatly improve future stock assessments as specified by research recommendations in previous assessment documents. From these data, catch at age matrices and sex ratios will be developed for the commercial and recreational fisheries. Catch at age matrices will enable tracking and predicting cohort success and an improved understanding of changes in age structure from year to year. Sex ratios will allow for sex-specific estimates of model parameters, such as fishery selectivity, which is important for species with dissimilar growth or spatial patterns between sexes. More accurate stock assessments will lead to more informed decision making by fishery managers through individual fishery management plans created by the ASMFC, Mid-Atlantic Fisheries Management Council (MAMFC) and NCDMF. **Summer flounder, black sea bass and weakfish are first, tenth and thirteenth in the upper 25% biological matrix.** Southern flounder is a high priority for NCDMF management (as are species of opportunity) and is considered a depleted stock, required to be rebuilt by 2015.

Approach:
Two part-time temporary technicians will be hired by NCDMF and trained by the biologist working with target species (PI) to complete necessary sampling. Technicians will travel to commercial fish houses and seafood markets to collect as many otolith and sex samples as possible with a target of 450 samples. This target may need to be adjusted if fisheries change due to closures, weather, market dynamics, etc. Samples for each species will be collected throughout the season of each fishery as available, with equal target numbers for each of several size classes. Samples will be split as evenly as possible among the main gear types and regions of the state's estuarine waters. Technicians will work with experienced NCDMF commercial fishery samplers to identify locations and methods to obtain samples. Technicians will prioritize sampling for southern flounder, summer flounder and black sea bass. Species of opportunity will be sampled as time/funding allows. Removing saggital otoliths and recording sex without damaging fish are important for commercially harvested species, especially for flounder and black sea bass. Techniques for removing otoliths without degrading the condition of marketable fish have been used in previous projects and are known to NCDMF staff. Left and right otoliths will be collected from each fish and each sampled fish will also be measured and weighed. Determining the sex can be done by making a small incision if the fish dealer is in agreement or through use of a light board (for flounder species) which is the preferred method of researchers culturing flounder in North Carolina (Daniels et al. 2010). Use of a light board for sex determination of commercial catches would be the first application of this type known to the principle investigator (PI). Commercial age and sex sampling will be coordinated with regular fishery-dependent sampling and would therefore be linked to information about fishing location, gear type, catch weight, dealer information and more extensive length sampling data. This information could be used to track the number of samples taken per trips reported for a given species by each dealer.

Technicians will also sample the recreational fisheries for southern flounder, summer flounder, black sea bass, and species of opportunity as time/funding allows. NCDMF is currently implementing a volunteer carcass donation program for recreationally caught species. Samples

of target species provided through this program may be used to meet sampling targets, but quality and quantity of samples cannot be predicted. Technicians, in cooperation with NCDMF staff samplers for the coastwide Marine Recreational Information Program (MRIP), will collect additional recreational samples as needed by visiting commonly used boat ramps and docks. Because MRIP sampling is organized coastwide to intercept fishermen based on a statistical design, collecting age/sex samples alongside these samplers will minimize sampling bias. Recreational sampling will focus on ocean areas because: 1) black sea bass are almost exclusively caught in the ocean; 2) commercial estuarine flounder fisheries likely catch the same size/age classes as the estuarine recreational fishery; 3) historic NCDMF age data indicates that older flounder are more commonly caught in the ocean than in estuaries. This will improve distribution of samples among areas and size classes, make species identification more efficient and ensure important data are collected including: sex, fishing trip (private, charter) and gear type, and catch date and location. Technicians will help permanent DMF staff analyze fish samples in NCDMF ageing laboratories including: identifying fish to species level, removing otoliths and determining sex when possible from flounder and black sea bass specimens (and species of opportunity if possible). The target for each species will be 250 samples with equal target numbers among several size classes and split as evenly as possible among main estuarine regions of the state and between habitats (ocean and estuaries/rivers for flounder species and species of opportunity caught in both habitats). The target sample size is less than for commercial samples because only one fishing gear will be sampled and fewer recreational samples will be available.

If needed, samples will be purchased from the commercial fisheries to meet the sampling targets. This could be required due to temporary technicians' absence, unexpected termination of work or inability to collect desired number of samples. Funds to purchase samples would be subtracted from salaries and travel budgets for temporary technicians and purchasing would occur through permanent technicians and biologists in their regular sampling trips to commercial fish houses. Due to high and fluctuating cost of purchasing commercial samples, and the inability to purchase recreational samples, it is expected that a larger number of samples from both sectors could be collected by technicians dedicated to this project rather than attempting to purchase all samples. Collecting samples without purchasing fish will also demonstrate that this can be accomplished to meet sampling requirements and may result in lower expenditures statewide in the future for this type of work.

This project will generate more samples than are typically processed and analyzed by the NCDMF lab. Therefore, temporary technicians will assist permanent technicians in processing samples as needed and as field sampling schedules permit. Processing includes sectioning whole otoliths as needed, placing otoliths from field collections into vials with preservative, organizing vials and creating and verifying datasheets. Age samples will be analyzed by the principal investigator as well as the NCDMF Ageing Laboratory Biologist, who has over 20 years experience in this task. Age analysis consists of counting annuli on whole or sectioned otoliths.

All data resulting from this project will be recorded on existing datasheets for age/sex data and entered into the NCDMF biological database using established data coding protocols, including quality assurance and control by experienced staff. Data will then be provided to the ACCSP data warehouse and will meet ACCSP standards for biological data. This will include

information on age and sex by species, as well as associated information including: fish lengths and weights, date and location of sampling and fishing, gear used, total catch weight. These data will be used directly in stock assessments for each species. Otoliths used for ageing will be archived by NCDMF. One year of data will help us evaluate this sampling strategy and collect valuable data to improve future stock assessments for species sampled. Ideally, the work proposed here will become an annual sampling program, which will likely require a continued source of funding. However, procedures tested and streamlined during this study may make it easier to add some or all the described data collection tasks to existing staff schedules. Regardless, this project will help to justify further funding through available sources.

Geographic Location: Temporary technicians will be based at two different NCDMF offices: one in Manteo, NC (northeastern NC) and one in Morehead City, NC (central coast). Due to geography and time required to reach different areas of North Carolina's coast where fish are landed, it is necessary to divide the state into areas of coverage for temporary technicians. The technician based in Manteo will sample fish caught in Albemarle Sound other northern sounds and tributaries, as well as northern Pamlico Sound and ocean areas north of (and including) Ocracoke Island. The technician based in Morehead City will sample fish caught in southern Pamlico Sound and its tributaries, as well as other inshore sounds and rivers and ocean areas south of Ocracoke Island. Most commercial and a large portion of recreational catches of flounder and black sea bass are landed in the central and northern areas of the NC coast, so southern areas would require much less sampling. Although this is a large geographic area for to cover, temporary technicians will travel with permanent technicians in their regular fish house sampling as much as possible, minimizing costs and improving sampling efficiency. Commercial and recreational samples will be dispersed throughout the state for each species and fishing season but will be allocated similar to harvest distribution as much as possible.

Milestone Schedule:
Data will be collected at times when it is most likely that samples will be available, and this will vary by species and sector. Temporary technicians will be hired to begin work immediately after receiving funds (Table 1). Training of technicians by permanent biologists and technicians would commence upon hiring. Sampling for southern flounder, summer flounder and black sea bass will begin once technicians are trained, approximately 2-4 weeks after hiring. The summer flounder and black sea bass commercial trawl fisheries occur mainly in January through April, but fisheries for black sea bass occur in most months (Table 2), although fishing seasons and trip limits vary due to quota based management. The southern flounder commercial harvest is primarily July through November, but occurs in all months except December. Recreational fisheries for flounder occur year-round, but mainly in April-November (Table 2). Seasonal closures apply to the black sea bass recreational fishery, which is managed through a coastwide quota. Temporary technicians will be hired at part-time salary, typically working 20 hours per week (although schedules will vary depending on sampling needs). This schedule will distribute sampling throughout the year to meet sampling targets for each species and help account for variable age-class distributions (i.e. migration patterns) and fishing patterns. Sampling targets will be assigned by season and species to ensure enough samples are collected. Data will be entered into the NCDMF biological database and the final report on the findings will be completed by month fifteen (Table 1).

Literature Cited:

Daniels H., W.O. Watanabe, R. Murashige, T. Losordo, and C. Duma. 2010. Culture of Southern Flounder In: Practical Flatfish Culture and Stock Enhancement. H.V. Daniels and W.O. Watanabe (Eds). 366 pp. Wiley Blackwell, Ames IA.

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.

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Northeast Fisheries Science Center (NEFSC). 2008. 47th Northeast Regional Stock Assessment Workshop (47th SAW) Assessment Report. US Dept Commer, Northeast Fish Sci Cent Ref Doc. 08-12a; 335 p.

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Sipe and Chittenden. 2001. A comparison of calcified structures for aging summer flounder, Paralichthys dentatus. Fish. Bull. 99: 628–640

Terceiro, Mark. 2012. Stock Assessment of Summer Flounder for 2012. US Dept Commer, Northeast Fish Sci Cent Ref Doc. 12-21. 156 p.

Project Accomplishments Measurement:

Table 1. Schedule for ACCSP funded project, beginning in month when funds are distributed.

	Project Period Month (based on project July 2014 start date)														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Temporary technician hiring	x														
Purchase supplies	x														
Temporary technician training	x														
Age/sex sample collection		x	x	x	x	x	x	x	x	x	x	x			
Data Coding/Verification		x	x	x	x	x	x	x	x	x	x	x	x		
Data Analyses/Report Writing												x	x	x	x

Table 2. Typical monthly availability of target species for commercial and recreational age and sex data collection in North Carolina. BSB = black sea bass; SuF = summer flounder; SoF = southern flounder

	Commercial Gears						Recreational Gear
Month	Ocean trawl	Fish pot	Hook and line	Gill net	Pound net	Gig	Hook and line
Jan	BSB,SuF		BSB				SuF,SoF
Feb	BSB,SuF	BSB	BSB	SoF			SuF,SoF
Mar	BSB,SuF	BSB	BSB	SoF		SuF,SoF	SuF,SoF
Apr	BSB,SuF	BSB		SoF		SuF,SoF	SuF,SoF
May		BSB		SoF		SuF,SoF	BSB,SuF,SoF
Jun		BSB	BSB	SoF		SuF,SoF	BSB,SuF,SoF
Jul		BSB	BSB	SoF		SuF,SoF	BSB,SuF,SoF
Aug		BSB	BSB	SoF		SuF,SoF	BSB,SuF,SoF
Sep		BSB		SoF	SuF,SoF	SuF,SoF	BSB,SuF,SoF
Oct		BSB		SoF	SuF,SoF	SuF,SoF	BSB,SuF,SoF
Nov	BSB,SuF	BSB		SoF	SuF,SoF	SuF,SoF	BSB,SuF,SoF
Dec	BSB,SuF	BSB					BSB,SuF,SoF

Table 3. Detailed budget for ACCSP Grant July 1, 2014 – June 30, 2015

	ACCSP Request	State In-Kind	Total	Justification
Personnel Services/Salaries				
Temporary Six-month Technician Wages	$32,486		$32,486	Two temporary technicians hired through Temporary Agency @ $16.92/hr, 20 hours/week for 48 weeks. Funds may also be used to purchase fish samples as needed to meet targets.
DMF Staff		$10,149	$10,149	Salary for three DMF biologists and two technicians including training, supervising, sample preparation, analysis and writing.
Subtotal	$32,486	$10,149	$42,635	
Travel				
Ground In-State	$2,000	$2,000	$4,000	Two technicians will need to travel by truck to sampling locations throughout the state and will incur fuel costs. Funds may also be used to purchase fish samples as needed to meet targets.
Fringe				
Retirement, Social Security, Health Insurance		$3,518		7.65% of salaries for social security, 14.31% of salaries for retirement, and $5,192/yr per employee is charged for permanent DMF employees.
Supplies				
Scientific field equipment	$500			Measuring boards, scalpels, clipboards, forceps and light boards
Laboratory supplies	$500			Vials, ETOH preservative, envelopes
Clothing	$400			Raingear, gloves and boots for field sampling
Subtotal	$1,400	$0	$1,400	
Indirect			$1,664	16.4% of permanent DMF employee salaries for the period
Total	$35,886	$15,667	$49,699	

Budget Summary:
The project will require $35,886 for one year of operations (Table 3). Most of these funds are devoted to salary for the two temporary part-time technicians to be hired to collect the required samples. NCDMF does not have sufficient staff to acquire the age and sex samples necessary for state stock assessments (southern flounder) and regional stock assessments (summer flounder and black sea bass). The budget also allows for travel expenses for the technicians, as they will need to drive to sampling locations throughout the state. Funds allocated for salaries and travel may be shifted to purchase commercial fish samples as needed to meet targets. Equipment required for sampling includes a variety of items, including light boards. Documentation of light board use in field sampling could not be found although they have been used extensively in North Carolina aquaculture laboratories (Daniels et al. 2010). The cost for light boards may include pre-built devices or components to build our own. Because the project will generate more age samples than typically collected by NCDMF in a given year, funds will be needed to support additional laboratory supplies. Most of the NCDMF in-kind salary time will be devoted to the PI and the NCDMF Aging Biologist analyzing aging structures. The PI and another NCDMF biologist will also train and supervise the technicians and the PI will write the final ACCSP grant report. Permanent technicians will be involved in training temporary technicians in sample collection and processing. A year of funding for this project will enable data collection methods to be field tested and provide valuable results to be used in assessments and demonstrate the need for continued collection through available funding sources.

Summary of Proposal for Ranking Purposes

Proposal Type: ***New***

Primary Program Priority:
Biological Sampling**:** This project will address the ACCSP biological module (100%). All age samples collected from summer flounder and black sea bass (number one and ten within the ACCSP top 25% priority matrix) that are needed to meet targets will be processed and aged (if readable). All southern flounder that are needed to meet targets will also be processed and aged. Additional age samples will be collected and aged as funding allows for target species as well as for: weakfish, Atlantic croaker, spotted sea trout, Spanish mackerel, bluefish, black drum, and kingfish. Weakfish is thirteenth in the ACCSP top 25% priority matrix. Sex information will be collected as often as possible for these species. The age and sex data will be reviewed and added to the NCDMF biological database and will also be made available to the ACCSP database.

Project Quality Factors:
Multi-Partner/Regional Impact Including Broad Impact:
Age and sex data collected for fish harvested by North Carolina's fisheries have implications for ASMFC and MAMFC stock assessments and fishery management plans for summer flounder, black sea bass, weakfish, Atlantic croaker, spotted sea trout, Spanish mackerel, bluefish and black drum which include several states. Southern flounder and kingfish are harvested commercially and recreationally by multiple South Atlantic states and therefore data collection for these species would improve management on a regional basis.

Contains funding transition plan/Defined end point:
One year of funding for this project will provide estimates of crucial stock assessment parameters. The goal is to establish an annual sampling program. This initial funding will enable data collection methods to be field tested for efficiency, potentially making it easier to add some or all the described data collection tasks to existing staff schedules. Results of this project will also help justify the continuation of sampling methods developed during this study when applying for future funding. Future funding may be available from a variety of sources.

In-kind Contributions:
NCDMF is providing 32% of the total project cost.

Improvement in data quality/quantity/timeliness:
Funding of this project will provide fishery-dependent age and sex data for black sea bass, summer flounder, southern flounder and species of opportunity with critical data needs. These data are not regularly collected in North Carolina, or in the case of summer flounder are not collected in a manner that parallels sampling by NMFS. Providing or improving the quality of these data is the main goal of this project. No documentation could be found on the proposed method of using light boards to determine the sex of flounder species in field sampling of commercially harvested species (although it has been used in aquaculture laboratories). Therefore, if successful, this would represent a valuable new methodology for collecting flounder sex data in circumstances where cutting into the fish would degrade the marketability of the fish. Data collected by this project will contain information on fishing location and gear as well as catch weights and dealer information.

Potential secondary module as a by-product:
Other species with similar data needs (i.e. species of opportunity) will also be sampled as time and funds allow, including: weakfish, Atlantic croaker, spotted sea trout, Spanish mackerel, bluefish, black drum, and kingfish. The project will help develop a long-term strategy for collecting needed age and sex samples.

Impact on stock assessments:
This project will address high priority research recommendations from most recent stock assessments of black sea bass, summer flounder, southern flounder and species of opportunity. Fishery catch at age data and sex ratios are high priority data for stock assessments of these species, and the necessary data are not regularly being collected in North Carolina. These data will improve the accuracy of stock assessments and our general understanding of these species, leading to more informed management within North Carolina and throughout the region.

Curriculum Vitae

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Marine Fisheries Biologist II
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Education

Master of Science in Marine Science, California State University Monterey Bay, Moss Landing Marine Laboratories, Moss Landing, CA (August 2009)

Bachelor of Science in Fisheries Science, University of Washington, Seattle, WA (May 2000)

Sea Education Association (SEA), Boston University, Woods Hole, MA (February-May 1998)

Selected Recent Employment

Marine Fisheries Biologist II, North Carolina Division of Marine Fisheries, Morehead City, NC (July 2012-present)
I currently collect data on and manage six economically important species of marine fish in North Carolina, including southern flounder, summer flounder and black sea bass. I supervise two employees, collect and synthesize biological and fisheries data for reports, create and present management plans and participate in management committees. The management plans I am responsible for are developed through coordination with other staff, scientists, fishery representatives and the public. The plans address issues such as sustainability, protected species, conflicts and socioeconomics. I collect fishery-dependent and –independent data from ocean, estuarine and freshwater systems and also determine fish ages in the laboratory. I travel to attend regional committee meetings and workshops on fisheries management. I also respond to information and data requests from a variety of user groups and review reports. The position requires a great deal of independent work to meet many deadlines.

Research Assistant, San Jose State Foundation, Moss Landing, CA
(October 2010 – June 2012)
I was part of a California Sea Grant project examining trends and correlations between near-shore ocean temperature and marine fish stock abundance in California. I contributed fish abundance and temperature time-series data and conducted data analysis. We completed a report in 2012 and are currently developing a publication.

CeNCOOS Information Manager, Monterey Bay Aquarium Research Institute (MBARI), Moss Landing, CA / University of California Santa Cruz (UCSC), Santa Cruz, CA.
(July 2006-January 2012)
With the Central and Northern California Ocean Observing System (CeNCOOS) I developed new partnerships and data sources, organized and made available ocean data and information. I created and maintained the CeNCOOS website, which includes a data discovery portal, an extensive database and a variety of information and tools. I worked with regional partners and our staff to improve and expand our database and assisted users in utilizing information and data. I created and distributed e-newsletters, composed reports and conducted outreach at meetings and conferences, for audiences from high-level scientists to resource managers and the general public. This position often involved independent work and prioritizing many diverse tasks.

Research Assistant, Moss Landing Marine Laboratories, Moss Landing, CA
(Sept 2003-Oct 2005)
I organized supplies and 12 student (and staff) workers and helped design this collaborative fisheries project with university researchers, the California Department of Fish and Game (CDFG) and commercial and recreational fishermen. I led fieldwork to catch, identify, measure and tag near-shore marine fishes aboard fishing vessels in central California. The goal was to conduct a survey comparing catch rates of different fishing gears as well as SCUBA counts of fish populations. I also entered and analyzed the data and wrote a project report.

Scientific Aid, California Department of Fish and Game, Monterey, CA (Oct 2002–June 2003)
I interviewed commercial fishermen and collected samples for determining age and growth parameters of pelagic fish and invertebrate species in Monterey Bay. I processed samples in the laboratory, and proofread and entered vessel catch and effort into Microsoft Access databases.

Publications

Starr, R., L. Breaker, T. Wadsworth and A. Launer. 2012. Paradigm or Paradox: Can we Attribute Species Changes to Global Climate Change in Light of Decreasing Water Temperatures in Central California? Report to California Sea Grant.

Hamel, O.S., S. A. Sethi and T. F. Wadsworth. 2009. Status and Future Prospects for Lingcod in Waters off Washington, Oregon, and California as Assessed in 2009. Report to the Pacific Fishery Management Council. 466 p. (NOAA NWFSC Stock Assessment)

Wadsworth, T.F. 2009. Trends in Abundance Surveys of Nearshore Rocky Reef Fishes in Central California. MS Thesis. California State University Monterey Bay. 128 pages.

MS Foster, LM McConnico, L Lundsten, T Wadsworth, T Kimball, LB Brooks, M Medina-López, R Riosmena-Rodríguez, G Hernández-Carmona, RM Vásquez-Elizondo, S Johnson, DL Steller. 2007. Diversity and natural history of a *Lithothamnion muelleri-Sargassum horridum* community in the Gulf of California. *Ciencias Marinas* 33(4): 367–384

PROJECT STATEMENT

Applicant Agency: North Carolina Division of Marine Fisheries (NCDMF)

Project Title: Pilot study: Characterization of bycatch and discards, including protected species interactions, in the commercial skimmer trawl fishery in North Carolina

Project Type: New

Principal Investigator: Kevin Brown, Gear Development Biologist, NCDMF
Mr. Brown has worked as a federally certified observer in the North West Groundfish Trawl Fishery. He has been with NCDMF for over 10 years and as the Gear Development Biologist for NCDMF he has conducted characterization studies of the gill net fishery, the recreational hook and line fishery, and the commercial shrimp otter trawl fishery. He is currently conducting the second year of data collection of a two year characterization study of the commercial shrimp otter trawl fishery. This represents the fourth year Mr. Brown has conducted a characterization study of the commercial shrimp otter trawl fishery.

Requested Award Amount: $50,549

Requested Award Period: 1 July 2014 to 30 June 2015

Objectives:

- Conduct a pilot study to collect biological and discard data for commercially and recreationally important species from the skimmer trawl fishery in North Carolina.
- A goal of 60 observed fishing days of the fishery will be observed per year, for 5% to 6% coverage of the fishery.
- Document protected species interactions.
- Provide estimates of commercial effort, landings, bycatch and discards for future stock assessments.

Need:

Fishery managers understand the importance of obtaining accurate and timely bycatch and discard data from commercial fisheries. Scientists can obtain estimates through fishery independent research projects, which can provide accurate size selectivity information, however, components of effort, catch, and discards in relation to commercial fisheries cannot be obtained. One way to obtain accurate estimates of effort, catch, and discards is through scientific observations made aboard commercial fishing vessels. Commercial fishery (fishery dependent) observations allow the collection of real time catch and discard information, while simultaneously using the knowledge and expertise of commercial fishermen. Observer programs at both the state and federal level have proven to be valuable tools for fishery managers to characterize directed catch and bycatch, document protected species interactions, and provide information that can be used for stock assessments. All data collected will assist in sustaining economically important populations of finfish species.

The skimmer trawl originated in the Gulf Coast states and is effective at capturing white shrimp. Skimmer trawls are modified wing nets sewn to an aluminum or steel pipe frame. The bottom of each outside pipe has a skid that rides over the bottom. Skimmer trawls work in depths ranging from two to approximately twelve feet. The tailbags can be hauled in while the net is still being fished, increasing the efficiency of the harvest and allowing the bycatch to be released more frequently. In North Carolina, skimmer trawls became prevalent in the early 1990s as technology was transferred from Louisiana fishermen (Hines el al. 1999). Skimmer vessels in North Carolina average approximately 30 foot in length and operate with crews of one or two fishermen. They typically operate in the estuarine waters of North Carolina in late summer and fall when white shrimp are most abundant. An increasing number of vessels in Carteret, Onslow, and Pender counties are switching from otter trawls to skimmers as their efficiency on brown shrimp harvest is improved. Skimmer nets account for 3% of the average state landings. The number of participants range from year to year but are approximately 40-50. In 2012, there were a total of 1,091 skimmer trawl trips reported. The Shrimp Fishery Management Plan identified the need to conduct skimmer trawl characterization work across all strata (NCDMF 2012).

The North Atlantic Loggerhead Recovery Plan concluded that fisheries bycatch was the most important threat to this population. Bycatch estimates available for the Southeast/ Gulf of Mexico shrimp trawl fishery suggest 61,300 loggerhead sea turtle (*Caretta caretta*) interactions occur annually (54% in the Southeast Atlantic), resulting in 1,450 deaths (46% in the Southeast Atlantic). Enhanced observer coverage is needed in fisheries with limited bycatch data. Skimmer trawls were listed as a gear with potential sea turtle interactions by the Sea Turtle Advisory Committee (STAC 2006). Limited resources should be prioritized to monitor fisheries most likely to have significant impacts on sea turtle populations, like the SE/Gulf of Mexico shrimp trawl fishery (Finkbeiner et al 2011). This project will collect information on sea turtle interactions in this fishery including: frequency, disposition of turtles, and measurements of turtles.

Effort, catch and bycatch information from commercial skimmer trawl fisheries; and biological data collections for summer flounder (*Paralichthys dentatus*) and weakfish (*Cynoscion regalis*) will respond directly to fill data gaps for the Atlantic Coastal Cooperative Statistics Program (ACCSP) as identified in the biological and bycatch matrices. NCDMF has characterized the commercial shrimp otter trawl fishery (Brown 2009 and 2010), but needs to characterize the skimmer trawl fishery. The skimmer trawl fishery (southern shrimp), and two of the species (summer flounder and weakfish) are currently in the top quartile in the bycatch, and biological sampling matrices, respectively.

Results and Benefits:

Results of this pilot study will provide valuable effort, catch, discard, and bycatch information that will be used in current and future stock assessments and management decisions in the shrimp skimmer trawl fishery. This pilot study will be used to determine the best methods of characterizing the commercial shrimp skimmer trawl fishery in North Carolina. Specifically, this program will quantify bycatch of federally and state managed species of finfish including but not limited to: weakfish, spotted seatrout (*Cynoscion nebulosus*), red drum (*Sciaenops ocellatus*), spot (*Leiostomus xanthurus*), Atlantic croaker (*Micropogonias undulatus*), bluefish (*Pomatomus saltatrix*), Atlantic menhaden (*Brevoortia tyrannus*), southern flounder (*Paralichthys lethostigma*), summer flounder, and striped mullet (*Mugil cephalus*). In addition to finfish bycatch data, information will also be provided for protected species interactions including: loggerhead, green (*Chelonia mydas*), Kemp's ridley (*Lepidochelys kempii*), hawksbill (*Eretmochelys imbricata*), and leatherback (*Dermochelys coriacea*) sea turtles. Data will be entered on NCDMF data sheets and will be entered into the NCDMF Biological Database. All data generated will be provided to the ACCSP. The various analyses will be conducted by using procedures from SAS (SAS Institute, Inc. 2004).

Approach:

This pilot study will be conducted throughout the near-shore and inshore waters of North Carolina between 1 July 2014 and 30 June 2015. Skimmer trawls in all areas of the state will be sampled throughout the entire shrimp season (approximately April-November).

Two observers will be hired and trained to collect data under NCDMF protocols, which previously have met the requirements of federally funded observer projects and largely coincide with National Marine Fisheries Service (NMFS) guidelines (e.g. www.nefsc.noaa.gov/fsb). The data fields collected by observers may be altered or augmented as requested by NMFS in subsequent consultation. Observers will be trained to handle, transport, identify, resuscitate, tag, and release sea turtles in accordance with NMFS standards by NCDMF staff or personnel with the NMFS Laboratory in Beaufort, NC.

Observers will contact vessel captains/owners and obtain weekly observer trips aboard commercial vessels operating in the inshore commercial shrimp skimmer trawl fishery. Although part of the requirements for obtaining a Standard Commercial Fishing License in North Carolina is that fishermen are required to take observers if requested, fishermen participating in this project will be paid an incentive for each fishing day observed, which will aid in compliance. Commercial fishermen will be selected randomly. NCDMF trip ticket information will be used to ensure that observers obtain proportionate effort and catch data by county. Trip ticket data for 2012 indicate there were 1,091 commercial shrimp skimmer trawl trips in estuarine waters of North Carolina. A goal of 60 observed fishing days of the fishery will be observed per year, for 5% to 6% coverage of the fishery.

Observers will sample every tow, randomly taking approximately one fish basket (32 kg) sample to determine species composition. This sample will consist of several small samples taken from various areas of the culling tray (top, bottom, both sides, front, back) to obtain the most representative sample possible, and effectively sampling all nets. Total weight (kg) of shrimp of each tow will be collected, and used to extrapolate total weights of all species. The sample will be sorted to the species level and commercially and recreationally important species will be sampled for lengths and weights. This varies slightly from NMFS Southeast Observer Manual guidelines that only samples one net; obtains a total weight of that net, uses the total weight of the one net sampled to extrapolate total weights of all species in all nets; takes a 12 kg sample per hour towed; and sorts, measures and weighs approximately 20 species or groupings (NOAA 2010). A workshop was conducted in the summer of 2013 with NCDMF personnel from fishery management and statisticians with the stock status group which concluded that our current methods of obtaining representative species composition data in the current otter trawl characterization study with NCDMF's limited resources and personnel. This project will follow the methodology of that study. Data collections will include: enumerating, measuring, weighing, and recording disposition of target and bycatch species; noting date, time, location, and net characteristics (frame size, mesh size of wing and tail bag, turtle excluder device (TED) type, TED compliance, bycatch reduction device (BRD) type, etc.) of all sets and retrievals. Although, skimmer trawls are exempt from the use of TEDs in lieu of tow time requirements, tow times may often be exceeded, which poses a threat to endangered or threatened species (Scott-Denton et al. 2007). National Marine Fisheries Service drafted an emergency rule to require TEDs in skimmer trawls for the southeastern Atlantic in 2010; however the rule was never implemented (Price et al. 2011). The increased concern of protected species interactions in the skimmer trawl fishery justifies the characterization of the use of TEDs in this fishery.

This project will fulfill data needs for three of the ACCSP modules: Biological Sampling **(50)**; and Bycatch/ Species Interactions **(50)**. Specifically, NCDMF will:

Conduct on board characterization sampling in the commercial skimmer trawl fishery, to collect biological and discard data, document protected species interaction, and provide estimates of commercial effort, landings, bycatch and discards. The effort data gathered from this project can be combined with those from the trip ticket data to help further describe and document trends in effort as measured by gear parameters, number of tows, and tow time as opposed to just trends in the number of trips alone. The Biological Sampling module is addressed under this project by providing biological data on summer flounder and weakfish that comprise part of the bycatch in the skimmer trawl fishery. The Bycatch/Species Interactions module is addressed under this project by characterizing released and discards finfish and documenting protected species interactions.

This proposal addresses target priority species and fisheries, specifically summer flounder in the top quartile of the Biological Priority Matrix and fisheries, and specifically skimmer trawl (southern shrimp) in the Bycatch Sampling Priority Matrix. This project would also document protected species interactions in the fishery.

Geographic Location:

The characterization of commercial skimmer trawls will be conducted in the inshore estuarine waters throughout North Carolina.

Milestone Schedule:

The biologist's time will be used throughout the course of the project hiring, supervising and training the technicians, coordinating trips, administering the budget, analyzing data and report writing.

- July 2014: Hire and train observers, contact fishermen, begin onboard observations.
- July-November 2014: Onboard observations; collect, code, and verify data.
- December 2014-June 2015: Limited onboard observations during this period; code, verify data, enter data in NCDMF Biological Database, report writing.

	Project Period Month											
	1	2	3	4	5	6	7	8	9	10	11	12
Observer hiring	X											
Purchase supplies	X											
Observer training	x											
On board observations	x	x	x	x	x							
Data Coding/Verification	x	x	x	x	x	x	x	x	x	x		
Data Analyses/Report Writing											x	x

Project Accomplishments Measurement:

Project Goals	Measurement
Skimmer Trawl Observations	Number of trips obtained. A goal of 60 on board observations.
Biological Data Collections	This will be measured by the ability to obtain biological information for all species collected.

Budget Summary:

The total cost for the activities proposed in this grant including in kind costs is $67,206. This includes all operating expenses (observer compensation, equipment, supplies, and travel). This funding will facilitate observations and characterizations of the commercial shrimp skimmer trawl fishery where limited information exists. Characterization data are valuable, used in multiple management decisions, and significantly contribute to understanding fishery specific issues. This knowledge will continue to be used by fishery managers to sustain stocks, reduce bycatch, and implement necessary rules and regulations. Protected species interaction data is critical in determining interaction levels in certain fisheries.

The responsibilities of NCDMF, including in-kind match throughout the course of the project include: hiring, supervising, and training the technicians, coordinating trips, assisting in data collection, administering the budget, analyzing data and report writing.

Category	Expense	Units	Cost	ACCSP Request	State In-Kind	Explanation
Personnel	Observer Wages	2	$17,597	$35,194		Two temporary technicians hired through Temporary Agency @ $16.92/hr for 40 hrs for 26 weeks
	NCDMF Staff				$10,846	The Gear Development Biologist will be responsible for supervising observers, data analysis, report writing, and outreach to fishermen (480 hours at $43,382/yr or 25%).
			Subtotal	$ 35,194	$ 10,846	
Fringe	Retirement, Social Security, Health Insurance				$ 3,772	7.65% of salaries for social security, 14.68% of salaries for retirement, and $5,402/yr per employee is charged for permanent DMF employees for the period July 1, 2014 - June 30, 2015.
			Subtotal	$0	$3,772	
Travel	Ground In-State	7,000	$ 0.565	$ 3,955		Trips will require 100 miles per trip for 60 trips. Additional miles needed for administration, training, meetings.
			Subtotal	$ 3,955	$0	
Supplies	Office	1	$300	$300		Rite in rain notebooks, paper, etc.
	Scientific	2	$250	$500		Measuring boards, baskets, and other sampling supplies
	Safety	2	$150	$300		Personal floatation devices for each observer
	Clothing/Uniforms	2	$500	$1,000		Raingear and float coats for safety
	GPS units	2	$150	$300		Each observer will carry a GPS unit to mark locations of protected species interactions.
			Subtotal	$2,400	$0	
Other	Fishermen Incentives	60	$150	$9,000		Fishermen will be paid an incentive per fishing day observed.
			Subtotal	$9,000	$0	
Indirect					$2,039	18.8% of permanent NCDMF employee salaries (rate for the period July 1, 2013 - June 30, 2014).
			Subtotal	$0	$2,039	
			Total Project Cost	$50,549	$16,657	$67,206
			Percent	75%	25%	100%

Summary of Proposal for ACCSP Ranking

Proposal Type: New

Primary program priority and percentage of effort to ACCSP modules:
This project will fulfill data needs for two of the Atlantic Coastal Cooperative Statistics Program (ACCSP) modules*: Biological Sampling* **(50)**; *and Bycatch*, *Releases, and Protected Species Interactions* (**50).** Specifically, NCDMF will:

Objective: Conduct on board characterization sampling in the commercial skimmer trawl fishery, to collect biological and discard data, document protected species interaction, and provided estimates of commercial effort, landings, bycatch, and discards.

This proposal specifically addresses target priority species and fisheries, specifically summer flounder in the top quartile of the Biological Priority Matrix and fisheries, and skimmer trawl (southern shrimp) in the Bycatch Sampling Priority Matrix. This project would also document protected species interactions in the fishery. This pilot study will determine the best methods and approach to characterizing the commercial shrimp skimmer trawl fishery of North Carolina.

Project Quality Factors:

***Regional Impact*:** All of the data will be uploaded to the ACCSP database. Regional management organizations such as the Atlantice States Marine Fisheries Commission)ASMFC), South Atlantic Fisheries Management Council (SAFMC), and Gulf of Mexico Fishery Management Council (GMFMC) will benefit from the catch/effort data, biological sampling, and the protected species interaction, and discard and release information collected from the commercial shrimp skimmer trawl fishery of North Carolina. Other states with a skimmer trawl fishery will benefit from the lessons learned in this pilot study that will determine the best methods of characterizing the fishery.

***In-kind Contribution**:* 25% The responsibilities of NCDMF, including in-kind match throughout the course of the project include: hiring, supervising, and training the technicians, coordinating trips, assisting in data collection, administering the budget, analyzing data and report writing.

***Improvement in Data Quality/Quantity/Timeliness**:* This proposal expands the effort NCDMF has taken to characterize the commercial shrimp trawl fishery to the skimmer trawl fishery. This will greatly improve biological data quality and quantity in the skimmer trawl fishery of North Carolina, where little data exists. NCDMF continues to provide timely data that is used for multiple FMPs and stock assessments. Providing real-time protected species interaction data, management decisions can be made quickly and accurately to provide ultimate protection for such species.

***Impact on Stock Assessment*:** This plan includes discard and release composition data collected for species which are managed regionally, such as summer flounder, southern flounder, and weakfish. Regional management agencies such as the ASMFC and the SAFMC would benefit from the data collected. Bycatch information on protected species such as sea turtles and Atlantic sturgeon is valuable as well.

Properly Prepared: NCDMF followed ACCSP guidelines and documentation when preparing this proposal.

Literature Cited:

Brown, K. 2009. Characterization of the near-shore commercial shrimp trawl fishery from Carteret County to Brunswick County, NC. Completion report for NOAA award # NA05NMF4741003. North Carolina Division of Marine Fisheries, Morehead City, North Carolina.

Brown, K. 2010. Characterization of the commercial shrimp trawl fishery in Pamlico Sound and its tributaries, NC. Completion report for NOAA award # NA08NMF4740476. North Carolina Division of Marine Fisheries, Morehead City, North Carolina.

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H. KEVIN BROWN

PROFESSIONAL EXPERIENCE (SELECTED)

2004 - present NC Division of Marine Fisheries Morehead, NC

Marine Fisheries Biologist

- Current assistance with NMFS SEFSC – Harvesting Systems Unit (HSU) with TED inspections, installations, and outreach
- Manage statewide commercial and recreational fishing gear development program for implementation of management decisions by NMFS, ASMFC, NCDMF, and NCMFC
- Design, develop, conduct, coordinate, oversee and evaluate scientifically sound projects and field sampling that address gear development and bycatch reduction research (Magnuson-Stevens Act) in North Carolina's commercial gillnet, shrimp trawl, beach seine, and pound net fisheries
- Oversee program management duties, including prioritizing and scheduling activities, writing grants (NOAA, ACFCMA, NFWF), preparing and managing grant budget, analyzing data and writing summaries and annual reports
- Disseminate information through both verbal and written forms to various groups
- Negotiate, administer, and manage contracts
- Supervise, direct, and evaluate day-to-day activities of up to three full-time technicians and up to eight temporary technicians
- Assisted in monitoring, coordination, data analyses, compiling summary report for annual Pamlico Sound (PSGNRA) monitoring program designed to minimize protected sea turtle interactions in commercial fishing gears (ESA 1973)
- Design, develop, and coordinate a statewide observer program to collect finfish bycatch information and endangered species interactions (ESA 1973, MMPA 1972) throughout North Carolina commercial gillnet and shrimp trawl fisheries
- Served as the lead species biologist for Spot, representing NCDMF on ASMFC's PRT (Plan Review Team)
- Member of NCDMF Scientific Diving Program
- Team member of NCDMF's Protected Species Advisory Team (PSAT), Shrimp Fishery Management Plan Development Team, Recreational Discards Group, and Gear Development Committee (chair)

2002 - 2004 NC Division of Marine Fisheries Morehead, NC

Marine Fisheries Technician

- Conducted on-the-water, aerial and ramp surveys of the gigging community
- Assisted Biologists and Technicians in the central district delineating bottom types and sampling shellfish abundances
- Participated in a program designed to better define important shellfish habitats and improve NCDMF's capabilities for making management decisions and resource recommendations
- Compiled, recorded and edited data
- Operated and maintained outboard motors, boats, trailers, trucks and sampling equipment
- Member of NCDMF Scientific Diving Program

2000 - 2001 IslandOaks.com Sneads Ferry, NC

Vice President of Operations

- Managed and coordinated training for 12 departments
- Managed facility operations and building support systems and external contractors
- Managed multiple projects to attain strategic goals
- Identified, analyzed, researched, and documented business needs and issues, and proposed solutions
- Developed and documented Requirements Statement and Project Plan
- Made recommendations and communicated project status to executive board

1994 - 1998 Sea World of Florida Orlando, Florida

Aquarium Biologist

- Managed several major exhibits of Indo-Pacific and Caribbean fishes and invertebrates
- Designed and implemented aquaculture facility
- Diagnosed and treated common aquarium diseases
- Managed large scale quarantine facility and process
- Participated in turtle and manatee rescues and releases
- Designed, built, and managed display and holding life support systems
- Collected and transported fishes and invertebrates using a variety of methods
- Dove tanks for maintenance, repair, and observation of system and specimens (1,000+ hours)
- Participated in reproductive study of nurse sharks

1993 - 1994 Saltwater, Inc. Anchorage, Alaska

NMFS Groundfish Observer

- Gathered catch, discards, location, and gear information onboard fishing vessels
- Took biological samples from finfish and invertebrates
- Documented all marine mammal activity (MMPA 1972)

1989 - 1989 Woods Hole Oceanographic Institute Woods Hole, Ma

Research Assistant

- Observed and tabulated data on thermal regulation of blue sharks

EDUCATION

1998 - 1999 Florida Technical College Orlando, Florida

Associate of Science in Network Administration and Programming

3.92 GPA

1990 - 1992 University of North Carolina Wilmington, NC

Bachelor of Science in Marine Biology

PUBLICATIONS (SELECTED)

Brown, K. 2011. Determine the effectiveness of various designs of fish pots as an alternative to commercial and recreational gill nets to capture flounder in Bogue Sound, Core Sound, Neuse River and their tributaries, NC. Completion report for NOAA award # NA08NMF4740476. North Carolina Division of Marine Fisheries, Morehead City, North Carolina.

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Brown, K. 2009. Characterization of the near-shore commercial shrimp trawl fishery from Carteret County to Brunswick County, NC. Completion report for NOAA award # NA05NMF4741003. North Carolina Division of Marine Fisheries, Morehead City, North Carolina.

Brown, K. 2006. Evaluation of experimental shrimp pots from Carteret County to Brunswick County, NC. Completion report for NOAA award # NA05NMF4741003. North Carolina Division of Marine Fisheries, Morehead City, North Carolina.

Funding Proposal
FY14 ACCSP Administrative Grant

Applicant Name:	Atlantic States Marine Fisheries Commission
Project Title:	Administrative Support to the Atlantic Coastal Cooperative Statistics Program
Principal Investigator:	Michael S. Cahall, Director, ACCSP
Requested Award Amount:	$1,715,747 w/o New Jersey state support $1,855,866 with New Jersey state support
Request Type:	Maintenance/Administrative
Requested Award Period:	March 1, 2013 through February 28, 2014

A. Goals

The Atlantic Coastal Cooperative Statistics Program (ACCSP) is a state-federal cooperative partnership between twenty-three 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 National Marine Fisheries Service 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 collections programs and to integrate those data into a single data management system that will meet the needs of fishery manager, 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. Create and manage a fully integrated data set that represents the best available fisheries data
2. Continue working with the ACCSP Program Partners to improve fisheries data collection in accordance with the ACCSP standards
3. Strengthen collaboration and involvement among partners at all levels
4. Monitor and improve the usefulness of ACCSP's products and services
5. Improve outreach and education and maintain support from all stakeholders and constituents
6. Support nationwide systems used for collecting, managing, and disseminating marine fisheries information as defined in the Magnuson-Stevens Fishery Conservation and Management Reauthorization of 2006

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 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 Atlantic States Marine Fisheries Commission (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 will 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, South Carolina. Following signing, an Operations Plan was developed to outline the specific tasks and timetables required to develop and initiate implementation of this program. Annual Operations Plans are developed by the ACCSP to provide guidance on further development and implementation of the program.

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 (available at www.accsp.org). 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 changes.

In 2000, the first version of the ACCSP Data Warehouse was made available to the program partners. Since then, it has grown to encompass a 50 plus year time series of fisheries dependant 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) was deployed. This system is used to collect Program compliant data from commercial and recreational fishermen and dealers and is now deployed from Maine to Virginia. Efforts are under way to deploy it as far south as Georgia. SAFIS is an ongoing and evolving system, requiring support, review and revision.

D. Results and Benefits

The ACCSP will reduce duplication of effort by commercial 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, the 2006 Peer Review Report and the 2012 Independent Panel Review:

- 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

The FY14 Implementation Plan (Attachment 1) details activities to be conducted by ACCSP staff and committees under the FY14 Administrative Grant.

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 committees, except for the Advisory Committee which is composed of industry and recreational representatives, are composed of managers and staff of the partner agencies and set policy by consensus.

The standards, known as the Atlantic Coast Fisheries Data Collection Standards, for data collection and management are developed 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. Several aspects of the ACCSP are still in development and implementation of several ACCSP modules is occurring in various jurisdictions. The ASMFC has been given the responsibility to provide administrative support to ACCSP activities. 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 provides executive leadership for the program, overall programmatic management and guidance, and is responsible for the day-to-day operations. The ACCSP Program Manager provides assistance to the Director, coordinates Program activities and publicizes the availability and benefits of the ACCSP Program. The Program Assistant provides staff support for program and technical committees and drafts, maintains and coordinates program documents (Position Description, see attachment VI). The Software Team Leader coordinates the development and management of ACCSP data management systems. The Systems Administrator manages the information systems infrastructure. The Data Team Leader provides guidance for all data related activities. The Data Analyst, Data Coordinators and Fisheries Programmer provide programming capabilities and system support required to develop and fine-tune the data management system and assist users as they access the system. The Data Coordinators also directly participate in data intensive activities such as a stock assessment data

workshop as needed. The Information System staff provides expert consultations to partners as they implement new reporting and licensing/permitting systems. They also will continue to support development of SAFIS.

ACCSP staff will follow the FY14 Implementation Plan during FY14, in consultation with all ACCSP partners. The implementation plan provides specific guidance and priorities to all partners for the establishment and conduct of ACCSP programs. Specific data management tasks to be accomplished during the period include initiation and maintenance of Partner data feeds from the commercial, recreational, and biological modules; continued implementation of SAFIS; support of other partner projects (such as the ASMFC lobster trap tag allocation system) 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 Outreach Committee (now combined with the ASMFC Outreach Committee), the Recreational and Commercial Fisheries Statistics Technical Committees and Subcommittees, the Information Systems Committee, the Biological Review Panel, the Bycatch Prioritization Committee, the ASMFC Stock Assessment Committee (used by ACCSP), and the ASMFC Committee on Economic and Social Science (used by ACCSP). 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. Program partners remain engaged in the process, and the program has made substantial progress towards its goals.

1. Geographic Location: Atlantic Coast from Maine through Florida.

2. Milestone Schedule: See FY14 Implementation Plan (Attachment 1)

This is a continuation from previous projects. Table 1 contains the base administrative grant amounts by year since implementation began in 1999.

Table 1. Administrative funding for ACCSP from 1999-2011

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

3. Cost Summary: The ACCSP requests $1,270,924 for administrative support, committee travel and systems operations during FY14. The addition of the 35% overhead rate raises the request to $1,715,747. If accounting for support for New Jersey is included, the totals are: $1,374,716 and $1,855,867 respectively

The funds used for the Atlantic Coastal Cooperative Statistics Program shall be accounted for separately from all other ASMFC funds.

4. Personnel

All Program personnel, except the Systems Administrator are dedicated 100% to the ACCSP, and are full-time employees of the Atlantic States Marine Fisheries Commission. The Systems Administrator is a shared position with the ASFMC under the supervision of the ACCSP Director. Fringe benefits which include health care, vision, dental, annual and sick leave are calculated at 25%. ASMFC salaries are kept confidential, thus only totals are displayed.

- ACCSP Director - Michael S. Cahall
- Program Manager - Ann McElhatton
- Program Assistant - Vacant
- Systems Administrator - Vacant
- Software Team Leader - Karen Holmes
- Fisheries Programmer – Nicolas Mwai
- Data Team Leader - Geoffrey White
- Data Analyst - Jennifer Ni
- Data Coordinator - Julie Defilippi
- Data Coordinator – Edward Martino

Salaries and Wages (ACCSP)	**2014**
Total Salary	$ 853,018
Benefits @25%	$ 213,255
Total Costs	$ 1,066,273

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 on-line 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 sight, per diem according to OPM 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. In addition, travel is included for various states to attend Recreational WAVE meetings at the request of the Recreational Technical Committee (Attachment 2).

The Travel Budget is based on an estimated $250 per day multiplied by meetings multiplied by days multiplied by membership plus staff. Additionally the budget includes travel for the Program Review and funding for sponsored Partner travel to two Wave meetings.

Committee Travel	Meetings	Days	Membership	Total	Staff	Total	Grand Total
Advisory Committee	1	1.5	10	$3,750	1	$300	$4,050
Biological Review panel	0	1	12	$0	1	$0	$0
Bycatch Prioritization	0	1	12	$0	1	$0	$0
Commercial Technical Committee	1	1.5	14	$5,250	1	$300	$5,550
Coordinating Council (with ASMFC)	2	0.5	12	$3,000	2	$400	$3,400
Operations Committee	2	2	12	$12,000	2	$1,600	$13,600
Outreach	1	1	10	$2,500	1	$200	$2,700
Recreational Technical	1	2	14	$7,000	1	$400	$7,400
Information Systems Committee	1	1	14	$3,500	1	$200	$3,700
Total Committees				$37,000		$3,400	$40,400
Staff Travel							
Partner Coordination	2	1	1	$500			
Data Support (Stock Assessment etc)	3	2	1	$1,500			
IT Support	2	2	1	$1,000			
Outreach	2	2	1	$1,000			
GulfFIN Coordination	1	2	1	$500			
Recreational (Wave meetings)	2	3	6	$10,000			
Total Staff Travel				$14,500			
Grand Total							$54,900

6. Supplies

Supply costs include supplies not covered by the ASMFC overhead. This includes ACCSP specific materials for outreach, smaller information systems items such as network switches and supplies required in support data collection in New Jersey.

Supplies	2014
Misc Hardware (cables, network hubs etc)	$4,651
Backup Tapes	$2,000

	$6,651

. Equipment

ACCSP maintains several large server systems and related hardware in support of the Data Warehouse, Web Site, 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. Note that in 2014 the Program plans to replace its web server and some parts of the Wide Are Network infrastructure.

Included are 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. We assume the replacement of a major infrastructure component (server, router, firewall, etc.) yearly. We assume the replacement of three desktop/laptop systems per year.

Equipment	**2013**
Infrastructure Replacements (servers, UPS systems etc)	$10,000
Desktop/Laptop Systems	$5,000
Total	**15,000**

. 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 two high speed internet connections and associated infrastructure in support of the server systems. The first is the primary connection used of all incoming and outgoing public traffic. The second is a dedicated line to the NMFS Northeast Regional Office. This second line provides full time secure connectivity requested by the Region.

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.

Communications supports high-speed internet connectivity for ACCSP and related systems and a direct secure connection to the NERO data center in Gloucester. Costs are based upon negotiated contracts with Cogent Communications, Level 3 Communications and Verizon.

Software vital to the data warehouse loading process has become obsolete and accounted for a significant delay in the data loading process which resulted in the Program delivering data approximately one month late. Contract services will be utilized to update this software in order to take advantage of changes in internal processes and increased capabilities of the APEX and PL/SQL engines. Software will be developed such that it will be transportable to the SAFIS system. Basic requirements for the software update are included as attachments 3 and 4.

Other Expenses		**2014**
Software Support		$40,600
Hardware Support		$7,500
Communications		$27,500
Printing (outreach)		$2,500
Contract Services		$50,000
Total		**12 ,100**

Budget Summary

Budget Summary	2014
Personnel	$853,018
Fringe Benefits	$213,255
Travel	$54,900
Equipment	$15,000
Supplies	$6,651
Other	$128,100
Total Program	**1,2 0,924**
ASMFC Overhead	$444,823
Total	**1, 15, 4**

Note that with the inclusion of the NMFS administrative fee ($90,390), the total obligated for ACCSP administration would be $1,805,995

FY14 Implementation Plan for the
Atlantic Coastal Cooperative Statistics Program

Purpose

This plan is intended to provide guidance in achieving the goals of the ACCSP in 2014. As a reminder, excerpts from the 2008-2012 Strategic Plan. A more detailed Project Plan which gives more specific timelines and dependencies is attached.

Strategic Plan Program Goals

1. Create and manage a fully integrated data set that represents the best available fisheries data

2. Continue working with the ACCSP Program Partners to improve fisheries data collection in accordance with the ACCSP standards

3. Strengthen collaboration and involvement among partners at all levels

4. Monitor and improve the usefulness of ACCSP's products and services

5. Improve outreach and education and maintain support from all stakeholders and constituents

6. Support nationwide systems used for collecting, managing, and disseminating marine fisheries information as defined in the Magnuson-Stevens Fishery Conservation and Management Reauthorization of 2006

2014 Planned Program Activities: Summary

Data Collection and Management (Goals 1 and 2)

Planned activities for Fiscal 2014 are targeted towards operation, maintenance and expansion of dealer landing and fisherman catch reporting, expansion of the data warehouse to include biological data, and the implementation of processes designed to improve the integrity of data in the data warehouse. These activities include: the continued maintenance and deployment of SAFIS based fisherman and dealer reporting, deployment of hand held version of the SAFIS dealer and trips reporting systems, and the loading of available legacy biological and bycatch sample data.

Program data staff, working with the appropriate partner staff, will maintain a 'best available' data set to be used where accurate totals are needed (an example might be Fisheries of the United States), and an 'all available' data set to be used for detailed analysis. Staff will provide a yearly matrix showing data sources and suppliers for the combined data sets as preliminary metadata.

a. Data Warehouse

Catch/Effort

Current data feeds will continue to be maintained and enhanced. Staff will work with Program Partners to improve timeliness and resolve any data issues that may arise. A routine feedback loop for data will continue to be maintained, providing Partners with the opportunity to review data stored in the warehouse.

Biological Data

Progress will be made in populating the biological tables in the data warehouse. Based on the recommendations of the Biological Committee, staff will work with Program Partners to feed pilot biological sample data sets to the warehouse where it will be loaded. Working with the Biological Committee, staff will build the Biological Query Interface using these pilot sample data. Once the loading process has been proven and the query interface tested, the larger NMFS biological data sets will be loaded.

Bycatch Data
Progress will be made in populating the Bycatch data set in the data warehouse. Staff will work with program partners to develop and implement routine Bycatch data feeds for priority data sets as identified by the Bycatch Committee.

b. SAFIS

System Maintenance and Enhancements
The SAFIS system will be maintained and enhanced based on requirements from the Program Partners. Additional Partners will be brought on line as needed. The Program expects to deploy a hand held version of both the Dealer and Trip reporting systems, and additional deployments of voluntary angler systems.

***Ensure that Data are Disseminated and* Used** (Goals 1, 3, 4, and 5)

Part of the mission of the ACCSP is to facilitate the use of data and better acquaint fisheries managers and scientists with the data managed by the Program. To that end, the ACCSP plans to participate in stock assessment and data workshops whenever ACCSP data might be of assistance to the process. The program will continue to provide custom queries as necessary, and provide access to end users through the on-line query tool

Manage and Execute Outreach
Established outreach processes will continue. These include; routine automated updates for meetings, changes in data and significant events, quarterly newsletters, data sheets detailing the status of the Program, articles in 'Fisheries Focus' and the preparation and publication of the Annual Report. Additional opportunities to get the message out to Program constituents and the public will be sought out and exploited.

Outreach will maintain a schedule of fisheries related events, reviewing them periodically to identify opportunities to establish or improve stakeholder communications. Appropriate staff will be detailed to these events to ensure that the ACCSP is represented.

The Program Manager will mange web site content in order to provide a consistent public face for the program and ensure that timely and accurate information is released.

Regional data workshops will be conducted to provide data consumers with hands on experience with the data warehouse, and to bring them up-to-date on the data available. At least one workshop will be conducted during an ASMFC meeting week, others will be targeted to each of the Fisheries Management Councils.

Appropriate Congressional staff and key stakeholders will be kept apprised of the Program through the routine distribution of informational materials.

Participate in Data Intensive Activities
Staff will track various stock assessments, conferences and other data intensive activities with an eye towards participating as fully as possible. Data will be provided were

appropriate. This task would include the presentation of papers or posters in support of Program objectives.

Implement Program Review Recommendations (Goal 4)

Approved recommendations of the Program Review will continue to be implemented. Program staff and committees will work toward implementing recommendations endorsed by the Coordinating Council and monitored by an appropriate body as determined by the Council. These may include: a new Strategic Plan, changes in Program structure and changes to Program Processes.

Manage and Execute the ACCSP Processes (Goals 1, 2, and 3)

Funding Process
As in all years, the ACCSP will continue to manage the funding process, track performance on funded projects, and report to its' constituents on progress towards Program goals. Revisions to the process will be made as needed based on the recommendations from the Program Review or constituent input will be made as needed.

Program Standards
Completion of the MRIP PSE project will enable program staff and the Recreational Technical Committee to complete the revisions to the Recreational section of the Data Standards document.

Metrics
Metrics developed during 2009 will continue to be performed. These include the collection of system usage statistics, user surveys and data load and availability statistics. The metrics will be distributed throughout the year, but will be summarized in the Annual Report.

Support the National Fisheries Information (FIS) and Marine Recreational Information Program (MRIP) (Goal 6)

ACCSP will continue to participate in both the FIS and MRIP programs, providing resources as appropriate to the various committees of the programs. In accordance with the MSA, ACCSP will provide data for the Atlantic Coast to the FIS when requested.

Summary List of Major Tasks
Program Area Program Management

- Manage the funding cycle **(Director, Program Manager, Operations Committee, and Coordinating Council)**
    - Manage and follow Funding Decision Process
- Manage the ACCSP Process (Technical Meetings)
- Implement Program Review Results **(Director, Staff, Coordinating Council, Appropriate Committees)**
- Participate in FIS and MRIP processes **(Staff and Committees needed)**
    - Participate in FIS and MRIP processes and meetings as necessary
- Outreach and Education **(Director, Outreach Coordinator, Staff, Committees)**
    - Monitor Program Success Metrics
        - Publish relevant metrics (**Program Manager)**
            - News flash
            - Quarterly newsletter

        - Annual report
    - Maintain the feedback loop to gauge the success of the program in meeting the needs of its constituents
    - Participate in face-to-face meetings to increase awareness and support of ACCSP
        - Regularly meet or communicate with policy level constituents
        - ACCSP staff attends stock assessment data workshops
        - Contact partners to receive agendas for monthly advisory committee meetings and attend those that include relevant issues
        - ACCSP Director will provide ACCSP updates to Coordinating Council
        - Exhibit at appropriate venues
    - Manage media relations to encourage news stories mentioning ACCSP
        - Contact partners to be added to their press release lists and public notices and state newsletter distribution lists
        - Issue press releases when relevant
        - Maintain a media list
        - Publish in fisheries related publications and journals
    - Promote the use of the Data Warehouse
        - Clearly identify to users data available
        - Provide end-user support for use of the query interface
        - Quickly respond to data requests
        - Identify opportunities to offer training sessions or workshops

Program Area Data Management (Data Team Lead, Data Coordinators)

- Continue catch/effort data quality review and reconciliation with supplying partners **(Data Team Lead, Data Coordinators, Appropriate Technical Committees, Partner Staff)**
    - Monitor data for quality issues and reconcile as necessary
    - Review current standard codes, and make adjustments as necessary.
    - Verify ACCSP data against source data sets
- Support and improve partner catch/effort data loads **(Data Coordinators, Partner Staff)**
    - Complete loading of 2013 Commercial and Recreational Catch/Effort/Landings data into the data warehouse and make it available to the end-user query interface and Fisheries of the United States.
    - Continue work on identifying and loading legacy catch/effort data sets
- Biological Data **(Data Coordinators, Biological Committee, Partner Staff)**
    - Loading biological data sets as identified by the Biological Committee
    - Built and test the Biological Query System
- Bycatch Data (**Data Coordinators, Bycatch Committee, Information Systems Committee)**
    - Begin loading legacy Bycatch data sets
    - Develop data use requirements
- Provide support for the following fisheries data intensive activities **(Data Coordinators)**
    - Stock Assessment Activities (SEDAR, SAW/SARC, ASMFC and state assessments)
    - Custom data requests
    - FUS
    - Others as necessary
- Maintain and update infrastructure **(Data Team Lead, System Administrator)**
    - Maintain existing infrastructure
    - Upgrade Data Warehouse Server.
    - Update software as needed

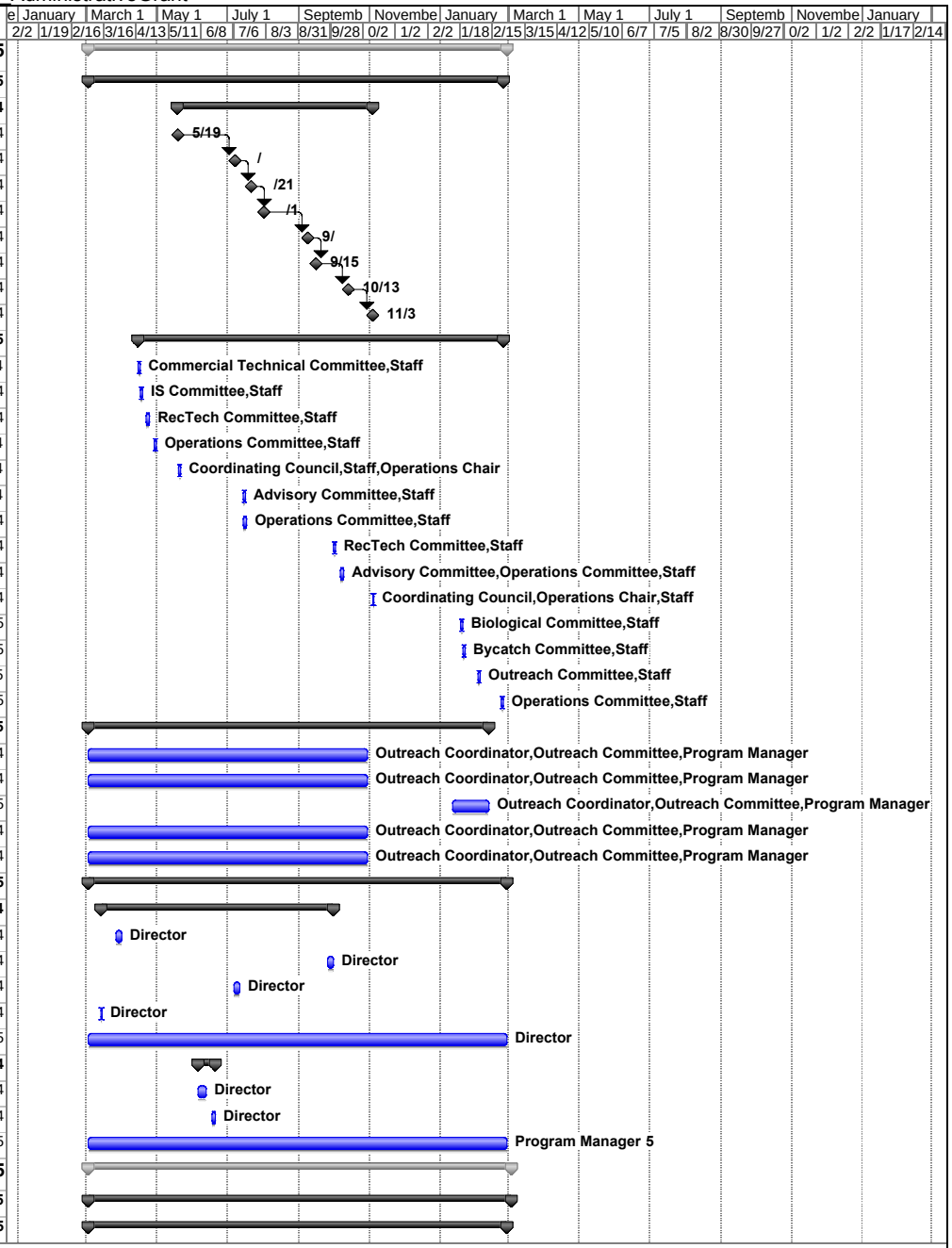
Program Area - Systems Development

- Maintain SAFIS systems **(Software Team)**

    - eDR
    - eTRIPS
    - eLogbook
    - e1-Ticket
    - SMS
    - HMS
- Deploy SAFIS Hand Held
- SAFIS Auditing **(Software Team, Audit Subcommittee)**
    - Continue auditing enhancements as needed
- Simple Query Interface **(Software Team, Data Team, Technical Committees)**
- Internal Applications **(Staff)**
    - Enhance web site
    - Maintain web site
    - Administrative applications

13_ACCSP_AdministrativeGrant

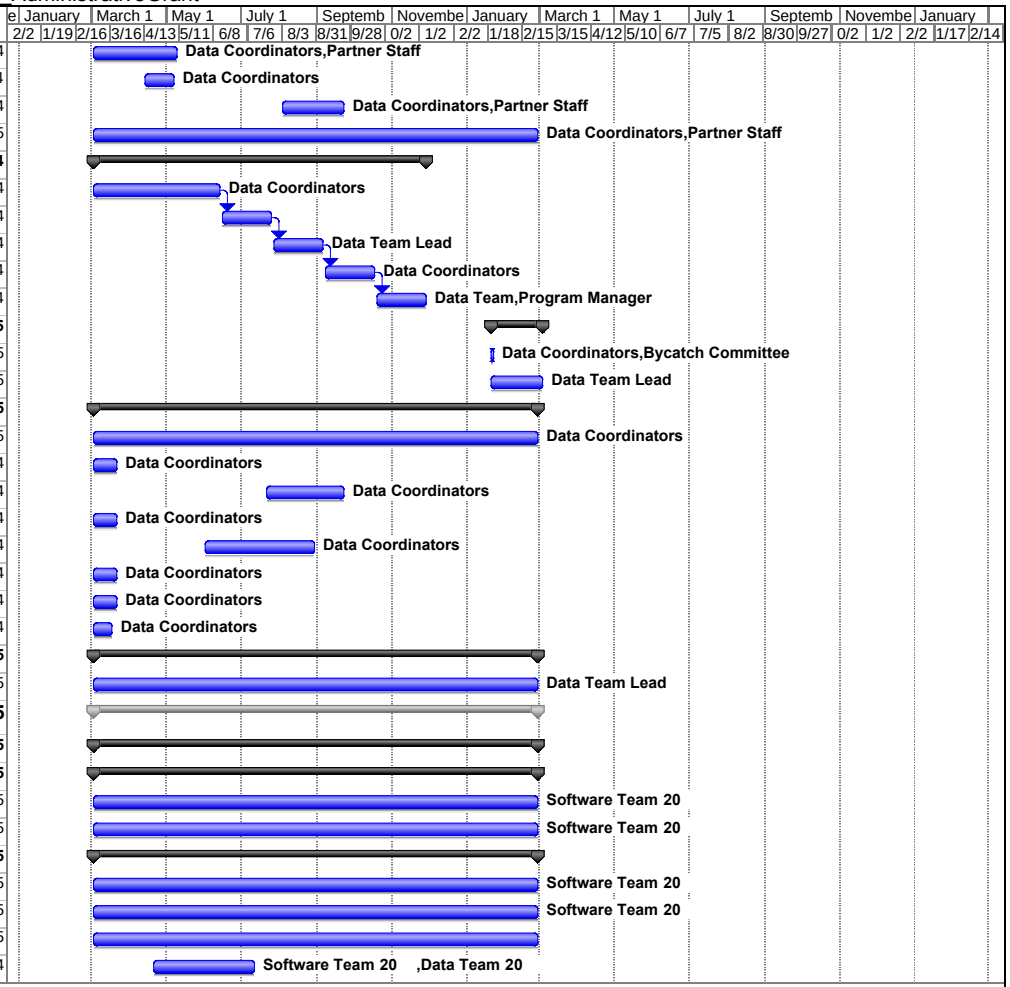
ID	Task Name	Duration	Start	Finish
1	**Program Management 2014**	**260 days**	**Mon 3/3/14**	**Fri 2/2 /15**
1	**Program Management**	**25 days**	**Mon 3/3/14**	**Tue 2/24/15**
2	**Manage Funding Cycle**	**121 days**	**Mon 5/19/14**	**Mon 11/3/14**
3	Issue RFP	0.75 days	Mon 5/19/14	Mon 5/19/14
4	Initial Proposals Due	1 day	Mon 7/7/14	Mon 7/7/14
5	Preliminary Review	1 day	Mon 7/21/14	Mon 7/21/14
6	Issue Questions to Proposers	1 day	Fri 8/1/14	Fri 8/1/14
7	Final Proposals Due	1 day	Mon 9/8/14	Mon 9/8/14
8	Distribute Proposals	1 day	Mon 9/15/14	Mon 9/15/14
9	Ops/Advisors Review	1 day	Mon 10/13/14	Mon 10/13/14
10	Council Approves Proposals	1 day	Mon 11/3/14	Mon 11/3/14
11	**Manage Process (Meetings)**	**226 days**	**Tue 4/15/14**	**Tue 2/24/15**
12	Commercial Technical Committee	2 days?	Tue 4/15/14	Wed 4/16/14
13	IS Committee	2 days?	Thu 4/17/14	Fri 4/18/14
14	RecTech	3 days?	Tue 4/22/14	Thu 4/24/14
15	Operations Committee	2 days?	Tue 4/29/14	Wed 4/30/14
16	Coordinating Council (ASMC Spring)	2 days?	Tue 5/20/14	Wed 5/21/14
17	Advisory Committee - Preliminary Review	2 days?	Tue 7/15/14	Wed 7/16/14
18	Operations Committee - Preliminary Review	3 days?	Tue 7/15/14	Thu 7/17/14
19	RecTech Committee	2 days	Wed 10/1/14	Thu 10/2/14
20	Operations/Advisors	3 days?	Tue 10/7/14	Thu 10/9/14
21	Coordinating Council (ASMFC Annual)	1 day?	Tue 11/4/14	Tue 11/4/14
22	Biologcial Committee Meeting	2 days?	Mon 1/19/15	Tue 1/20/15
23	Bycatch Committee	2 days?	Wed 1/21/15	Thu 1/22/15
24	Outreach Committee	2 days?	Tue 2/3/15	Wed 2/4/15
25	Operations Committee	2 days?	Mon 2/23/15	Tue 2/24/15
26	**Outreach**	**24 .33 days**	**Mon 3/3/14**	**Thu 2/12/15**
27	Monitor Metrics	173.33 days?	Mon 3/3/14	Thu 10/30/14
28	Maintain Feedback Loop	173.33 days	Mon 3/3/14	Thu 10/30/14
29	Annual Report	23.33 days?	Mon 1/12/15	Thu 2/12/15
30	Manage Media Relations	173.33 days?	Mon 3/3/14	Thu 10/30/14
31	Promote the Warehouse	173.33 days?	Mon 3/3/14	Thu 10/30/14
32	**Administrative**	**260 days**	**Mon 3/3/14**	**Fri 2/2 /15**
33	**Grant Management**	**143 days**	**Fri 3/14/14**	**Tue 9/30/14**
34	Semi Annual Grant Report	3 days	Thu 3/27/14	Mon 3/31/14
35	Semi Annual Grant Report	3 days	Fri 9/26/14	Tue 9/30/14
36	Annual Proposal	5 days	Mon 7/7/14	Fri 7/11/14
37	Budget Preparation	1 day?	Fri 3/14/14	Fri 3/14/14
38	Budget Management	260 days	Mon 3/3/14	Fri 2/27/15
39	**Personnel**	**11 days**	**Fri 6/6/14**	**Fri 6/20/14**
40	Performance Planning	5 days	Fri 6/6/14	Thu 6/12/14
41	Performance Reviews	3 days	Wed 6/18/14	Fri 6/20/14
42	Parnter Grant Reviews	260 days	Mon 3/3/14	Fri 2/27/15
2	**Data Management 2014**	**262 days**	**Mon 3/3/14**	**Tue 3/3/15**
1	**Data Management**	**262 days**	**Mon 3/3/14**	**Tue 3/3/15**
2	**Catch/Effort Data Loads**	**260 days**	**Mon 3/3/14**	**Fri 2/2 /15**



Project: ACCSP2014.mpp
Date: Mon 7/8/13

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone

ID	Task Name	Duration	Start	Finish
3	2013 Commercial Data Load (Preliminary)	50 days?	Mon 3/3/14	Fri 5/9/14
4	2013 Recreational Data Load	17.5 days?	Mon 4/14/14	Wed 5/7/14
5	2013 Commercial Data Load (Final)	36 days?	Mon 8/4/14	Mon 9/22/14
6	Ongoing Data Feeds	260 days?	Mon 3/3/14	Fri 2/27/15
7	**Biological Data**	**195 days**	**Mon 3/3/14**	**Fri 11/2 /14**
8	Load Pilot Data Sets	75 days?	Mon 3/3/14	Fri 6/13/14
9	Develop Discoverer Bio Queries	30 days	Mon 6/16/14	Fri 7/25/14
10	Pilot Discoverer Bio Queries	30 days	Mon 7/28/14	Fri 9/5/14
11	Load NMFS-NE & SE-TIP	30 days	Mon 9/8/14	Fri 10/17/14
12	Complete docuemtation and Outreach Materials	30 days	Mon 10/20/14	Fri 11/28/14
13	**Bycatch Data**	**30 days**	**Wed 1/21/15**	**Tue 3/3/15**
14	Prioritize Bycatch Datasets	2 days?	Wed 1/21/15	Thu 1/22/15
15	Evaluate ACCSP Structure and Transfer Format	30 days?	Wed 1/21/15	Tue 3/3/15
16	**Data Intensive Activities**	**260 days**	**Mon 3/3/14**	**Fri 2/2 /15**
17	Custom Data Requests	260 days?	Mon 3/3/14	Fri 2/27/15
18	Black Drum ASMFC External	15 days?	Mon 3/3/14	Fri 3/21/14
19	Black Grouper Sedar	45 days?	Tue 7/22/14	Mon 9/22/14
20	American Lobster ASMFC External	15 days?	Mon 3/3/14	Fri 3/21/14
21	Red Porgy, Red Snapper SEDAR 41	65 days?	Mon 6/2/14	Fri 8/29/14
22	Atlantic Sturgen ASMFC External (TBD)	15 days?	Mon 3/3/14	Fri 3/21/14
23	Tautog ASMFC External (TBD)	15 days?	Mon 3/3/14	Fri 3/21/14
24	Weakfish ASMFC External (TBD)	11 days?	Mon 3/3/14	Mon 3/17/14
25	**Infrastructure**	**260 days**	**Mon 3/3/14**	**Fri 2/2 /15**
26	Server Maintenance & Backups	260 days	Mon 3/3/14	Fri 2/27/15
3	**Software Development 2014**	**260 days**	**Mon 3/3/14**	**Fri 2/2 /15**
1	**Systems Development**	**260 days**	**Mon 3/3/14**	**Fri 2/2 /15**
2	**Maintain SAFIS**	**260 days**	**Mon 3/3/14**	**Fri 2/2 /15**
3	Manage Enhancements/Bug	260 days	Mon 3/3/14	Fri 2/27/15
4	Manage Enhancements/Bug	260 days	Mon 3/3/14	Fri 2/27/15
5	**Builld/Maintain Administrative Systems**	**260 days**	**Mon 3/3/14**	**Fri 2/2 /15**
6	Calendar/Committee	260 days	Mon 3/3/14	Fri 2/27/15
7	Task Tracking	260 days	Mon 3/3/14	Fri 2/27/15
8	Web Site	260 days	Mon 3/3/14	Fri 2/27/15
9	Registration Tracking	60 days	Mon 4/21/14	Fri 7/11/14



Project: ACCSP2014.mpp
Date: Mon 7/8/13

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone

Date: June 28, 2013

Dear Mike Cahall,

The Atlantic Coastal Cooperative Statistics Program's (ACCSP) Recreational Technical Committee would like to request a $10,000 inclusion in ACCSP's administration budget to support travel for State Partners that do not perform sampling with state staff in the conduct of National Marine Fisheries Service (NMFS) marine recreational fisheries surveys and/or partners whose states have travel restrictions in place that make out of state travel extremely difficult. Currently, five states on the Atlantic Coast who do not perform the sampling with state staff in the Marine Recreational Information Program (MRIP) Access Point Angler Intercept Survey (APAIS; Rhode Island, Connecticut, New York, New Jersey, and Virginia) request funding to travel to wave meetings. Additionally, some state partners have stringent travel restrictions in place limiting travel on state funds. Due to the change in travel expense arrangements with the contractor (RTI), state employees are no longer directly reimbursed for travel requiring state payment for out of pocket expenses. The requested funding would cover travel expenses for one representative from each of these states to attend the October 2014 and February 2015 wave meetings. Travel expenses are estimated at $1000 per person per meeting. Therefore, the total funding request for five states at $1000 per meeting, for two meetings per year is $10,000.

ACCSP standards support state partners' conduct of the APAIS. ACCSP is evaluating the transition of conduct of the survey from a contractor to a cooperative agreement involving states at various levels. If state conduct of the APAIS is not possible, the standards support having states participate in the data review meetings (i.e. wave meetings) and having states directly involved in the maintenance of the site register and for-hire vessel directory. Funding travel for state representatives to wave meetings is one way to increase state partners' participation in the APAIS. Wave meetings allow NMFS staff, the contractor's regional representatives, and state agency sub-contractors to review and discuss catch and effort estimates as well as other timely recreational fishing issues and survey protocols. Continued attendance at these meetings will not only allow state agencies the opportunity to critically review and provide comments on the preliminary estimates, it will also allow them to improve their understanding of how the surveys are conducted, as well as improve communication with the contractor and regional representatives conducting the surveys within their state. This improved communication can lead to tangible benefits. Participation in these meetings is critical to increasing state involvement in the APAIS.

Typically, three wave meetings are held each year: June (review Wave 1 and 2 estimates), October (review Wave 3 and 4 estimates), and February (review Wave 5 and 6 and preliminary annual estimates). The Recreational Technical Committee believes it would be most beneficial and cost effective for state biologists to continue to attend the October and February wave meetings. This would allow state biologists to review catch and effort estimates from waves 3-6 as well as preliminary annual catch estimates. Additionally, as methodology changes are made to the APAIS due to the Marine Recreational Information Program, it becomes even more critical for state partners to attend wave meetings to learn more about the new survey protocol and its potential effect on catch estimates and biological data collection.

The Recreational Technical Committee supports state partner participation in wave meetings. Funding was included in the FY2012 ACCSP administration budget for representatives from six states to attend the October

2012 and February 2013 wave meetings. All six state partners took advantage of this funding and sent representatives to both wave meetings. By participating in these wave meetings, state partners were able to review preliminary catch and effort estimates, receive updates on MRIP pilot projects (including updates on upcoming changes to the APAIS), and participate in the Site Register revisions. Due to recent budgetary restraints, many state agencies have been forced to put travel restrictions in place. Without this funding it is likely that none of these states would be able to send representatives to wave meetings. We hope that ACCSP will consider including this additional funding in their administration budget.

Sincerely,

Scott Newlin
ACCSP Recreational Technical Committee Chair

Participant Match Requirements List

The following details the upgrades required to the current participant match application.

1. Meet all current requirements.
2. Additional requirements
    a. Clean up features to truncate tables with unnecessary data. A number of the current procedures add rows to existing tables without cleaning out data from prior runs which causes slow down with each consecutive run.
    b. Additional match sets will need to be developed based on new knowledge of incoming data.
    c. Create a button within the application to run the create mv_pinfo script. The script will need to be written to run as a procedure rather than being run from the server.
    d. Create a file upload procedure:
        i. Partners should be allowed to upload data files. This will shift the responsibility of correctly formatting data from ACCSP staff to Partner staff.
        ii. Uploads will have to be stored until loaded for run.
        iii. Application will have to allow for choosing a data source/uploaded file at the beginning of the run.
        iv. The new functions in this item will allow less technically skilled ACCSP staff to match participants with no SQL knowledge.
    e. Alter procedures to allow for the loading of multiple years from a single source in one run.
    f. Alter procedures to recognize multiple permit types under the same license number as different licenses. (NOTE: THIS IS A SHIFT IN ACCSP practice from not asking for endorsements to allowing states to submit license endorsements. A decision point on this item will require either a database change to allow for endorsements, or clarification to agencies on what license data may be submitted for participant matching.)

ACCSP Participant Match/Load Process Documentation

Prepared by:

Karen Cannell

INTEGRA TECHNOLOGY CONSULTING

for the

Atlantic States Cooperative Statistics Program

ACCSP
Good Data, Good Decisions

September 2009

ACCSP Match/Load Process Documentation

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ACCSP Participant Match/Load Process

Overview

The ACCSP Participant Match/Load application is a web interface for loading ACCSP participant data into the ACCSP data warehouse, matching incoming participants with existing participants and permits as part of the load process.

The application consists of an Oracle Application Express (APEX) application supported by two main PL/SQL packages, MATCH_LOAD and SAFIS_MATCH_LOAD. The APEX application provides the interfaces, menus, navigation and controls. The PL/SQL packages, one to handle data loads from ACCSP partner systems (non-SAFIS data load), and one to handle data loads from SAFIS (SAFIS data load), encapsulate the business rules involved in the various steps match/load process.

The match process proceeds in several major steps:

1. Load incoming data into a "Participant information" structure, MV_PINFO.
2. Preload database tables
3. Process Matches
4. Review and Confirm Matches
5. Process to Production

These steps, and additional minor processes, are detailed in the following sections of this document.

The Match Administration page of the Match/Load application guides a user through those steps. Other pages of the Match/Load application allow an end user to review and confirm matches, view and resolve duplicate permits, view error logs, and review the matched data.

> ***Developer Note:***
>
> As of September 10, 2009, a user can execute all of the step of the process from the Match/Load application, except for the first one. There is work in progress to enable automatic execution of the Create MV_PINFO step. All that is needed is some testing and adjustments to the shell script that calls the SQL script.

SAFIS and Non-SAFIS Data Loads

The Match/Load process flow is essentially the same for both SAFIS and non-SAFIS data. However, there are some differences in SAFIS data versus data from partner systems, and in order to cleanly accommodate those differences, and maintain the non-SAFIS load in production during the SAFIS process development, a separate PL/SQL package was coded specifically to handle incoming SAFIS data.

With SAFIS data we know there is always a permit, and it is likely that we have that permit in the system already. There must be a cross-reference record for each SAFIS participant, to map the SAFIS participants and permits to the data warehouse equivalents. Because of the SAFIS cross-reference table, it is possible to cycle through the load and match processes in a different manner. The SAFIS_MATCH_LOAD package contains all procedures and functions employed in the load of SAFIS participants. Most of these code modules parallel similar procedures and functions of the MATCH_LOAD package.

Since a data load is either SAFIS data or not, there was no efficiency gained, versus the complexity of code that would be introduced, in combining the SAFIS and non-SAFIS match/load code into a single package. Weighing the complexity of code and the infrequency of process changes against the burden of maintaining two packages, a decision was made to keep the code clean and understandable and maintain the two separate packages.

If a significant code change is made in one package, the same change should be made in the other.

Both SAFIS and non-SAFIS data use the same APEX application. A select list on the Match Administration page allows the user to indicate whether the load is SAFIS data or not. This selection sets a flag in the application that directs the application to use the SAFIS procedure or the non-SAFIS procedures. The application employs the appropriate code based on the value of that Is SAFIS Load flag.

Developer Note: Is SAFIS Load? Flag

It is not currently possible to automatically detect whether a load is SAFIS data load or not, unless rules are enforced in how the data loads are named, or some other flag added to indicate a SAFIS load. If a convention is adopted in the future, the flag could be set programmatically and this select list could be eliminated.

Match/Load Process

The Match/Load is almost entirely controlled by the Match/Load application. The Match Administration page outlines each of the steps involved in the process, and is designed to lead a user through them.

The major steps of the process are:

1. Load incoming data into a "participant information" structure, MV_PINFO. Execution of this step entails execution of the create_nv_pinfo.sql SQL script. This script performs a series of SQL commands in series. It assigns an event id to this match/load, creates a MATCH_EVENT_LOG record, assigns a unique PARTICIPANT_ID for each incoming participant, loads the CFDEA_MV_PINFO table with the incoming participant and permit information, and loads the MV_PINFO table with participant and permit information for all participants, incoming (from CFDEA_MV_PINFO) and existing (from the PARTICIPANTs, PARTICIPANT_ADDRESSES, ADDRESSES and PERMITS tables).

   This step is executed once for each incoming data set. The end-to-end process for an incoming data set is considered a Match/Load event.

2. Preload database tables – This step loads the incoming data into the data warehouse PARTICIPANTS, PERMITS and cross-reference tables. As the match process works against all data in the data warehouse, not just incoming data, the incoming data needs to get added to the common data set.

   The Preload process may take awhile to execute, up to several hours, depending on the size of the incoming data set. This process is executed in batch. There is no way to visually monitor its progress, however, when the Preload process completes a Success or Failure status will be indicated in the Monitor Batch Processes region of the Match Administration page.

   This step is executed once or each match/load event.

3. Process Matches – This step does the actual matching by executing a series of queries, one for each match type, to find and record matches according to various criteria. The Process Matches step creates "match set "for each match found. A "match set" is simply a collection of a single parent participant id and any number of matching, "child" participant ids that match the parent based on the criteria for that match type. Match criteria include exact name and ACCSP ident, exact name and address, exact EIN/SSN, exact name and birth date, and others.

   The Process Matches step is usually executed once for each match/load data set. It may be executed more than once, but, each execution clears all Confirm and Processed to Production flags, so any unprocessed confirmations will be lost. The Process Matches procedure is executed from the application, and usually takes a minute or less to complete. If control does not return to the application automatically, try refreshing the browser page, then checking the Match Result regions. A soon as the counts in the Match Results regions stop changing, the Process Matches procedure has completed.

   See the Match Process, Match Types and Match Sets section for more details on the matching process, the match set and the match structures.

4. Review and Confirm matches – In this step a user reviews the match sets and confirms either the entire match set or one or more of the match children. Matches for an entire match type can be confirmed at once using the Bulk Confirm option. For high-scoring match types (See the Match Process section for details), bulk confirmation makes sense. For lower score match types, manual review and confirmation is required.

Manual review can be done from the Review and Confirm page, or by viewing the Match Details page that displays full details of the match parent and child records. As manual review can be time consuming, there are several options to assist the user, such as the ability to display unconfirmed matches only and the ability to select, unselect and confirm or unconfirm many matches at once.

Review and Confirm is typically done in two stages, one bulk confirm of all higher score matches, and several smaller runs of manually confirmed matches. Again, because manual review can be tedious and time consuming, this step may take awhile. It is not necessary to entirely complete the Review and Confirm step before a Process to Production. In fact, it may be helpful to bulk confirm the higher score matches, Process to Production, then confirm lower-score matches, the Process to Production, etc, for as many cycles as desired.

5. Process to Production – Once there are confirmed matches, the Process to Production step may be executed. This step processes all confirmed matches, by updating the child participant id's to that of the parent for all tables in the data warehouse. The updates are done in a specific order, as required to maintain referential integrity. The process commits for each match set processed.

   If there are fewer than 25 confirmed matches, the process executes immediately, and control returns to the user when processing completes. If there are greater than 25 confirmed matches, a batch process is started. A user may monitor the progress of a Process to Production process from the Match Administration page, by watching the Match Counts regions.

   This step may be and usually is executed many times for a given match event. For example, one may bulk confirm the higher score matches, Process to Production, then confirm lower-score matches, the Process to Production, etc, for as many cycles as desired.

Developer Note:

As of September 10, 2009, all of the steps can be executed from the Match/Load application, except for the first one. There is work in progress to enable automatic execution of the Create MV_PINFO step. All that is needed is some testing and adjustments to the shell script that calls the SQL script.

Errors

As with any software load process that handles data loads form disparate data sources, load errors occur. A common error table, LOAD_ERRORS, holds all types of anticipated and unexpected errors in the Match/Load process. After each step of the Match/Load process, the user should review the Errors page of the Match/Load application (accessed by the Errors tab on the Match Administration page) for unexpected error logs.

Review of the Errors page is particularly for the Match/Load steps that are executed in batch. It is possible for a batch process to complete cleanly, but to log important errors along the way. All users should be in the habit of checking the Errors table after each step in the Match/Load process. Any unexpected error, or large numbers of errors, should be investigated thoroughly before proceeding.

Developer note

The utility procedure MATCH_LOAD.ERRLOG inserts a LOAD_ERRORS record with the given input criteria. This procedure is used throughout the MATCH_LOAD and SAFIS_MATCH_LOAD packages to record all anticipated and unexpected errors, and to write warning and informational logs when such logs may be useful to the end user. Anyone who modifies, extends or updates the Match/Load code should be familiar with the MATCH_LOAD.ERRLOG procedure and the LOAD_ERRORS table.

Input Tables

The input to the Match/Load process is incoming participant data from an ACCSP partner, in the form of DEALERS_I and COMMERCIAL_FISHERMEN_I tables for non-SAFIS data, and SAFIS_DEALERS_I and SAFIS_COMMERCIAL_FISHERMEN_I tables for non-SAFIS data. One, but not both (or there would be no data to load) of the files may be empty. If only one set of data is received from a partner, i.e. dealer data but no fisherman data, then be sure to clear out (truncate) the other table, to prevent re-loading data from the previous load event.

The tables all have the same structure, with slight differences in column names between the dealer and commercial fishernn versions:

DEALERS_I

Name	Null?	Type
SUPPLIER_DEALER_ID		VARCHAR2(30)
DEALER_NUMBER		VARCHAR2(15)
EIN_SSN		VARCHAR2(15)
CORPORATE_NAME		VARCHAR2(50)
LAST_NAME		VARCHAR2(40)
FIRST_NAME		VARCHAR2(40)
MIDDLE_NAME		VARCHAR2(40)
NAME_SUFFIX		VARCHAR2(3)
BIRTH_DATE		VARCHAR2(8)
DATA_SOURCE		VARCHAR2(4)
DATA_SUPPLIER		VARCHAR2(4)
ADDRESS_TYPE		VARCHAR2(2)
ADDRESS_1		VARCHAR2(50)
ADDRESS_2		VARCHAR2(50)
CITY		VARCHAR2(30)
COUNTY		VARCHAR2(3)
STATES		VARCHAR2(2)
POSTAL_CODE		VARCHAR2(9)
PHONE_NBR		VARCHAR2(10)
FAX_NBR		VARCHAR2(10)
E_MAIL		VARCHAR2(30)
SUPPLIER_ACTION_FLAG		VARCHAR2(1)
SUPPLIER_LICENSE_TYPE		VARCHAR2(10)
SUPPLIER_PERMIT_ID		NUMBER(10)
ISSUE_DATE		VARCHAR2(10)
EXPIRATION_DATE		VARCHAR2(10)

COMMERCIAL_FISHERMEN_I

Name	Null?	Type
SUPPLIER_CF_ID		VARCHAR2(30)
EIN_SSN		VARCHAR2(15)
LICENSE_NBR		VARCHAR2(15)
CORPORATE_NAME		VARCHAR2(50)
LAST_NAME		VARCHAR2(40)
FIRST_NAME		VARCHAR2(40)
MIDDLE_NAME		VARCHAR2(40)
NAME_SUFFIX		VARCHAR2(3)
BIRTH_DATE		VARCHAR2(11)
DATA_SOURCE		VARCHAR2(4)
DATA_SUPPLIER		VARCHAR2(4)
ADDRESS_TYPE		VARCHAR2(2)
ADDRESS_1		VARCHAR2(50)
ADDRESS_2		VARCHAR2(50)
CITY		VARCHAR2(30)
COUNTY		VARCHAR2(3)
STATES		VARCHAR2(2)
POSTAL_CODE		VARCHAR2(9)
PHONE_NBR		VARCHAR2(10)
FAX_NBR		VARCHAR2(10)
E_MAIL		VARCHAR2(30)
SUPPLIER_ACTION_FLAG		VARCHAR2(1)
SUPPLIER_LICENSE_TYPE		VARCHAR2(50)
SUPPLIER_PERMIT_ID		NUMBER(10)
LICENSE_ISSDATE		VARCHAR2(10)
LICENSE_EXPDATE		VARCHAR2(10)

The SAFIS versions have similar structure, with the addition of the IDENT column.

Developer Note:

As of September 10, 2009, the SAFIS input files and SAFIS create_mv_pinfo script have not been updated to include license issue and expiration dates. When these dates are included, one can follow the example in the non-SAFIS create_mv_pinfo.sql script.

The COMMERCIAL_FISHERMEN_I and DEALERS_I tables are not the raw data from the partner. Usually these tables are loaded by an ACCSP staff member after applying a series of quality control reviews to the raw data set from the partner. See Jennifer Ni for more information on the suite of quality checks that is performed on incoming data sets.

HAVE JEN/JULIE INSERT SECTION ON DATA FORMATS / CHANGES IN GENERAL AND BY PARTNER.

It is important that the BIRTH_DATE, LICENSE_ISSDATE, LCENSE_EXPDATE, ISSUE_DATE, EXPIRATION_DATE columns all contain VARCHAR data in the format YYYYMDD. The VARCHAR fields are read into the database using that format. If the input date format is wrong, the Create MV_PINFO script will fail.

It is essential that the SUPLIER_DEALER_ID and SUPPLIER_CF_ID columns contain unique values for each participant in the data set. These values will be used to assign a participant id in the ACCSP data warehouse. If the values are not unique, the create_mv_pinfo script will fail.

APEX Match/Load Application (APEX Application #1202)

The user interface for the Match/Load process is an Oracle Application Express application. APEX has a simple, declarative development environment that enables rapid construction of HTML forms and reports for the display and manipulation of underlying data. The Match/Load APEX application is a collection of HTML pages that guide the user through the Match/Load process. The major pages are:

- Home Page – The main menu and landing page when one first logs in to the system.
- Match Administration – The central control page for the Match/Load processes, this page guides the user through the major steps of the Match/Load Process.
- Errors – An interface for reviewing all informational, warning and hard errors in the system.
- Review and Confirm – This page allows the user to review and confirm match sets.
- Duplicate Permits – An interface for reviewing and resolving duplicate permits.
- Review Source Tables – The regions on this page allow the user to review data in the underlying tables of the Match/Load process.

From a user perspective, the application is simple to navigate and operate, following the directions in Help sections on the right of the Match Administration page and in the heading text of each region on the page.

Development, Test and Production

Development of the Match/Load Process has always proceeded from a separate development environment, to the test environment on the ACCSPT database, to the production schema in the main ACCSP data warehouse database.

This author maintained a separate development environment outside of the ACCSP servers. It is recommended that supporting developers create their own development environment, to ensure the test environment is not compromised by code or application changes in progress.

All changes, when fully developer-tested, should be moved to the test environment. In test, a full match event cycle should be processed and reviewed prior to moving code or application changes to the production environment. It is ideal to execute a full match event cycle of both non-SAFIS and SAFIS data in test prior to moving code to production.

Source Control

Prior to moving code or application updates to production, the incoming code modules and/orthe latest application export should be logged in the ACCSP source control system. If not formal source ontrol system exists, at minimum the code modules and application exports should be stored in a separate, protected director on the file system, to preserve all code and application history.

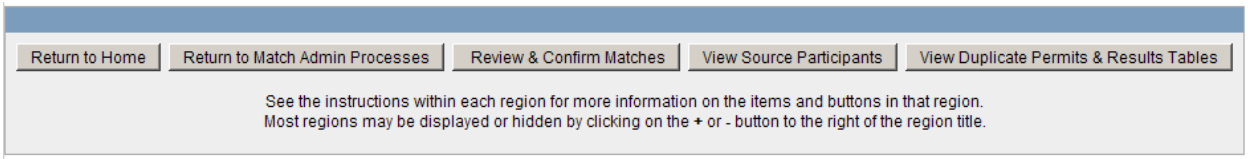
Usernames and Login

User log in to the application using an assigned APEX username and password. If a new user needs an account, an APEX Administrator needs to create a new APEX account for this user through the APEX Administration interface.

THIS IS AN INTERNAL DOCUMENT – LETS LIST USERNAMES and privs here (keep pwds separate)

Developer Information

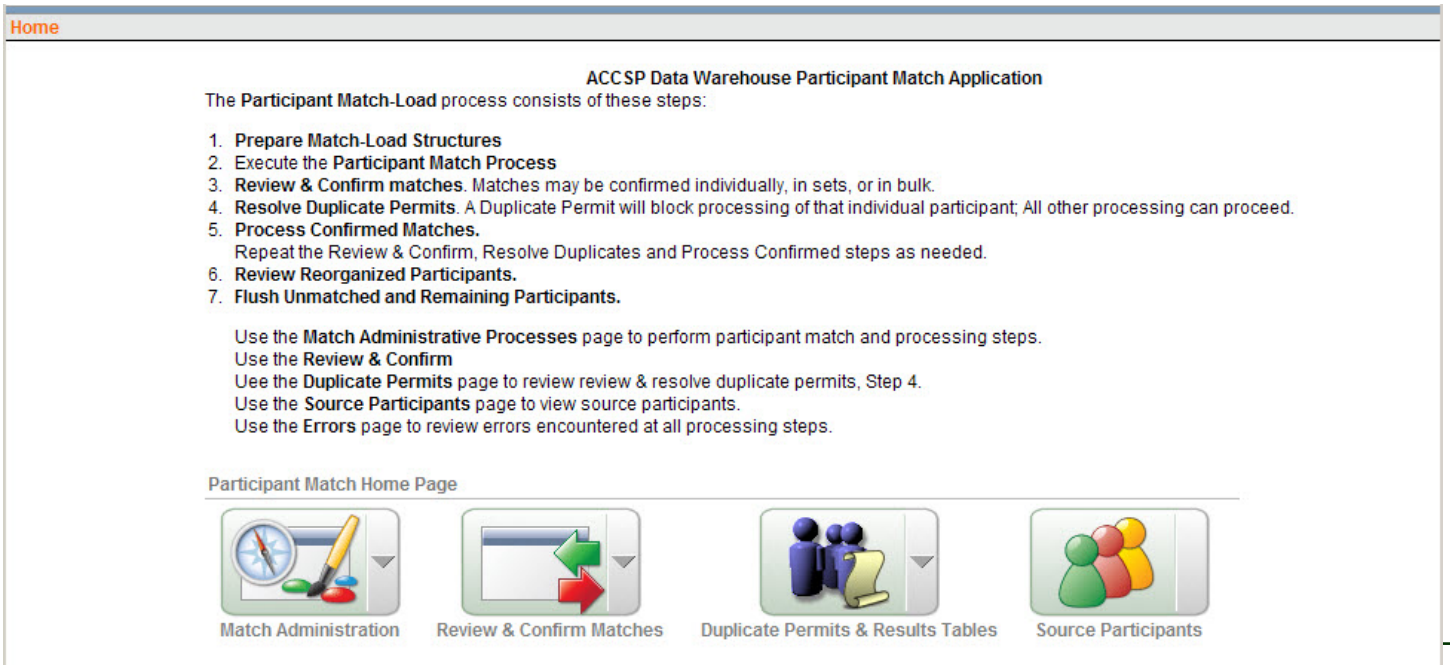
The following sections describe various features of the APEX Match/Load application from the developer perspective. The purpose is to identify and highlight particular features of the application that any developer maintaining the system should be aware of.



Page 0 – Navigation Buttons Region with conditional buttons

Page 0

Page 0 is an APEX page for placing regions and items that one wants to display on all pages, or most pages. In this application, the Navigation Buttons region and its buttons are one page 0. The Navigation Region displays on all pages except for the home page, at the top of the page. The buttons have conditions on them to not display on the page of their function. Each button is a simple redirect to one of the main pages in the application.



Home Page – DHTML List with Images

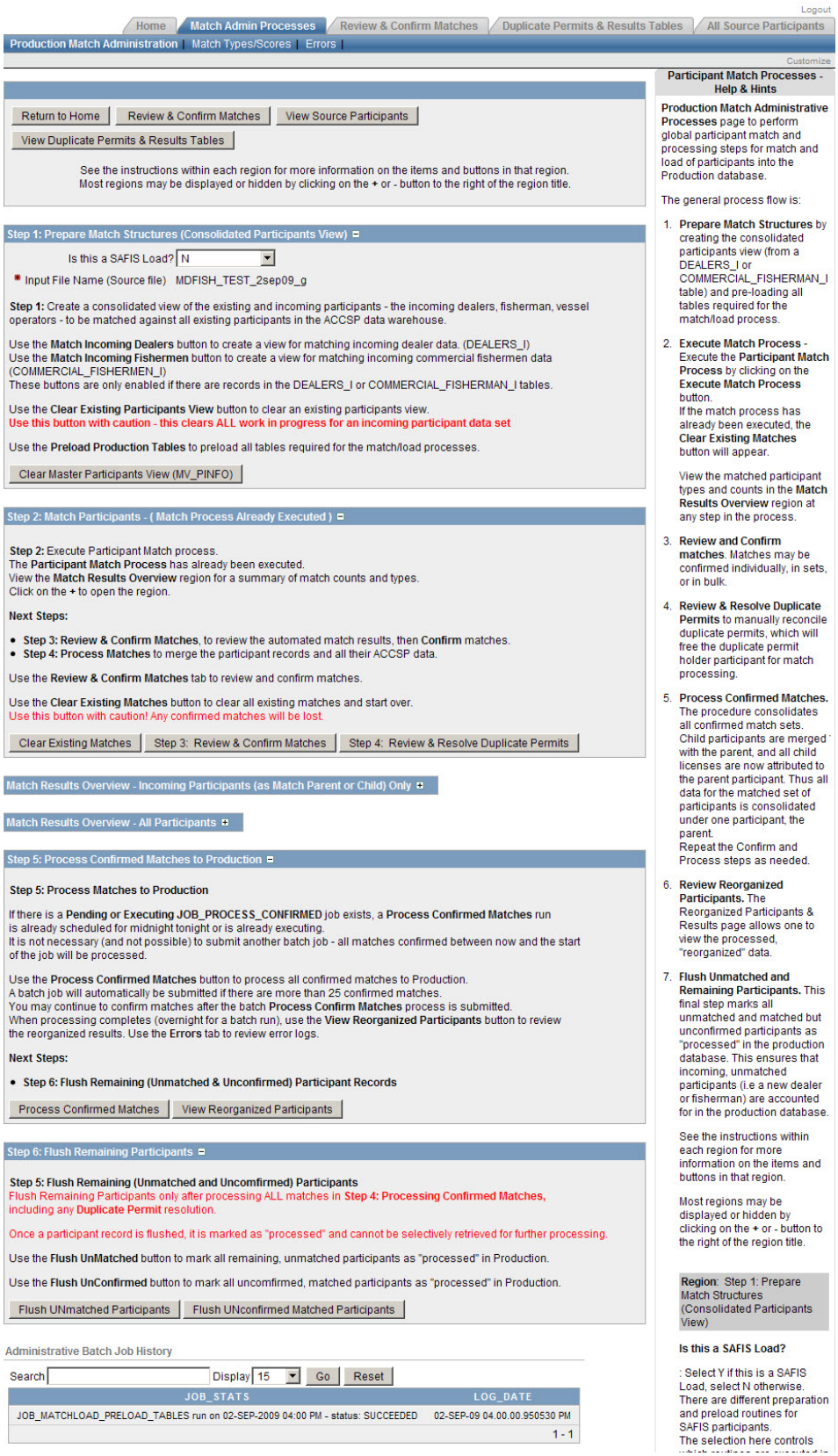
Home Page

The Home page is a landing page that provides easy navigation to all pages of the application. It main region is a list region, of the standard APEX list type DHTML List with Images. The list is easily edited through the APEX builder page List interface to add, change or remove pages and/or to modify the images. One may need to edit this list to add or remove pages from menu as pages are added or removed from the application.

Match Administration Page

This page is a series of custom Sticky Show-then-Hide regions, one for each step in the Match/Load process, one to display a summary of batch job status, and a sidebar region the holds step-by-step instructions for the user. The regions are straightforward, and mainly contain conditional buttons that launch the processes for each step. The regions and their key features are listed below.

- Step 1: Accept match event name, set the Is SAFIS Load flag, load the MV_PINFO table and preload tables. Currently the create_mv_pinfo script is executed manually. The Preload Tables button launches the appropriate Preload procedure, either MATCH_LOAD.PRELOAD_TABLES or SAFIS_MATCH_LOAD.PRELOAD_SAFIS_PARTICIANTS. The Preload process is launched as a batch job. A notice that the job is executing appears in this region, and the job appears in the Administrative Batch Job History region at the bottom of the page.
- Step 2: Match Participants
    - Clear Existing Match Tables – This conditional button only appears when there are match results in the match tables. One needs to clear match results for each match event. Note that clearing match results within a match event is doable, but it will erase all existing Confirm settings. Since the Confirm process is time consuming for lower match scores, always check with all users before clearing the match tables!
    - Execute Match Process – This conditional button only appears when the match results tables are empty. This button launches the Process Matches process (MATCH_LOAD.PM), generating match results for the current match/load event. The Process Matches process runs interactively. If it seems to be taking too long, simple refresh the page, then watch the Match Results regions to observe when the Process Matches process completes. The process is complete when the counts stop updating.
    - Step 3: Review & Confirm Matches (the Step 2 region contains a button to the Review & Confirm page) – This button redirects the user to the Review & Confirm page, for confirming match sets.
    - Step 4: Review & Resolve Duplicate Permits (the Step 2 region contains a button to the Duplicate Permits page). This button redirects the user to the Duplicate Permits page, for reviewing duplicate permits.
- Match Results Overview – Incoming Participants Only. This region lists match counts, including number confirmed and number processed to production, for participants in the current match event only. The region is a simple APEX report in a Sticky Show then Hide region, initially set to Hide. A user can watch Process to Production progress by viewing this region, and watching the counts increment upon page refresh.
- Match Results Overview – All Participants - Incoming Participants Only. This region lists match counts, including number confirmed and number processed to production, for all participants in the system. The region is a simple APEX report in a Sticky Show then Hide region, initially set to Hide.



Match Administration Page

- Step 5: Process to Production – The conditional button in this region starts the Process to Production process. The button is conditional based on existence of match sets having the CONFIRM flag = 'Y' and the PROCESSED_TO_PROD flag = 'N'. The button kicks off the PROCESS_TO_PRODUCTION process, which calls the MATCH_LOAD.PROCESS_TO_PRODUCTION procedure. If the process is started as a batch job, a notice that the job is executing appears in this region, and the job appears in the Administrative Batch Job History region at the bottom of the page.
- Step 6: Flush Remaining Participants
- Administrative Batch Job History – This region is a simple report region that displays high-level batch job details from the USER_SCHEDULER_JOBS and USER_SCHEDULER_JOB_RUN_DETAILS tables.

Developer Note

Note that a batch job success status only indicates that the batch job completed successfully. A user still needs to check the Errors tab (the LOAD_ERRORS table).

- Help & Hints – This sidebar region contains high-level instructions on how to proceed through the steps of the Match/Load process.

Some key technical features of the Match Administration page are:

- Is SAFIS Load? Y/N Select List – This selection in the Step 1 region exists solely to set an IS_SAFIS_LOAD item that is used as a flag throughout the application to control whether code for SAFIS data or non-SAFIS data is executed. There is no reliable way to determine whether data in MV_PINFO is SAFIS data or not, so this flag is necessary, albeit awkward. If a naming standard were applied to the data load naming in Step 1, then this flag could trigger off that naming convention, and this checkbox could be eliminated.

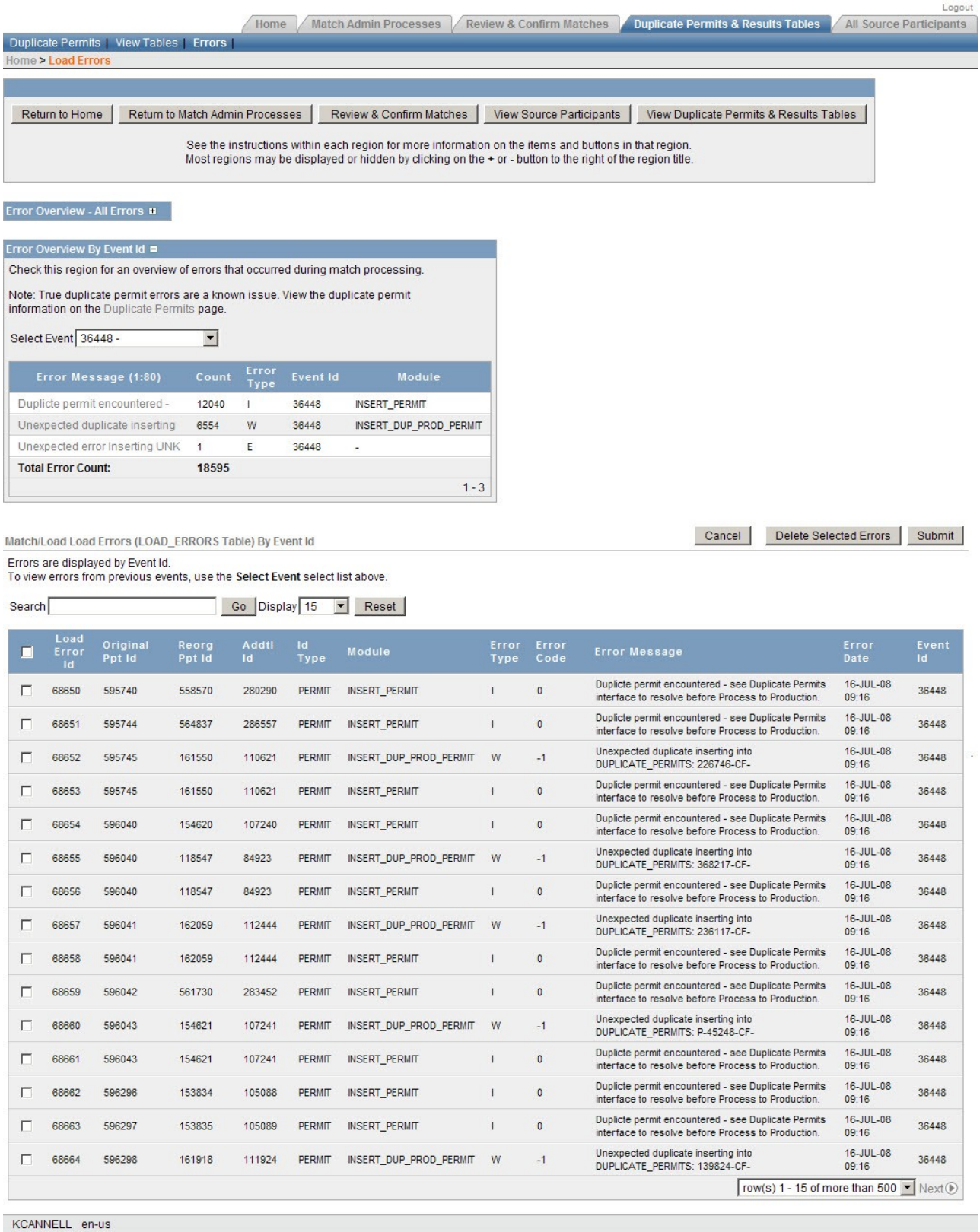
  The select list defaults to No – a non-SAFIS data load. The name of the current match load event is displayed, depending on the value of the select list. The match event name for the last data event of the displayed type – non-SAFIs or SAFIS – is displayed. If the user does not see the correct match event name, try changing the select list option. It is possible for the match event source tables (DEALERS_ID, COMMERCIAL_FISHERMEN_I, SAFIS_DEALERS_I, SAFIS_COMMERCIAL_FISHERMEN_I) for non-SAFIS and SAFIS events to exist in the database at the same time. However, only one set of incoming data is ever in the MV_PINFO structure. We are looking for this event id. When in doubt, the command SELECT DISTINCT event_id FROM MV_PINFO will return the current match/load event.

- Sticky Show then Hide Region Template – All of the regions on this page (except for the Administrative Batch Job history) use the custom Sticky Show Then Hide region template. This template is a modification of the APEX-supplied Sticky Hide and Show region template (by Carl Backstrom, downloadable from APEX OTN website at http://www.oracle.com/technology/products/database/application_express/packaged_apps/packaged_apps.html) which is an extension of the standard Hide and Show region template. The nice feature of this template is it allows user to show or hide a region, leave the page then return to the page and have that region still hidden or displayed, per the user's last settings. For the Match/Load process, this is convenient so that as steps are completed, that region can be hidden to conserve page real estate.

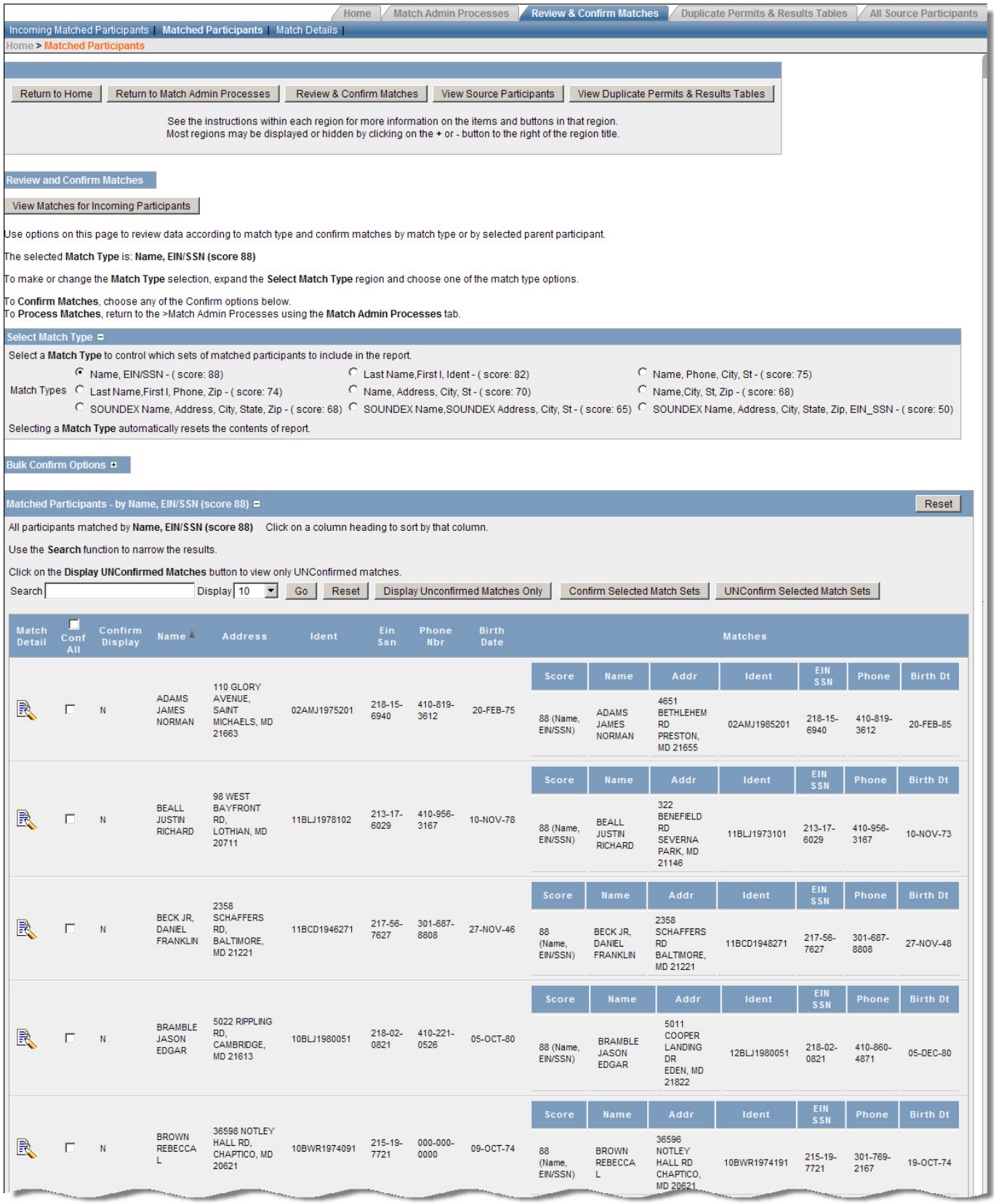
  The region employs the SHOW_HIDE_MEMORY PL/SQL package, which has two procedures, SHOW_HIDE_COLLECTION and SHOW_HIDE_COLLECTION_OUTPUT, which handle the collection used to track each region and its open or closed state.

  It is not anticipated that any maintenance to this region template will be necessary.

- Match Results Queries – There is one match results query for all matches, and one for matches for the current match event only. These queries are not perfect, due to the nature of joins between the match tables and whether one aims to track counts of match parents or match children. They are intended to be a guideline to how many matches of a given match type exist, how many are Confirmed and how many are Processed.


Logout
Home
Match Admin Processes
Review & Confirm Matches
Duplicate Permits & Results Tables
All Source Participants
Duplicate Permits | View Tables | Errors |
Home > Load Errors
Return to Home
Return to Match Admin Processes
Review & Confirm Matches
View Source Participants
View Duplicate Permits & Results Tables
See the instructions within each region for more information on the items and buttons in that region.
Most regions may be displayed or hidden by clicking on the + or - button to the right of the region title.
Error Overview - All Errors
Error Overview By Event Id
Check this region for an overview of errors that occurred during match processing.
Note: True duplicate permit errors are a known issue. View the duplicate permit information on the Duplicate Permits page.
Select Event 36448 -
Error Message (1:80) | Count | Error Type | Event Id | Module
Duplicte permit encountered - | 12040 | I | 36448 | INSERT_PERMIT
Unexpected duplicate inserting | 6554 | W | 36448 | INSERT_DUP_PROD_PERMIT
Unexpected error Inserting UNK | 1 | E | 36448 | -
Total Error Count: 18595
1 - 3
Match/Load Load Errors (LOAD_ERRORS Table) By Event Id
Cancel
Delete Selected Errors
Submit
Errors are displayed by Event Id.
To view errors from previous events, use the Select Event select list above.
Search
Go
Display 15
Reset
Load Error Id | Original Ppt Id | Reorg Ppt Id | Addtl Id | Id Type | Module | Error Type | Error Code | Error Message | Error Date | Event Id
68650 | 595740 | 558570 | 280290 | PERMIT | INSERT_PERMIT | I | 0 | Duplicte permit encountered - see Duplicate Permits interface to resolve before Process to Production. | 16-JUL-08 09:16 | 36448
68651 | 595744 | 564837 | 286557 | PERMIT | INSERT_PERMIT | I | 0 | Duplicte permit encountered - see Duplicate Permits interface to resolve before Process to Production. | 16-JUL-08 09:16 | 36448
68652 | 595745 | 161550 | 110621 | PERMIT | INSERT_DUP_PROD_PERMIT | W | -1 | Unexpected duplicate inserting into DUPLICATE_PERMITS: 226746-CF- | 16-JUL-08 09:16 | 36448
68653 | 595745 | 161550 | 110621 | PERMIT | INSERT_PERMIT | I | 0 | Duplicte permit encountered - see Duplicate Permits interface to resolve before Process to Production. | 16-JUL-08 09:16 | 36448
68654 | 596040 | 154620 | 107240 | PERMIT | INSERT_PERMIT | I | 0 | Duplicte permit encountered - see Duplicate Permits interface to resolve before Process to Production. | 16-JUL-08 09:16 | 36448
68655 | 596040 | 118547 | 84923 | PERMIT | INSERT_DUP_PROD_PERMIT | W | -1 | Unexpected duplicate inserting into DUPLICATE_PERMITS: 368217-CF- | 16-JUL-08 09:16 | 36448
68656 | 596040 | 118547 | 84923 | PERMIT | INSERT_PERMIT | I | 0 | Duplicte permit encountered - see Duplicate Permits interface to resolve before Process to Production. | 16-JUL-08 09:16 | 36448
68657 | 596041 | 162059 | 112444 | PERMIT | INSERT_DUP_PROD_PERMIT | W | -1 | Unexpected duplicate inserting into DUPLICATE_PERMITS: 236117-CF- | 16-JUL-08 09:16 | 36448
68658 | 596041 | 162059 | 112444 | PERMIT | INSERT_PERMIT | I | 0 | Duplicte permit encountered - see Duplicate Permits interface to resolve before Process to Production. | 16-JUL-08 09:16 | 36448
68659 | 596042 | 561730 | 283452 | PERMIT | INSERT_PERMIT | I | 0 | Duplicte permit encountered - see Duplicate Permits interface to resolve before Process to Production. | 16-JUL-08 09:16 | 36448
68660 | 596043 | 154621 | 107241 | PERMIT | INSERT_DUP_PROD_PERMIT | W | -1 | Unexpected duplicate inserting into DUPLICATE_PERMITS: P-45248-CF- | 16-JUL-08 09:16 | 36448
68661 | 596043 | 154621 | 107241 | PERMIT | INSERT_PERMIT | I | 0 | Duplicte permit encountered - see Duplicate Permits interface to resolve before Process to Production. | 16-JUL-08 09:16 | 36448
68662 | 596296 | 153834 | 105088 | PERMIT | INSERT_PERMIT | I | 0 | Duplicte permit encountered - see Duplicate Permits interface to resolve before Process to Production. | 16-JUL-08 09:16 | 36448
68663 | 596297 | 153835 | 105089 | PERMIT | INSERT_PERMIT | I | 0 | Duplicte permit encountered - see Duplicate Permits interface to resolve before Process to Production. | 16-JUL-08 09:16 | 36448
68664 | 596298 | 161918 | 111924 | PERMIT | INSERT_DUP_PROD_PERMIT | W | -1 | Unexpected duplicate inserting into DUPLICATE_PERMITS: 139824-CF- | 16-JUL-08 09:16 | 36448
row(s) 1 - 15 of more than 500
Next
KCANNELL en-us

Errors Page



Review & Confirm Page – All Participants

Errors Page

The Errors page simply displays the contents of the LOAD_ERRORS table to the user in three regions, summary for all events, summary for the current event, and load error detail. The user may delete load error records by selecting the checkbox to the left of the error row in the detail region and clicking the Delete Selected Errors button.

The Error Overview regions both use the Show then Hide region template. The Load Error region is a straight updateable report on the LOAD_ERRORS table.

In the All Errors region, the report displays the distinct error message and counts for all events. The error message column is a link to the Load Errors region, passing the error message text into the Search field. The Load Errors region then displays all load errors that contain that error message, for all events.

In the By Event Id region, the report displays the distinct error message and counts for the selected event id. The error message column is a link to the Load Errors region, passing the error message text and the event id to the Load Errors region. The Load Errors region then displays all load errors that contain that error message, for the selected event id.

Maintenance of this page should be minimal.

Review and Confirm Page

This page is a standard APEX page containing a radio box region and a series of conditional updateable reports regions.

The Select Match Type region contains a single item, a radio box for selecting a match type for which to display match set data in the Matching Participants report regions.

Matching Participants Region

The Matching Participants reports are interesting only in that they use functions in the SQL query to return inline HTML tables, to clearly display the parent and child participant information. The function return value is a string of HTML that creates a table of participant data. See the MATCH_LOAD.GET_INLINE_PARTICIPANT functions for the code details.

There are actually four Matching Participants reports regions, one for All Participants, one for unconfirmed match sets only, and the same two repeated for Incoming participants only. The conditions on these regions are such that only one displays at a time, depending on the user's selections.

Developer Note: Indexes and Query Performance

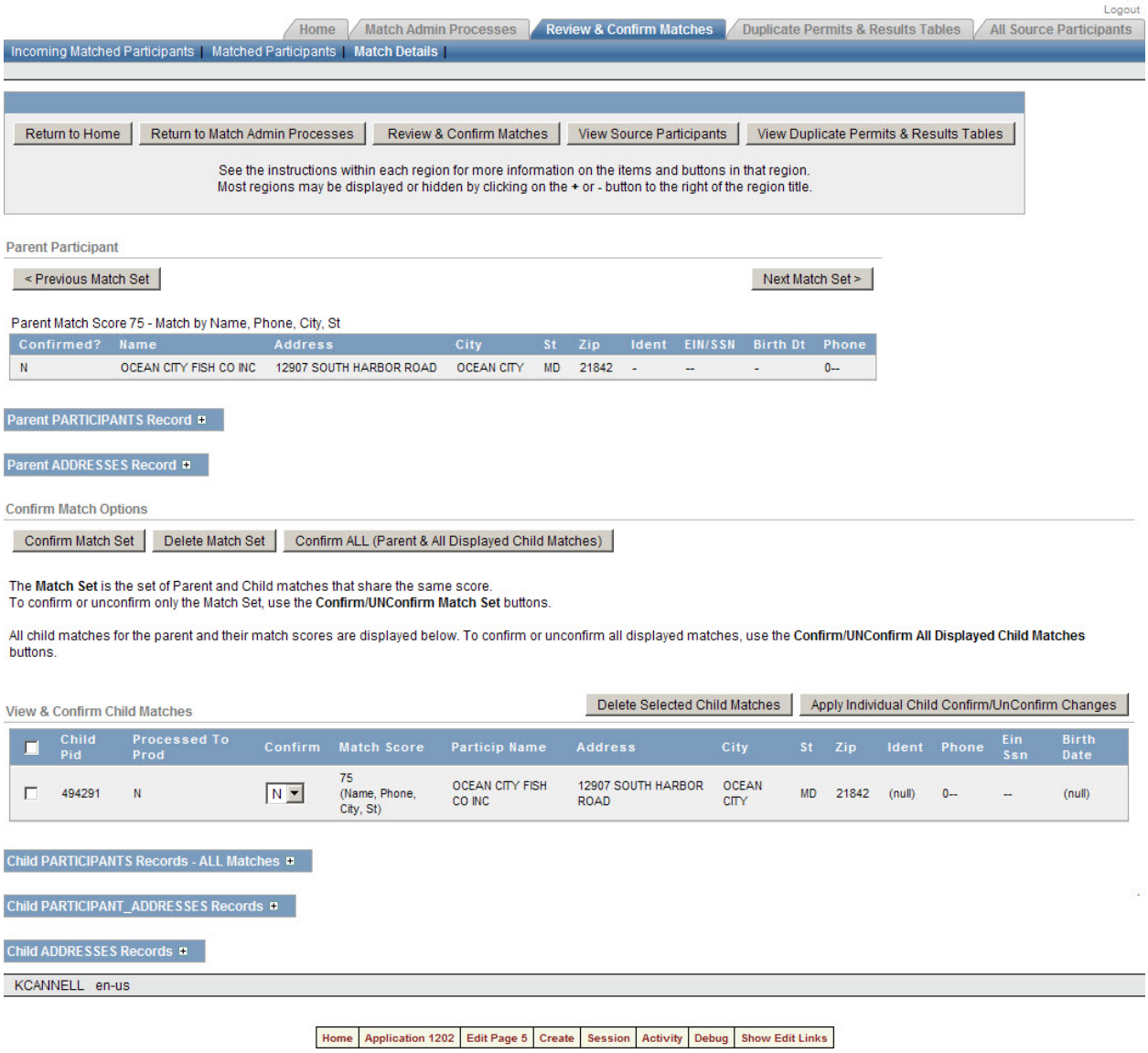
The queries in each of these report regions have been carefully constructed and tuned to ensure decent page display performance. If users report that the Review & Confirm page is not responding, the first thing to check is that all indexes on the key Match/Load process tables exist and have current statistics, starting with MV_PINFO.

Matching Participants Region Operation

The key operational features of the Matching Participants regions are conditional display buttons, the View Details link and the Confirm checkbox.

The View Details link is a link to the Match Details page, passing the parent participant id and the match set id (MATCH_PIDS.MATCH_ID).

MORE DETAIL COMING ….The Confirm Selected Match Sets button … The unconfirm does the same, setting Confirm = 'N'.



Match Details Page, TEST Application

Match Details Page

The Match Details page displays detailed parent and child participant information in a series of regions. On this page, information that is more complete is displayed for both the parent and the children.

If a user needs to confirm some children, but not all, the user must use this page.

The Match Details page displays the full parent information and one selectable row for each match child participant. This allows the user to select match children individually.

Additional regions on the page are the underlying PARTICIPANTS, PARTICIPANT_ADDRESSES and ADDRESSES record, so a user may view all columns of these tables for assistance in making match decisions.

Duplicate Permits Page

Duplicate Permits Page

The Duplicate Permits page allows a user to review duplicate permits records and resolve them, or mark them as not a match so they will no longer display on the page (for ease of user browsing through the duplicate permits list).

The Duplicate Permits page used to be essential for processing and resolving all duplicate permits prior to Processing to Production. As of 2009, all incoming participants are loaded with a permit, even if the permit is a duplicate of an existing permit. The system automatically assigns a '-DUP##' string to the license number, to make a unique license number and allow the permit record to load. With this new form of permit loading, where every permits gets loaded, it is no longer necessary to block processing of a participant if a duplicate permit record exists. The duplicate permit records are mainly informational, to be used for later resolving and consolidating to eliminate the –DUP## license numbers where possible.

The Duplicate Permits page is now mainly informational, for reviewing permits that, if loaded as delivered, would be a duplicate of an existing permit in the system. As of early 2009, the system automatically appends the string '–DUP##' to a would-be duplicate permit license number, in order to create a unique license number and allow the permit to load. When such a '-DUP##' license number is created, a DUPLICATE_PERMITS record is created, and an information error log is written to the LOAD_ERRORS table. The key point is, creation of the –DUP## license number means the duplicate permit processing is not longer in the critical path in the match/load process. It is now a data review and cleanup issue.

In fact the procedure that performs duplicate permit resolution needs to be rewritten to resolve and consolidated –DUP## permits into a single permit for a given participant. The current process on the duplicate permits page does not do that (though it may produce the same result). It is recommended that no duplicate permit processing be done until the –DUP## consolidation procedure can be written, tested and reviewed.

The buttons on the page set flags in the application and in the database. The duplicate permits report query displays the license number, the issuing agency, and the existing and the incoming (duplicate) permit holder information. The permit holder information is there to Duplicate reports, as a standard APEX report region - display according to these flags. The report query includes a call to the MATCH_LOAD.GET_PARTICIPANT_INLINE function to return inline HTML tables for both the existing permit holder and the incoming, duplicate permit holder.

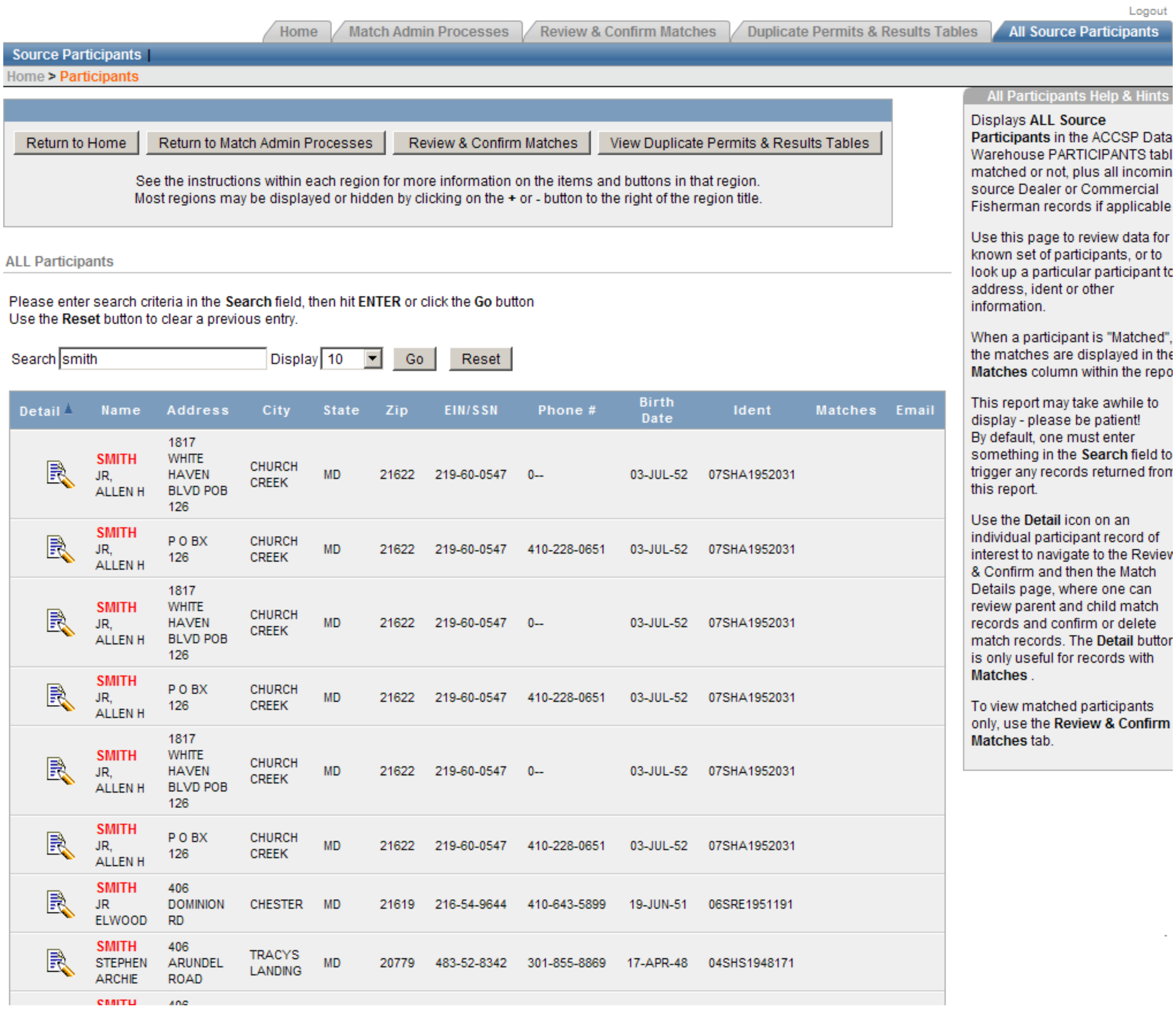
In both sets of inline tables, if there are multiple rows, that means there are multiple records in the MV_PINFO table (including license information, street, city, state, zip, phone and birth date) for that participant. Note that not all MV_PINFO columns are displayed on this page. Usually the multiples are due to some subtle difference in the participant address column values.

View Tables Page

The View Tables page, a sub-tab off the Duplicate Permits and Results Tables main tab, is a collection of regions for viewing various table contents. Some of these regions have the APEX standard Search and Rows Display items, for locating specific records.

Many of these tables are holdovers from the original data warehouse structure reorganization process, and are obsolete for the current match/load process. The page was originally useful for looking up specific records of specific tables, for double-checking data results. It is not useful now, as most of the tables it displays do not apply to the Match/Load process. The page really needs to be updated to display the contents of current tables, or disabled altogether.

The recommendation is, as time and resources allow, to update this page to display the contents of current match/load process tables. For example, the REORG_ERRORS table region should be replaced with a region to view LOAD_ERRORS contents. The REORG_PERMITS table region should be replaced with a region that displays the PERMITS table contents, and likewise for all other regions.



Source Participants Page

Source Participants Page

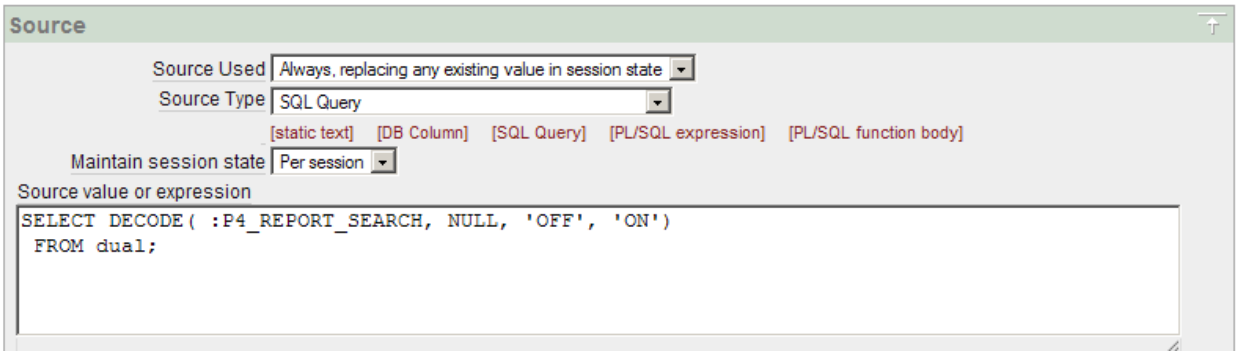
The Source Participants page is a standard report region with search capability for viewing PARTICIPANTS records. For better page display performance, the report I disabled until something is entered in the Search field. This prevents a query of the entire PARTICIPANTS table, by forcing the user to enter some value to get results returned.

The way this works is a simple NOT NULL flag against a query control item within the WHERE clause of report query:

```
…
where (corporate_name IS NOT NULL OR
       (first_name IS NOT NULL or last_name IS NOT NULL))
 AND :P4_QUERY_CONTROL = 'ON'
 AND
(
 instr(upper("PA_TYPE"),upper(nvl(:P4_REPORT_SEARCH,"PA_TYPE"))) > 0  or
 instr(upper("SUPPLIER_ID"),upper(nvl(:P4_REPORT_SEARCH,"SUPPLIER_ID"))) > 0  or
 instr(upper("LICENSE_NBR"),upper(nvl(:P4_REPORT_SEARCH,"LICENSE_NBR"))) > 0  or
```

```
instr(upper("DEALER_NUMBER"), …
```

The query control item is set depending on whether the search item, P4SEARCH, is NULL or not:



There are perhaps simpler ways to set this, but the desire was to have a single query control flag that said ON or OFF, so that the WHERE clause would be readily understandable. The DECODE function in the source query achieves this.

This page is handy for reference. It is not likely that maintenance will be required on this page, unless one were to migrate the report region to an interactive report. That would increase the search and filter options available to the end user with little to no developer interaction.

Overall Match/Load Application Information

Theme and Tabs

The Match/Load applications uses standard APEX template 13.

The default page template is the Two Tabs page template. The top level of tabs covers the major pages of the application:

- Home
- Match Admin Processes
- Review & Confirm Matches
- Duplicate Permits & Results Tables
- All Source Participants

The second level of tables cover pages closely related to the main page of the tab set. All tabs follow the standard APEX tab system – nothing is custom here.

The application uses all the default CSS, javascript and theme files. There are no custom CSS or javascript files, or other uploaded files.

Header Image

The application uses a static image version of the ACCSP header, minus the javascript menus, in the Logo section of the application.

APEX Version

The application was built mainly on APEX versions 2.1 and 3.1. As most of the application was built on the earlier APEX versions, there are no interactive reports or other advanced APEX features. In truth, for this application, they are not necessary.

Batch Jobs

Batch processes in the application are created and launched using PL/SQL procedures that generate Oracle Scheduler jobs, using the DBMS_SCHEDULER PL/SQL Built-in package. See the

Step 1: The Create MV_PINFO Script

The "create mv_pinfo" script, create_mv_pinfo.sql, loads data from DEALERS_I and COMMERCIAL_FISHERMEN_I into a MV_PINFO structure. The SAFIS version is create_safis_mv_pinfo.sql. If edits are made to one version, analogous edits must be made to the other version. These scripts can be found on WAHOO2 under /home/oracle.

The end goal of the create_mv_pinfo script is to load the MV_PINFO table, a consolidated view of all the participants, addresses and permits in the system, incoming and existing, for the match process routine.

The script proceeds in four main stages:

- Assign an Event Id and create Match Event Log record
- Assign unique PARTICIPANT_IDs to all incoming participants.
- Create the consolidated incoming data structure, CFDEA_MV_PINFO.
- Create ACCSP identifiers (IDENTs) for all incoming participants.
- Create the consolidated incoming and existing data structure, MV_PINFO.

Assign Event Id

The EVENT_ID is assigned by selecting from the EVENT_ID_SEQ sequence. The insert into the MATCH_EVENT_LOG table stores the event_id and the initial creation date. Other columns in the MATCH_EVENT_LOG will be populated as succeeding steps of the Match/Load process are completed.

Assign Participant Id

PARTICIPANT_ID's are assigned to incoming participants based on the unique SUPPLIER_CF_ID and SUPPLIER_DR_ID columns in the COMMERCIAL_FISHERMEN_I and DEALERS_I tables. The actual number is assigned from the PARTICIPANT_SEQ sequence. Participant ids are created in two separate tables, NEW_DEALER_IDS and NEW_CF_IDS. The identifiers in these tables are subsequently loaded into the CFDEA_MV_PINFO and MV_PINFO tables, and eventually into the PARTICIPANTS table in the Preload step.

> ***Developer Note:***
>
> If multiple TEST runs are made, or a run is made and backed out, one may wish to reset the PARTICIPANT_SEQ sequence start to avoid missing large numbers of participant ids.

Unique Identifier

If the data in the SUPPLIER_CF_ID and SUPPLIER_DR_ID columns is not unique, the Preload will fail due to a constraint error on the PARTICIPANTS table. Due to the nature of incoming data, it may be necessary to create or massage the incoming data set to create unique SUPPLIER_CF_ID and SUPPLIER_DR_IDs for a given data set. This has recently been accomplished by combing data elements until a unique identifier is achieved. For example, combining the license number, license type and birth date, or license number and string of the license issue date may result in unique values. Each data set will be different. How one achieves the unique value does not matter, that the value is unique does matter for the create_mv_pinfo.sql script. In choosing the unique identifier, one should beware to stay within the declared data types and sizes of the current input and data warehouse tables, in order to prevent unexpected errors due to invalid (too large) data types. If one must expand a given data type, the entire process must be tested end-to-end in the TEST system first.

Date Format

The format of the date fields in the DEALERS_I and COMMERCIAL_FISHEMEN_I tables must be YYYYMMDD. Different date formats will cause the Create_MV_PINFO.sql script to fail with an invalid number or similar error, indicating that the Oracle database cannot understand the given date format. There is a check procedure to execute on the DEALERS_I and COMMERCIAL_FISHERMEN_I tables to check for the correct date format prior to a create_mv_pinfo run.

Create ACCSP Identifier

The ACCSP standard unique identifier, IDENT, gets created as a combination of the user first and last name and birth date. As a unique identifier within the ACCSP data warehouse, the IDENT column is a valuable one for participant matching. The create_mv_pinfo script assigns and stores ACCSP IDENTs for all incoming participants, using the standard ACCSP CREATE_IDENT function, as called in the procedure CREATE_INCOMING_IDENTS***.

Developer Note:

If the standard CREATE_IDENT function is modified, the developer should ensure that all IDENTs are recreated throughout the data warehouse. Otherwise, uniqueness of the IDENTs is not guaranteed, and use of the IDENT column for matching becomes useless.

Create CFDEA_MV_PINFO

The CFDEA_MV_PINFO is loaded by a query that combines the participant id data in the NEW_DEALER_IDS and NEW_CF_IDS tables with the data in the DEALERS_I and COMMERCIAL_FISHERMEN_I tables. The query has two parts, one for dealers, one for fishermen, and is joined by a UNION.

Create MV_PINFO

The MV_PINFO table is loaded by a single query that has two parts, one for existing data and one for incoming data. The existing data query combines values from the PARTICPANTS, ADDRESSES and PERMITS tables. The incoming data query is a simple select from the CFDEA_MV_PINFO table. The two parts of the query are joined by a UNION to merge the data into a single table.

Execution

The Create MV_PINFO script may be executed from the SQL command line, or – eventually – from the Match/Load Match Administration page, Step 1.

The script accepts a single parameter, the user-assigned name of the source data file. There are no set rules for this name, however, the recommendation is to use a name that combines the data source and the date of the load event, such as MD_CFONLY_090509, so the name will identify the data load for most users.

Developer Note:

As of September 10, 2009, all of the steps can be executed from the Match/Load application, except for the first one. There is work in progress to enable automatic execution of the Create MV_PINFO step. All that is needed is some testing and adjustments to the shell script that calls the SQL script.

The MV_PINFO Structure

MV_PINFO, short for Materialized View, Participant Information (even though this structure is now a true table), is a consolidated record of participant, address, data source, permit and SOUNDEX match information in a single record. MV_PINFO is used by the match process (MATCH_LOAD.PM procedure) to find matches based on the various match criteria in the MATCH_TYPES table.

MV_PINFO consists of one record for each participant, participant address and permit number combination for all incoming and existing participants. This combination of columns in a single table allows the match process to operate off a single structure.

The CFDEA_MV_PINFO table has the same structure, and is the consolidated participant information structure for all incoming participants. CFDEA_MV_PINFO is created from data in the input tables. MV_PINFO is created as a union of the data in CFDEA_MV_PINFO and data for all existing participants from the PARTICIPANTS, ADDRESSES and PERMITS tables.

MV_PINFO Table

Name	Null?	Type

```
------------------------------------- -------- --------------------------
PARTICIPANT_ID                                 NUMBER(10)
PA_TYPE                                        VARCHAR2(4)
SUPPLIER_ID                                    VARCHAR2(30)
LICENSE_NBR                                    VARCHAR2(50)
DEALER_NUMBER                                  VARCHAR2(50)
EIN_SSN                                        VARCHAR2(15)
CORPORATE_NAME                                 VARCHAR2(50)
CORP_NAME                                      VARCHAR2(50)
CORP_LAST_NAME                                 VARCHAR2(50)
PARTICIP_NAME                                  VARCHAR2(129)
LAST_NAME                                      VARCHAR2(40)
FIRST_NAME                                     VARCHAR2(40)
MIDDLE_NAME                                    VARCHAR2(40)
NAME_SUFFIX                                    VARCHAR2(3)
BIRTH_DATE                                     DATE
DATA_SOURCE                                    VARCHAR2(4)
IDENT                                          VARCHAR2(15)
SUPPLIER_LICENSE_TYPE                          VARCHAR2(50)
ENTRY_DATE                                     DATE
UPDATE_DATE                                    DATE
EVENT_ID                                       NUMBER
ADDRESS_ID                                     NUMBER
ADDRESS_TYPE                                   VARCHAR2(2)
ADDRESS_L1                                     VARCHAR2(50)
ADDRESS_1                                      VARCHAR2(50)
ADDRESS_2                                      VARCHAR2(50)
CITY                                           VARCHAR2(30)
COUNTY                                         VARCHAR2(3)
STATE                                          VARCHAR2(2)
POSTAL_CODE                                    VARCHAR2(9)
ZIP5                                           VARCHAR2(5)
PHONE_NBR                                      VARCHAR2(10)
FAX_NBR                                        VARCHAR2(10)
EMAIL                                          VARCHAR2(30)
SDX_PARTICIP_NAME                              VARCHAR2(4)
SDX_ADDRESS_L1                                 VARCHAR2(4)
SDX_LAST_NAME                                  VARCHAR2(4)
FIRST_INITIAL                                  VARCHAR2(1)
SUPPLIER_PERMIT_ID                             NUMBER
LICENSE_ISSDATE                                DATE
LICENSE_EXPDATE                                DATE
```

Most columns of MV_PINFO are self-explanatory. A few columns of MV_PINFO merit special mention:

PARTICIP_NAME – This column is a sanitized concatenation of the participant last, first and middles names or the corporate name. Consolidation of the name columns makes matching easier. This column is used for name-based match criteria in many of the match types.

ADDRESS_L1 – This column is the value of the ADDRESS_LINE_! Or ADDRESS_LINE_2 column, if the address line 1 is null. Combining the address lines in a single column simplifies matching process. Match types based on address use this column.

SDX_PARTICIPANT_NAME – This column holds the results for the SOUNDEX(particip_name) function. It has no use other than by the Process Match routine, MATCH_LOAD.PM. It is used in Match Type 13. SOUNDEX on participant Name, Address and birth date.

SDX_ADDRESS_L1 – This column holds the results for the SOUNDEX(address_l1) function. It has no use other than by the Process Match routine, MATCH_LOAD.PM. It is used in Match Type 6, SOUNDEX on participant name, SOUNDEX on Address, city and state.

SDX_LAST_NAME – This column holds the results for the SOUNDEX(address_l1) function. It has no use other than by the Process Match routine, MATCH_LOAD.PM. It is not currently used in any of the match types.

FIRST_INITIAL – This column is created for MV_PINFO as the first character of the FIRST_NAME column, if any. IT is used in Match Type 11, which is by Last Name, First Initial, Phone and Zip.

SUPPLIER_PERMIT_ID – The permit identifier used in the data source system. This column is only recently being populated by some partners.

LICENSE_ISSDATE – This column contains the License issue date. It is only recently being populated by some partners.

LICENSE_EXPDATE – This column contains the license expiration date. It is only recently being populated by some partners.

Step 2: Match Participants

Step 2 in the Match/Load Process involves clearing any previous match results and executing the match participants process, plus tow Match Results regions for viewing the counts of match sets by match type, the output of the Match Participants process.

To fully understand the Match Participant step it is necessary to explain the concepts of match types, match criteria and match sets.

The Match Process, Match Types and Match Sets

The Match Process is central to the entire Match/Load operation. The Match Process is a programmatic search for matches in the participant, address and permit data. It is PL/SQL procedure that reads all the records in the MV_PINFO table, the consolidated view of participant, address and permit data, to find match participants according to a series of criteria. Each match set – group of a single "parent" participant and the one or many "children" participants that match it according to given criteria – is stored for later review and processing.

??? IS this a good place to define if the incoming data is parent or child for regular and SAFIS runs? Or did I just not get there yet?

Match Types and the MATCH_TYPES Table

A series of match criteria are defined in the MATCH_TYPES table. The MATCH_TYPES table describes the columns used for matching, a description, a match set identifier, and a match score.

The match score can and should be assigned and adjusted by the end user. The intent is for the user to assign a match score depending on how the data matches up according to that match criteria - a higher for better matches, a lower score for lower quality matches, according to the current or previous match results.

Current experience has the match scores set high for matches that include the ACCSP ident and EIN_SSN columns, with lower scores matches that use address, phone number and SOUNDEX values.

The current contents of the MATCH_TYPES table is displays in Table 1.

Table 1: MATCH_TYPES Contents

MATCH SET	MATCH_COLUMN_LIST	MATCH SCORE	NOTES
1	PARTICIP_NAME, IDENT	91	
2	PARTICIP_NAME, EIN_SSN	91	
3	PARTICIP_NAME, PHONE_NBR	80	
5	PARTICIP_NAME, ADDRESS_L1, CITY, STATE	33	Lesser match, only good after other matches have been applied.
6	SDX_PARTICIP_NAME, SDX_ADDRESS_L1, CITY, STATE	33	SOUNDEX matches should be manually reviewed.
7	PARTICIP_NAME, PHONE_NBR, CITY, STATE	70	Could be father/son at same address.

8	LAST_NAME, FIRST_INITIAL, IDENT	91	First I catches many nicknames, Ident gets birth date.
9	LAST_NAME, FIRST_INITIAL, PHONE_NBR	72	Lesser match, no ident, ein_ssn, just name and phone.
10	PARTICIP_NAME, CITY< STATE, POSTAL_CODE	18	Name match but no idents.
11	LAST_NAME, FIRST_INITIAL, PHONE_NBR, ZIP5	83	Could be relatives at same address
12	SDX_PARTICIP_NAME, ADDRESS_L1, CITY, STATE	29	SOUNDEX Name catches typos, watch for family members
13	SDX_PARTICIP_NAME, ADDRESS, BIRTH_DATE	50	SOUNDEX Name, Address, plus Birth_Date for matching.
14	SDX_PARTICIP_NAME, ADDRESS, EIN_SSN	50	SOUNDEX Name, Address, plus EIN_SSN for matching

Table: ACCSPREC.MATCH_TYPES Table Contents

Match Procedure

The PL/SQL procedure that processes matches is MATCH_LOAD.PM. PM cycles through a series of queries, one for each match type defined in the MATCH_TYPES table. Each match set is stored in the master-detail match tables PPT_MATCH and MATCH_PIDS. PPT_MATCH stores the parent and match set participant data, MATCH_PIDS stores the list of child participant ids. The same piece of code is repeated for each of the match criteria in the MATCH_TYPES table.

If a new set of match criteria is needed, a developer should add a record to the MATCH_TYPES table, and add a section of code that includes a query to search MV_PINFO according to that match criteria. Review of the PM procedure will clear show how this should be done.

Developer Note:

A future enhancement may be to table-drive the PM code based on the records in the MATCH_TYPE table, but the elegance of this code for a set list of MATCH_TYPES may not be worth the effort). PM executes a series of queries, one for each match type. For the results of each query, a match set.

Match Sets

A match set is comprised of at least three database records, one parent record in the PPT_MATCH table, and two child records in the MATCH_PIDS table, one for the parent and one for the first child.

PPT_MATCH Table

The PPT_MATCH table is the parent table of the match set records. The primary key is the MATCH_ID column.

```
ACCSPREC-th11} desc ppt_match
 Name                                      Null?    Type
 ----------------------------------------- -------- ------------------
 MATCH_ID                                  NOT NULL NUMBER(6)
 MATCH_COLUMN                                       VARCHAR2(200)
 MATCH_VALUE                                        VARCHAR2(200)
 PARENT_PID                                         NUMBER(10)
 MATCH_COUNT                                        NUMBER(3)
```

MATCH_SET	NUMBER(3)
CONFIRM	CHAR(1)
PROCESSED	CHAR(1)
PROCESSED_TO_PROD	CHAR(1)

There will be one PPT_MATCH record for each match set. The PPT_MATCH record holds the parent participant id, plus the match column (from the MATCH_TYPES table), the actual match value, the count of participants in this match set (1 parent participant plus n# of child participants), the match set (from the MATCH_TYPES table), and the Confirm and Processed columns.

There is an important unique key on PARENT_PID and MATCH_TYPE. This unique key ensures that there is only one match set for a given participant for a given match type. While the matching algorithm will never write more than one match set for a given participant for a given match type, the Process to Production process could introduce such records, if the constraint was not there-, as it updates match set records to replace all child participant ids with the parent participant id. This unique key keeps the PPT_MATCH match set table clean.

MATCH_PIDS Table

This table holds match children. The primary key is the MATCH_PIDS_ID column. There is a foreign key to the PPT_MATCH table on the MATCH_ID column.

MATCH_PIDS Table

Name	Null?	Type
MATCH_ID		NUMBER(10)
PARENT_PID		NUMBER(10)
CHILD_PID		NUMBER(10)
PROCESSED		CHAR(1)
CONFIRM		CHAR(1)
MATCH_PIDS_ID	NOT NULL	NUMBER(10)
PROCESSED_TO_PROD		CHAR(1)

There will always be at least two MATCH_PIDS records for a given PPT_MATCH record. This is because the first MATCH_PIDS record always has the PARENT_PID equal to the CHILD_PID.

The important unique key is on match_id, parent_pid and child_pid. While the matching algorithm (MATCH_LOAD.PM) will never write a match set that have multiple MATCH_PIDS records with the same child participant (same CHILD_PID), during the Process to Production operation, when match children are processed, one of the last steps is to update all match set record CHILD_PID values with the PARENT_PID value. In doing so, if there were no unique key on MATCH_PIDS, there would be multiple MATCH_PID records. Having the MATCH_PIDS unique key keeps the match tables, the MATCH_PID table in particular, cleaner.

CONFIRM, PROCESSED, PROCESSED_TO_PROD Columns

The CONFIRM column is either N or Y, indicating whether or not this match record has been confirmed as really a match by the user. The CONFIRM flag is necessary because the programmatic match criteria can only do so well. Manual review of many of the match types is required. The CONFIRM column on a PPT_MATCH record indicates the setting for the entire match set. If one MATCH_PIDS record of the match set is unconfirmed, the PPT_MATCH CONFIRM column must be N.

The PROCESSED_TO_PROD flag is indicates whether the match set record has been successfully processed by a Process to Production run. The PROCESSED_TO_PROD column on the PPT_MATCH record indicates the setting for the entire match set. If one MATCH_PIDS record of the set is not processed, the PPT_MATCH PROCESSED_TO_PROD setting must be N.

The PROCESED column is no longer used. It was used in the initial Match/Load run when the process was a move from the old table structures to the current table structures.

Step 2: The Preload Process

This process is executed entirely by the MATCH_LOAD.PRELOAD_TABLES procedure.

The major difference between the non-SAFIS preload and the SAFIS preload is that the non-SAFIS preload is done mainly in bulk: using PL/SQL bulk inserts where possible. The SAFIS preload is done in a loop, one record at a time, since for every incoming participant record there may be an existing SAFIS-data warehouse cross-reference (SAFIS_DW_XREF) record. When such a record exists, the data warehouse permit and participant id is re known, thereby shortening the rest of the preload process for that record.

Non-SAFIS Preload Flow

The flow of the preload process for non-SAFIS data is:

- Insert Participants
- Insert Participant Addresses
- Insert Permits.

Insert Participants is done in a single query, which bulk collects into a collection, then inserts into PARTICIPANTS via a FORALL … SAVE EXCEPTIONS construct. This means that the PARTICIPANTS insert occurs in a single statement. The SAVE EXCEPTIONS clause of the FORALL … INSERT statement ensures that if an exception occurs on one or more of the records that would prevent the insert, all of the good records commit successfully, and error information for the exception records is written to the SQL%EXCEPTIONS PL/SQL structure. From SQL%EXCEPTIONS, limited error information can be written about the exception records.

The insert of PARTICIPANT_ADDRESSES and ADDRESSES records occurs in a loop. The ADDRESS_ID is assigned in this loop.

All permits are inserted in a series of loops, one each for any unknown or 000000 license numbers, and one loop for all known license numbers. A call to the MATCH_LOAD.INSERT_PERMIT procedure performs the actual insert into PERMITS for each unique permit, and handles all duplicate permit and exception processing. The INSERT_PERMIT procedure is important in this process, as every permit must be unique in the system and can be mapped to one and only one participant.

Note that no attempt to match or otherwise consolidate participants or addresses is made in the Preload process. Permits are “matched” upon insert only when there is an exact owning participant match, and the match is necessary to prevent loading duplicate permits and maintain relational integrity/

SAFIS Preload Flow

The SAFIS Preload flow is slightly different from the Preload flow for non-SAFIS data, in that all inserts are processed in a single loop. The single-loop, or row-by-row processing allows for checking each incoming record against the SAFIS_DW_XREF table. If a matching record, by SAFIS participant and SAFIS permit id, exists in the SAFIS_DW_XREF record, then the existing data warehouse participant and permit ids can be read from the SAFIS_DW_XREF table, and no further Preload processing is required for that incoming record.

If an incoming SAFIS participant does not exist in the SAFIS_DW_PID_XREF table, then the procedure proceeds to load it in the same general order as for the non-SAFIS participant:

- Insert PARTICIPANT record.
- Insert ADDRESSES and PARTICIPANT_ADDRESSES record(s).
- Insert PERMITS record(s).
- Insert a SAFIS_DW_PID_XREF record.

All normal constraint checks and permits processing apply.

Step 2: Execute Matches

The Execute Matches step is carried out by the MATCH_LOAD.PM procedure. PM applies a series of queries against the MV_PINFO table and creates match set records for each parent-children group of matched MV_PINFO records.

The processing for each match type follows the same code pattern:

- Query for matching column values (according to the match type), ordering by column values.
- For each distinct column (-or set of column) value, get the distinct list of participant ids, ordering by participant id ascending. This order ensures that older participants (by nature of their lower participant id) become match parents, younger participant ids become match children. Thus, when matches are processed, the older participants ids are retained. It is anticipated that the strategy will ultimately mean fewer updates to participant and permit ids in the consolidated reports, dealer_reports, fisherman trips and biosamples tables.
- For each set of distinct participant ids, create one PPT_MATCH record, identifying the match set, the match type, the column value that was matched on, and the parent participant id.
- For each distinct participant id, create a MATCH_PIDS record, using the first participant id in the list as the match set parent.

The code cycle repeats for each match type defined in the MATCH_TYPES table. Note there is no programmatic link between the MATCH_TYPES table and the code. If a new MATCH_TYPE is desired, the MATCH_TYPE record must be added and the code to query for that match criteria needs to be added to the PM procedure manually.

Step 3: Review and Confirm Matches

For single match set processing, there is no major PL/SQL code module associated with this step, as it entails setting the CONFIRM match set flag to Y at the match set level, from the main Review & Confirm page, or at the individual match child level, from the Match Details page.

Both of these operations entail as simple table update, as accomplished by the APEX-standard Apply MRU (Apply Multi-Row Update) process that is created by APEX when one creates a standard Insert/Update/Delete form.

The Match Details page is a master-detail page that allows update to the match children in the MATCH_PIDS table. The page contains additional display-only report regions for viewing the underlying PARTICIPANTS table data as a reference to assist in match decisions.

For bulk confirm processing, the procedure MATCH_LOAD.SET_MATCH_CUTOFF_SCORE confirms all selected match sets having a match set whose score is greater than the selected cutoff score in the select list. The bulk confirm select list is constructed to return the match score. Give the match score, the SET_MATCH_CUTOFF_SCORE routine automatically sets CONFIRM = 'Y' for all match sets of a match type that has that score or higher. It is a convenient way to confirm all known "god" matches at once.

Step 4: Confirm Matches

The Confirm Matches step simply sets the CONFIRM flag in the PPT_MATCH and MATCH_PIDS tables from N to Y.

The Confirm flag controls which records of the match set tables will be processed in the Process to Production step.

This "step" is mainly contained in the Review & Confirm and Match Details pages.

Step 5: The Process to Production Process

The Process to Production flow is:

For each match set, ordered from highest score to lowest,

For all match sets of that match type where confirmed = Y and processed to prod = N, ordering by parent participant id,

Loop through each of the match children in the match set.

For each match child:

- Update each of the PERMITS records, replacing the child participant id with the parent participant id. If a unique constraint on the PERMITS table is violated by the update, the PERMITS record is deleted instead.

  We can do this delete, because the unique constraint violation upon update tells us that the new participant id – permit id combination for this license information is a duplicate of an existing permit.

  We need to do this delete, because once the child participant is updated to the parent participant id, the permit holder participant id no longer exists. We cannot leave the record as is, because it will create a constraint failure. We cannot update it, because it creates a duplicate permit. So we delete it, to keep our data clean.

  Developer Note:

  Wait! What about fact tables that contain that just-deleted PERMIT_ID? The permit id's in all fact tables (DEALER_REPORTS, CONSOLIDATED_REPORTS, FISHERAN_TRIPS, BIOSAMPLES) are updated in the UPDATE_PROD_RECORDS procedure, which is executed several statements later, within the child match processing loop, in the PROCESS_TO_PRODUCTION procedure. Because the Process to Production procedure commits at the completion of every match set, after processing each of the match children, the permit ids are updated in all of the fact tables prior to the COMMIT.
  The participant id-permit id constraint mandates that for every transaction, all participant and permit id combination ins all tables must be updated in a single transaction, such that relational integrity is maintained. Therefore, the match processing series of loops that ensures everything is methodically processed in order, and a commit limit of 1 (commit on every match set) is very important to the success of match processing.

  EXPLAIN MORE –DOES THIS MEAN THAT THE MATCHED PPT/PERMIT (defined as license#?) COMBO EXISTS THEREFORE THE UPDATED RECORD WOULD BE A DUPLICATE AND THEREFORE DELETED? If not – explain - WHAT IF LANDINGS ASSOCIATED WITH THE updated/deleted PERMIT?

- For each updated PERMITS record, create a DW_PID_XREF record. The DW_PID_XREF table holds cross-reference information, for tracking which participants and permits were mapped to parent participant ids.

```
DW_PID_XREF
Name                                 Null?    Type
 ------------------------------------ -------- ---------------------
 OLD_PARTICIPANT_ID                   NOT NULL NUMBER(10)
 REORG_PPT_ID                         NOT NULL NUMBER(10)
 LICENSE_NBR                                   VARCHAR2(60)
 REORG_PERMIT_ID                               NUMBER(10)
 LICENSE_TYPE                                  VARCHAR2(50)
 LICENSE_ISSDATE                               DATE
 LICENSE_EXPDATE                               DATE
 ISS_AGENCY                                    VARCHAR2(4)
 PERMIT_TYPE                                   VARCHAR2(10)
 EVENT_ID                             NOT NULL NUMBER(8)
 DE                                   NOT NULL DATE
 UE                                            VARCHAR2(30)
 DC                                            DATE
 UC                                            VARCHAR2(30)
```

- Create address cross-reference records for each child address, by saving each of the incoming ADDRESSES records in the ORPHAN_ADDRESSES table. The intent of the ORPHAN_ADDRESSES table is that at some point in the future, one can review and perhaps update or consolidate all addresses for a given participant.

```
ORPHAN_ADDRESSES
 Name                                 Null?    Type
 ------------------------------------ -------- ----------------------
 PPT_ID                               NOT NULL NUMBER(10)
 ADDRESS_ID                           NOT NULL NUMBER(10)
 REORG_PARENT_PPT_ID                  NOT NULL NUMBER(10)
 REORG_PARENT_ADDRESS_ID              NOT NULL NUMBER(10)
 DE                                            DATE
 EVENT_ID                                      NUMBER(8)
```

RUN_TYPE	**VARCHAR2(5)**

- Update the child PARTICIPANT_ADDRESSES records, replacing the child participant id with the parent participant id.
- Update any existing SAFIS_PID_XREF records for the child, replacing the child participant id with the parent participant id. This is accomplished by the UPDATE_SAFIS_XREF procedure
- Update any existing DW_PID_XREF records for the child, replacing the child participant id with the parent participant id. This is accomplished by the UPDATE_DW_XREF procedure.
- Update any existing DUPLICATE_PERMIT records for the child, replacing the child participant id with the parent participant id. This is accomplished by the MATCH_LOAD.UPDATE_DUP_PERMIT procedure.
- Update any existing DEALER_REPORTS, CONSOLIDATED_REPORTS, BIOSAMPLES and FISHERMAN_TRIPS records for the child, replacing the child participant id with the parent participant id. This is accomplished by the MATCH_LOAD.UPDATE_PROD_RECORDS procedure.
- Delete the now obsolete child PARTICIPANTS records. This is accomplished by the DELETE_PARTICIPANT procedure. DELETE_PARTICIPANT also deletes related DW_PID_XREF and DUPLICATE_PERMITS records that reference the child participant.
- Delete the now-obsolete child records from MV_PINFO. This is accomplished by the MATCH_LOAD.DELETE_MVPINFO_RECORDS procedure.
- Update the match set MATCH_PIDS records for the child, setting PROCESSED_TO_PROD = ‘Y’.
- Update any match set records in both the PPT_MATCH and MATCH_PIDS tables, replacing the child participant id with the parent participant id. If the update causes a unique constraint violation, the match set record is deleted.
- At the completion of processing all children in the match set, update the PPT_MATCH PROCESSED_TO_PROD setting, depending on whether all child records are successfully processed or not.
- Commit all transactions for this match set.

The PROCESSED_TO_PRODUCTION Commit Flag

Note that the COMMIT is currently per match set. This is to ensure that if relational integrity fails for one match set, for any reason, the remaining records in the process can complete. There is a commit limit variable in the MATCH_LOAD.PROCESS_TO_PRODUCTION routine that allows the developer to control how many match sets are processed before a COMMIT. Experience has proven that this setting is best kept at 1, and that this setting does not cause the process to execute slowly. In fact, PROCESS_TO_PRODUCTION executes fairly quickly, enough so that one can watch the numbers update on the Match Administration page, the Match Results regions. More complete, accurate processing is far more important than any processing speed gained in increasing the commit limit.

A Note on Insert Permits

The Insert Permit procedure does just what it says, but, in doing so it does a lot of processing to ensure that the entered permit is unique in the system.

The flow of MATCH_LOAD.INSERT_PERMIT is:

- Attempt to insert the PERMITS record. IF successful, return the new PERMIT_ID to the calling routine.
- If the insert fails due to a unique constraint (the participant id, license number, license type, issuing agency combination already exists), then INSERT_PERMIT queries for the existing permit id and participant.
- If the existing permit holder is an exact match by name and ident to the incoming participant, then the program considers this to be “the same” permit and returns the existing permit id to the calling routine.

- If the existing permit holder is NOT an exact match by name and ident to the incoming participant, then a duplicate permit is created by appending '-DUP01' to the license number and inserting a DUPLICATE_PERMITS record. An informational log is also created, so the user has an idea of how many duplicate permits are created for a given Preload event. Note that these informational logs do not indicate a fatal problem with the Preload process, they only indicate that this particular set of incoming data contains licenses that match to licenses already in the system, and the accompanying participant information is not an exact match for the current permit holders. The new, -DUP## permit id is returned to the calling program.

Duplicate Permits

Duplicate permits deserve mention. The system used to store all duplicate permits in the DUPLICATE_PERMITS table. An unresolved duplicate permit blocked processing of that match set record, since a unique permit was not identified. The strategy was revised so that upon Preload, a permit is stored for every incoming participant. If a duplicate is encountered, the license number is modified by appending the "-DUP##' string, where ## is a sequential number indicating the number of duplicates of that license number and type. This method works much cleaner for Match/Load processing, with the caveat that we know we have unresolved "extra" permits in the system in some places.

The new duplicate permit code is in the DUP_PERMIT package.

Developer's Note:

At some point, these existing duplicate permits need to be resolved. A new procedure will be required to do so. One may be able to write a single PL/SQL procedure to scan the participants and permits tables for –DUP permits and automatically consolidate where the DUP permit holder is the same participant.

Match/Load Major Code Packages

There are three main PL/SQL packages that contain the bulk of the business logic for the Match/Load Process. Housing business logic in code packages stored in the database has several advantages:

- Code is all in one place and protected, in the database ACCSPREC schema
- Calling and debugging modules is simplified. Modules are developed and debugged using the developer's PL/SQL IDE. Module may be debugged from within APEX when using SQL Developer.
- The business rule details are separate from the presentation parts of the APEX application.

The MATCH_LOAD PL/SQL package is the core package of the Match/Load Process. This package contains all of the procedures and functions used in the Match/Load process, except for those specifically used by SAFIS loads only, which are in the SAFIS_MATCH_LOAD package. MATCH_LOAD contains numerous utility functions and procedures that are used by the five main procedures.

The SAFIS_MATCH_LOAD package contains all code that is unique to SAFIS data load processing. These modules parallel the MATCH_LOAD equivalents in function, but differ in flow and details, t o accommodate the fact that we can utilize the SAFIS cross reference table to simplify the SAFIS data preload process.

The DUP_PERMIT package contains modules for creating PERMITS records in the event of incoming duplicate permits.

Developer Note: Error Logging

All modules, in all Match/Load packages, catch and process exceptions using the ERRLOG procedure. ERRLOG writes a LOAD_ERROR record with the specified criteria. The intent is that all records processed should either process successfully or have sufficient error logs in the system to track exactly why the record did not process. Developers maintaining the Match/Load processes should become very familiar with ERRLOG and the LOAD_ERRORS contents.

The following alphabetical code listing shows all of the modules of the MATCH_LOAD package, with a brief description of the module function.

MATCH_LOAD Package

- BULK_ERROR

Logs bulk errors in the BULK_ERRORS table.

```
PROCEDURE BULK_ERRLOG
 Argument Name                  Type                      In/Out Default?
 ------------------------------ ------------------------- ------ --------
 P_TABLE                        VARCHAR2                  IN
 P_ERROR_INDEX                  NUMBER                    IN
 P_ERROR_CODE                   NUMBER                    IN
```

- CHECK_PERMIT_HOLDER_MATCH

Returns True/False if the two given participants are matched, according the exact-match criteria.

```
FUNCTION CHECK_PERMIT_HOLDER_MATCH RETURNS BOOLEAN
 Argument Name                  Type                      In/Out Default?
 ------------------------------ ------------------------- ------ --------
 P_PPT1_ID                      NUMBER                    IN
 P_PPT2_ID                      NUMBER                    IN
```

- CLEAN_PPT_MATCH_TABLES

Truncates the match set tables PPT_MATCH and MATCH_PIDS.

```
PROCEDURE CLEAN_PPT_MATCH_TABLES
 Argument Name                  Type                      In/Out Default?
 ------------------------------ ------------------------- ------ --------
 P_STATUS                       BINARY_INTEGER            OUT
```

- CREATE_MV_PINFO_JOB

Creates a database job to start the CREATE_MV_PINFO script.

```
PROCEDURE CREATE_MV_PINFO_JOB
 Argument Name                  Type                      In/Out Default?
 ------------------------------ ------------------------- ------ --------
 P_INFILE                       VARCHAR2                  IN
 P_TESTFLAG                     CHAR                      IN     DEFAULT
```

- DELETE_MV_PINFO_RECORDS

Deleted MV_PINFO records upon a match.

```
PROCEDURE DELETE_MVPINFO_RECORDS
 Argument Name                  Type                      In/Out Default?
 ------------------------------ ------------------------- ------ --------
 P_PARTICIPANT_ID               NUMBER                    IN
 P_STATUS                       BINARY_INTEGER            OUT
```

- DELETE_PARTICIPANT

Deletes a PARTICIPANTS record and DUPLICATE_PERMITS record for the given participant id. Used to delete the now-obsolete child participant record after a match is processed.

```
PROCEDURE DELETE_PARTICIPANT
 Argument Name                  Type                      In/Out Default?
 ------------------------------ ------------------------- ------ --------
 P_PARTICIPANT_ID               NUMBER                    IN
 P_COMMIT_FLAG                  CHAR                      IN     DEFAULT
 P_STATUS                       BINARY_INTEGER            OUT
```

- DISABLE_FK_CONSTRAINTS

Disables all foreign key constraints for the given schema and table name. Used prior to truncate or delete operations, to ensure the command completes with no constraint errors. See the companion procedure ENABLE_FK_CONSTRAINTS.

```
PROCEDURE DISABLE_FK_CONSTRAINTS
 Argument Name                  Type                      In/Out Default?
 ------------------------------ ------------------------- ------ --------
 P_OWNER                        VARCHAR2                  IN
 P_TABLE                        VARCHAR2                  IN
 P_STATUS                       BINARY_INTEGER            OUT
```

- ENABLE_FK_CONSTRAINTS

  Enables all foreign key constraints on a given schema and table name. Used after truncate or delete operations, to ensure the command completes with no constraint errors. See the companion procedure DISABLE_FK_CONSTRAINTS.

```
PROCEDURE ENABLE_FK_CONSTRAINTS
 Argument Name                  Type                      In/Out Default?
 ------------------------------ ------------------------- ------ --------
 P_OWNER                        VARCHAR2                  IN
 P_TABLE                        VARCHAR2                  IN
 P_STATUS                       BINARY_INTEGER            OUT
```

- ERRLOG

Writes a LOAD_ERRORS record with pertinent information about a program exception or event. ERLOG is used in all code modules to catch standard PL/SQL errors in the EXCEPTION clauses of a code module. The resulting LOAD_ERRORS records are invaluable in determining how a process completed, and which records had a particular issue. ERRLOG is used extensively to log exceptions, and is called from almost every module in the system.

```
PROCEDURE ERRLOG
 Argument Name                  Type                      In/Out Default?
 ------------------------------ ------------------------- ------ --------
 P_OLD_PPT_ID                   NUMBER                    IN
 P_REORG_PPT_ID                 NUMBER                    IN
 P_ADDTL_ID                     NUMBER                    IN
 P_ID_TYPE                      VARCHAR2                  IN
 P_MODULE                       VARCHAR2                  IN
 P_ERRCODE                      NUMBER                    IN
 P_ERRMSG                       VARCHAR2                  IN
 P_EVENT_ID                     NUMBER                    IN     DEFAULT
 P_ERRTYPE                      CHAR                      IN     DEFAULT
```

- FLUSH_PROCESS_PPTS

The intent was to “flush” all processed participants form the processing tables. In practice, this is not necessary in the Match/Load Process. This module is currently not used. It would remove all processed match sets. It simply is not necessary in the Match/Load process, one can simple move on to the next match event.

```
PROCEDURE FLUSH_PROCESSED_PPTS
 Argument Name                  Type                      In/Out Default?
 ------------------------------ ------------------------- ------ --------
 P_STATUS                       BINARY_INTEGER            OUT
```

- FLUSH_UNCOMFIRMED_PPTS

This module is currently not used. It would set the processed_to_prod flag of all unconfirmed participants to ‘Y’. It simply is not necessary in the Match/Load process, one can simply move on to the next match event.

```
PROCEDURE FLUSH_UNCONFIRMED_PPTS
 Argument Name                  Type                      In/Out Default?
 ------------------------------ ------------------------- ------ --------
 P_STATUS                       BINARY_INTEGER            OUT
```

- FLUSH_UNMATCHED_PPTS

This module is currently not used. It would set the processed_to_prod flag of all unmatched participants to 'Y'. It simply is not necessary in the Match/Load process, one can simply move on to the next match event.

```
PROCEDURE FLUSH_UNMATCHED_PPTS
 Argument Name                  Type                      In/Out Default?
 ------------------------------ ------------------------- ------ --------
 P_STATUS                       BINARY_INTEGER            OUT
```

- GET_INFILE_NAME

Gets the name if the incoming data set, as specified by the sure upon execution of the create_mv_pinfo script.

```
FUNCTION GET_INFILE_NAME RETURNS VARCHAR2
 Argument Name                  Type                      In/Out Default?
 ------------------------------ ------------------------- ------ --------
 P_IS_SAFIS                     CHAR                      IN
```

- GET_LATEST_EVENT_ID

Gets the latest maximum) event_id from the MATCH_EVENT_LOG. Used for assigning the next event_id.

```
FUNCTION GET_LATEST_EVENT_ID RETURNS NUMBER
```

- GET_MATCHES_INLINE

This function returns an inline HTML table of participants in a match set, for the given participant id, returning up to p_limit rows. The function is used in a SQL query to produce an inline table with an APEX report, for improved presentation of match data.

```
FUNCTION GET_MATCHES_INLINE RETURNS VARCHAR2
 Argument Name                  Type                      In/Out Default?
 ------------------------------ ------------------------- ------ --------
 P_PARTICIP_ID                  NUMBER                    IN
 P_LIMIT                        BINARY_INTEGER            IN     DEFAULT
```

- GET_MATCHES_INLINE_SC

This function returns an inline HTML table of participants in a match set, for the given participant id, including the match score, returning up to p_limit rows. The function is used in a SQL query to produce an inline table with an APEX report, for improved presentation of match data.

```
FUNCTION GET_MATCHES_INLINE_SC RETURNS VARCHAR2
 Argument Name                  Type                      In/Out Default?
 ------------------------------ ------------------------- ------ --------
 P_PARTICIP_ID                  NUMBER                    IN
 P_LIMIT                        BINARY_INTEGER            IN     DEFAULT
```

- GET_MATCHES_INLINE_T

This function returns an inline HTML table of participants in a match set, up to p_limit rows. This is a test version of the GET_MATCHES_INLINE function.

```
FUNCTION GET_MATCHES_INLINE_T RETURNS VARCHAR2
 Argument Name                  Type                      In/Out Default?
 ------------------------------ ------------------------- ------ --------
 P_PARTICIP_ID                  NUMBER                    IN
 P_LIMIT                        BINARY_INTEGER            IN     DEFAULT
```

- GET_NEXT_EVENT_ID

This function returns the next EVENT_ID, using the EVENT_ID_SEQ.

```
FUNCTION GET_NEXT_EVENT_ID RETURNS NUMBER
```

- GET_PARTICPANT_INLINE

This function returns an inline HTML table of participant information for the given participant id, up to p_limit rows. It is used to embed a table within a table in APEX reports on the Review & Confirm pages.

```
FUNCTION GET_PARTICIPANT_INLINE RETURNS VARCHAR2
 Argument Name                  Type                      In/Out Default?
 ------------------------------ ------------------------- ------ --------
 P_PARTICIPANT_ID               NUMBER                    IN
 P_LIMIT                        BINARY_INTEGER            IN     DEFAULT
```

- GET_PERMITS_INLINE

This function returns an inline HTML table of permit information for the given participant id, up to p_limit rows. It is used to embed a table within a table in an APEX report.

```
FUNCTION GET_PERMITS_INLINE RETURNS VARCHAR2
 Argument Name                  Type                      In/Out Default?
 ------------------------------ ------------------------- ------ --------
 P_PARTICIP_ID                  NUMBER                    IN
 P_LIMIT                        BINARY_INTEGER            IN     DEFAULT
```

- GET_PERMIT_HOLDER_INLINE2

This function returns an inline HTML table of the permit holder information for the given participant and license information. It is used to embed a table within a table in an APEX report.

```
FUNCTION GET_PERMIT_HOLDER_INLINE2 RETURNS VARCHAR2
 Argument Name                  Type                      In/Out Default?
 ------------------------------ ------------------------- ------ --------
 P_PARTICIPANT_ID               NUMBER                    IN
 P_LICENSE_NBR                  VARCHAR2                  IN
 P_PERMIT_TYPE                  VARCHAR2                  IN
 P_ISS_AGENCY                   VARCHAR2                  IN
 P_LICENSE_TYPE                 VARCHAR2                  IN
 P_LIMIT                        BINARY_INTEGER            IN     DEFAULT
```

- GET_PERMIT_ID

This function returns the PERMIT_ID for the given participant id and license information. It is called by INSERT_PERMIT to return the permit id of an existing permit.

```
FUNCTION GET_PERMIT_ID RETURNS NUMBER
 Argument Name                  Type                      In/Out Default?
 ------------------------------ ------------------------- ------ --------
 P_PARTICIPANT_ID               NUMBER                    IN
 P_LICENSE_NBR                  VARCHAR2                  IN
 P_PERMIT_TYPE                  VARCHAR2                  IN
 P_ISS_AGENCY                   VARCHAR2                  IN
 P_LICENSE_TYPE                 VARCHAR2                  IN
 P_ISSUE_DATE                   DATE                      IN
 P_EXPIRE_DATE                  DATE                      IN
 P_EVENT_ID                     NUMBER                    IN
 P_STATUS                       BINARY_INTEGER            OUT
```

- GET_PROCESS_DATE_START

This function returns the process to production start date, read form the MATCH_EVENT_LOG table.

```
FUNCTION GET_PROCESS_DATE_START RETURNS DATE
```

- INSERT_DUP_PERMIT

This procedure creates a duplicate license by appending –DUP## to the given license number (or incrementing the serial number) and creates an informational log in the ERRLOG table. Called by the INSERT_PERMIT routine.

```
PROCEDURE INSERT_DUP_PERMIT
 Argument Name                  Type                      In/Out Default?
```

```
 ------------------------------ ---------------------- ------ --------
 P_EXISTING_PERMIT_ID           NUMBER                 IN
 P_EXISTING_PPT_ID              NUMBER                 IN
 P_PPT_ID                       NUMBER                 IN
 P_LICENSE_NBR                  VARCHAR2               IN
 P_LICENSE_TYPE                 VARCHAR2               IN
 P_ISS_DATE                     DATE                   IN
 P_EXP_DATE                     DATE                   IN
 P_ISS_AGENCY                   VARCHAR2               IN
 P_PERMIT_TYPE                  VARCHAR2               IN
 P_EVENT_ID                     NUMBER                 IN
 P_STATUS                       BINARY_INTEGER         OUT
```

- INSERT_MATCH_EVENT_LOG

This procedure inserts a match_event_log record. It is called from the create_mv_pinfo script.

```
PROCEDURE INSERT_MATCH_EVENT_LOG
 Argument Name                  Type                   In/Out Default?
 ------------------------------ ---------------------- ------ --------
 P_EVENT_ID                     NUMBER                 IN
 P_MV_CREATED                   DATE                   IN
 P_INPUT_FILE                   VARCHAR2               IN
 P_INPUT_TYPE                   VARCHAR2               IN
```

- INSERT_METADATA_EVENT

This procedure inserts a METADATA_EVENT record.

```
PROCEDURE INSERT_METADATA_EVENT
 Argument Name                  Type                   In/Out Default?
 ------------------------------ ---------------------- ------ --------
 P_EVENT_ID                     NUMBER                 IN
 P_SUPPLIER_EVENT               VARCHAR2               IN
 P_DESCRIPTION                  VARCHAR2               IN
 P_REMARK                       VARCHAR2               IN
 P_CATEGORY                     VARCHAR2               IN
 P_SUBCATEGORY                  VARCHAR2               IN
 P_DATA_SUPPLIER                VARCHAR2               IN
 P_DATA_SOURCE                  VARCHAR2               IN
 P_SUPPLIER_SYSTEM              VARCHAR2               IN
```

- INSERT_ORPHAN_ADDRESS_XREF

This procedure inserts an ORPHAN_ADDRESSES record for the addresses of match children. The intent is that addresses stored here could, in the future, be used to construct a “best address”.

```
PROCEDURE INSERT_ORPHAN_ADDRESS_XREF
 Argument Name                  Type                   In/Out Default?
 ------------------------------ ---------------------- ------ --------
 P_CHILD_PPT_ID                 NUMBER                 IN
 P_CHILD_ADDRESS_ID             NUMBER                 IN
 P_PARENT_PPT_ID                NUMBER                 IN
 P_PARENT_ADDRESS_ID            NUMBER                 IN
 P_EVENT_ID                     NUMBER                 IN
 P_STATUS                       BINARY_INTEGER         OUT
```

- INSERT_PARTICIPANT_ADDRESS

This procedure inserts a PARTICIPANT_ADDRESSES and the corresponding ADDRESSES record.

```
PROCEDURE INSERT_PARTICIPANT_ADDRESS
 Argument Name                  Type                   In/Out Default?
 ------------------------------ ---------------------- ------ --------
 P_PARTICIPANT_ID               NUMBER                 IN
 P_ADDRESS_ID                   NUMBER                 IN
```

```
P_ADDRESS_TYPE                 VARCHAR2                IN
P_ADDRESS_1                    VARCHAR2                IN
P_ADDRESS_2                    VARCHAR2                IN
P_CITY                         VARCHAR2                IN
P_COUNTY                       VARCHAR2                IN
P_STATE                        VARCHAR2                IN
P_POSTAL_CODE                  VARCHAR2                IN
P_PHONE_NBR                    VARCHAR2                IN
P_FAX_NBR                      VARCHAR2                IN
P_EMAIL                        VARCHAR2                IN
P_COMMIT                       NUMBER                  IN
P_STATUS                       BINARY_INTEGER          OUT
```

- INSERT_PERMIT

This procedure inserts a permit, returning the permit id and participant id. It's not quite that simple, however. The module tries to insert the permit. Id the insert completes, the module returns the participant id and the new permit id. If an existing permit is found, the code obtains the participant and permit id of that existing permit. If the existing permit holder and the incoming permit holder are exact matches, the participant is automatically matched and the module returns the existing permit participant id an permit id. IF the existing permit holder and the incoming permit holder are not (programmatically determined) exact matches, there is a duplicate permit situation. The module calls the DUP_PERMIT modules to create an appropriate duplicate permit record, by adding –DUP## to the license number, incrementing the number until a unique permit is achieved. The module returns the new, -DUP permit id. If the existing permit holder is an unknown participant, the code *should* replace the unknown participant id with the known, incoming participant id. This is a simple enhancement, achieved by a call to the REMAP_UNKNOWN_PPT procedure.

```
PROCEDURE INSERT_PERMIT
 Argument Name                  Type                    In/Out Default?
 ------------------------------ ----------------------- ------ --------
 P_IN_PERMIT_ID                 NUMBER                  IN
 P_PPT_ID                       NUMBER                  IN
 P_LICENSE_NBR                  VARCHAR2                IN
 P_LICENSE_TYPE                 VARCHAR2                IN
 P_ISS_DATE                     DATE                    IN
 P_EXP_DATE                     DATE                    IN
 P_ISS_AGENCY                   VARCHAR2                IN
 P_PERMIT_TYPE                  VARCHAR2                IN
 P_ORIG_EVENT_ID                NUMBER                  IN
 P_THIS_EVENT_ID                NUMBER                  IN
 P_COMMIT                       BINARY_INTEGER          IN
 P_OUTGOING_PERMIT_PPT_ID       NUMBER                  OUT
 P_OUTGOING_PERMIT_ID           NUMBER                  OUT
 P_STATUS                       BINARY_INTEGER          OUT
```

- MATCH_DUP_PERMIT_HOLDERS

This procedure "matches" the existing and incoming (would-be) permit holder participants for selected DUPLICATE_PERMIT records, then deletes the DUPLICATE_PERMITS record. This module is really obsolete given the new –DUP## strategy for handling duplicate permits in the system. A new module needs to be written to consolidate –DUP## permits for a given permit holder. See later sections of this document for more details.

```
PROCEDURE MATCH_DUP_PERMIT_HOLDERS
```

- NOMATCH_DUP_PERMIT_HOLDERS

This procedure marks non-match duplicate permits a Not a Match, so they can be removed from the Duplicate Permits display.

```
PROCEDURE NOMATCH_DUP_PERMIT_HOLDERS
```

- PM

This procedure is the main Match Criteria program, which scans the MV_PINFO table for matches according to various match criteria, favoring the older participants in the system. That is, incoming participants are matched to existing participants, with the existing participants as the parent. This favoring the existing method allows for fewer participant and permit id updates to our fact tables. Creates and stores match sets.

```
PROCEDURE PM
 Argument Name                  Type                    In/Out Default?
 ------------------------------ ----------------------- ------ --------
 P_CLEAN                        NUMBER                  IN     DEFAULT
```

- PM_INITIAL_RUN

This – now obsolete, but retained for reference – procedure matches participants favoring the newest participants as the match parents. This match process was applied to the first Match/Load/Reorganization run, so that the latest participant information was retained, as opposed to older records. It is likely this routine will not need to be executed again.

```
PROCEDURE PM_INITIAL_RUN
 Argument Name                  Type                    In/Out Default?
 ------------------------------ ----------------------- ------ --------
 P_CLEAN                        NUMBER                  IN     DEFAULT
```

- PRELOAD_DELETE_MV_PINFO

This procedures deletes an MV_PINFO record, as called during the PRELOAD process. IF a permit match causes INSERT_PERMITS to match the owning participants, the incoming participant may be removed and the permit is pointed to the existing participant.

```
PROCEDURE PRELOAD_DELETE_MV_PINFO
 Argument Name                  Type                    In/Out Default?
 ------------------------------ ----------------------- ------ --------
 P_PARTICIPANT_ID               NUMBER                  IN
 P_LICENSE_NBR                  VARCHAR2                IN
 P_LICENSE_TYPE                 VARCHAR2                IN
 P_LICENSE_ISSDATE              DATE                    IN
 P_LICENSE_EXPDATE              DATE                    IN
 P_ISS_AGENCY                   VARCHAR2                IN
 P_PERMIT_TYPE                  VARCHAR2                IN
 P_EVENT_ID                     NUMBER                  IN
 P_STATUS                       BINARY_INTEGER          OUT
```

- PRELOAD_PARTICIPANTS

This procedure inserts all incoming participants in a non-SAFIS data load into the PARTICIPANTS table in a single bulk insert. If the incoming data SUPPLIER_DEALER_IDSs and SUPPLIER_CF_IDs are not unique for the set of incoming data, then this insert will fail and generate an error log. If this procedure fails, one needs to back out the preload (though this is easy at this point, since no participants have been inserted) and review the incoming data set carefully for what constitutes an unique participant.

```
PROCEDURE PRELOAD_PARTICIPANTS
 Argument Name                  Type                    In/Out Default?
 ------------------------------ ----------------------- ------ --------
 P_EVENT_ID                     NUMBER                  IN
 P_STATUS                       NUMBER                  OUT
```

- PRELOAD_PERMITS

This routine preload all incoming permits for a non-SAFIS data load. It calls INSERT_PERMITS within a series of FOR loops: several to handle combinations of unknown participants and permits, the main one to process permits for known participants.

```
PROCEDURE PRELOAD_PERMITS
 Argument Name                  Type                    In/Out Default?
```

```
 ------------------------------ ---------------------- ------ --------
 P_LIMIT                        BINARY_INTEGER         IN     DEFAULT
 P_EVENT_ID                     NUMBER                 IN
PROCEDURE PRELOAD_TABLES
 Argument Name                  Type                   In/Out Default?
 ------------------------------ ---------------------- ------ --------
 P_LIMIT                        BINARY_INTEGER         IN     DEFAULT
```

- PROCESS_TO_PRODUCTION

This module is the main PROCESS_TO_PRODUCTION procedure. Many of the other functions and procedures in this package support this routine. Operations within this procedure are modularized to keep the main flow of the routine readable and therefore more easily maintained. Note that all modules contain thorough exception processing and error logging. This is essential in the Match/Load Process to ensure that all data is processed correctly or sufficient error logs are created to track the problem.

This routine processes both non-SAFIS and SAFIS data loads. There is no difference in processing at this point, other than the SAFIS_DW_XREF table will be updated for SAFIS participants. The code execution flow is the same.

```
PROCEDURE PROCESS_TO_PRODUCTION
```

- SAVE_DW_PID_XREF

This procedure creates a DW_PID_XREF record for a just-matched participant.

```
PROCEDURE SAVE_DW_PID_XREF
 Argument Name                  Type                   In/Out Default?
 ------------------------------ ---------------------- ------ --------
 P_ORIG_PPT_ID                  NUMBER                 IN
 P_REORG_PPT_ID                 NUMBER                 IN
 P_LICENSE_NBR                  VARCHAR2               IN
 P_REORG_PERMIT_ID              NUMBER                 IN
 P_LICENSE_TYPE                 VARCHAR2               IN
 P_LICENSE_ISSDATE              DATE                   IN
 P_LICENSE_EXPDATE              DATE                   IN
 P_ISS_AGENCY                   VARCHAR2               IN
 P_PERMIT_TYPE                  VARCHAR2               IN
 P_EVENT_ID                     NUMBER                 IN
 P_COMMIT_FLAG                  CHAR                   IN     DEFAULT
 P_STATUS                       BINARY_INTEGER         OUT
```

- SET_MATCH_CUTOFF_SCORE

This procedure sets the match cutoff score for match sets, according to the selection made on the Bulk Confirm region of the Review and Confirm page.

```
PROCEDURE SET_MATCH_CUTOFF_SCORE
 Argument Name                  Type                   In/Out Default?
 ------------------------------ ---------------------- ------ --------
 P_CUTOFF_SCORE                 NUMBER                 IN     DEFAULT
 P_PROCESS_FLAG                 NUMBER                 IN     DEFAULT
```

- SHOW_CREATE_MV_PINFO

This function determines whether to display the Create MV_PINF button on the Match Administration page, Step 1 region. Logic was complicated enough to put in a function for ease of code maintenance.

```
FUNCTION SHOW_CREATE_MV_PINFO RETURNS BOOLEAN
```

- TRUNC_TBL

This module is a utility function to truncate a table, used in various steps of the Match/Load process.

```
FUNCTION TRUNC_TBL RETURNS BINARY_INTEGER
 Argument Name                  Type                      In/Out Default?
 ------------------------------ ------------------------- ------ --------
 P_TABLE                        VARCHAR2                  IN
 P_CARE                         BINARY_INTEGER            IN
```

- UPDATE_CHILD_PPT_PERMITS

This procedure updates child permits with the parent participant id.

```
PROCEDURE UPDATE_CHILD_PPT_PERMITS
 Argument Name                  Type                      In/Out Default?
 ------------------------------ ------------------------- ------ --------
 P_CHILD_PPT_ID                 NUMBER                    IN
 P_PARENT_PPT_ID                NUMBER                    IN
 P_EVENT_ID                     NUMBER                    IN
 P_STATUS                       BINARY_INTEGER            OUT
```

- UPDATE DUP_PERMIT

Updates DUPLICATE_PERMITS records that have the child participant id with the parent participant id.

```
PROCEDURE UPDATE_DUP_PERMIT
 Argument Name                  Type                      In/Out Default?
 ------------------------------ ------------------------- ------ --------
 P_PARTICIPANT_ID               NUMBER                    IN
 P_REORG_PPT_ID                 NUMBER                    IN
 P_STATUS                       BINARY_INTEGER            OUT
```

- UPDATE_DW_XREF

Updates the DW_PID_XREF records that have the child participant id with the parent participant id.

```
PROCEDURE UPDATE_DW_XREF
 Argument Name                  Type                      In/Out Default?
 ------------------------------ ------------------------- ------ --------
 P_PARTICIPANT_ID               NUMBER                    IN
 P_REORG_PPT_ID                 NUMBER                    IN
 P_UPDATE_DATE                  DATE                      IN
 P_STATUS                       BINARY_INTEGER            OUT
```

- UPDATE ONE_CHILD_PPT_PERMIT

This procedure updates a single child permit record that has the child participant id with the parent participant id.

```
PROCEDURE UPDATE_ONE_CHILD_PPT_PERMIT
 Argument Name                  Type                      In/Out Default?
 ------------------------------ ------------------------- ------ --------
 P_CHILD_PPT_ID                 NUMBER                    IN
 P_PARENT_PPT_ID                NUMBER                    IN
 P_PERMIT_ID                    NUMBER                    IN
 P_EVENT_ID                     NUMBER                    IN
 P_STATUS                       BINARY_INTEGER            OUT
```

- UPDATE_PERMIT

Updates a PERMITS record of the child participant id with the parent participant id.

```
PROCEDURE UPDATE_PERMIT
```

```
Argument Name                  Type                      In/Out Default?
------------------------------ ------------------------- ------ --------
P_CHILD_PPT_ID                 NUMBER                    IN
P_PARENT_PPT_ID                NUMBER                    IN
P_LICENSE_NBR                  VARCHAR2                  IN
P_LICENSE_TYPE                 VARCHAR2                  IN
P_ISS_DATE                     DATE                      IN
P_EXP_DATE                     DATE                      IN
P_ISS_AGENCY                   VARCHAR2                  IN
P_PERMIT_TYPE                  VARCHAR2                  IN
P_OUTGOING_PERMIT_ID           NUMBER                    OUT
P_EVENT_ID                     NUMBER                    IN
P_STATUS                       BINARY_INTEGER            OUT
```

- UPDATE_PROCESS_CONFIRMED_DATE

Updates the MATCH_EVENT_LOG with the date of the last Process to Production execution.

```
PROCEDURE UPDATE_PROCESS_CONFIRMED_DATE
Argument Name                  Type                      In/Out Default?
------------------------------ ------------------------- ------ --------
P_EVENT_ID                     NUMBER                    IN
```

- UPDATE_PROD_RECORDS

Updates the participant I in all fact tables: DEALER_REPORTS, CONSOLIDATED_REPORTS, BIOSAMPLES, and FISHERMAN_TRIPS.

```
PROCEDURE UPDATE_PROD_RECORDS
Argument Name                  Type                      In/Out Default?
------------------------------ ------------------------- ------ --------
P_CHILD_PPT_ID                 NUMBER                    IN
P_PARENT_PPT_ID                NUMBER                    IN
P_COMMIT_FLAG                  CHAR                      IN     DEFAULT
P_STATUS                       BINARY_INTEGER            OUT
```

- UPDATE_SAFIS_XREF

This procedure updates a single SAFIS_DW_XREF table.

```
PROCEDURE UPDATE_SAFIS_XREF
Argument Name                  Type                      In/Out Default?
------------------------------ ------------------------- ------ --------
P_PARTICIPANT_ID               NUMBER                    IN
P_REORG_PPT_ID                 NUMBER                    IN
P_UPDATE_DATE                  DATE                      IN
P_STATUS                       BINARY_INTEGER            OUT
```

- UPDATE_SAFIS_XREF_DW_PERMIT

This procedure updates the permit id in the SAFIS_DW_XREF table for a given participant.

```
PROCEDURE UPDATE_SAFIS_XREF_DW_PERMIT
Argument Name                  Type                      In/Out Default?
------------------------------ ------------------------- ------ --------
P_DW_PARTICIPANT_ID            NUMBER                    IN
P_NEW_PERMIT_ID                NUMBER                    IN
P_EVENT_ID                     NUMBER                    IN
P_STATUS                       BINARY_INTEGER            OUT
```

- UPDATE_UNKNOWN_DUP_PERMIT

This procedure updates the participant id and permit id for a previously unknown participant record.

```
PROCEDURE UPDATE_UNKNOWN_DUP_PERMIT
 Argument Name                  Type                      In/Out Default?
 ------------------------------ ------------------------- ------ --------
 P_CHILD_PPT_ID                 NUMBER                    IN
 P_CHILD_PERMIT_ID              NUMBER                    IN
 P_PARENT_PPT_ID                NUMBER                    IN
 P_STATUS                       BINARY_INTEGER            OUT
```

- UPDATE_UNKNOWN_PROD_RECORDS

This procedure updates the participant id and permit id for a previously unknown participants record.

```
PROCEDURE UPDATE_UNKNOWN_PROD_RECORDS
 Argument Name                  Type                      In/Out Default?
 ------------------------------ ------------------------- ------ --------
 P_CHILD_PPT_ID                 NUMBER                    IN
 P_CHILD_PERMIT_ID              NUMBER                    IN
 P_PARENT_PPT_ID                NUMBER                    IN
 P_COMMIT_FLAG                  CHAR                      IN     DEFAULT
 P_STATUS                       BINARY_INTEGER            OUT
```

SAFIS Match/Load Package

The SAFIS_MATCH_LOAD package was created to provide processing procedures and functions for SAFIS data, where the SAFIS processing had to be different from process flow for non-SAFIS data.

The main difference in SAFIS processing is in the Preload step, in PRELOAD_SAFIS_PARTICIPANTS. Instead of bulk processing, the procedure loops through incoming SAFIS participants row by row, checking each for a match or partial match in the SAFIS_DW_PID_XREF table. The remaining INSERT and UPDATE procedures of the SAFIS_MATCH_LOAD package support the revised Preload processing and single-row operation.

The modules of the SAFIS_MATCH_LOAD package are:

- DELETE_FROM_MVPINFO

This procedure deletes records from a SAFIS MV_PINFO table. MV_PINFO records are removed as participants are matched, either by a consolidation in an INSERT PERMIT operation or by match processing. It is important to remove records from MV_PINOF so the PROCESS_TO_PRODUCTION routine does not try to re-process that already-processed participant.

```
PROCEDURE DELETE_FROM_MV_PINFO
 Argument Name                  Type                      In/Out Default?
 ------------------------------ ------------------------- ------ --------
 P_PARTICIPANT_ID               NUMBER                    IN
 P_EVENT_ID                     NUMBER                    IN
 P_STATUS                       BINARY_INTEGER            OUT
```

- DELETE_JUST_ADDED_PARTICIPANT

This procedure deletes as just-added participant. It is called by the SAFIS Preload routine. If a participant is just added, then an ISNERT_PERMIT operation matches this participant to an existing one, this routine deletes the just-added participant from the PARTICIPANTS table.

```
PROCEDURE DELETE_JUST_ADDED_PARTICIPANT
 Argument Name                  Type                      In/Out Default?
 ------------------------------ ------------------------- ------ --------
 P_PARTICIPANT_ID               NUMBER                    IN
 P_EVENT_ID                     NUMBER                    IN
 P_COMMIT_HERE                  NUMBER                    IN
 P_STATUS                       BINARY_INTEGER            OUT
```

- EXISTNG_SAFIS_PARTICIPANT

This routine returns TRUE or FALSE whether the participant existing in the data warehouse, as determined by the SAFIS_DW_XREF table.

```
FUNCTION EXISTING_SAFIS_PARTICIPANT RETURNS BOOLEAN
 Argument Name                  Type                      In/Out Default?
 ------------------------------ ------------------------- ------ --------
 P_SAFIS_PPT_ID                 NUMBER                    IN
 P_DW_PPT_ID                    NUMBER                    OUT
```

- EXISTING_SAFIS_PPT_PERMIT

This function return TRUE or FALSE, whether the incoming SAFIS participant and permit combination exist in the SAFIS_DW_XREF table.

```
FUNCTION EXISTING_SAFIS_PPT_PERMIT RETURNS BOOLEAN
 Argument Name                  Type                      In/Out Default?
 ------------------------------ ------------------------- ------ --------
 P_SAFIS_PPT_ID                 NUMBER                    IN
 P_SAFIS_PERMIT_ID              NUMBER                    IN
 P_DW_PPT_ID                    NUMBER                    OUT
 P_DW_PERMIT_ID                 NUMBER                    OUT
```

- INSERT_PARTICIPANT

Insert a SAFIS participant into the PARTICIPANTS table. This insert is a single row at a time.

```
PROCEDURE INSERT_PARTICIPANT
 Argument Name                  Type                      In/Out Default?
 ------------------------------ ------------------------- ------ --------
 P_PARTICIPANT_ID               NUMBER                    IN
 P_EIN_SSN                      VARCHAR2                  IN
 P_CORP_NAME                    VARCHAR2                  IN
 P_LAST_NAME                    VARCHAR2                  IN
 P_FIRST_NAME                   VARCHAR2                  IN
 P_MIDDLE_NAME                  VARCHAR2                  IN
 P_NAME_SUFFIX                  VARCHAR2                  IN
 P_BIRTH_DATE                   DATE                      IN
 P_IDENT                        VARCHAR2                  IN
 P_SUPPLIER_PA_ID               VARCHAR2                  IN
 P_EVENT_ID                     NUMBER                    IN
 P_ENTRY_DATE                   DATE                      IN
 P_UPDATE_DATE                  DATE                      IN
 P_COMMIT_FLAG                  BINARY_INTEGER            IN
 P_STATUS                       BINARY_INTEGER            OUT
```

- INSERT_SAFIS_ADDRESS

This procedure inserts a SAFIS address into the ADDRESSES and PARTICIPANT_ADDRESSES table, a single row at a time.

```
PROCEDURE INSERT_SAFIS_ADDRESS
 Argument Name                  Type                      In/Out Default?
 ------------------------------ ------------------------- ------ --------
 P_DW_PPT_ID                    NUMBER                    IN
 P_INCOMING_PPT_ID              NUMBER                    IN
 P_CHECK                        BINARY_INTEGER            IN     DEFAULT
 P_EVENT_ID                     NUMBER                    IN
 P_COMMIT_IN_CALLING_ROUTINE    BINARY_INTEGER            IN     DEFAULT
 P_STATUS                       BINARY_INTEGER            OUT
```

- INSERT_SAFIS_DW_PERMIT

Inserts a SAFIS permit into the data warehouse PERMITS table,

```
PROCEDURE INSERT_SAFIS_DW_PERMIT
 Argument Name                  Type                      In/Out Default?
 ------------------------------ ------------------------- ------ --------
 P_IN_PERMIT_ID                 NUMBER                    IN
 P_PPT_ID                       NUMBER                    IN
 P_LICENSE_NBR                  VARCHAR2                  IN
 P_LICENSE_TYPE                 VARCHAR2                  IN
 P_ISS_DATE                     DATE                      IN
 P_EXP_DATE                     DATE                      IN
 P_ISS_AGENCY                   VARCHAR2                  IN
 P_PERMIT_TYPE                  VARCHAR2                  IN
 P_ORIG_EVENT_ID                NUMBER                    IN
 P_THIS_EVENT_ID                NUMBER                    IN
 P_COMMIT                       BINARY_INTEGER            IN
 P_REORG_PERMIT_PPT_ID          NUMBER                    OUT
 P_REORG_PERMIT_ID              NUMBER                    OUT
 P_FOUND_SAME                   BINARY_INTEGER            OUT
 P_STATUS                       BINARY_INTEGER            OUT
```

- PRELOAD_SAFIS_PARTICIPANTS

The main Preload procedure for SAFIS participants. The procedure differs from the non-SAFIS preload in that is processes incoming records one at a time, since we have the SAFIS_DW_XREF table to assist in matching the incoming SAFIS participants and permits. Most of the remaining procedures and function in this package support this procedure.

```
PROCEDURE PRELOAD_SAFIS_PARTICIPANTS
 Argument Name                  Type                      In/Out Default?
 ------------------------------ ------------------------- ------ --------
 P_EVENT_ID                     NUMBER                    IN
```

- REMAP_UNKNOWN_PPT

This procedure remaps an unknown participant id on a PERMITS record to a known participant id. If an exact match is found on an incoming participant and permit to a permit with an unknown participant, this operation will replace the unknown participant with the known participant.

```
PROCEDURE REMAP_UNKNOWN_PPT
 Argument Name                  Type                      In/Out Default?
 ------------------------------ ------------------------- ------ --------
 P_UNKNOWN_PPT_ID               NUMBER                    IN
 P_PERMIT_ID                    NUMBER                    IN
 P_KNOWN_PPT_ID                 NUMBER                    IN
 P_EVENT_ID                     NUMBER                    IN
 P_COMMIT                       BINARY_INTEGER            IN
 P_STATUS                       NUMBER                    OUT
```

- SAVE_SAFIS_DW_PID_XREF

This procedure creates a DW_PID_XREF table for a SAFIS participant.

```
PROCEDURE SAVE_SAFIS_DW_PID_XREF
 Argument Name                  Type                      In/Out Default?
 ------------------------------ ------------------------- ------ --------
 P_DW_PPT_ID                    NUMBER                    IN
 P_SAFIS_PPT_ID                 NUMBER                    IN
 P_DW_PERMIT_ID                 NUMBER                    IN
 P_SAFIS_PERMIT_ID              NUMBER                    IN
 P_EVENT_ID                     NUMBER                    IN
 P_COMMIT_FLAG                  VARCHAR2                  IN     DEFAULT
```

- UPDATE_DW_REF_PERMIT

This procedure updates the DW_PID_XREF table with a new PERMIT_ID for a given SAFIS participant.

```
PROCEDURE UPDATE_DW_XREF_PERMIT
 Argument Name                  Type                      In/Out Default?
 ------------------------------ ------------------------- ------ --------
 P_PARTICIPANT_ID               NUMBER                    IN
 P_REORG_PPT_ID                 NUMBER                    IN
 P_REORG_PERMIT_ID              NUMBER                    IN
 P_EVENT_ID                     NUMBER                    IN
 P_STATUS                       BINARY_INTEGER            OUT
```

- UPDATE_EXISTING_PARTICIPANT

This procedure updates an existing PARTICIPANTS record with the data of an incoming SAFIS participant. We do this because we can safely (presumably) make the assumption that if we have a resubmitted SAFIS participant, the data is the latest, and the update is desirable.

```
PROCEDURE UPDATE_EXISTING_PARTICIPANT
 Argument Name                  Type                      In/Out Default?
 ------------------------------ ------------------------- ------ --------
 P_PARTICIPANT_ID               NUMBER                    IN
 P_EIN_SSN                      VARCHAR2                  IN
 P_CORP_NAME                    VARCHAR2                  IN
 P_LAST_NAME                    VARCHAR2                  IN
 P_FIRST_NAME                   VARCHAR2                  IN
 P_MIDDLE_NAME                  VARCHAR2                  IN
 P_NAME_SUFFIX                  VARCHAR2                  IN
 P_BIRTH_DATE                   DATE                      IN
 P_IDENT                        VARCHAR2                  IN
 P_SUPPLIER_PA_ID               VARCHAR2                  IN
 P_EVENT_ID                     NUMBER                    IN
 P_COMMIT_FLAG                  BINARY_INTEGER            IN
 P_STATUS                       BINARY_INTEGER            OUT
```

- UPDATE_PERMIT_PPT

Updates the participant id for a PERMITS record, for a SAFIS data load.

```
PROCEDURE UPDATE_PERMIT_PPT
 Argument Name                  Type                      In/Out Default?
 ------------------------------ ------------------------- ------ --------
 P_CHILD_PPT_ID                 NUMBER                    IN
 P_PARENT_PPT_ID                NUMBER                    IN
 P_PERMIT_ID                    NUMBER                    IN
 P_LICENSE_NBR                  VARCHAR2                  IN
 P_LICENSE_TYPE                 VARCHAR2                  IN
 P_ISS_DATE                     DATE                      IN
 P_EXP_DATE                     DATE                      IN
 P_ISS_AGENCY                   VARCHAR2                  IN
 P_PERMIT_TYPE                  VARCHAR2                  IN
 P_EVENT_ID                     NUMBER                    IN
 P_OUTGOING_PERMIT_ID           NUMBER                    OUT
 P_STATUS                       BINARY_INTEGER            OUT
```

DUP_PERMIT Package

The DUP_PERMIT package contains modules that create unique permit records by applying the –DUP## string to the incoming license number, so that a unique combination of permit information is devised. This package contains all logic for duplicate permit creation and special processing. When created, the module to consolidate duplicate permits should be created in this package.

- BACKFILL_DUP_PERMIT_IDS

This procedure creates –DUP## permits for all permits in the old-strategy DUPLICATE_PERMITS table. This procedure was executed once, when transitioning to the new duplicate permit strategy. It should not be needed again.

```
PROCEDURE BACKFILL_DUP_PERMIT_IDS
```

- CHECK_SAME_DUP_PERMIT_HOLDER

This procedure checks an existing duplicate permit record to see if the incoming and existing permit holder participant ids are an exact programmatic match

```
PROCEDURE CHECK_SAME_DUP_PERMIT_HOLDER
 Argument Name                  Type                    In/Out Default?
 ------------------------------ ----------------------- ------ --------
 P_INCOMING_PPT_ID              NUMBER                  IN
 P_EXISTING_PPT_ID              NUMBER                  IN
 P_EXISTING_PERMIT_ID           NUMBER                  IN
 P_OUT_DUP_PPT_ID               NUMBER                  OUT
 P_OUT_DUP_PERMIT_ID            NUMBER                  OUT
 P_OUT_DUP_SEQ                  NUMBER                  OUT
```

- CREATE_DUP_PERMIT_ID

This procedure creates a new duplicate permit id, by checking for an existing –DUP permits for the given participant and license information. If necessary, the numeric sequence is incremented to create a unique set of license information.

```
PROCEDURE CREATE_DUP_PERMIT_ID
 Argument Name                  Type                    In/Out Default?
 ------------------------------ ----------------------- ------ --------
 P_EXISTING_PERMIT_ID           NUMBER                  IN
 P_EXISTING_PPT_ID              NUMBER                  IN
 P_PPT_ID                       NUMBER                  IN
 P_LICENSE_NBR                  VARCHAR2                IN
 P_LICENSE_TYPE                 VARCHAR2                IN
 P_ISS_DATE                     DATE                    IN
 P_EXP_DATE                     DATE                    IN
 P_ISS_AGENCY                   VARCHAR2                IN
 P_PERMIT_TYPE                  VARCHAR2                IN
 P_EVENT_ID                     NUMBER                  IN
 P_DUP_PERMIT_PPT_ID            NUMBER                  OUT
 P_DUP_PERMIT_ID                NUMBER                  OUT
 P_DUP_SEQ                      NUMBER                  OUT
```

- GET_DUP_PERMIT_ID

This utility function returns the duplicate permit id, if any, for the given participant and license information.

```
FUNCTION GET_DUP_PERMIT_ID RETURNS NUMBER
 Argument Name                  Type                    In/Out Default?
 ------------------------------ ----------------------- ------ --------
 P_PARTICIPANT_ID               NUMBER                  IN
 P_LICENSE_NBR                  VARCHAR2                IN
 P_PERMIT_TYPE                  VARCHAR2                IN
 P_ISS_AGENCY                   VARCHAR2                IN
 P_LICENSE_TYPE                 VARCHAR2                IN
 P_ISSUE_DATE                   DATE                    IN
 P_EXPIRE_DATE                  DATE                    IN
 P_EVENT_ID                     NUMBER                  IN
 P_STATUS                       BINARY_INTEGER          OUT
```

- INSERT_DUP_PERMIT

This procedure does the actual duplicate permit creation and insert permit for a duplicate permit. It is called by the INSERT_PERMIT routines when it is determined that the incoming permit is a duplicate of an existing permit in the data warehouse.

```
PROCEDURE INSERT_DUP_PERMIT
 Argument Name                  Type                      In/Out Default?
 ------------------------------ ------------------------- ------ --------
 P_EXISTING_PERMIT_ID           NUMBER                    IN
 P_EXISTING_PPT_ID              NUMBER                    IN
 P_PPT_ID                       NUMBER                    IN
 P_LICENSE_NBR                  VARCHAR2                  IN
 P_LICENSE_TYPE                 VARCHAR2                  IN
 P_ISS_DATE                     DATE                      IN
 P_EXP_DATE                     DATE                      IN
 P_ISS_AGENCY                   VARCHAR2                  IN
 P_PERMIT_TYPE                  VARCHAR2                  IN
 P_EVENT_ID                     NUMBER                    IN
 P_DUP_PERMIT_PPT_ID            NUMBER                    OUT
 P_DUP_PERMIT_ID                NUMBER                    OUT
 P_STATUS                       BINARY_INTEGER            OUT
```

- MATCH_DUP_PERMIT_HOLDERS

This routine matches duplicate permits, and removes the duplicate permits record. It is called by the Match Duplicate Permits process on the Match/Load application Duplicate Permits page.

```
PROCEDURE MATCH_DUP_PERMIT_HOLDERS
```

- NOMATCH_DUP_PERMIT_HOLDERS

This routine marks duplicate permits records as NOT matched, setting the NOMATCH flag in the DUPLICATE_PERMITS record. It is called by the NoMatch Duplicate Permits process on the Match/Load application Duplicate Permits page.

```
PROCEDURE NOMATCH_DUP_PERMIT_HOLDERS
```

- UPDATE_DUP_PERMIT

This procedure updates a duplicate permit record with the new (reorg) participant id.

```
PROCEDURE UPDATE_DUP_PERMIT
 Argument Name                  Type                      In/Out Default?
 ------------------------------ ------------------------- ------ --------
 P_PARTICIPANT_ID               NUMBER                    IN
 P_REORG_PPT_ID                 NUMBER                    IN
 P_EVENT_ID                     NUMBER                    IN
 P_STATUS                       BINARY_INTEGER            OUT
```

- UPDATE_UNKNOWN_DUP_PERMIT

This procedure updates the participant id of a permit that has an unknown participant as the current permit holder to a known participant id.

```
PROCEDURE UPDATE_UNKNOWN_DUP_PERMIT
 Argument Name                  Type                      In/Out Default?
 ------------------------------ ------------------------- ------ --------
 P_CHILD_PPT_ID                 NUMBER                    IN
 P_CHILD_PERMIT_ID              NUMBER                    IN
 P_PARENT_PPT_ID                NUMBER                    IN
 P_EVENT_ID                     NUMBER                    IN
 P_STATUS                       BINARY_INTEGER            OUT
```

Data Constraints

Proper operation of any relational database relies on database constraints to reliably, automatically enforce relational integrity. The ACCSP Match/Load Process relies on the usual primary key-foreign key constraints in the database on all tables, plus one additional constraint on the PERMIT_ID-PARTICIPANT_ID combination. This permit-participant constraint is critical to assure clean data and proper operation of the ACCSP Match/Load processes.

Constraint Errors

Date constraint errors are the most common cause of unexpected errors in the Match/Load process. All procedures are designed to process data in a specific order, to avoid constraint errors, and to commit changes on record or one match set at a time, to ensure relational integrity is maintained. Due to the nature of our incoming data, we occasionally encounter cases where there is a constraint errors, and these are captured in the error logs.

Very infrequently an unexpected data error will cause a preload or process to production process to end prematurely. Such errors are logged, however, the batch process will report SUCCEEDED in these cases, since the procedure does a graceful end rather than an abnormal crash. For this reason, all users are encouraged to check the Errors tab frequently, and at least after every Preload and Process to Production steps

PERMIT_ID-PARTICIPANT_ID Constraint

The most important constraint in the entire data load process is the unique constraint on the PERMITS table on the PARTICANT_ID and PERMIT_ID columns. This constraint ensures that every permit is assigned to exactly one participant, and for every dealer report, fisherman report, consolidate report and cross reference record in the system, where we have known participant and permit information, we have a mapping to a distinct permit record.

It is impossible to maintain the correct permit references in the dealer reports, consolidated reports, fisherman trips , duplicate permits and cross-reference tables without this constraint.

Table 2 lists the ACCSP data warehouse tables that have a foreign key to the PERMITS table unique constraint.

Table	Constraint Name	Participant Id Column	Permit Id Column
PERMITS	PERM_PERM_PPT_UK	PARTICIPANT_ID	PERMIT_ID
DUPLICATE_PERMITS	DUP_PERMI_PERMPPT_FK	EXISTING_PPT_ID	EXISTING_PERMIT_ID
DW_PID_XREF	DW_PID_XREF_PERM_PPT_FK	REORG_PPT_ID	REORG_PERMIT_ID
SAFIS_DW_PID_XREF	SAFIS_DW_PID_XREF_PERMITS_FK	DW_PARTICIPANT_ID	DW_PERMIT_ID
DEALER__REPORTS	DR_PERM_PPT_CF_FK	COMMERCIAL_ID	CF_PEMRIT_ID
DEALER_REPORTS	DR_PERM_PPT_DLR_FK	DEALER_ID	DEA_PERMIT_ID
CONSOLIDATED_ REPORTS	CR_PERM_PPT_DEA_FK	DEALER_ID	CF_PERMIT_ID
CONSOLIDATED_ REPORTS	CR_PERMIT_PPT_CF_FK	COMMERCIAL_ID	DEA_PERMIT_ID
FISHERMAN_TRIPS	FT_PERM_PPT_FK	COMMERCIAL_ID	CF_PERMIT_ID

Table 2: Foreign Keys to PERMITS PERM_PERM_PPT_UK Constraint

The existence of this unique constraint on the PERMITS table and the foreign key references to it imposes a certain processing flow on match processing, to ensure relational integrity is maintained.

First, because we know in the course of data warehouse match/load processing we need to updates participant id and permit id column values across several data tables, it is essential that all of these constraints are created INITIALLY DEFERRED DEFERRABLE.

The INITIALLY DEFERRED DEFERRABLE attribute on the constraint indicates to the Oracle database that it should enforce the constraint at the end of the transaction. This allows us to make an update to a PERMITs record that changes the participant id, and then to make the corresponding update to all of the other database tables that have a foreign key to the PERMITS PERM_PERM_PPT_UK constraint, and then successfully commit all chances at the end of the transaction. Without the INITIALLY DEFERRED DEFERRABLE condition, the updates at each statement in the process (including the initial UPDATE to the PERMITS participant id) would fail due to a constraint violation.

To support the PERMIT_ID-PARTICIPANT_ID constraint, the PROCESS_TO_PRODUCTION procedure performs all updates for a particular participant and permit combination (PERMITS and fact tables) within the same transaction. When loading large numbers of records, transactions are committed in loops with the commit point at the end of every match set. This ensures that if an error occurs that blocks the commit, the issue is limited to a single match set, and processing of the rest of the match sets can proceed successfully.

What to Do When Something Goes Wrong

Each data load is different, and data quality from partner to partner varies. Strict control of input data quality is not enforced, due to the nature of when and how data loads get to ACCSP. So it is inevitable that sometimes, something goes wrong.

The best way to monitor the Match/Load process is to watch the error logs. Be in the habit of checking the Errors page after every step in the Match/Load Process.

When errors are discovered, track the errors back to the incoming or existing participant records by examining the contents of the error log. Then, apply Match/Load Process knowledge, data integrity knowledge, and sound judgment to determine the appropriate course of action.

It is not possible to document what to do for every situation that may be encountered. However, the following section presents some guidelines.

Create MV_PINFO Failures

The create_mv_pinfo.sql script should complete cleanly with no errors, The counts along the way indicate the number of records loaded into the NEW_DEALER_IDS, NEW_CF_IDS, CFDEA_MV_PINFO and MV_PINFO tables, respectively. If one sees any error messages in the script log, examine the log against the script itself to determine at what stage the error occurred. Take appropriate action from there.

Some possible Create MV_PINFO errors:

- No name given for the load. The name for the load needs to be specified as the only parameter, and must be enclosed in single quotes. The name may be up to 200 characters long
- Empty CFDEA_MV_PINFO – This is usually caused by bad data in the input tables, usually a bad date format, or an too-long VARCHAR2 field. Such data format problems cause an error in the CFDEA_MV_PINFO insert statement. The error will be visible in the create_mv_pinfo.sql script log.

  Note that if CFDEA_MV_PINFO is empty, MV_PINFO will still create successfully, containing just the existing participants (no incoming participants). One needs to review the entire create_mv_pinfo.sql log to confirm that all completed successfully.

Preload Errors or Preload Job Failure

It is important that the Preload step complete with no or very few errors, as this indicates that all incoming data loads into the database clean. The usual errors found after a preload are related to permits, usually an existing permit is found.

Note that Informational messages, such as those that indicate a duplicate permits was encountered, and a –DUP# permit record was created, are NOT a cause for concern. These indicate information only. If you observer that it seems the entire data load is duplicate permits, you may want to investigate why that occurred. That would mean you received an entire data set with different participant information for a given permit – that is an exceptional case that merits investigation.

If errors are observed that cannot be logically explained, one may wish to back out the Preload.

To do this, use the Back Out Preload script, see the appendix.

Execute the BACK OUT PRELOAD script one command at a time. It is worth the time. You got to this point because of a data error, it merits the attention to watch the back out process to ensure that it runs cleanly, so as not to introduce additional complications.

Process to Production Errors

By the time we get to this step, most participant records will process to production smoothly. There are exceptions. When a large number of Process to Production errors are encountered, it is a significant problem. It is possible to back out a Process to Production, but it is extremely tedious and painful.

- Don't Cry
- Assess what really happened.
- Check the PROCESS_TO_PRODUCTION code to determine exactly where and why the errors occurred.
- Correct the code as necessary to handle the situation
- Correct the data as necessary to handle or prevent the situation
- Back out the Process to Production, and start again with a new match event.

Future Enhancements

The following sections outline possible future enhancements, and suggest an approach for implementing the enhancements.

Improve Duplicate Permits Interface

When the method of loading duplicate permits was changed from writing a separate, DUPLICATE_PERMIT record and resolving prior to load, to creating a unique permit records with –DUP## license number, the Duplicate Permits application page was not updated to modify the "Resolve Duplicates" process.

While it may be that the current process will somewhat work, because all it does is mark selected permits as "the same" and remove the DUPLICATE_PERMITS record (see DUP_PERMIT.MATCH_DUP_PERMIT_HOLDERS), one really needs to review the process and create a new procedure to handle the new, -DUP## permits.

Suggested Approach:

a) Create a PL/SQL procedure match up the permits, and to update the permit id's in all fact tables (CONSOLIDATED_REPORTS, CONSOLIDATED_LANDINGS, DEALER_REPORTS, FISHERMAN_TRIPS, BIOSAMPLES) that may reference the –DUP## permit id.

b) Update (or create a new) the Duplicate Permits application page to display a list of participants with –DUP## permits, with the ability to select one or many of these records.

c) Create a process to call the RESOLVE_DUP_PERMITS procedure.

d) Create a button to call the RESOLVE_DUP_PERMITS process.

Integration with SAFIS Data Loads

There has been some discussion on how to integrate the SAFIS Match/Load process with SAFIS data loads, so that most of the process occurs automatically. The SAFIS Preload matches incoming SAFIS participants to data warehouse participant and permit ids in the SAFIS_DW_PID_XREF table. One place to start is to look at the SAFIS_MATCH_LOAD.PRELOAD_SAFIS_PARTICIPANT procedure and reuse all or components of that module to achieve the desired result. Since this procedure checks the SAFIS cross reference table for existing participant and permit ids, and creates new participant and permit records as need be, this seem a good starting point.

Remap Unknown Permit Participants with Known in non-SAFIS INSERT PERMIT

In the SAFIS insert permit routine, when the permit insert fails due to an existing permit, and that existing permit has an unknown participant as the permit holder, the process will automatically replace the unknown participant with the known, incoming participant. The feature is not yet ported over to the non_SAFIS package. It is certainly desirable to do so, since it is one way of replacing unknown participant references with known participant references, improving the quality of the data. It is also not difficult to do, as the SAFIS_MATCH_LOAD.REMAP_UNKNOWN_PPT procedure does not contain anything specific to SAFIS records, other than it exists in the SAFIS_MATCH_LOAD package.

The SAFIS Insert Permit procedure, INSERT_SAFIS_DW_PERMIT, calls the procedure REMAP_UNKNOWN_PPT.

The location in the MATCH_LOAD package, in the INSERT_PERMIT procedure, at about line 4019, the same or slightly modified version of the REMAP_UNKNOWN_PPT.

Interactive Reports

The ACCSP Match/Load application was developed before APEX came out with interactive reports. Interactive reports significantly enhance the search and filtering capabilities for the end user. Many of the standard, display-only reports in the ACCSP Match/Load application could benefit by being upgraded to interactive reports.

This is a simple developer task. In the APEX Builder for the report page, the report in question, the Tasks menu at the far right has an option to Migrate to Interactive Report. This option automatically creates the interactive report and sets the condition of the standard report to Never.

Candidate reports: Match Results regions, any single report on the Source Participants page. Note that there is a one-interactive=report-per-page restriction, but, this restriction can be overcome through the use of iframes and/or javascript. A search on the OTN APEX forum will give references.

Appendix

Backout Preload Script

```
/*
  Back Out Preload
    Use the following commands to back out a failed Preload, or a Preload that has one or more error
messages that indicate
    some failure during the process, or loss of relational integrity (constraint errors) during the
PRELOAD process.

    IT IS RECOMMENDED THAT THESE COMMANDS BE EXECUTED MANUALLY.
    THERE WAS A FAILED PRELOAD THE BCKOUT MERITS WATCHING, TOO.

    The steps are:
  -- Get the EVENT_ID
  -- Remove ADDRESSES.  Removing ADDRESSES with also remove PARTICIPANT_ADDRESSES.
  -- Remove PERMITS
  -- Remove PARTICIPANTS
  -- Remove ERRORS
  --
  -- Please update this script if future changes are made to the PRELOAD process!
  --
  --  Aug-Sept 2009 kcannell-Integra; Created for ase of PRELOAD backout.
  */
  -- get the event_id
  SELECT MAX( event_id) FROM match_event_log WHERE event_id < 100000;

  -- look at what you are in for. The higher the count, the longer the delete will take
   SELECT COUNT(*)  FROM ADDRESSES
   WHERE address_id IN ( SELECT  address_id FROM participant_addresses
                                                  WHERE EXISTS (SELECT participant_id FROM
participants
                                                                                  WHERE
event_id = &EVENT_ID
                                                                                          AND
participants.participant_id = participant_addresses.participant_id)
                                                ) ;
  -- this command will take awhile, as it deletes PARTICIPANT_ADDRESSES, too.
  DELETE FROM ADDRESSES
   WHERE address_id IN ( SELECT  address_id FROM participant_addresses
                                                  WHERE EXISTS (SELECT participant_id FROM
participants
                                                                                  WHERE
event_id = &EVENT_ID
                                                                                          AND
participants.participant_id = participant_addresses.participant_id)
                                                ) ;
  COMMIT;

 -- check count for PERMITS
 SELECT COUNT(*) FROM PERMITS
   WHERE EXISTS ( SELECT participant_id FROM participants
                                       WHERE participants.participant_id = permits.participant_id
                                            AND event_id = &EVENT_ID) ;

 -- this command will take a long while, due to constraints
 -- it is NOT recommended that you try disabling constraints, then re-enabling.
 -- again, you got here due to a problem - let's not introduce more - be patient!
 DELETE FROM PERMITS
  WHERE EXISTS ( SELECT participant_id FROM participants
                                       WHERE participants.participant_id = permits.participant_id
                                            AND event_id = &EVENT_ID) ;
COMMIT;

-- now it is OK to delete from PARTICIPANTS
SELECT COUNT(*) FROM participants WHERE event_id = &EVENT_ID;
```

```
DELETE FROM participants WHERE event_id = &EVENT_ID;

COMMIT;

-- now delete from LOAD_ERRORS
SELECT COUNT(*) FROM LOAD_ERRORS WHERE EVENT_ID = &EVENT_ID;

DELETE FROM LOAD_ERRORS WHERE event_id = &EVENT_ID;


-- now you are ready to being again ... perhaps by re-loading DEALERS_I and COMMERCIAL_FISHERMEN_I,
-- or by re-executing create_mv_pinfo.sql, or by simply rerunning the PRELOAD step.
```

create_mv_pinfo.sql

```
-- sql script to run procedure externally
-- same script for accspt and ACCSP prod instances - just called from diff login scripts.
/*
-- Create MV_PINFO from source PARTICIPANTS and incoming COMMERCIAL_FISHERMEN_I
--         and DEALERS_I tables,  including license issue and expiration dates
--      One Parameter - the Incoming File Name MUST BE IN SINGLE QUOTES
--
--      Operation of this script assumes that SUPPLIER_CF_ID and SUPPLIER_DR_ID are indeed
--          representing unique participants.  Data hsould be subitted to ACCSP accordingly.
--
--     EXECUTION:
--        @Create_MV_PINFO.sql  'INCOMING FILE NAME'
--
--          Must have single quotes around the incoming file name!!!
--     NOTE:  Eventually execution will be from script create_mv_pinfo.sh !!!!

-- 10 jul 2008 kcannell-Integra; Created from previous verisons of same script.  MV_PINFO now a
TABLE.
--                                                      Finalize for Production.
-- 26 aug 2009 kcannell-Integra; Added as real, live, columns, in DEALERS_I and CF_I,
--                                    columns SUPPLIER_PERMIT_ID, LICENSE_ISSDATE, LICENSE_EXPDATE
-- 0 sept 2009 kcannell-Integra; Add live license issue and expiration dates.
*/
-------------------------------------------------------
-- Get a new event_id, and create the MATCH_EVENT_LOG
-------------------------------------------------------
--
-- Insert records into the MATCH_EVENT_LOG, logging event that the MV about to be created

 VARIABLE new_event_id NUMBER
 EXECUTE  :new_event_id := MATCH_LOAD.GET_NEXT_EVENT_ID;

-------------------------------------------------------
-- First parameter passed in is the incoming COMMERCIAL_FISHERMEN_I file name,
-- to be saved in the MATCH_EVENT_LOG
-------------------------------------------------------

 EXECUTE MATCH_LOAD.INSERT_MATCH_EVENT_LOG( :new_event_id,  SYSDATE, '&1','DEALERS_FISHERMEN_I');

-------------------------------------------------------
-- Load new participant and address_id's for the incoming fishermen records
--   these get merged into MV_PINFO, below.
-------------------------------------------------------
 TRUNCATE TABLE NEW_CF_IDS;
 INSERT INTO NEW_CF_IDS  (
          SELECT  a.suppl_cf_id,
                         participant_seq.NEXTVAL participant_id,
                        999999 address_id,
                        :new_event_id
             FROM ( SELECT DISTINCT (supplier_cf_id) suppl_cf_id FROM commercial_fishermen_i) a) ;

TRUNCATE TABLE NEW_DEALER_IDS;
 INSERT INTO NEW_DEALER_IDS  (
          SELECT  a.suppl_dealer_id,
                         participant_seq.NEXTVAL participant_id,
                        999999  address_id,
                        :new_event_id
             FROM ( SELECT DISTINCT (supplier_dealer_id) suppl_dealer_id FROM dealers_i) a) ;

-------------------------------------------------------
--
--  Table CFDEA_MV_PNFO
--  is a precursor to MV_PINFO
--  consolidates CF adn DEA info from dealers_i, commercial_fishermen_i
--   so that we can run the CREATE_IDENTS function on these
--    prior to inclusion in MV_PINFO
-------------------------------------------------------
TRUNCATE TABLE CFDEA_MV_PINFO;
```

```
INSERT INTO CFDEA_MV_PINFO
  (
--- the is the COMMERCIAL_FISHERMEN_I part
SELECT
    NEW_CF_IDS.PARTICIPANT_ID,
    'CF'  PA_TYPE,
    UPPER(COMMERCIAL_FISHERMEN_I.SUPPLIER_CF_ID) SUPPLIER_ID,
     CASE
      WHEN LICENSE_NBR IS NOT NULL THEN
           UPPER( COMMERCIAL_FISHERMEN_I.LICENSE_NBR)
      WHEN license_nbr IS NULL AND COMMERCIAL_FISHERMEN_I.supplier_cf_id IS NOT NULL THEN
            UPPER( COMMERCIAL_FISHERMEN_I.SUPPLIER_CF_ID)
      ELSE
            UPPER( COMMERCIAL_FISHERMEN_I.SUPPLIER_CF_ID)
       END LICENSE_NBR,
    NULL DEALER_NUMBER,
    TRIM(COMMERCIAL_FISHERMEN_I.EIN_SSN) EIN_SSN,
    UPPER(COMMERCIAL_FISHERMEN_I.CORPORATE_NAME) CORPORATE_NAME,
    RTRIM((LTRIM((UPPER(CORPORATE_NAME)), '"')), '"') CORP_NAME,
    NVL((RTRIM((LTRIM((UPPER(CORPORATE_NAME)), '"')), '"')), (RTRIM((LTRIM((UPPER(LAST_NAME)),
'"')), '"'))) CORP_LAST_NAME,
    CASE
     WHEN ( CORPORATE_NAME IS NOT NULL AND LAST_NAME IS NOT NULL
            AND FIRST_NAME IS NOT NULL
            AND SUBSTR( corporate_name, 1, 5) = SUBSTR( last_name, 1, 5) ) THEN
         RTRIM((LTRIM((UPPER(LAST_NAME)), '"')), '"') ||
        DECODE( name_suffix, NULL,'', ' '||name_suffix||', ') ||
        ' ' || FIRST_NAME || ' ' || MIDDLE_NAME
     WHEN ( CORPORATE_NAME IS NOT NULL  ) THEN
          RTRIM( LTRIM( UPPER( CORPORATE_NAME), ' '), ' ')
     WHEN ( CORPORATE_NAME IS NULL AND
           (LAST_NAME IS NOT NULL OR FIRST_NAME IS NOT NULL)) THEN
       RTRIM((LTRIM((UPPER(LAST_NAME)), '"')), '"') ||
        DECODE( name_suffix, NULL,'', ' '||name_suffix||', ') ||
        ' ' || FIRST_NAME || DECODE( middle_name, NULL,'',' '||middle_name)
    WHEN CORPORATE_NAME IS NULL AND LAST_NAME IS NULL AND FIRST_NAME IS NULL THEN
         NULL
     ELSE
        NVL( CORPORATE_NAME, NVL(LAST_NAME||', ',' ')||NVL(FIRST_NAME,' ')||NVL(name_suffix, ' '))
     END PARTICIP_NAME,
    UPPER(COMMERCIAL_FISHERMEN_I.LAST_NAME) LAST_NAME,
    UPPER(COMMERCIAL_FISHERMEN_I.FIRST_NAME) FIRST_NAME,
    UPPER(COMMERCIAL_FISHERMEN_I.MIDDLE_NAME) MIDDLE_NAME,
    UPPER(COMMERCIAL_FISHERMEN_I.NAME_SUFFIX) NAME_SUFFIX,
    TO_DATE( COMMERCIAL_FISHERMEN_I.BIRTH_DATE, 'YYYYMMDD') BIRTH_DATE,
    COMMERCIAL_FISHERMEN_I.DATA_SOURCE DATA_SOURCE,
    CAST( NULL AS VARCHAR2( 15) )   IDENT,    ------ need to execute an IDENT function
    UPPER(COMMERCIAL_FISHERMEN_I.SUPPLIER_LICENSE_TYPE) SUPPLIER_LICENSE_TYPE,
    SYSDATE ENTRY_DATE,   --- check supplier_Action_flag !!!
    CAST( NULL AS DATE)  UPDATE_DATE,
    NEW_CF_IDS.EVENT_ID,   --- assign a load event id above
    NEW_CF_IDS.ADDRESS_ID,
    COMMERCIAL_FISHERMEN_I.ADDRESS_TYPE ADDRESS_TYPE,
    UPPER((NVL(ADDRESS_1, ADDRESS_2))) ADDRESS_L1,
    UPPER(COMMERCIAL_FISHERMEN_I.ADDRESS_1) ADDRESS_1,
    UPPER(COMMERCIAL_FISHERMEN_I.ADDRESS_2) ADDRESS_2,
    UPPER(COMMERCIAL_FISHERMEN_I.CITY) CITY,
    COMMERCIAL_FISHERMEN_I.COUNTY,
    ST.STATE_POSTAL STATE,
    COMMERCIAL_FISHERMEN_I.POSTAL_CODE POSTAL_CODE,
    SUBSTR(COMMERCIAL_FISHERMEN_I.POSTAL_CODE, 1, 5) ZIP5,
    COMMERCIAL_FISHERMEN_I.PHONE_NBR PHONE_NBR,
    COMMERCIAL_FISHERMEN_I.FAX_NBR FAX_NBR,
    LOWER(COMMERCIAL_FISHERMEN_I.E_MAIL) EMAIL,
    SOUNDEX((DECODE((NVL((RTRIM((LTRIM((UPPER(CORPORATE_NAME)), '"')), '"')),
(RTRIM((LTRIM((UPPER(LAST_NAME)), '"')), '"') || ' ' || FIRST_NAME || ' ' || MIDDLE_NAME))), '  ',
NULL, (NVL((RTRIM((LTRIM((UPPER(CORPORATE_NAME)), '"')), '"')), (RTRIM((LTRIM((UPPER(LAST_NAME)),
'"')), '"') || ' ' || FIRST_NAME || ' ' || MIDDLE_NAME)))))) SDX_PARTICIP_NAME,
    SOUNDEX((UPPER((NVL(ADDRESS_1, ADDRESS_2))))) SDX_ADDRESS_L1,
    SOUNDEX(LAST_NAME) SDX_LAST_NAME,
```

```
    SUBSTR(FIRST_NAME, 1, 1) FIRST_INITIAL,
    SUPPLIER_PERMIT_ID,
    TO_DATE(LICENSE_ISSDATE,'YYYYMMDD') license_issdate,
    TO_DATE(LICENSE_EXPDATE,'YYYYMMDD') license_expdate
FROM
    COMMERCIAL_FISHERMEN_I COMMERCIAL_FISHERMEN_I,
    NEW_CF_IDS,
    ACCSPREC.STATE ST
WHERE   NEW_CF_IDS.SUPPLIER_CF_ID = COMMERCIAL_FISHERMEN_I.SUPPLIER_CF_ID
     AND  COMMERCIAL_FISHERMEN_I.STATES = ST.STATE_CODE (+)
UNION
--- the is the DEALERS_I part
SELECT
    NEW_DEALER_IDS.PARTICIPANT_ID,
    'DEA'  PA_TYPE,
    UPPER(TRIM(DEALERS_I.SUPPLIER_DEALER_ID)) SUPPLIER_ID,
     CASE
      WHEN dealer_number IS NOT NULL THEN
           UPPER( TRIM(DEALERS_I.DEALER_NUMBER))
      WHEN dealer_number IS NULL AND dealers_i.supplier_dealer_id IS NOT NULL THEN
            UPPER( TRIM(DEALERS_I.SUPPLIER_DEALER_ID))
      ELSE
            UPPER( TRIM(DEALERS_I.SUPPLIER_DEALER_ID))
       END LICENSE_NBR,
    UPPER(TRIM(DEALERS_I.DEALER_NUMBER)) DEALER_NUMBER,
    TRIM(DEALERS_I.EIN_SSN) EIN_SSN,
    UPPER(TRIM(DEALERS_I.CORPORATE_NAME)) CORPORATE_NAME,
    RTRIM((LTRIM((UPPER(CORPORATE_NAME)), '"')), '"') CORP_NAME,
    NVL((RTRIM((LTRIM((UPPER(CORPORATE_NAME)), '"')), '"')), (RTRIM((LTRIM((UPPER(LAST_NAME)),
'"')), '"'))) CORP_LAST_NAME,
     CASE
     WHEN ( CORPORATE_NAME IS NOT NULL AND LAST_NAME IS NOT NULL
            AND FIRST_NAME IS NOT NULL
            AND SUBSTR( corporate_name, 1, 5) = SUBSTR( last_name, 1, 5) ) THEN
         TRIM( UPPER( LAST_NAME))||
        DECODE( UPPER(name_suffix), NULL,'', ' '||UPPER(name_suffix)||', ') ||
        ' ' || TRIM(UPPER(FIRST_NAME)) || ' ' || TRIM(UPPER(MIDDLE_NAME))
     WHEN ( CORPORATE_NAME IS NOT NULL  ) THEN
          TRIM(UPPER( LTRIM( RTRIM(CORPORATE_NAME, '"'), '"')))
      WHEN ( CORPORATE_NAME IS NULL AND
           (LAST_NAME IS NOT NULL OR FIRST_NAME IS NOT NULL)) THEN
       TRIM(UPPER(LAST_NAME))|| ' '||
        DECODE( UPPER(name_suffix), NULL,'', ' '||UPPER(name_suffix)||', ') ||
        ' ' || FIRST_NAME || DECODE( TRIM(UPPER(middle_name)), NULL,','
'||TRIM(UPPER(middle_name)))
    WHEN CORPORATE_NAME IS NULL AND LAST_NAME IS NULL AND FIRST_NAME IS NULL THEN
         NULL
     ELSE
        NVL( TRIM( UPPER(CORPORATE_NAME)), NVL(TRIM( UPPER( LAST_NAME))||', ','
')||NVL(TRIM(UPPER(FIRST_NAME)),' ')||NVL( TRIM(UPPER(name_suffix)), ' '))
      END PARTICIP_NAME,
    UPPER(DEALERS_I.LAST_NAME) LAST_NAME,
    UPPER(DEALERS_I.FIRST_NAME) FIRST_NAME,
    UPPER(DEALERS_I.MIDDLE_NAME) MIDDLE_NAME,
    UPPER(DEALERS_I.NAME_SUFFIX) NAME_SUFFIX,
    TO_DATE( DEALERS_I.BIRTH_DATE, 'YYYYMMDD') BIRTH_DATE,
    DEALERS_I.DATA_SOURCE DATA_SOURCE,
    CAST( NULL AS VARCHAR2( 15) )   IDENT,    --- need to execute an IDENT function
    UPPER(DEALERS_I.SUPPLIER_LICENSE_TYPE) SUPPLIER_LICENSE_TYPE,
    SYSDATE ENTRY_DATE,   --- check supplier_Action_flag !!!
    CAST( NULL AS DATE) UPDATE_DATE,
    NEW_DEALER_IDS.EVENT_ID,   --- assign a load event id above
    NEW_DEALER_IDS.ADDRESS_ID,
    DEALERS_I.ADDRESS_TYPE ADDRESS_TYPE,
    UPPER((NVL(ADDRESS_1, ADDRESS_2))) ADDRESS_L1,
    UPPER(DEALERS_I.ADDRESS_1) ADDRESS_1,
    UPPER(DEALERS_I.ADDRESS_2) ADDRESS_2,
    UPPER(DEALERS_I.CITY) CITY,
    DEALERS_I.COUNTY COUNTY,
    ST.STATE_POSTAL STATE,
    DEALERS_I.POSTAL_CODE POSTAL_CODE,
```

```
    SUBSTR(DEALERS_I.POSTAL_CODE, 1, 5) ZIP5,
    DEALERS_I.PHONE_NBR PHONE_NBR,
    DEALERS_I.FAX_NBR FAX_NBR,
    LOWER(DEALERS_I.E_MAIL) EMAIL,
    SOUNDEX((DECODE((NVL((RTRIM((LTRIM((UPPER(CORPORATE_NAME)), '"')), '"')),
(RTRIM((LTRIM((UPPER(LAST_NAME)), '"')), '"') || ' ' || FIRST_NAME || ' ' || MIDDLE_NAME))), '  ',
NULL, (NVL((RTRIM((LTRIM((UPPER(CORPORATE_NAME)), '"')), '"')), (RTRIM((LTRIM((UPPER(LAST_NAME)),
'"')), '"') || ' ' || FIRST_NAME || ' ' || MIDDLE_NAME)))))) SDX_PARTICIP_NAME,
    SOUNDEX((UPPER((NVL(ADDRESS_1, ADDRESS_2))))) SDX_ADDRESS_L1,
    SOUNDEX(LAST_NAME) SDX_LAST_NAME,
    SUBSTR(FIRST_NAME, 1, 1) FIRST_INITIAL,
    SUPPLIER_PERMIT_ID,
    TO_DATE(ISSUE_DATE,'YYYYMMDD') license_issdate,
    TO_DATE(EXPIRATION_DATE,'YYYYMMDD') license_expdate
FROM
    DEALERS_I DEALERS_I,
   NEW_DEALER_IDS,
    ACCSPREC.STATE ST
WHERE  DEALERS_I.SUPPLIER_ACTION_FLAG = 'A'
     AND   NEW_DEALER_IDS.SUPPLIER_DEALER_ID = DEALERS_I.SUPPLIER_DEALER_ID
      AND DEALERS_I.STATES = ST.STATE_CODE (+)
  );

-----------------------------------------------------
-- Create IDENTs for all incoming participants
-----------------------------------------------------
EXECUTE ACCSPREC.LOAD_CFDEA_MV_PINFO_IDENT;

 -----------------------------------------------------
--    TABLE MV_PINFO - Core structure for the matching process.  Indexes on this view are essential.
--       This code is the combined DEALERS_I and COMMERCIAL_FISHERMEN_I version of MV_PINFO,
--        for matching of incoming dealers and fishermen
--        in the DEALERS_I and COMMERCIAL_FISHEREN_I tables
--        Note the CASE on license_nbr, particip_name and the use of the SOUNDEX columns.
-----------------------------------------------------
TRUNCATE TABLE MV_PINFO;

INSERT INTO MV_PINFO
--- the existing participants part
SELECT DISTINCT
    PARTICIPANTS.PARTICIPANT_ID PARTICIPANT_ID,
    PT.PERMIT_TYPE PA_TYPE,
    UPPER(PARTICIPANTS.SUPPLIER_PA_ID) SUPPLIER_ID,
    PT.LICENSE_NBR LICENSE_NBR,
    PT.LICENSE_NBR DEALER_NUMBER,
    TRIM(PARTICIPANTS.EIN_SSN) EIN_SSN,
    UPPER(PARTICIPANTS.CORPORATE_NAME) CORPORATE_NAME,
    UPPER( TRIM( PARTICIPANTS.CORPORATE_NAME)) CORP_NAME,
    NVL((RTRIM((LTRIM((UPPER(CORPORATE_NAME)), '"')), '"')),
          (RTRIM((LTRIM((UPPER(LAST_NAME)), '"')), '"'))) CORP_LAST_NAME,
    CASE
     WHEN ( CORPORATE_NAME IS NOT NULL AND LAST_NAME IS NOT NULL
            AND FIRST_NAME IS NOT NULL
            AND SUBSTR( corporate_name, 1, 5) = SUBSTR( last_name, 1, 5) ) THEN
         TRIM( UPPER( LAST_NAME))||
        DECODE( UPPER(name_suffix), NULL,'', ' '||UPPER(name_suffix)||', ') ||
        ' ' || TRIM(UPPER(FIRST_NAME)) || ' ' || TRIM(UPPER(MIDDLE_NAME))
     WHEN ( CORPORATE_NAME IS NOT NULL  ) THEN
          TRIM(UPPER( LTRIM( RTRIM(CORPORATE_NAME, '"'), '"')))
      WHEN ( CORPORATE_NAME IS NULL AND
           (LAST_NAME IS NOT NULL OR FIRST_NAME IS NOT NULL)) THEN
       TRIM(UPPER(LAST_NAME))|| ' '||
        DECODE( UPPER(name_suffix), NULL,'', ' '||UPPER(name_suffix)||', ') ||
        ' ' || FIRST_NAME || DECODE( TRIM(UPPER(middle_name)), NULL,'','
'||TRIM(UPPER(middle_name)))
    WHEN CORPORATE_NAME IS NULL AND LAST_NAME IS NULL AND FIRST_NAME IS NULL THEN
         NULL
     ELSE
        NVL( TRIM( UPPER(CORPORATE_NAME)), NVL(TRIM( UPPER( LAST_NAME))||', ','
')||NVL(TRIM(UPPER(FIRST_NAME)),' ')||NVL( TRIM(UPPER(name_suffix)), ' '))
      END PARTICIP_NAME,
```

```
    UPPER(PARTICIPANTS.LAST_NAME) LAST_NAME,
    UPPER(PARTICIPANTS.FIRST_NAME) FIRST_NAME,
    UPPER(PARTICIPANTS.MIDDLE_NAME) MIDDLE_NAME,
    UPPER(PARTICIPANTS.NAME_SUFFIX) NAME_SUFFIX,
    PARTICIPANTS.BIRTH_DATE BIRTH_DATE,
    PT.ISS_AGENCY  DATA_SOURCE,  ----use permits.iss_agency for DATA_SOURCE,
    PARTICIPANTS.IDENT IDENT,
    PT.LICENSE_TYPE   SUPPLIER_LICENSE_TYPE,
    PARTICIPANTS.ENTRY_DATE ENTRY_DATE,
    PARTICIPANTS.UPDATE_DATE UPDATE_DATE,
    PARTICIPANTS.EVENT_ID EVENT_ID,
    ADDRESSES.ADDRESS_ID ADDRESS_ID,
    ADDRESSES.ADDRESS_TYPE ADDRESS_TYPE,
    UPPER((NVL(ADDRESS_1, ADDRESS_2))) ADDRESS_L1,
    UPPER(ADDRESSES.ADDRESS_1) ADDRESS_1,
    UPPER(ADDRESSES.ADDRESS_2) ADDRESS_2,
    UPPER(ADDRESSES.CITY) CITY,
    ADDRESSES.COUNTY,
    STATE.STATE_POSTAL STATE,
    ADDRESSES.POSTAL_CODE POSTAL_CODE,
    SUBSTR(ADDRESSES.POSTAL_CODE, 1, 5) ZIP5,
    ADDRESSES.PHONE_NBR PHONE_NBR,
    ADDRESSES.FAX_NBR FAX_NBR,
    LOWER(ADDRESSES.EMAIL) EMAIL,
    SOUNDEX((DECODE((NVL((RTRIM((LTRIM((UPPER(CORPORATE_NAME)), '"')), '"')),
(RTRIM((LTRIM((UPPER(LAST_NAME)), '"')), '"') || ' ' || FIRST_NAME || ' ' || MIDDLE_NAME))), '  ',
NULL, (NVL((RTRIM((LTRIM((UPPER(CORPORATE_NAME)), '"')), '"')), (RTRIM((LTRIM((UPPER(LAST_NAME)),
'"')), '"') || ' ' || FIRST_NAME || ' ' || MIDDLE_NAME)))))) SDX_PARTICIP_NAME,
    SOUNDEX((UPPER((NVL(ADDRESS_1, ADDRESS_2))))) SDX_ADDRESS_L1,
    SOUNDEX(LAST_NAME) SDX_LAST_NAME,
    SUBSTR(FIRST_NAME, 1, 1) FIRST_INITIAL,
    PT.PERMIT_ID  SUPPLIER_PERMIT_ID,
    PT.LICENSE_ISSDATE,
    PT.LICENSE_EXPDATE
FROM
    PARTICIPANTS,
    ADDRESSES,
    PARTICIPANT_ADDRESSES,
    ACCSPREC.STATE,
    PERMITS PT
WHERE
    PARTICIPANTS.PARTICIPANT_ID = PARTICIPANT_ADDRESSES.PARTICIPANT_ID(+)
AND PARTICIPANTS.PARTICIPANT_ID = PT.PARTICIPANT_ID (+)
AND PARTICIPANT_ADDRESSES.ADDRESS_ID = ADDRESSES.ADDRESS_ID(+)
AND ADDRESSES.STATE = STATE.STATE_CODE (+)
UNION
SELECT * FROM CFDEA_MV_PINFO;

COMMIT;

EOF
```

RESUME

Michael Sheldon Cahall
22659 Davdison Lane
Lexington Park, MD 20653
email: mcahall@comcast.net

Education:

- West Virginia University, Morgantown, WV (Cum Laude) — B.M. - Violin Performance 8/83
- Peabody Conservatory of Music, Baltimore, MD — Post Graduate (not completed) 8/84
- College of Southern MD, Leaonartown, MD — Paramedic Certificate 8/11

Skills:

Management

Experienced Project/Program Manager
- Worked with widely coordinated/collaborative projects
- Good personnel management skills
- Able to deliver projects on time, on budget, in scope
- Positive 'can do' attitude

Worked within budgets and budgeting processes
- Managed IT budgets in numerous organizations
- Experience in the budget formulation process

IT Related

Highly Proficient with Oracle RDBMS
- 16+ years of experience with Database Administration, Design, and Oracle development tools
- Good grasp of database design and implementation in both warehousing and OLTP

System Administration/Management
- Administered a wide variety of UNIX systems (AIX, HP, LINUX and Solaris)
- Managed multiple server NT networks

Skilled with Online Analysis Applications
- Functioned as Administrator and Designer

Very familiar with Microsoft Networking
- 10+ years of Microsoft Network design and management
- Familiar with NT/Win200/WinXP networks and management

Able to respond quickly to changes in technology

Other Areas

Worked in a wide variety of subject specialties
- Developed Fisheries Information Systems
  - Comprehensive Commercial/Recreational Data Warehouse
  - Commercial Data collection systems
- Very familiar with Federal and DOD logistics systems (MIL 1388, MILSTRIP, FEDSTRIP)
  - Developed two logistics management and integration systems for NOAA/NWS
  - Knowledge of Supply and Logistics life cycle planning
- Experience in Commercial Development

American Radiology Services – developed financial and customer tracking warehouse
Developed software to transfer data between disparate applications
Very familiar with federal Information Systems Policies
Managed Contract Efforts
Managed several large Federal Procurements
Contracting Officers Technical Representative Level II Certification
Worked with Various Medical Systems
HL/7 Communication Protocol
Managed Centralized Message System
Developed Patient Information Systems

Employment History (10 year, additional available on request):

Atlantic States Marine Fisheries Commission

Currently serving as the Director of the Atlantic Coastal Cooperative Statistics Program (ACCSP)

2/99 to 8/07

- Information Systems Manager
  - Manage Information Systems for ACCSP
    - Manage budget, systems operations and system development
    - Manage in house and contract operations and development staff
    - Manage Development and Deployment of Fisheries Data Warehouse
      - Oracle for Solaris V 9.2, LINUX and NT (10.0.1)
      - Microsoft IIS 6.0
      - Business Objects Web Intelligence (OLAP)
      - Designed Data Warehouse for all Atlantic Fisheries Statistics
  - Designed and Manage Development of Standard Atlantic Fisheries Information System
    - Multi-agency system includes all states on the Atlantic Coast and the NOAA/NMFS
    - Provides on-line data entry for commercial fisheries in the Mid-Atlantic and New England region
  - Provide Technical Lead for Program
    - Serve as System Admin, Project Lead as required
  - Assist State and Federal Agencies in advanced software implementations
  - Consult with technical committees as required
  - Coordinate between Program and State and Federal Agencies (NOAA/NMFS)

ATLANTIC COASTAL COOPERATIVE STATISTICS PROGRAM
Position Description

Updated: August 2013

Position Title: ACCSP Program Assistant

Classification: Fisheries Specialist II/III

General Description: The ACCSP is a cooperative state-federal program 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 fishermen. The ACCSP Program Assistant is responsible for coordinating technical committee activities, and the monitoring of approved ACCSP projects. The Program Assistant will assist the ACCSP Director and the ACCSP Program Manager in the development of program documents as required. The Program Assistant will assist the Director in coordinating the annual funding process and monitoring of funded projects, including data products from these projects.

Specific Duties:

1) Assist in the annual funding process, including: a) issuance of annual request for proposals, b) coordinate review and approval of proposals by appropriate committees, c) assist the Director and Program Manager with implementing approved funding through the NOAA grants process, and d) assist Partners with ACCSP-funded projects.

2) Assist ACCSP staff in the support, coordination, and documentation of ACCSP committee work. Work with ACCSP staff to compile relevant materials for technical and policy committee meetings, including, but not limited to: a) review of committee transcripts, b) compilation of relevant technical documentation, and c) development of Technical Source Documents.

3) Attend ACCSP committee meetings as needed to coordinate meeting logistics, provide support for committee members during meetings, take notes and generate meeting minutes.

4) Provide staff assistance to ACCSP Partners as required, to assist in their implementing Program Standards.

5) Coordinate with the ACCSP Program Manager, ACCSP Data Management staff, and ACCSP technical staff as necessary. Coordinate with ASMFC programs as needed to ensure consistency and maximize efficiency among programs.

The Program Assistant conducts these activities according to ASMFC policies and procedures.

Supervision: The ACCSP Program Assistant reports directly to the Director of the Atlantic Coastal Cooperative Statistics Program. The incumbent is expected to exercise initiative in

addressing the needs of the technical committees and other areas of responsibility, with specific guidance from the ACCSP Director or ACCSP Program Manager.

Work Environment: The ACCSP Program Assistant will work in the offices of the Atlantic States Marine Fisheries Commission. Work is performed in an office setting; however, it involves extensive travel. The work also involves substantial mental demands and stress, including integrating a number of complex and controversial tasks at one time. ACCSP staff has the same benefits as ASMFC staff and follow ASMFC administrative procedures.

Overtime: This position is not qualified for overtime. Compensatory time and flexible working hours (with supervisory approval) are available under the Commission's policies. The ACCSP Program Assistant position is a salaried employee and is expected to put in the effort needed to make the ACCSP successful.

ACCSP Governance Review
Draft, October 4, 2013

From the 2011 Independent Program Review:
"ORG-08. The Program should undergo a governance review. The Panel realizes that the situation today is very different than 1995, when the ACCSP was created. ACCSP needs a better relationship and interface with ASMFC, and linkages established and strengthened. Consideration should be given to placing ACCSP as a program under ASMFC, which could possibly re-engage the state directors. There are issues of economy of scale and potential improvements to efficiency that could be gained, working relationships strengthened, resources leveraged, etc. (TOR 2, 4)"

Problem statement, Prospective Issues to be Addressed. If accepted, these should be converted into Governance Review Terms of Reference:

- As an independent entity, ACCSP and its leadership has not achieved the stature and level of recognition and influence that was envisioned when the current organizational structure was adopted. ACCSP and its Director do not have access to some of the fisheries science and management policy-making venues that the Commission's Leadership are engaged in regularly, such as the Northeast Region Coordinating Council, Regional Fishery Management Council Meetings, Association of Fish and Wildlife Agencies meetings, etc. In addition, ACCSP has not engaged in dialogue with Congress regarding funding. Of the ACCSP partners and staff, it has largely been only ASMFC that has been active in program funding discussions on the Hill. There is little likelihood that this situation will change.
- State Directors and senior executives of other partner organizations have increasingly disengaged from ACCSP. Advocacy for securing and investing limited resources to meet ACCSP data collection and management standards will require engagement and full support of these partners, at least at a high level. As noted in the IPR, reorganization of ACCSP as an ASMFC program may help to accomplish this outcome.
- As one specific example of the foregoing issue, ACCSP has been seen by some of the states as competing for ACFCMA dollars with "State Programs" managed by ASMFC. Incorporation of ACCSP into ASMFC's Strategic and Annual Operating Plans may give the states a greater sense of investment in the program.
- ACCSP remains an independent entity, co-housed with, and subject to administrative support from, ASMFC. As an independent entity, ACCSP has not always operated in full coordination with ASMFC staff, potentially sacrificing opportunities for more efficient and productive collaborations, both programmatic and administrative. At a minimum, it is possible that reorganizing ACCSP as an ASMFC program may achieve administrative and overhead/indirect cost savings, the potential for which should be fully explored.
- The IPR also documented concerns about ASMFC/ACCSP staff relationships and staff concerns and perceptions of "double standards" for such topics as purchasing, equipping offices and staff, time and attendance rules, performance reviews and salary increases/bonuses. While substantial progress has already been made on these issues this year, the entire subject would be permanently resolved if ACCSP becomes a part of ASMFC.

In addition to a Problem Statement, the Terms of Reference should also address a couple of other subjects;

- A primary reason cited by ACCSP Coordinating Council members for its stand-alone status was to maintain a complete separation between this organization with its fishery-dependent data collection Mission, and ASMFC, with a significant management and regulatory mandate under ACFCMA. It was believed that stakeholders might have less confidence in data collected by a program that had a regulatory mission. This was largely seen as a "new program" issue, since NMFS and the states clearly have both data collection and fisheries management missions. A new governance review should consider whether this issue is, or is not, still a significant concern.
- A Governance Review should examine the organization and governance of the other FINs, and secure their advice regarding how to most effectively structure and manage these programs. In addition, the results of the NMFS FIN Program Review conducted this September should also be fully examined and considered.

Coordinated Atlantic States Participation in the MRIP
Access-Point Angler Intercept Survey Conduct
September 2013

Surveys of Preference for State Involvement

Recreational catch information is derived through an Access Point Angler Intercept Survey (APAIS) that is part of the Marine Recreational Information Program. At present, APAIS is administered by the National Marine Fisheries Service and coordinated by a NOAA contractor. Current state involvement varies along the Atlantic seaboard. Seven states (ME, NH, MA, NC, SC, GA, FL) subcontract and are responsible for conducting a majority of the survey. Six states have little involvement with the APAIS, and the survey is conducted by the NOAA contractor. The Atlantic Coastal Cooperative Statistics Program (ACCSP), through its Recreational Technical Committee, sent a questionnaire to state marine fisheries agencies of all ACCSP partners to document current opinions, relative to three aspects of state involvement in the conduct of the APAIS:

1. how involved states should be in conducting the survey, whether it be:
    - complete involvement by the state agency
    - the state providing some level of supervision and personnel, or
    - no involvement.
2. What might keep a state from participating in APAIS, and
3. What resources would a state need to begin participating.

The majority of state directors' responses were that states should have complete involvement in the survey, with no state involvement being the least preferred. The reasons cited by states for not currently participating in the survey were: lack of infrastructure, difficulty hiring staff as a result of hiring freezes and other issues related to hiring. The most common resources that the states would need to participate in the survey were funding to support staff, infrastructure and assistance in training.

ACCSP also sent the questionnaire to its panel of advisors, which are made up of recreational and commercial stakeholders. The advisors ranked states having complete involvement as the most preferred option, with no state involvement the least preferred option. Some of the comments received were that "state (involvement) would improve both qualitative and quantitative aspects of the data."

Options for State Involvement in Coordinated Conduct of Atlantic APAIS

<u>The following options were developed by the Recreational Technical Committee for consideration by the Operations Committee.</u>

Option 1 – Status Quo

The NOAA Fisheries (NMFS) will continue to procure a contract with a vendor to conduct the field data collection tasks of the Access-Point Angler Intercept Survey (APAIS) for all Atlantic States from Maine to Georgia (data from East Florida are collected as part of a cooperative agreement between Florida and the GSMFC). States will be allowed to enter into subcontracting arrangements with the vendor to conduct those tasks. Utilization of state staff, supervisors and facilities (office space, vehicles, etc.,) would be negotiated between the states and the NOAA vendor. Data entry, processing, and delivery to NMFS would continue to reside with the vendor. Compensation would be determined by the state-vendor subcontract and the vendor would be responsible to the NMFS for completing all requirements of the survey conduct, as specified in the NOAA vendor contract.

Option 2 – Atlantic States Marine Fisheries Commission and State conduct of the APAIS

The Atlantic States Marine Fisheries Commission (ASMFC) would take on the role of vendor serving as the coast-wide coordinator for the states to conduct APAIS field data collection tasks. Data entry, processing, and delivery of required data products and reports to the NMFS would be the responsibility of the ASMFC. The individual states could participate as data collection partners at their chosen level of support: a) states provide field staff, supervision, and support for all data collection tasks, b) states provide FTE or contract supervisory oversight but not field staff, field staff would be hired and administratively supervised by ASMFC, but placed in the state for the purpose of APAIS angler interviewing and associated field tasks, or c) no active participation by the state agency; all field staff and supervisors would be hired and administered by ASMFC and placed in the state for field conduct of the APAIS. The state may provide office space for use by field staff. This level of participation would be determined, and negotiated for compensation, between the ASMFC and the agency involved. The overall survey conduct vehicle would be a cooperative agreement with the NMFS, the ASMFC, and the Atlantic States (ME – GA) administered by the NMFS Grants program. The annual budget and statement of tasks would be negotiated among all signatory partners.

Option 3 – Atlantic Coastal Cooperative Statistics Program and State conduct of the APAIS

The Atlantic Coastal Cooperative Statistics Program (ACCSP) would take on the role of vendor serving as the coast-wide coordinator for the states to conduct APAIS field data collection tasks. Data entry, processing, and delivery of required data products and reports to the NMFS would be the responsibility of the ACCSP. The individual states could participate as data collection partners at their chosen level of support: a) states provide field staff, supervision, and support for all data collection tasks, b) states provide FTE or contract supervisory oversight but not field staff; field staff would be hired and administratively supervised by ACCSP, but placed in the state for the purpose of APAIS angler interviewing and associated field tasks, or c) no active participation by the state agency; all field staff and supervisors would be hired and administered by ACCSP and placed in the state for field conduct of the APAIS. The state may provide office

space for use by field staff. This level of participation would be determined, and negotiated for compensation, between the ACCSP and the agency involved. The overall survey conduct vehicle, would be a cooperative agreement with the NMFS, the ACCSP, the ASMFC, and the Atlantic States (ME – GA) administered by the NMFS Grants program. The administrative funding of a cooperative agreement would have to be routed to the ASMFC for use by the ACCSP in conducting the APAIS. The annual budget and statement of tasks would be negotiated among all signatory partners.

Option 4 – Regional Choice for Coordinator/State Roles

The three regions (Northeast, Mid-Atlantic, and Southeast) would each decide to use either a contractor, as in the Status Quo option, or the ASMFC or ACCSP as the central coordinator of APAIS. States within the region would determine the participation for the entire region. The expectation under this regional option would be that for those regions with states interested in conducting full field data collection, they could coordinate with the ASMFC or the ACCSP. Alternatively, any region that does not wish to participate via their staff in the field survey could select a contractor to run the entire survey in their state. It would not be the intention of this option to have the ASMFC or ACCSP hire field staff for data collection in those states that do not want to actively participate in the APAIS.

ACCSP Recreational Technical Committee Preferred Option

The RecTech Committee prefers Option 2 or Option 3: with the ASMFC or ACCSP as central coordinator of the APAIS and states participating in field data collection tasks at their individual level of preference. The Committee does not wish to further recommend how the states participate, allowing the states and the coordinating body (ASMFC or ACCSP) to clarify those roles. However, the RecTech Committee recommends that regardless of the coordinator or the individual roles of each state, the data processing tasks of field data entry, compilation, quality control checks, data edits, and formatting for delivery to NMFS be retained by the central coordinator, and not be assigned to any state agency. Centralized data entry and handling facilitates adherence to data processing standards and good quality control, as opposed to distributed processing which could lead to individual deviance from a rigorous quality assurance program. The NMFS would retain responsibility for catch and effort estimation, and public dissemination, along with FIN and ACCSP partners.

OPS/Advisors Discussion

The Operations and Advisory Joint Committee discussed the state conduct of/involvement in the MRIP intercept survey and had strong consensus to move forward with Option 2 or 3 above (ASMFC and/or ACCSP as central coordinating body). Supporting items are:

- OPS and Advisors strongly support state conduct/involvement of MRIP intercept survey
- Participation puts states in better position for coordination and ability to advocate for changes to the survey
- State conduct/involvement through an MOU allows for greater flexibility
- Advisors support separation of data collection and fisheries management roles
- GSMFC model for state conduct is:
    - Funds directed from NMFS to GSMFC to states
    - 4-5 GSMFC employees as coordination, compilation and data entry of paper forms, initial QA/QC, and submission of wave data to MRIP staff.
    - States hire supervisors and field staff to conduct the intercepts

ACTION: The Operations and Advisors Committees request approval from the Coordinating Council to initiate the development of requirements to implement Option 2, Option 3, or an efficient combination of ASMFC/ACCSP performing the central coordinating role for the MRIP intercept survey. The requirements shall include roles and responsibilities, staffing, budgets, and timelines. The Committees recognize there are policy and funding issues implicit in the selection of a preferred option and request direction from the Coordinating Council.