

Atlantic States Marine Fisheries Commission

American Eel Management Board

*August 5, 2025
1:30 – 2:30 p.m.*

Draft Agenda

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

1. Welcome/Call to Order (*K. Kuhn*) 1:30 p.m.
2. Board Consent 1:30 p.m.
 - Approval of Agenda
 - Approval of Proceedings from October 2024
3. Public Comment 1:35 p.m.
4. Update on CITES Proposal to List American Eel under Appendix II (*D. Hahn*) 1:45 p.m.
5. Review and Consider Maine Aquaculture Plan for the 2026 Fishing Year **Action** 2:15 p.m.
 - Technical Committee Report (*C. Starks*)
6. Other Business/Adjourn 2:30 p.m.

The meeting will be held at The Westin Crystal City (1800 Richmond Highway, Arlington, VA; 703.486.1111) and via webinar; click [here](#) for details.

MEETING OVERVIEW

American Eel Management Board

August 5, 2025

1:30 – 2:30 p.m.

| | | |
|---|---|---|
| Chair: Kris Kuhn (PA) Assumed Chairmanship: 10/23 | Technical Committee Chair: Danielle Carty (SC) | Law Enforcement Committee Rep: Rob Beal (ME) |
| Vice Chair: Jesse Hornstein (NY) | Advisory Panel Chair: Mitch Feigenbaum (PA) | Previous Board Meeting: October 22, 2024 |
| Voting Members: ME, NH, MA, RI, CT, NY, NJ, PA, DE, MD, PRFC, VA, NC, SC, GA, FL, DC, NMFS, USFWS (19 votes) | | |

2. Board Consent

- Approval of Agenda
- Approval of Proceedings from October 2024

3. Public Comment – At the beginning of the meeting, public comment will be taken on items not on the agenda. Individuals that wish to speak at this time must sign-in at the beginning of the meeting. For agenda items that have already gone out for public hearing and/or have had a public comment period that has closed, the Board Chair may determine that additional public comment will not provide additional information. In this circumstance, the Chair will not allow additional public comment on an issue. For agenda items that the public has not had a chance to provide input, the Board Chair may allow limited opportunity for comment. The Board Chair has the discretion to limit the number of speakers and/or the length of each comment.

4. Update on CITES Proposal to List American Eel under Appendix II (1:45-2:15 p.m.)

Background

- The European Union submitted a proposal to list American eel under Appendix II of the Convention on International Trade in Endangered Species (CITES) (**Briefing Materials**).
- The 20th meeting of the Conference of the Parties (CoP) will be held in Uzbekistan from November 24 to December 5, 2025, where CITES Parties will vote on the adoption of this proposal.

Presentations

- Proposal to List American Eel under CITES Appendix II by D. Hahn

5. Review and Consider Maine Aquaculture Plan for the 2026 Fishing Year (2:15-2:30 p.m.)

Action

Background

- Maine submitted a glass eel aquaculture plan for the 2026 Fishing Year (**Briefing Materials**).
- The Technical Committee reviewed the plan and developed a report with recommendations regarding plan evaluation criteria (**Supplemental Materials**).

Presentations

- Maine Glass Eel Aquaculture Plan and Technical Committee Report by C. Starks

Board Actions for Consideration

- Approve Maine Glass Eel Aquaculture Plan for the 2026 Fishing Year

6. Other Business/Adjourn (2:30 p.m.)

American Eel Technical Committee Task List

Activity level: Low

Committee Overlap Score: Medium (SAS overlaps with BERP, Atlantic herring, horseshoe crab)

Committee Task List

- TC – July 2025 review of Maine’s aquaculture proposal
- TC – September 1st: Annual compliance reports due

TC Members: Danielle Carty (SC, TC Chair), Alexis Park (MD), Bradford Chase (MA), Caitlin Craig (NY), Casey Clark (ME), Chris Adriance (DC), Chris Wright (NOAA), Ingrid Braun (PRFC), Jennifer Pyle (NJ), Jordan Zimmerman (DE), Troy Tuckey (VIMS), Jim Page (GA), Kevin Molongoski (USGS), Kimberly Bonvechio (FL), Mike Porta (PA), Patrick McGee (RI), Robert Atwood (NH), Sheila Eyler (USFWS), Tim Wildman (CT), Todd Mathes (NC), Caitlin Starks (ASMFC)

**DRAFT PROCEEDINGS OF THE
ATLANTIC STATES MARINE FISHERIES COMMISSION
AMERICAN EEL MANAGEMENT BOARD**

**The Westin
Annapolis, Maryland
Hybrid Meeting**

October 22, 2024

These minutes are draft and subject to approval by the American Eel Management Board.
The Board will review the minutes during its next meeting.

TABLE OF CONTENTS

Call To Order, Chair Kris Kuhn1

Approval Of Agenda1

Approval Of Proceedings1

Public Comments.....1

Review And Provide Feedback On Cites Actions And Committee Work.....2

Consider Approval Of Fishery Management Plan Review And State Compliance Reports
For 2023 Fishing Year13

Other Business / Adjournment.....16

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INDEX OF MOTIONS

1. **Approval of agenda** by consent (Page 1).
2. **Approval of Proceedings of May 2024** by consent (Page 1).
3. **Motion: Move to approve the American Eel FMP Review for the 2023 fishing year, state compliance reports, and *de minimis* status for New Hampshire, Massachusetts, Pennsylvania, D.C., and Georgia** (Page 16). Motion made by Cheri Patterson; second by Steve Train. Motion passes by unanimous consent (Page 16).
4. **Move to adjourn** by consent (Page 16).

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ATTENDANCE

Board Members

| | |
|--|---|
| Pat Keliher, ME (AA) | John Clark, DE (AA) |
| Rep. Allison Hepler, ME (LA) | Roy Miller, DE (GA) |
| Steve Train, ME (GA) | Carrie Kennedy, MD, proxy for Lynn Fegley (AA) |
| Cheri Patterson, NH (AA) | Russell Dize, MD (GA) |
| Dennis Abbott, NH, proxy for Sen. Watters (LA) | Jamie Green, VA (AA) |
| Doug Grout, NH (GA) | Sen. Danny Diggs, VA (LA) |
| Dan McKiernan, MA (AA) | Chris Batsavage, NC, proxy for Kathy Rawls (AA) |
| Rep. Jennifer Armini, MA (LA) | Chad Thomas, NC, proxy for Rep. Wray (LA) |
| Ray Kane, MA (GA) | Jerry Mannen, NC (GA) |
| Phil Edwards, RI, proxy for J. McNamee (AA) | Ross Self, SC, proxy for Blaik Keppler (AA) |
| Eric Reid, RI, proxy for Sen. Sosnowski (LA) | Mel Bell, SC, proxy for Sen. Cromer (LA) |
| David Borden, RI (GA) | Malcolm Rhodes, SC (GA) |
| Justin Davis, CT (AA) | Doug Haymans, GA (AA) |
| Rep. Joseph Gresko (CT) (LA) | Spud Woodward, GA (GA) |
| Robert LaFrance, CT, proxy for Bill Hyatt (GA) | Erike Burgess, FL, proxy for J. McCawley (AA) |
| Jesse Hornstein, NY, proxy for Marty Gary (AA) | Gary Jennings, FL (GA) |
| Emerson Hasbrouck, NY (GA) | Ingrid Braun-Ricks, proxy for Ron Owens, PRFC |
| Heather Corbett, NJ, proxy for Joe Cimino (AA) | Daniel Ryan, DC |
| Jeff Kaelin, NJ (GA) | Chris Wright, NMFS |
| Kris Kuhn, PA, proxy for T. Schaeffer (AA) | Rick Jacobson, USFWS |
| Loren Lustig, PA (GA) | |

(AA = Administrative Appointee; GA = Governor Appointee; LA = Legislative Appointee)

Ex-Officio Members

| | |
|---|---|
| Danielle Carty, Technical Committee Chair | Delayne Brown, Law Enforcement Committee Rep. |
| Mitch Feigenbaum, Advisory Panel Chair | |

Staff

| | | |
|------------------|----------------|---------------|
| Bob Beal | Caitlin Starks | Katie Drew |
| Toni Kerns | Jeff Kipp | Jainita Patel |
| Tina Berger | Tracy Bauer | Chelsea Tuohy |
| Madeline Musante | James Boyle | Emilie Franke |

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Draft Proceedings of the American Eel Management Board – October 2024

The American Eel Management Board of the Atlantic States Marine Fisheries Commission convened in the Capitol Ballroom via hybrid meeting, in-person, and webinar; Tuesday, October 22, 2024, and was called to order at 4:00 p.m. by Chair Kris Kuhn.

CALL TO ORDER

CHAIR KRIS KUHN: It's four o'clock, let's go ahead and get started with the American Eel Management Board. Welcome to the Atlantic States Marine Fisheries Commission American Eel Management Board, I'm calling this meeting to order. I'm Kris Kuhn, the Administrative Proxy for Pennsylvania and current Chair of the American Eel Board.

That's all we need is for Toni to pound something on the table to get everybody to take your seat, so I appreciate that. We're going ahead to get started. Our Vice-Chair is Jesse Hornstein from New York. Our Technical Committee Chair is Danielle Carty from South Carolina, Advisory Panel Chair, Mitch Feigenbaum from Pennsylvania, and Law Enforcement Committee representative Rob Beal from Maine.

APPROVAL OF AGENDA

CHAIR KUHN: I'm joined here at the front table by Caitlin Starks and Dr. Kristen Anstead with the Commission, and Deborah Hahn from the Association of Fish and Wildlife Agencies. Let's go ahead and get started with this meeting's agenda. The first order of business is Approval of the Agenda. Are there any proposed modifications to the agenda? Okay, seeing none around the room, don't know if there are any Commissioners online. No hands online, so seeing none; the agenda is approved by consent.

APPROVAL OF PROCEEDINGS

CHAIR KUHN: The Board didn't meet during the ASMFC summer meeting, so next we're considering approval of the proceedings from

the May 2024 Board meeting. Are there any edits to the proceedings from the May 2024 meeting of the American Eel Management Board? Okay, I don't see any around the room, assuming there is no online. The proceedings from the May 2024 meeting are approved by consent. Okay, moving on to Public Comments.

PUBLIC COMMENTS

CHAIR KUHN: Are there any members of the public, either here or online that would like to make comments pertaining to items that are not on today's agenda? Again, this is for items specifically not on today's agenda. We have one action item on today's agenda, and that is to consider the approval of the Fisheries Management Plan Review and state compliance for 2023 fishing year.

Depending on time the public may be given the opportunity to comment on that consideration later in this meeting. Also, as a reminder to Commissioners and others making public comments in the room to please move your microphone down and be sure that it is turned on when you're making comments so we can hear you. Are there any comments from the public today? James Fletcher online.

MR. JAMES FLETCHER: Thank you, Sir. Not mentioned, the electromagnetic lines affecting the larval movement from the Sargasso Sea back up to the rivers and zones of the whole east coast has not been addressed. Someone should have the ability to simply put some larvae in a tank and watch what the effects of the electromagnetics does to them.

If those transmission lines are not shielded 100 percent, no leakage, we will not have an eel fishery on the east coast in 10 years. Thank you for your time. I would mention that the nano and microplastics also affect the larval eels, but it will take you all 10 years to look at that and I'll be dead and gone. James Fletcher, United National Fishermen's Association. Again, thank you for your time.

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**REVIEW AND PROVIDE FEEDBACK ON CITES
ACTIONS AND COMMITTEE WORK**

CHAIR KUHN: Thank you for the comment, Mr. Fletcher. Okay, moving on to Item 4 on the agenda, which is to Review and Provide Feedback on CITES Actions and Committee Work. CITES being the Convention on International Trade and Endangered Species of fauna and flora.

As you may recall, the CITES Standing Committee formed a workgroup pertaining to eels, which will provide recommendations to the Standing Committee in early 2025, and any eel species that could potentially impact the United States eel fishery. To get us started we're going to hear a presentation from Deborah Hahn from AFWA, the Association of Fish and Wildlife Agencies, regarding CITES actions and committee work. Deborah, we're ready for your presentation.

MS. DEBORAH HAHN: Thanks, Kris, I appreciate some time on your agenda and the opportunity to have this conversation. I am the International Relations Director for AFWA, or the Association of Fish and Wildlife Agencies. My role really exists because treaties and conventions like CITES that we're going to talk about here, pose opportunities and challenges to the management and conservation of U.S. native species, and therefore they pose challenges and opportunities to the agencies that manage those species.

I really tried to bring back information from a number of international forums to the states and provinces and territories and talk about whether there are actions we need to take, meetings we need to attend, positions we need to develop, so that those voices are heard in those international forums. For CITES in particular, AFWA has a CITES Technical Workgroup that was created by a state Fish and Wildlife Agencies back in the early nineties.

That group works in order to have the state agencies represented in CITES forums where there are just too many meetings and too many topics for individual states to participate effectively. The states decided that having one member from each of the state regional associations to formulate this workgroup was the best way to have their voices heard and be represented.

Buddy Baker is the representative for the Southeastern Association of Fish and Wildlife Agencies, Gordon Batcheller for the Northeast Association, Carolyn Caldwell for the Midwest and then Stewart Liley for WAFWA, or the Western Association. Toni asked me to come today and give you a brief overview of what CITES is and what conversations are going on within the CITES community right now around American eel. Those include potential CITES listings in one of two appendices, and then a resolution that is being developed, a genus-level resolution on eels that is being developed through CITES.

I'll get into those, but first I'll talk a little bit about the treaty itself. It came into force in 1975. There are currently 184 countries that are signatories to the convention, that includes 183 individual countries and then the European Union as a block. Really at its core, the intent of CITES is to ensure that international trade in plants and animals does not threaten the survival of the species in the wild.

I would like to emphasize that it's international trade, it has no impact on domestic trade. What exactly does CITES do? Well, it regulates the export, reexport and import of live plants and animals, dead plants and animals, and their parts and derivatives, for those species that are listed in one of three appendices. Each country has an implementing agency, and here in the U.S. that is the U.S. Fish and Wildlife Service.

They get their authority and also the language on how to implement CITES is found within our Endangered Species Act. Again, CITES represents or regulates international trade, and that international trade requires permits and certificates. The two things that you typically need to prove are one, that

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the trade is not detrimental to the survival of the species that is being traded, and that it was legally acquired by the laws of the country in which it is being traded from.

Then these permits and certificates are required to be presented when entering or leaving a country. I keep mentioning these appendices and I just want to mention exactly what they are. We've got Appendix I here, where no commercial trade in a species is allowed. You can have limited non-commercial trade for things like scientific research or zoos.

These species in this appendix might include the white rhino or sturgeon, for example. If you move to Appendix II, that is where most of the species are found. You can see quite a large number of plants and animals that are listed in Appendix II. Commercial and noncommercial trade are allowed again through that permit and certificate system.

Then you come to Appendix III, which is a little bit different, and we'll talk more about that, but commercial and noncommercial trade are also allowed, but with an Appendix III you only are required to have a legal acquisition finding. Species in the U.S. that are listed in Appendix II might include bobcat, black bear, a suite of turtle species, American ginseng.

Appendix III Our hellbender is listed in Appendix III for example. One more thing I want to mention. In order to get put in one of these appendices, CITES has developed a set of biological and trade criteria that it uses to determine whether a species should be listed. At each regular meeting of the parties, this is called a Conference of the Parties, and one is happening next year in 2025, and that's why we're having this conversation.

At each of these, parties will submit proposals to amend the appendices, which means to either put a species in an Appendix I or in Appendix II, move them between it or remove them. This is the process for getting species in

or out of Appendix I and Appendix II. At those meetings, those Conference of the Parties, there will be discussion about the proposal, and they will either adopt it by consensus or by a two-thirds vote. Now Appendix III is slightly different. In order to list a species in Appendix III, it is a unilateral decision of an individual country and does not require the approval of a Conference of the Parties or other signatories.

I would like to just talk a little bit more about Appendix II and Appendix III, because those are the two appendices that American eel is being considered for listing in. I mentioned that Appendix II allows commercial and noncommercial trade, it does not ban trade. It only regulates again international trade, so any trade in American eel that will be leaving the United States.

It is not necessarily a list of species that are threatened with extinction, but a list of species that may become so if trade is not regulated and monitored. These appendices also includes lookalike species, and these are species that are listed because they look like a species that meets the criteria for these appendices, even if they don't.

Here in the US River Otter and bobcat are two examples of lookalike species that don't necessarily meet the biological and trade criteria of CITES but are listed because they look like a species that does. These listings are decided every two or three years at a Conference of the Parties, which again as I mentioned coming up here in December.

The requirements, if a species were listed, if American eel were listed in Appendix II, it would require that the US Fish and Wildlife Service, who is the agency that implements CITES, to determine that the trade is not detrimental to the survival of American eel. They would make an NDF or a non-detriment finding.

To make a positive NDF, we often see that Fish and Wildlife Service reaches out to you. The state Fish and Wildlife Agencies, to ask for your data, your information, and your opinion on whether that trade is not detrimental to the survival of the

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species. The other piece that is required in Appendix II is a legal acquisition finding.

Again, stating that the species was legally acquired by the laws of the U.S. whether those are national or state agency laws. I mentioned bobcats and river otter before. The way that the U.S. Fish and Wildlife Service deems that they are legally acquired is by the use of a tag. Each skin and each bobcat pelt that leaves the country has a tag on it that is put on by the states and trappers, and then it is deemed legally acquired.

I know this, Toni and I have talked about the legal acquisition finding a bit, and that is just one example of how legal acquisition finding is determined. I'll mention that with ginseng there are often many states have online harvester reporting that is done. That is often used for legal acquisition finding that a system that documents the harvest through an online reporting system.

A recent example that we're still working through, at the last Conference of the Parties a number of turtle species were listed and snapping turtles one of them. We've had some difficulties moving snapping turtles, and some of the asks for legal acquisition for that species were when and where the species was harvested, harvester licenses, signed statements from the suppliers as to where they got their supply, because those turtles are mixed together, if you will, prior to international export. I think those are just a couple examples. We don't necessarily know exactly what would be required, because it's not listed yet, required for American eel. But those are some of the things that have been required in the past.

Appendix III, for this appendix I mentioned that this is a unilateral decision by a country, and Fish and Wildlife Service is considering and has reached out to the states, asking their opinion on Appendix III. I know Toni and others and Pat have been very involved in those conversations.

The intent of an Appendix III listing is to get assistance from other countries on regulating harvest and to gather data about harvest levels, typically.

For this appendix, a non-detriment finding is not required, but a legal acquisition finding is required. Again, some proof of legal acquisition, which would likely include some sort of chain of custody process, be developed, if it isn't already developed within each state. I think I might just pause there for one second if you want, or do you want me to continue and just move into the resolution piece? Okay.

MS. KERNS: Thank you, Mr. Chair. Caitlin and I wanted Deb to come today to give us some information on this, because we have been speaking with Fish and Wildlife Service a little bit about concerns we provided the Board through, I think an e-mail in early summer, some concerns that we had had about on Appendix III, and we recently had a conversation with Fish and Wildlife Service that they let us know that they were also considering Appendix II. That was not, I believe, in the original letter that was sent to AFWA asking for comments on Appendix III.

We're hoping that in addition to the letter we sent before, if there are any concerns or questions that states have about the listing or potential listing of an Appendix III or Appendix II for eel, that you share those concerns with us either today or in the future. Fish and Wildlife Service has said that they will be reaching out to each individual state to have a consultation with you all on these. We let them know that everybody has different fisheries, different regulations around their fisheries.

We are not sure if any of these listings will be for all American eel, will it be just for yellow eel? Will it be just for elvers? Because all of those things could potentially be on the table, based on information that we had. We're really looking for anything that you would like us and AFWA, because Deb has been instrumental in helping us get these concerns to Fish and Wildlife Service, but to let us know what your concerns are, so we can make sure that they are raised and addressed.

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MS. HAHN: I'll say one thing to add there is that for an Appendix II listing, that is a process that got started, because the Fish and Wildlife Service has a series of Federal Register Notices that they published before a Conference of the Parties, asking for public input. That happened in May, and there was a recommendation to list American eel in Appendix II.

That is now on the table. That is something that is going to be decided in the coming months, and I'll talk a little bit more about that calendar, but that decision, and if a proposal would be submitted that would be submitted in June of 2025. That is kind of a timeline, and Appendix III is slightly different, because it is a unilateral decision. The Fish and Wildlife Service can decide to list a species in Appendix II anytime, any time of the year, and it doesn't really have a timeline associated with it. But I'm happy to answer any questions now or finish up.

CHAIR KUHN: Yes, that sounds like a good approach. We'll take some questions on this topic before we move on. I see John Clark.

MR. JOHN CLARK: Thank you for the presentation, Deborah. I'm just curious, I mean it seems to me 20 years ago they started a process of listing American eel under CITES, and I think at the time the process just ended. We received a letter from the Fish and Wildlife Service just yesterday about the potential to list it under CITES. Where is the impetus coming from this time to list it?

MS. HAHN: Yes, good question. American eel has been discussed and recommended for a listing in the last three or four years through CITES, and most of the time it comes from NGOs. I believe the recommendations this time that were for an Appendix II listing were from Wildlife Conservation Society, Center for Biological Diversity, and a few others.

That is where the Appendix II is coming from, sort of pressure from the outside. There are also conversations we've been having with the

European Union, because the European eel is listed, and so people continue to raise the lookalike issue, and how we deal with that at certain life stages, so that is another piece of it.

For Appendix III, I can't speak for Fish and Wildlife Service as to their intention or why they decided to raise the possibility of an Appendix III right now, so we would have to ask them exactly kind of where they stand, and I don't know, Toni, if they shared with you any of their interest in Appendix III or not, but that one I would have to get them to answer more specifically.

CHAIR KUHN: Next we have Pat Keliher.

MR. PATRICK C. KELIHER: Deb, thank you for coming today and sharing this information. If you don't deal with CITES all the time and you're in and out of looking at the requirements it becomes confusing. Can you just clarify for me the difference between Appendix II and Appendix III as it pertains to inspection by U.S. Fish and Wildlife. Do they both require inspection for export?

MS. HAHN: Yes, they do, and they would both require a permit. It would just be that the permit for Appendix II is a slightly more onerous permit because it requires a non detriment finding and a legal acquisition, where for Appendix III for export it would require a legal acquisition finding and also a permit as well.

MR. KELIHER: You know we stated in our letter from back in June the delay issue associated with this. Most exports are not with live animals, I would assume. I'm sure there are some live animal exports that we're dealing with here, but the delay in the exports is something that is really concerning. We've raised this issue with U.S. Fish and Wildlife Service. Since my good friend, Rick Jacobson is in the far corner of the room, who wants to stay as far away from this issue as he possibly can knows, I am very concerned about the liability associated with the delayed shipments of eels, based on an inspection. It is clear that something that is going to be held up for even six or seven hours could cause huge mortality events for those shipments. It's an

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issue that I've already put on the table, and we are going to need to continue to make sure that U.S. Fish and Wildlife Service are aware of that.

This Board should understand, we're not talking about just glass eels here, this could also impact the yellow eel fishery as well, for exports on yellow eels. This is a bigger issue than just the Maine elver fishery, and something we're going to need to make sure we stay very engaged in. But thank you, Deb, thanks again for coming, I appreciate it.

MS. HAHN: Yes, thanks, Pat, and it's definitely a real concern, because we know we have a lot of data on how long it does take to get permits approved.

MR. KELIHER: Please, tell your new President of AFWA that I'm expecting her to be very engaged on this issue.

MS. HAHN: Judy is on top of it. But yes, and I will say that I would doubt that an Appendix II or Appendix III listing would focus on elvers versus, I don't think there would be a differentiation, I think it would be all exports of any life stage of an American eel.

CHAIR KUHN: Okay, next we have Eric Reid.

MR. ERIC REID: Thank you for your presentation. My question is, once something becomes listed, whether it's Appendix II or Appendix III that's one thing. What is the process to delist something that is on the list?

MS. HAHN: That is a tough one. Appendix II, it requires a vote at the Conference of the Parties, and requires a proposal for delisting or downlisting, and a vote at the Conference of the Parties either of consensus or two-thirds majority. You know, I have to be honest, you don't get many, I can't off the top of my head think of any examples of delisting that weren't related to extinction of a species.

It's very difficult to delist or downlist a species in an Appendix II or Appendix I. Appendix III, that is a unilateral decision by the United States to remove it. We have had challenges getting things off the list and it's a little unclear exactly the process of whether they have the authority to do that. It's a bit challenging, to be honest.

CHAIR KUHN: I think I saw a hand from Ross Self earlier.

MR. ROSS SELF: Thank you, Mr. Chairman, my question has been addressed. I appreciate it.

CHAIR KUHN: Robert LaFrance.

MR. ROBERT LaFRANCE: I guess my question is about, what responsibilities do the states have, in terms of being able to demonstrate that the fish would be legally taken? What records have to be provided, how does a state go about doing that?

MS. HAHN: Yes, it's a great question, and we don't, I know Toni and others have asked for a bit more detail on what the Fish and Wildlife Service would require, and we don't know it for certain. But past examples include when and where the species was harvested, harvester licenses, chain of custody.

Signed statements from suppliers that they got this shipment of eels from X, Y and Z, who are licensed harvesters, who harvested within the season, et cetera, et cetera. I wish I had a really solid answer for you, but definitely some sort of chain of custody process that we want some more information on, I know, Toni.

MS. TONI KERNS: This was one of our biggest concerns, Rob, and we asked that direct question of Fish and Wildlife Service and I don't think we will get a response on this. They said it will be up to the individual applying for the permit to provide the appropriate documentation. I suggested back that we get a list of documentations that that individual could provide.

Because it doesn't seem fair for an individual to not know what they are supposed to provide and try to

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apply and get a permit in a timely fashion, when they have no idea what they are supposed to be giving them. Eric, we also asked directly what would constitute a delisting and are awaiting a response for that as well.

CHAIR KUHN: John Clark.

MR. CLARK: Thank you for letting me have a follow up question. Just curious, is this discretionary on the part of the Fish and Wildlife Service, especially Appendix III? I mean is there something in the law that requires them to pursue this action, or did they just decide that there is enough information that they want to pursue this?

MS. HAHN: Yes, it's discretionary, each country can make a decision on what they would like to list in Appendix III. There is no requirement for them to do so. Appendix II, you know another country like Canada, for example, could, they won't but they could bring a proposal for listing American eel, so another range state could bring it.

MR. CLARK: I meant more in terms of are they required to take action based on, you said there were petitions to list this. Do they have like under the Endangered Species Act, I know they get to the point where they have to do a 90-day finding of something. Is there any requirement under this?

MS. HAHN: No.

MR. CLARK: This is 100 percent on them right now that they are deciding to do this.

MS. HAHN: They do have a process, once they hear from the public, they go through a due diligence process in investigating each species. I don't know, there were hundreds of species recommended. But it's not required by law, they have their own process they go through, which is what they are going through. The Appendix III is totally separate and of their own discretion.

CHAIR KUHN: Okay, are there any more questions on Appendix II, Appendix III before we move, okay, I see Jeff Kaelin.

MR. JEFF KAELIN: I thought maybe Pat might ask this, but I know that there is a company in Maine that is growing out elvers into glass eels, and I understand, somebody told me that she has in her tanks as many yellow eels as are harvested normally in the Atlantic. What would be the difference in the treatment of eels that were raised and in the channels of trade versus those that are wild caught? Is there a distinction or is just an eel an eel, as far as CITES would go?

MS. HAHN: I guess Toni shared that she doesn't export, but at the same time in answer to your question, they would be slightly different, but you would have to prove where the stock came from. It's not necessarily so you could either take stock from the wild or you could be breeding, depending on the species.

If you were taking anything from the wild that would have to be proven to be nondetrimental, or you would have to prove that you have a closed system and that you weren't taking the species from the wild. It would be slightly different if you weren't taking the species from the wild. It would be slightly different if they were exporting internationally, but if they are taking species from the wild then it wouldn't be highly different.

MR. KAELIN: No, that's okay, she may not be exporting now but she may someday, who knows?

CHAIR KUHN: Carrie Kennedy.

MS. CARRIE KENNEDY: I'm going to show my ignorance and ask, if something gets listed in Appendix II or Appendix III for the United States, does that hold other countries accountable to the same requirements in exporting of similar species?

MS. HAHN: Great question. For Appendix II it does, so if it is listed in Appendix II, Canada, the Dominican Republic, Haiti, others who are exporting American eel would have to have the same permits

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and certificates. The slight difference is, say for a legal acquisition finding, it is really up to the country what they require in order to prove that.

You might not have the same amount of rigor, let's put it that way, or the same amount of information requested by different countries. But if it abided by that country's laws, then they would still get a permit. For Appendix III there would be no requirements for any other country to do anything other than require that when they import American eel it has that CITES permit. But Appendix III is only for the U.S.

CHAIR KUHN: Okay, any final questions before we move on. I see Pat Keliher.

MR. KELIHER: With your indulgence, Mr. Chair, I would just like to ask the members of the Board if any other state besides Delaware received a letter from the U.S. Fish and Wildlife Service. Mass has. Okay, great, thank you. Mine must be in the mail, lost in the mail.

CHAIR KUHN: Steve Train.

MR. STEPHEN TRAIN: I wasn't going to ask, but after the last question maybe it's my ignorance. If you don't mind, so if there were one or two countries that are having trouble managing a fishery, they could say, well we can't manage our fisheries, so we just need to find a way to close this. We'll ask CITES to do something, and the countries that are managing their fishery will get punished. Is that what I understand could happen?

MS. HAHN: Yes, I haven't really thought about it that way before. Certainly, if the Dominican Republic, for example, although they have a pretty good handle on themselves, but if they decided that an Appendix II listing of eels would be helpful for them in managing their fishery, however they would want it, whether that's managing it to a closure or managing it for something else.

They could put forward a proposal. They would have to speak with all the range countries and have a conversation. They couldn't just do it without having a conversation with the U.S. and Canada, and others. But yes, I suppose that could be one way to look at it if a country tried to do that. I don't think that happens too often, but it's not out of the realm of possibility.

CHAIR KUHN: That is a good question. I think we're all learning about this process certainly, as we go through this. We'll go ahead and move on at this point with the remainder of Deborah's presentation.

MS. HAHN: Thanks, Kris, thanks for all the questions. The final thing I wanted to talk about was another part of a conversation in CITES that is talking about developing a genus-level resolution on eels. This resolution is being developed through the Policy Arm of CITES, which is called the Standing Committee.

That Standing Committee created a working group at its last meeting. AFWA has a seat on that working group. Buddy Baker and Gordon Batcheller, Roy mentioned earlier, are the representatives that sit on that working group, and they are the ones that we're going to be able to work through to provide recommendations, edits, et cetera, so that we can influence the text of this resolution.

Unfortunately, I was really hopeful that we might have a draft to go on and kind of share a bit more information with you here, but we do not have a draft yet. That working group is probably slowly going to work through e-mail, but if there is a virtual meeting that comes up, we'll let you know if there is opportunity to participate.

The working group will meet until sometime in December, where at that point they will need to submit a draft resolution to the Standing Committee for consideration at their February meeting from February 3 through 8. What that means is if at that meeting the parties and the observers will consider the draft resolution, they may create an in-session working group to further

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refine it. But a resolution will come out of that meeting that would then be forwarded to the Conference of the Parties for their approval at the end of 2025. We have a number of opportunities to influence the text of this resolution.

Through the working group first off and working with you guys. At the actual Standing Committee in February. AFWA will be there, there will likely be probably myself and Gordon Batcheller. But as always, Atlantic States Marine Fisheries Commission or an individual state is always able to attend these meetings as an observer, where you can take the floor if called on by the Chair, and you can make interventions and participate in those working groups.

That is always an option. It doesn't just have to be us, but we will be there. Then of course, once it gets to the Conference of the Parties, there is another opportunity within that meeting. It gets a little bit harder at that point to change text, so really the working group and the Standing Committee will be our focus.

What is a resolution? CITES has this broad, generic text that provides a basic framework of how the Convention functions and what it does. But there are parts of it that are fairly broad in nature, and so every now and again resolutions are developed to provide guidance, to provide a set of rules, to really kind of narrow down implementation.

Resolutions are one way of doing this. They are intended to be fairly permanent, so a resolution is anticipated to last for a number of years, and it can be revised over time every two to three years at that Conference of the Parties. Since I don't have a draft to share with you, the text on the screen is the resolution around marine turtles, and I shared that because I feel like the way that the eel resolution is probably going to go is going to be fairly similar.

As you are all familiar with, you have a set of whereas statements and then recommendations. Most of these recommendations will likely focus around improving collaboration and sharing data and enhancing monitoring, and convening workshops, and discussing cooperation around law enforcement. How do the parties work together to improve and enhance the conservation of eels, and that is all eel species, whether you're listed in CITES or not?

None of these things will be necessarily required, but it will be recommendations that the U.S. will bring back and consider how we might implement those and how we might help implement the resolution. It is important that we're comfortable with the text. I do think it is going to be fairly high level and it's not going to be a heavy lift for all of you, because you have the management and the reporting and things like that.

It will be interesting. We've been in a lot of conversations with Canada, who at the moment are not supportive of an Appendix II listing of eels. They are, as many of you know, going to open their fisheries again soon, and they'll have, from what I can understand in our conversation, some fairly strict measures around requirements and reporting et cetera. For them, an Appendix II listing really wouldn't be something highly useful, so I think that is good for us, depending on where all of you land on what your recommendation would be around Appendix listings for eel. The final thing I wanted to mention is just kind of our timeline here for all of this. This slide sadly is now out of date as of this morning because we finally found out when the Conference of the Parties is going to be, so that makes the dates on here much more solid. If we're working backwards, November 24 to December 5 of 2025 will be the Conference of the Parties.

Where the parties would vote on a listing proposal if one is brought forward all for Appendix II, not for Appendix III. That is November/December 2025. Where we are, if you step back from that the document submission deadline, so if a proposal were to be put forward for listing, it would need to

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be submitted by June 27 of 2025. That is kind of where we are with the Appendix II listing.

In the most current state what we want to do is we want to influence that text to the resolution before December, and hopefully we'll have a draft soon to share with you. We also anticipate that the next Federal Register Notice that U.S. Fish and Wildlife Service will put out will come out in November or December.

What that will be will be a table that lists all those hundreds of species that the public recommended for listing, including American eel, and it will put each species in a category that would be likely, unlikely, or undecided on whether they were bringing a listing proposal forward. If history is any indication, and especially in an election year, many of the species will be in the undecided category, so it won't be super helpful for us to know exactly where they are.

But it does provide an opportunity, a 60-day comment period. We should talk at that point about what information do we want to share publicly on the conservation and management of eels. You know, does this Board, does the Atlantic States Marine Fisheries Commission want us to come forward with a position at that time to either support or not support, or do we say nothing?

Those are the kinds of things we're going to want to talk about, and we'll have some time to do that once we have that Federal Register Notice, at that time. Then we have the February meeting of the Standing Committee that will finalize the eel resolution, and that is February 3 to the 8th. That June/July 2025 Federal Register Notice will be kind of another step in the Fish and Wildlife Service process.

That will also be announcement of a public meeting, but at that point the ship will have sailed on resolutions and proposals, so that will be another opportunity to weight in, but much later than we want to, so that is why we're

working already in those conversations. You can go to the last slide, and Toni, that is it for me, more than enough. My contact and Buddy and Gordon's as well should anyone want to reach out to us.

MS. KERNS: I think Deb just provided one piece of information that will be essential for staff to have direction from the Board. But the Fish and Wildlife Service will have that Federal Register Notice in November or December, and if the Commission wants to send a letter of comment during that 60-day period.

It may or may not fall within a Board timeframe, depending on the timing of it. If it comes in November, 60 days would likely not fall on the Board meeting timeframe, and even if it does it is right at the end of that 60-day timeframe, so you would need to have a better understanding, probably through e-mail discussion with the Board on whether or not we want to provide any comments on support, not support of any potential listing. Just to keep that in the back of your mind if we need to put together a call we can also do that during that timeframe.

CHAIR KUHN: Thanks for that, Toni, I think given the importance of this issue and the timeline is presented to us, certainly we need to be thinking about how we might respond to this in the near term and thank Deborah for a very informative presentation and good robust discussion around the table. Do we have any additional questions, discussion regarding the CITES resolutions and timelines that were described at the end of the presentation, or if there was anything that we missed early on regarding the appendix's listings? Dan McKiernan.

MR. DANIEL MCKIERNAN: Pat asked who received the letters, and I received mine at 8:30 this morning, and there were two attachments, one was the letter to me and the second is an announcement of a webinar on November 6 from 11 to 12 p.m. and it appears to be an invitation for states to participate in this webinar. Just letting you know, I haven't seen this in the description of the process, but I'm sharing that.

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CHAIR KUHN: Pat Keliher.

MR. KELIHER: Yes, our first order of business may be a letter to them to say, you know giving more advanced notice to the state that it has not been received by myself or any of my staff. I did a November 6 webinar for the states to participate in, there is not a lot of short notice, which is not great from my standpoint. Deb, you mentioned the resolution and the meeting on the resolution in February, where is that? You said others can participate in that.

MS. HAHN: Yes, anyone is always welcome to participate as an observer, and we can help you through that process. It is in Geneva, Switzerland, February 3 through 8.

MR. KELIHER: I mean I'm always up for a road trip.

MS. HAHN: Yes, good road trip.

MR. KELIHER: This is a 20-million-dollar fishery for the state of Maine, so obviously others may be interested, but I certainly would be interested in talking about that.

MS. HANN: Great.

CHAIR KUHN: Do we have any other questions? Did I see at the end of the table, or did I imagine, Rick, did you raise your hand?

MR. RICK JACOBSON: I think I've retreated to the shadows.

CHAIR KUHN: Okay, understood. Any other questions, discussions on this subject? Rick's back.

MR. JACOBSON: Yes, actually I have a question for you, Mr. Chairman, well number one, Deb, thank you very much. I miss working with you and the CITES Technical Committee, it was a lot of fun when we did it together. But I do have a question for the Board. I do have an avenue to reach out to the International Affairs Program

also, that might be a little different than AFWA and the Commission. If there is a problem with Commission members not receiving letters from International Affairs, I would be happy to reach back out to them.

I know that we did communicate with the International Affairs Office a little over a month ago. Their original plan had been to reach out to members of the American eel Technical Committee. We advised that that would be more appropriate for those letters to be sent to the members of the management board themselves. That sounds like some of that has happened already, but if it is not consistent across the Board, I would be happy to communicate something along those lines if it helps the Board's work.

CHAIR KUHN: Thaks for that, Rick, I don't want to presume for the Board but from my perspective I think that would be very helpful, because it seems like a number of states and jurisdictions have not received letters. If you could do that, unless there is opposition from the Board, I don't see any, so Rick, please, help facilitate that for us. Is there any other questions or discussion on the CITES topic on our agenda for today? Eric Reid.

MR. REID: Sorry, I got my head lost in a calendar about possibly drafting a letter or having a position statement by this group in time for whatever the deadline might be. What is the timeline for that? Is that something we should start thinking about like today?

MS. KERNS: That is in response to whatever is in the FR Notice. I mean I think Deb has alluded to oftentimes that most species are listed as undecided. If this Board has a position, regardless of how it is, then we can send a letter doing that. If there is a position that this Board has, if you're not opposed to listing, but you have concerns about X, Y, Z things, about the process.

Whatever it is that the Board wants to address, we can do so. But it would be technically in response to this decision on it's going to list for Appendix II, list for Appendix III. I don't know if Appendix I would

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even, they told us Appendix I wasn't being considered, so hopefully that doesn't show up.

MS. HAHN: I would just add, I think you have the information you need right now to a degree. I didn't know they were having a webinar, so you may get more information there, I'm not sure. But I think this ability to respond to the Federal Register Notice that comes out either in November or December, will really be around Appendix II.

I think you have most of the information you're probably going to have, to make a decision on whether you want to send a letter, whatever it says, asking for more clarification, stating a position or not. I think it's something you can start thinking about, and anytime we get more information, you know we'll be sharing it as quickly as we can if something changes. But at this point, I think you have a lot of the information you are going to have.

CHAIR KUHN: Eric, does that answer your question or alleviate any concerns there? I mean it sounds like we have the information in front of us that we're going to get before the deadline, in order to make any decision as to whether or not a letter is warranted.

MR. REID: Quite frankly, Mr. Chair, my concerns are not going to be alleviated, period. It's a one-way street. When you get listed it's a one-way street. I am concerned about my constituents on this Board, and I just want to make sure that our comment is prepared and ready to go when it's time. That's all.

CHAIR KUHN: Appreciate that, Eric, so any other comments from the Board on a path forward with a letter? I mean it sounds like we could start to think about that now, perhaps draft something at this point and have that ready to go.

MS. KERNS: We can do that if the sentiment is the same for the rest of the Board as Eric, then that is very easy for us to do.

CHAIR KUHN: Yes, I'm sensing a similar notion from around the table, but I don't want to presume anything, so, is there opposition to advancing a letter at this point? I don't see any, does that provide enough direction to staff to take this?

MS. KERNS: We can draft a letter to oppose, and we can continue with some of the questions that were in our other letter, that is where our concerns are, and we have time between now and then to have iterations go back and forth with members of the Board.

CHAIR KUHN: Pat Keliher.

MR. KELIHER: I share the sentiments of my friend across the table, Mr. Reid. When it comes to any kind of listing, I think the one thing that we need to keep our eye on though is the resolution that Deb spelled out. That resolution is a much less threatening piece, but actually puts much needed information on the table for U.S. Fish and Wildlife Service and other parties, about how our fisheries are conducted.

Maine has already submitted a letter to U.S. Fish and Wildlife Service, as has AFWA and the Commission, with a lot of the basis of the information that is needed. I think as Toni and Deb have said, we've got what we need in hand to craft, I think a strongly worded letter. But I don't want to lose sight of the resolution and the trip to Switzerland.

MR. REID: I'll put my skis in a truck, and I'll be ready to go with you, so no problem.

CHAIR KUHN: Deborah has a response for that.

MS. HAHN: Yes, and I appreciate that, Pat, and I think that is true. I mean the interesting thing about all this is how everything plays off one another, and it's kind of a bit of a game of chess. The Appendix II listing is the most restrictive, the most restrictive right. It's the hardest to get removed, it is the most restrictive, it has the most requirements. Then you move back to Appendix III, a little less, but still concerns about timing of permits and things like

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that. Then you move back to a resolution, and I think in some respects I would like to think of putting time into developing a robust resolution that CITES parties within that working group are very excited about, that would then say, okay well we shouldn't list the species before we enact the actions decided in this resolution.

That resolution would not even be approved 'til December of next year. I think you're right, and I don't think we should lose sight of the resolution, and we'll really want your input on that, so that we can have something that is really, you know of a good quality, that maybe we can use that as our chess piece of saying, well let's not move forward with these other pieces.

MR. KELIHER: If I may, Mr. Chairman. Deb, does the U. S. State Department participate in this process? I'm on a federal or excuse me, an international Atlantic salmon body as a nonfederal Commissioner, and the U. S. State Department participates in that process. Do they participate in this process?

MS. HAHN: They do. Yes, Fish and Wildlife Service is the lead, but State is there, Forest Service, USDA, NOAA, all the federal agencies participate.

MR. KELIHER: That's good to know, thank you. The U.S. State Department has certainly, when it comes to salmon issues really tones down some of the government interactions with other countries from a salmon perspective, so I was just curious, and it may be an avenue here as well for us, politically, so thank you.

CHAIR KUHN: Caitlin, Toni, do you have enough information feedback from the Board to initiate a draft letter? Okay, thank you.

CONSIDER APPROVAL OF FISHERY MANAGEMENT PLAN REVIEW AND STATE COMPLIANCE REPORTS FOR 2023 FISHING YEAR

We'll move on to the next Item Number 5 on the agenda, which is to Consider Approval of the Fisheries Management Plan Review and State Compliance for the 2023 Fishing Year. Caitlin is going to lead us into questions and discussions with a presentation. Caitlin, the floor is yours.

MS. CAITLIN STARKS: In this presentation, I'll go over the status of the FMP, the status of the stock, status of the fishery and the PRT review of state compliance with the FMP provisions and then wrap up with PRT recommendations. To start, these are the FMP and addenda provisions that apply to all states with eel fisheries.

All states are required to implement a youth-of-year survey and maintain regulations as strict or stricter than what was in place before the FMP was implemented. The FMP addenda also require trip level CPUE data reporting, allow for the development of sustainable fishery management plans in order to deviate from the FMP requirements, and provide the aquaculture allowance of 200 pounds of glass eel per state with Board approval. For any alternative fishery management plan the state must scientifically demonstrate that it will not increase overall fishing mortality.

Specific to the glass eel fisheries, there is a maximum tolerance of 25 pigmented eel per pound of glass eel harvest, and the FMP establishes Maine's glass eel quota, which has been 9,688 pounds since 2015. The glass eel fishery also requires daily trip level reporting, and Maine does this through their electronic monitoring program, which allows them to track landings from harvesters to dealers and to export, and they are also required to conduct a lifecycle survey that covers all life stages. Addendum VI was approved this past May, and it maintains that quota for Maine's glass eel fishery. There have been no other changes to the FMP requirements for glass eel. For yellow eel, the

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FMP requires a minimum size of 9 inches and a 1/2-inch by 1/2-inch minimum mesh size on eel pots or traps.

Addendum III required the recreational bag limit of 25 eel per day, with the allowance of 50 fish per day for for-hire captains and crew, and Addendum IV established the coastwide commercial harvest cap for yellow eel, which was updated by Addendum V, and also the 10 percent overage trigger for management.

I just want to note here that the commercial harvest cap will decrease to 518,821 pounds starting in 2025 under Addendum VII. For silver eel, the FMP requires a closure from September 1 through December, during which no eel take is allowed, except for from baited traps, pots, and spears. The Delaware River was granted an exemption from this requirement, and it is currently now restricted to only nine permits.

Maine is the only state with an aquaculture plan, and the first year of aquaculture fishing in Maine was 2019, and in 2023, 200 pounds were harvested for aquaculture. However, 2024 Maine has submitted their proposal that was approved for another 200 pounds of glass eel, and Maine continues to allocate that to American Unagi.

The status of the stock for eel is based on the benchmark stock assessment, which was peer reviewed in 2022, and accepted for management in 2023. The assessment concluded that the stock remains depleted or at or near historically low levels due to a range of factors. The assessment also noted that the yellow eel abundance has continued to decline since the last assessment, and the stock assessment does not provide an overfishing or overfished status for eel. The Board responded to the assessment results through Addendum VII, approved in May, which lowers that coastwide cap for yellow eel.

This is, as a reminder, the abundance index trend from the benchmark assessment with the

upper- and lower-95 percent confidence intervals. These are the annual landings estimates dating back to 1950. The coastwide cap is shown on the graph here by the dashed red line, starting after 2013 when it was established.

In 2023 the commercial landings in the FMP Review are provided by the state compliance reports, so they are still considered preliminary. But the 2023 coastwide yellow eel landings were just shy of 296,000 pounds, which is a 10 percent decrease from 2022, and represents 32 percent of the coastwide harvest cap.

Maryland, Virginia, and New Jersey made up 80 percent of the total coastwide harvest in 2023, and for glass eel Maine harvested 9,510 pounds in 2023. South Carolina also has glass eel harvest, but the data is confidential. Moving on to the PRT or Plan Review Team's review of the state compliance reports.

The PRT reviewed all of the compliance reports and found no issues with state implementation of the glass eel requirements. With regard to yellow eel provisions, the PRT noted one issue, which is that New York's regulations for the minimum mesh size are not consistent with the requirements of the FMP. This was raised last year, and New York is currently in the process of correcting their regulations to be consistent with the FMP. For silver eel the PRT noted two small issues, which is that Delaware and Georgia have not implemented regulations preventing harvest of eels from pound nets from September 1 through December 31.

Delaware has no reported pound net landings for over 50 years and will plan to address this the next time changes are made to their eel regulations, and Florida is also unaware of any active pound net fishery in the past decade or more. To qualify for de minimis status for eel a state's average landings for the two proceeding years must be under 1 percent for a particular life stage.

New Hampshire, Massachusetts, Pennsylvania, D.C., Georgia, and Florida all requested de minimis status for yellow eel, and all of the states except for

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Florida qualify, but Florida's average landings for 2022 and 2023 are just slightly greater than 1 percent of the coastwide landings at 1.1 percent. In addition to considering the state compliance notes that are in Section 7 of the FMP Review, the PRT also recommends that de minimis status be granted to Massachusetts, New Hampshire, Pennsylvania, D.C., and Georgia for their yellow eel fisheries.

The PRT maintains the recommendation that the Board reevaluate the requirement for states to provide estimates of the percent of harvest that goes towards food versus towards bait. There is a high level of uncertainty and subjectivity inherent in that data, and the PRT noted that this information does not currently impact regulations, and it is unclear of what the benefit for management is.

The PRT also requests again that the Board consider tasking the Committee on Economics and Social Sciences or the CESS to conduct an analysis of market demand for all of eel life stages specific to food versus bait markets and looking into international market demand. Then lastly, the PRT recommends the Commission and U.S. Fish and Wildlife continue to work together to annually look at the domestic landings data and export data for eel across all life stages. I can take any questions.

CHAIR KUHN: Thanks, Caitlin, for the presentation. Any questions regarding the presentation? I see Cheri Patterson.

MS. CHERI PATTERSON: I don't have specific questions; I just would like to have a slight change on the report. On Page 8, under the status of research and monitoring on the second paragraph you have that Connecticut monitors the Lamprey River, and if you can move the Lamprey River to New Hampshire I think we would both be happier.

MS. STARKS: Thank you, Cheri.

MS. PATTERSON: If you would like to have a motion brought forward then I can do that if they bring it up in the future.

CHAIR KUHN: John Clark.

MR. CLARK: Just wanted the PRT's recommendation to ask the CESS to take a look at the markets and all that. It seems like a very good idea to me. Does the Board have to request that or is that something that just based on this PRT Review will happen?

MS. STARKS: I think it would be helpful for the Board to agree to that tasking.

MR. CLARK: Does it need a motion or is it just kind of a recommendation from the Board? I would like to make that recommendation if the rest of the Board is okay with it then I guess we can proceed that way.

MS. STARKS: Yes, I think just a recommendation would be fine.

CHAIR KUHN: This is pertaining to Item Number 4, John, correct?

MR. CLARK: Right, it was the recommendation to have the Committee on Economics and Social Sciences take a look at it.

CHAIR KUHN: This has been recommended to the Board before, and John makes a recommendation that we move forward with that. Is there any opposition from the Board to move forward with that recommendation? All right, I don't see any. Do you have what you need, Caitlin? Any additional questions for Caitlin? Pat Keliher.

MR. KELIHER: Are we going to move forward, is the idea we're going to move forward with all the recommendations from the PRT? I know that the comparing exports with U.S. Fish and Wildlife Service is, I think critically important. Last year if you all remember, there was a paper from a researcher from Japan, who we actually just recently met with, who lumped in all North American exports.

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It was very confusing, because it looked like if you were reading it quickly that the U.S. was exporting hundreds of thousands of pounds of elvers, when it was being captured, I think, with what was going on probably mostly in Canada. I think having that comparison done is going to be really important.

MS. STARKS: I think we can do that, and I believe the sentiment from the Board probably matches yours.

CHAIR KUHN: Any additional questions, comments on the presentation the Plan Review Team recommendations. All right, anything online? Oh, yes, Carrie Kennedy, oh, I'm sorry, Ingrid.

MS. INGRID BRAUN-RICKS: No worries. First off, thank you, Mr. Chair, and also thank you, Caitlin and the American Eel PRT for preparing the 2023 FMP Review. I had a question whether or not on the first page under management summary, whether or not Addendum VI and VII should be included on that, or if that is something that goes in later FMPs, when those addenda are really specifically.

MS. STARKS: Thanks for the question, so this is the FMP Review for the 2023 fishing year, so I didn't include it in the list, because it's not relevant management for that year. But it will be in future reports.

CHAIR KUHN: Okay, I don't see anymore questions, so is anybody prepared to make a motion with respect to the FMP Review and the state compliance? Cheri Patterson.

MS. PATTERSON: **Move to approve the American Eel FMP Review for the 2023 fishing year, state compliance reports, and de minimis status for New Hampshire, Massachusetts, Pennsylvania, D.C., and Georgia.**

CHAIR KUHN: Do we have a second? Steve Train. Okay, Cheri, as the maker of the motion do you have any comments on that?

MS. PATTERSON: No, just moving forward with the key motion.

CHAIR KUHN: Okay, is there any discussion on the motion? Is there any need to caucus on the motion? Seeing none; I'm going to try and do this the easy way. Is there any opposition to the motion? Okay, seeing none; the **motion passes by consent.**

OTHER BUSINESS / ADJOURNMENT

CHAIR KUHN: Okay, that takes us to Other Business. Is there any other business to come before the American Eel Management Board today? Seeing none; do we have a motion to adjourn? Pat Keliher, Cheri seconds. Okay, this meeting is adjourned, thank you very much.

(Whereupon the meeting adjourned at 5:10 p.m. on October 22, 2024)

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CONVENTION ON INTERNATIONAL TRADE IN ENDANGERED SPECIES
OF WILD FAUNA AND FLORA



Twentieth meeting of the Conference of the Parties
Uzbekistan (Samarkand) 24 November – 5 December 2025

CONSIDERATION OF PROPOSALS FOR AMENDMENT OF APPENDICES I AND II

A. Proposal

To include *Anguilla japonica* and *Anguilla rostrata* in CITES Appendix II, in accordance with Article II, Paragraph 2 (a) of the Convention and Criterion B of Annex 2a, and to include all non-CITES species of the genus *Anguilla* in CITES Appendix II in accordance with Article II, Paragraph 2 (b) of the Convention and satisfying Criterion A of Annex 2b of Resolution Conf. 9.24 (Rev. CoP17) for reasons of similarity to *A. anguilla*, or to one of the proposed species (*Anguilla japonica* and *Anguilla rostrata*) in live/processed form.

Entry into effect would be delayed by 18 months, i.e. until 5 June 2027.

B. Proponent

European Union, Honduras*

C. Supporting statement

1. Taxonomy

- 1.1 Class: Actinopterygii
1.2 Order: Anguilliformes
1.3 Family: Anguillidae

1.4 Genus, species or subspecies, including author and year: The adoption of this proposal would include the adoption of the proposed CITES Standard Reference for *Anguilla* spp. provided in Annex 1, which recognises 17 *Anguilla* species. The proposed Standard Reference is an extract from Eschmeyer's Catalog of Fishes (version 27 March 2024) (Fricke *et al.*, 2024) with additional comments by the Nomenclature Specialist of the CITES Animals Committee; the proposed nomenclatural reference deviates from Fricke *et al.* (2024) with respect to *Anguilla bengalensis* spp. *labiata* and *Anguilla bicolor* spp. *pacifica*, which are considered subspecies in the proposed Standard Reference in Annex 1 but are accepted species in Fricke *et al.* (2024).

Anguilla anguilla (Linnaeus 1758)
Anguilla australis Richardson 1841
Anguilla bengalensis (Gray 1831)
Anguilla bicolor McClelland 1844
Anguilla borneensis Popta 1924
Anguilla celebesensis Kaup 1857
Anguilla dieffenbachii Gray 1842
Anguilla interioris Whitley 1938
Anguilla japonica Temminck & Schlegel 1846

Anguilla luzonensis Watanabe, Aoyama & Tsukamoto 2009
Anguilla marmorata Quoy & Gaimard 1824
Anguilla megastoma Kaup 1857
Anguilla mossambica (Peters 1852)
Anguilla nebulosa McClelland 1844
Anguilla obscura Günther 1872
Anguilla reinhardtii Steindachner 1867
Anguilla rostrata (Lesueur 1817)

* The geographical designations employed in this document do not imply the expression of any opinion whatsoever on the part of the CITES Secretariat (or the United Nations Environment Programme) concerning the legal status of any country, territory, or area, or concerning the delimitation of its frontiers or boundaries. The responsibility for the contents of the document rests exclusively with its author.

- 1.5 Scientific synonyms: See Annex 2.
- 1.6 Common names: See Annex 2.
- 1.7 Code numbers:

2. Overview

Anguillid eels (*Anguilla* spp.) are elongated ray-finned fish that are almost circumglobally distributed, except for the South Atlantic and eastern Pacific Oceans. They are catadromous and semelparous, meaning that most individuals are born in marine habitats but typically spend the majority of their lives in continental waters before migrating up to thousands of kilometres to spawning areas in the open ocean, reproducing only once in their lifetime. The meat of *Anguilla* spp. is highly valued in international trade and is considered a delicacy in many countries, particularly in East Asia. Three main species are targeted for this trade, *A. anguilla*, *A. japonica* and *A. rostrata*; all have undergone significant declines over the past century. While *A. anguilla*, now a Critically Endangered species, was included in Appendix II in 2009, international trade in other *Anguilla* species is not yet regulated through CITES.

Trade in *Anguilla* spp. includes wild-sourced eels in later life stages (yellow and silver eels), as well as juveniles (glass eels and elvers) captured primarily for eel aquaculture, which is entirely dependent on wild stocks as commercial-scale captive breeding is not yet viable. Based on the FAO global production database, from 2014–2023, aquaculture accounted for 88% of global eel production, totalling 2.78 million tonnes of live eels produced, with China accounting for 86% of the reported output. According to the UN Comtrade database, global exports of anguillid products fluctuated between ~80 000 to ~110 000 tonnes per year 2014–2023. Official production statistics are believed to be vastly underestimated due to high levels of illegal, unreported and unregulated fishing.

Historically, *A. japonica* was the primary species supplying East Asian eel farms, but declines in this species led to increased reliance on *A. anguilla* and *A. rostrata*, particularly in farms in China. Following the inclusion of *A. anguilla* in Appendix II and the introduction of trade restrictions by the European Union in 2010, combined with catastrophic declines (> 90%) in recruitment of this species, *A. rostrata* has become a key source of juvenile eels to supply eel farms in recent years. Since 2014, reported glass eel inputs into aquaculture ponds in China show that inputs of *A. rostrata* have equalled or surpassed *A. japonica* in volume in recent years, highlighting a significant shift in sourcing for eel farming operations. A recent analysis of East Asian customs datasets highlighted that glass eel and elver imports by the region from the Americas increased from 2 tonnes in 2004 to 157 tonnes in 2022, demonstrating unprecedented demand for *A. rostrata*. This has corresponded with sharp price increases for *A. rostrata* glass eels and elvers, from USD 314/kg in 2009 to USD 3492/kg in 2023 for landed elvers in Canada. The United States of America (hereafter United States) and Canada have domestic management frameworks in place for *A. rostrata*. Across the Caribbean nations where the majority of glass eels in the Caribbean region are harvested (Dominican Republic, Cuba and Haiti), there is a less consistent approach to regulatory measures.

A. japonica and *A. rostrata* were categorised as Endangered in 2018 and 2020 IUCN Red List assessments, respectively, on the basis of declines in abundance of approximately 50% across their respective ranges over three generation lengths. *A. japonica* is experiencing a continued downward trend, as evidenced by declining catch-per-unit-effort data from Japanese fisheries 2013–2018. As a result, demand has recently intensified for *A. rostrata*. While *A. rostrata* was assessed as having a stable population trend over the most recent three-year period, the species has suffered dramatic historical declines, with the United States Atlantic coast population still considered depleted and the species remains threatened in Canada. In combination with the suite of threats facing anguillid eels, from habitat degradation, barriers to migration, pollution and climate change, unsustainable exploitation for the international eel trade continues to pose a significant threat to these depleted populations.

While management frameworks exist in some range States, unregulated harvest and trade or enforcement of management measures remains a major issue, particularly in the Caribbean, which has seen recent surges in *A. rostrata* exports. While *A. japonica* is managed under an informal agreement between China, Japan, Republic of Korea and Taiwan¹, the quantity of eel seed input into aquaculture ponds was expected to approach 150 tonnes for the 2024-2025 fishing season, nearly double the agreed upper limit, according to a Japanese aquaculture publication. Recalling that these species have single panmictic populations, and therefore each species

¹ This proposal should not be interpreted as reflecting any official position of the European Union with regard to the legal status of Taiwan.

comprises a single fishery stock, international cooperation and consistency in regulatory measures are needed throughout their respective ranges. Rising market demand and escalating prices have created conditions for increased exploitation, and with eel farms entirely dependent on wild-caught glass eels and elvers, pressure on wild populations is expected to increase. These species also share complex life histories characterised by multiple life stages that migrate through different jurisdictions, requiring international collaboration and alignment of domestic measures for successful conservation and management. On the basis of significant declines driven by a suite of threats, including international trade; demand that is expected to increase given the accelerating value of glass eels for supply of eel farms for the eel meat trade; and an Endangered global threat status, *A. rostrata* and *A. japonica* meet Criterion B² of Annex 2a for inclusion in Appendix II. International trade regulation for these species is needed, both to safeguard their populations and to allow sustainable trade for future generations.

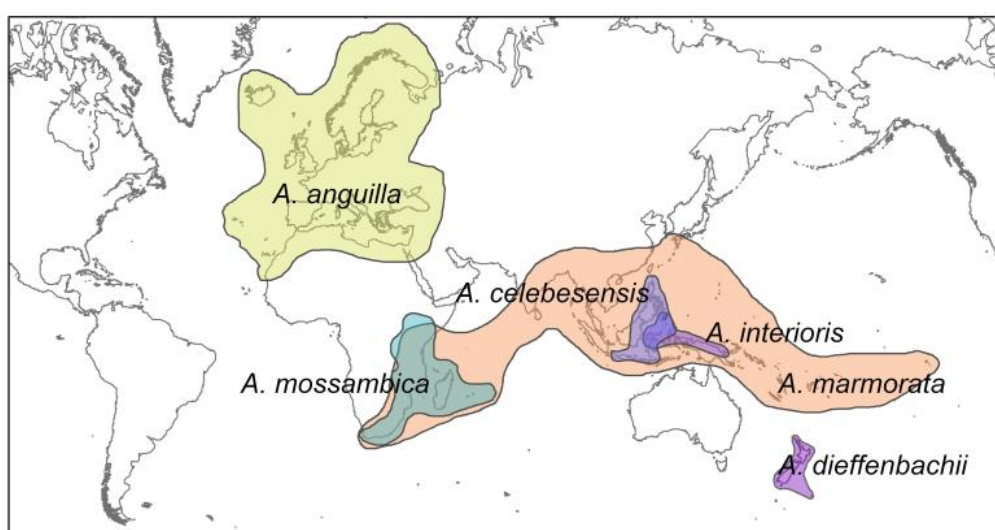
Despite the introduction of a zero-export quota for *A. anguilla* alongside an import ban by the European Union, large quantities of *A. anguilla* have continued to be illegally traded, with numerous reports of shipments of European eel being falsely declared as *A. rostrata* or *A. japonica* to circumvent trade restrictions. The inclusion of all anguillid eels in Appendix II will encourage species-specific trade monitoring and controls and close loopholes that allow illegal trade to persist, leading to more effective implementation of the existing listing of *A. anguilla*.

Anguillid eel species are almost indistinguishable in their early life stages and in the form of processed products and require molecular techniques for species-level identification that are not feasible for routine use by customs officers. Due to this high degree of morphological similarity in trade, *A. japonica*, *A. rostrata* and all other species of the genus meet the criteria for inclusion under Criterion A of Annex 2b of Resolution Conf. 9.24 (Rev. CoP17), as they closely resemble *A. anguilla*, a species already listed in Appendix II, particularly when in processed form. Furthermore, as multiple *Anguilla* species co-occur in trade and are frequently mixed within shipments, the inclusion of the entire genus *Anguilla* in Appendix II under Criterion A of Annex 2b is necessary to ensure effective enforcement, minimise the risk of misidentification, and support the implementation of CITES controls for currently listed species.

An implementation delay of 18 months is suggested in order to provide sufficient time to prepare for the implementation of the listing and to resolve any technical or administrative issues.

3. Species characteristics

3.1 Distribution



² The proponents note that there are diverse approaches to, and a lack of guidance on interpreting criterion B of Annex 2a of Resolution Conf. 9.24 (Rev. CoP17). This proposal interprets the criterion as distinct from Criterion A of Annex 2a of the Resolution. Rather than relying on fixed biological thresholds such as the definition of 'decline' in Annex 5, the proposal interprets the application of Criterion B as assessing direct or indirect evidence, including projections, that harvesting from the wild is reducing the population to a level where continued exploitation through international trade could threaten the species' survival.

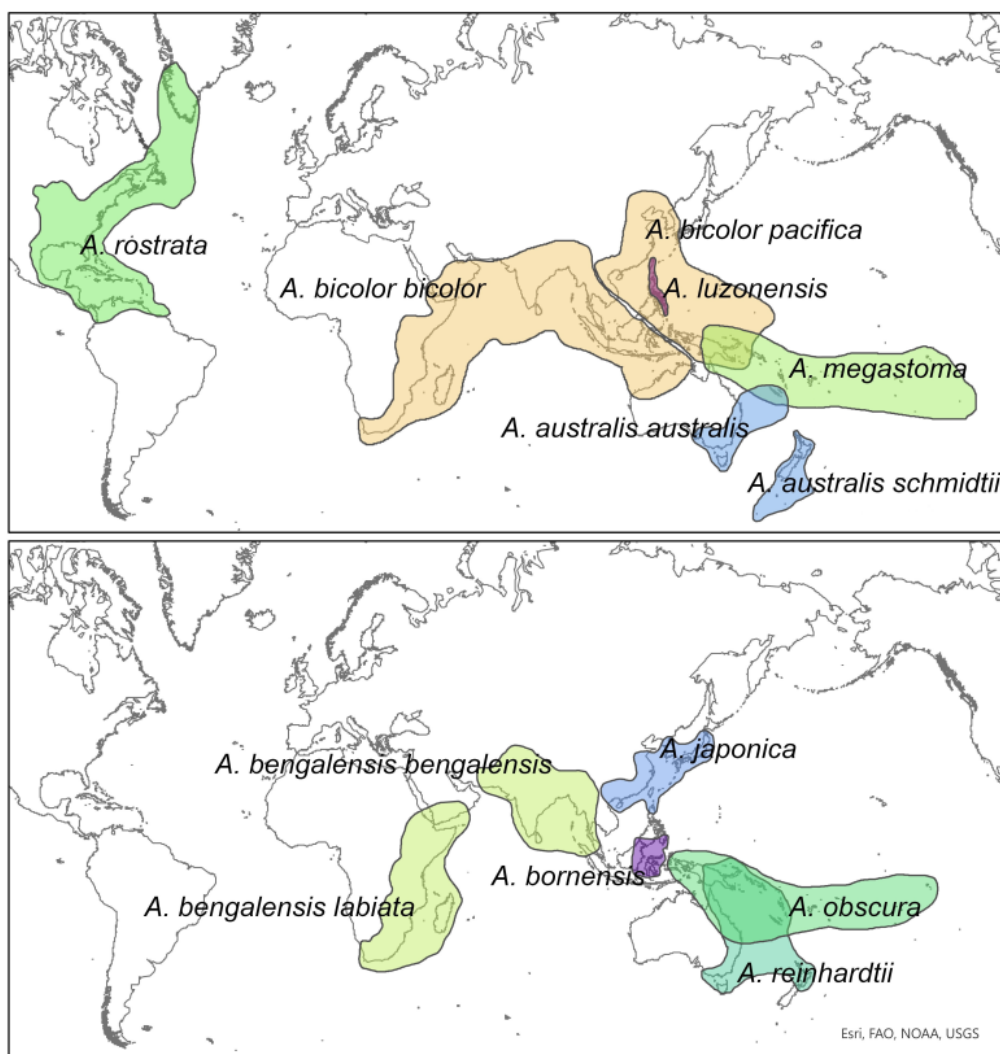


Figure 1. Distribution of *Anguilla* spp. Reproduced with permission from Stuart *et al.* (2024). Note from original figure caption: “Polygons indicate approximate range for each species and, for plotting purposes, may cover open ocean habitat where eels are unlikely to be present. Spawning sites were not considered when drawing the distribution polygons. Shading is based on the area of the species range”.

A. bengalensis bengalensis = *A. bengalensis*; *A. australis schmidtii* = *A. australis*; *A. bicolor bicolor* = *A. bicolor*. *A. nebulosa* is an accepted species according to the proposed Standard Reference in Annex 1 but is not indicated on the map; this species occurs in Bangladesh, Indonesia, and Myanmar.

Anguilla spp. are globally distributed, except for the South Atlantic and eastern Pacific Oceans (Kuroki, 2023; Watanabe & Miller, 2012). An indicative distribution map for these species and a summary of the broad distribution and known range States for *Anguilla* spp. are provided in Figure 1 and Annex 4, respectively. All seventeen *Anguilla* species can be generally categorised as either temperate (*A. anguilla*, *A. australis*, *A. dieffenbachii*, *A. japonica*, and *A. rostrata*) or tropical (all other species in the genus) (Arai, 2022).

3.2 Habitat

Anguillid eels are facultatively catadromous, meaning that while most individuals are born in marine habitats and typically spend the majority of their life in continental waters before migrating back to the sea to spawn and then die (Jacoby *et al.*, 2015; Silfvergrip, 2009), a proportion of the population may spend the entirety of its lifespan in marine habitats (Tsukamoto *et al.*, 1998). Righton *et al.* (2021) described anguillid eels as habitat generalists, as they inhabit a range of habitat types throughout their development, from freshwater habitats such as streams, rivers and lakes, to estuaries, coastal waters and the open ocean during their migrations (Williamson *et al.*, 2023). Within these habitats, anguillid eels may exhibit strong microhabitat preferences based on factors including temperature, oxygen availability, salinity, temperature, prey availability and eel density (Righton *et al.*, 2021).

Generally, smaller anguillid eels show a preference for shallow water habitats, favouring increasing depth as individuals increase in size (Williamson *et al.*, 2023).

3.3 Biological characteristics

Anguillid eels begin their life in marine environments as leptocephalus larvae that metamorphose into 'glass eels' once they approach continental shelves and islands (Watanabe & Miller, 2012; Williamson *et al.*, 2023). Once in coastal marine habitats such as estuaries and lagoons and freshwater rivers and lakes, development continues into elvers, then yellow eels, and silver eels (Williamson *et al.*, 2023). Sexually maturing silver eels eventually migrate back to the open ocean to spawn and die, reproducing only once in their lifetime (semelparity) (Williamson *et al.*, 2023); in temperate species, this is a single seasonal spawning event, however year-round spawning has been observed in some tropical species (Arai & Abdul Kadir, 2017). Because anguillid eels breed only once at a relatively advanced age, their semelparity makes them particularly vulnerable to overfishing of the adult stock, as individuals contribute either to spawning or to the fishery and never to both (Hoyle and Jellyman, 2002). The distance travelled during this migration varies considerably across species: *A. anguilla*, a temperate species, is believed to travel distances exceeding 5 000 km, while tropical species *A. celebesensis* and *A. borneensis* travel less than 100 km to reach their spawning grounds (Arai, 2020). The spawning grounds of *A. anguilla* and *A. rostrata* overlap in the Sargasso Sea, while *A. japonica* spawns in the North Equatorial Current (Miller, 2023). Estimated migration distances for *A. rostrata* silver eels to the Sargasso Sea sampled from eastern North America ranged from 1 580–4 560 km, while *A. japonica* growth habitats are approximately 3 000 km from the North Equatorial Current (Kimura & Tsukamoto, 2006).

Some anguillid species, including *A. japonica* (Han *et al.*, 2010) and *A. rostrata* (Côté *et al.*, 2013), have a single panmictic (randomly mating) population, while others, such as the tropical species *A. marmorata*, have distinct geographic populations (Ishikawa *et al.*, 2004). While panmixia in *A. rostrata* was previously confirmed only in the northern portion of its range, recent research by Ulmo-Diaz *et al.* (2023) demonstrated a lack of geographic genetic structure across the species' distribution, including its tropical range (Ulmo-Diaz *et al.*, 2023).

While the life history of anguillid eels in general is poorly understood (MacNamara *et al.*, 2016), a range of natural mortality estimates for temperate species have been estimated. The instantaneous natural mortality rate (M) of 0.138/year for the continental life stages of *A. anguilla* (from glass eel to silver eel) estimated by Dekker (2000), though highly uncertain, indicates that *A. anguilla* would likely fall in the 'low productivity' category as specified in Annex 5 of Resolution Conf. 9.24 (Rev. CoP17)³. In rivers in mainland China, Taiwan and Japan, mean M ranged from 0.31 to 0.78/year for the recruitment of *A. japonica* to inland habitats (Lin & Sun, 2013), which would correspond to medium to high productivity during continental life stages. For populations of *A. rostrata* in eastern Canada, M values varied considerably across locations and life stage and were considered highly uncertain for early life stages, but generally higher natural mortality was observed in more southerly locations (DFO, 2013). For eels age five, M ranged 0.04–0.44 (female) and 0.05–0.39 (male), which would correspond to either low or medium productivity categories as defined in Res. Conf. 9.24 (Rev. CoP17) (DFO, 2013). In general, natural mortality rates appear to vary according to the life history stage measured and varies according to local conditions (AC31 Doc. 22 Add.).

Growth rates differ among species and populations, with individuals remaining anywhere from several years to multiple decades in their feeding habitats before migrating to the open ocean (Jellyman, 1995). In Mikawa, Japan, female *A. japonica* mature at a wide range of sizes, with collected female silver eels measuring from 470 to 970 mm in length (Kotake *et al.*, 2007). In *A. rostrata*, based on a meta-analysis of published information on female silver eels collected from 24 sites from the Atlantic coast of North America, female silver eels ranged from 404 to 1016 mm (median mean length of 637 mm) (Jessop, 2010). Age at maturity varies widely both within and among anguillid species: Kuroki (2023) gathered estimates from individual studies and found that age⁴ of collected female silver eels ranged from 11–29 years for *A. rostrata* and 4–22 years for *A. japonica*. The IUCN assessments for *A. japonica* and *A. rostrata* assumed a generation length of 8.4 years and 12 years, respectively (Pike *et al.*, 2023; Pike *et al.*, 2020a).

³ Resolution 9.24 (Rev. CoP17) states that "One possible guideline for indexing productivity is the natural mortality rate, with the range 0.2-0.5 per year indicating medium productivity".

⁴ Based on otolith annuli, or annual growth increments

Anguillid eel fecundity is positively correlated with size, with female anguillids being typically larger and generally exhibiting slower growth compared to males and, accordingly, reaching sexual maturity at a later age (Williamson *et al.*, 2023). *A. rostrata* exhibits considerable variation in life history traits across its range, driven by ecological factors such as latitude, aquatic productivity, temperature, and migration distance from the Sargasso Sea spawning ground (Vélez-Espino and Koops, 2010). Length and age at maturity in *A. rostrata* females tends to increase with increasing latitude and with greater distance from the spawning ground along the Atlantic coast (as does age at maturity for males) (Jessop, 2018); females in higher-latitude regions are believed to be more fecund and may therefore contribute disproportionately to spawning mass. For example, silver eels migrating from the upper St. Lawrence and Lake Ontario have been shown to have the highest potential egg production per individual in the species' range (COSEWIC, 2012). Latitudinal trends in fecundity appear to be less studied for *A. japonica*, however some studies suggest declining growth rates with increasing latitude (Kumai *et al.*, 2020).

3.4 Morphological characteristics

Anguillid eels have long, slender and snake-like bodies, lacking ventral fins but with a continuous fin (formed from the dorsal, tail and anal fins) that extends from the midsection of the back to the anus (Silfvergrip, 2009; Watanabe, 2023). As described in the previous section, as anguillid eels progress through their life cycle they undergo several distinct morphological stages: (1) the transparent leptocephalus larvae in the marine environment; (2) the translucent glass eel; (3) the elver; (4) the yellow eel, which represents the primary growth phase, and (5) the silver eel, which is the migrating form (Kuroki, 2023; Silfvergrip, 2009).

A CITES identification guide for anguillid eels, prepared with a focus on *A. anguilla* following its inclusion in Appendix II, was prepared by Sweden, and remains the only comprehensive anguillid eel identification guide to date (Silfvergrip, 2009). Given the extensive work in this ID guide, details of each species are not elaborated here aside from brief descriptions of *A. japonica* and *A. rostrata* (Annex 3). In general, morphological characters of anguillid eels vary within species and there is significant overlap in morphological characters between species (Watanabe *et al.*, 2004). Watanabe (2023) remarked that northern temperate anguillid eel species “essentially [look] the same in their external appearance”, however differentiation based on detailed analysis of morphological characters is possible.

Watanabe *et al.* (2004) divided *Anguilla* into four morphological groups based on key characters: *A. anguilla*, *A. japonica* and *A. rostrata* are included in the group of species that lack variegated markings and possess a long dorsal fin, along with *A. borneensis*, *A. dieffenbachii* and *A. mossambica*. There are difficulties in distinguishing species within this group: for example, while number of vertebrae can be a diagnostic characteristic, these values overlap for *A. anguilla*, *A. japonica* and *A. rostrata*, ranging from 109–119, 112–119, and 100–111, respectively (Watanabe, 2023). *A. japonica* and *A. rostrata* both possess a dorsal fin anterior margin 8.5–9.5% of total length (up to anus); small mouth, approximately a quarter of the head length; maxillary tooth band with toothless area; and plain coloration with no distinct markings (Silfvergrip, 2009)

3.5 Role of the species in its ecosystem

Anguillid eels play a significant role in both freshwater and marine ecosystems as predators and prey. The diet of anguillid eels is varied and opportunistic, and changes along their life cycle; smaller individuals predate bivalves, small crustaceans and polychaete worms, while adult eels feed on larger fish and crustaceans (Williamson *et al.*, 2023). In turn, anguillid eels are an important food source for larger fish, birds and aquatic mammals (Williamson *et al.*, 2023). Native anguillid eel species may also play an important role as a biological control of invasive species; for example, *A. anguilla*, and likely other anguillid eel species, reduces abundance of invasive crayfish (Musseau *et al.*, 2015).

Anguillid eels, by linking marine, estuarine, and freshwater ecosystems through their migratory life cycle, facilitate energy transfer across trophic levels: the European eel (*A. anguilla*) plays a significant role in the transfer of organic matter from marine to freshwater systems (Laffaille *et al.*, 2000). Prior to catastrophic population declines, this species represented over half of total fish biomass in the majority of European aquatic habitats (Feunteun, 2002).

4. Status and trends

4.1 Habitat trend

Anguillid eel habitats, which span freshwater and marine ecosystems, are undergoing declines in quality and extent. Construction of dams have significantly reduced anguillid eel habitat by making upstream habitats inaccessible (Castonguay & Durif, 2016), while hydroelectric power can impede downstream migration for silver eels towards the open ocean (Righton *et al.*, 2021). An assessment of the connectivity status of the world's rivers determined that of rivers > 1 000 km in length, only 37% were considered free-flowing, while only 23% have an uninterrupted flow into the ocean (Grill *et al.*, 2019).

Across 16 major rivers in Japan, Republic of Korea, Taiwan, and China, on average, 76.8% of the effective habitat area⁵ for *A. japonica* was estimated to have been lost between the 1970s–2010s; this included the Yangtze River, which experienced a loss of effective habitat area of 90.9% (Chen *et al.*, 2014). These estimates were considered conservative due to considerable physical and chemical changes driven by industrialisation, land development, and discharge of toxic chemicals (Chen *et al.*, 2014). Similarly, loss of suitable habitat for *A. rostrata* in its North American and Caribbean range has been documented in Canada and the United States (Pratt *et al.*, 2014) and the Caribbean (Benchetrit *et al.*, 2016).

4.2 Population size

A. japonica: To date, one study has assessed the status of the entire *A. japonica* stock: Tanaka (2014) analysed landings data from a range of sources, including Japanese national annual fisheries statistics, FAO capture data, and unpublished data from a Japanese aquaculture newspaper. It was estimated that the stock size of *A. japonica* individuals ≥ 1 year was 18 700 tons in 2010 (Tanaka, 2014); however, concerns have been raised with the methodology used to conduct this stock assessment, which are elaborated in section 4.4. The CITES Management Authority (MA) of Japan (*in litt.* to European Commission, 2025) referred to an updated stock assessment for *A. japonica* throughout the entire East Asian range; at the time of writing, this was not yet published.

A. rostrata: No global estimates of the population size of *A. rostrata* are available, however, national stock assessments have been conducted in Canada and the United States.

Canada: In 2012, Canada's Committee on the Status of Endangered Wildlife in Canada (COSEWIC) evaluated the status *A. rostrata* as 'threatened'⁶ on the basis of dramatic declines in the past 50 years over a significant portion of its distribution, particularly in Lake Ontario and the upper St. Lawrence River (COSEWIC, 2012). A more recent analysis of population trends by Cornic *et al.* (2021) concluded that *A. rostrata* remained threatened in Canada.

United States: The Atlantic States Marine Fisheries Commission (ASMFC), which manages *A. rostrata* along the Atlantic Coast from Maine to Florida in the United States, conducted a benchmark stock assessment for *A. rostrata* in 2023 and concluded the stock was 'depleted', "meaning it is at or near historically low levels due to a combination of historical overfishing, habitat loss, food web alterations, predation, turbine mortality, environmental changes, toxins and contaminants, and disease" (American Eel Benchmark Stock Assessment Peer Review Panel, 2023).

4.3 Population structure

The sex ratio of *A. japonica* populations in Japan were skewed towards females in all three collection sites sampled, in Sanriku Coast (100% female), Mikawa Bay (95%), and Amakusa Islands (70%), with higher frequencies of females observed in more northerly locations (Kotake *et al.*, 2007). In Annaquatucket River, Rhode Island, United States, the sex ratio of migrating silver eels of *A. rostrata* was biased towards males, while yellow eels were predominantly sexually undifferentiated but with males considerably outnumbering females (3:1 ratio) among sexually differentiated yellow eels (Krueger & Oliveira, 1999). These patterns were suggested to be due to environmental sex determination driven by high population densities, with female-biased sex ratios occurring at low population densities (Krueger & Oliveira, 1999), and this pattern has been observed in both field and

⁵ "Effective habitat area" was based on multiplying natural and artificial habitat area by a habitat quality index. The habitat quality index of habitat upstream of dams was assigned a value of 0, given the impediment to upstream migration (Chen *et al.*, 2014).

⁶ Meeting criterion A2b of the COSEWIC quantitative criteria and guidelines for the status assessment of Wildlife Species, meaning "An observed, estimated, inferred or suspected reduction [$\geq 30\%$] in total number of mature individuals in the last 10 years or 3 generations, whichever is longer, where the reduction or its causes may not have ceased or may not be understood or may not be reversible, based on (and specifying) any of (a) to (e) under A1." (COSEWIC, 2025).

laboratory studies of the temperate species *A. anguilla*, *A. japonica*, *A. rostrata* and *A. dieffenbachii* (Geffroy & Bardonnet, 2016). Individual growth rate is also hypothesised to influence sex determination in anguillid eels (Holmgren and Mosegaard, 1996).

4.4 Population trends

The most significant population declines in anguillid species have been reported for three temperate species, *A. anguilla*, *A. japonica*, and *A. rostrata* (Arai, 2014), but there is a considerable lack of data available for tropical anguillid eel species (Stuart *et al.*, 2024). Of the 16 non-CITES listed *Anguilla* species, five are assessed by IUCN as threatened, with three categorised as Endangered (*A. dieffenbachii*, ***A. japonica***, and ***A. rostrata***) and two as Vulnerable (*A. borneensis* and *A. luzonensis*). A further four species were classified as Data Deficient: *A. celebesensis*, *A. interioris*, *A. megastoma*, and *A. obscura*. Six species were categorised as either Near Threatened (n = 4) or Least Concern (n = 2). A more detailed summary of the population status and trends is provided in Annex 4. While *A. nebulosa* does not have an individual global Red List assessment, IUCN considered *A. nebulosa* synonymous with *A. bengalensis* (Pike *et al.*, 2020d), which was assessed as Near Threatened. Three regional assessments for Africa were produced for *A. bengalensis* spp. *labiata* between 2004–2009; all three assessments were Least Concern and annotated as ‘needs updating’ (Bills *et al.*, 2010; Engelbrecht *et al.*, 2010; Hanssens & Kazembe, 2010).

The majority of global population trends for *Anguilla* spp. are reported as unknown in IUCN Red List assessments; population trends could be determined only for *A. anguilla* (declining), *A. japonica* (declining), and *A. rostrata* (stable) (Pike *et al.*, 2020a; Pike *et al.*, 2020b; Pike *et al.*, 2023).

A. japonica was assessed as Endangered in a 2018 IUCN Red List assessment with a decreasing population trend (Pike *et al.*, 2020a). The species was estimated to have experienced a decline of at least 50% over the past three generations (24 years) across its range, primarily based on evidence of declining trends in yellow and silver eel catch-per-unit-effort (CPUE) data in Japan (Pike *et al.*, 2020a). An assessment of Japan’s coastal and estuarine *A. japonica* population that excluded stocked populations found that CPUE for yellow and silver eels was decreasing significantly in four out of six fisheries cooperatives⁷ from 2003–2018, leading the authors to conclude that wild *A. japonica* is decreasing in Japanese coastal and estuarine waters (Kaifu & Yokouchi, 2019). Glass eel CPUE in nine prefectures was also reported to have significantly decreased between the periods 1977–2018 (GLM; coefficient -0.0212) and 2003–2018 (GLM; coefficient -0.1009) (Kaifu & Yokouchi, 2019). The same study conducted a questionnaire with 1509 fisheries cooperative associations, of which 71.8% of associations perceived that the eel stock was decreasing, and 21.6% reported the stock was “relatively decreasing” (Kaifu & Yokouchi, 2019).

In an earlier study, Tanaka (2014) suggested that the ‘exploitable stock’ (yellow and silver eels aged ≥ 1 year) was recovering, with an estimated increase in stock size from less than 10 000 tonnes in 1990 to 18 700 tonnes in 2010, or 24% of the carrying capacity. These estimates were based on yellow and silver eel CPUE from inland waters, glass eel CPUE, and a dynamic model structured by age and sex, with the underpinning data obtained from a range of sources including Japanese national annual fisheries statistics, FAO capture data, and data from Japanese aquaculture newspapers (Tanaka, 2014). However, Kaifu (2019) noted that Japanese yellow and silver eel catch data included catches from stocked inland populations, thereby biasing the biological parameters that were used in the Tanaka (2014) stock assessment model. Kaifu (2019) further cautioned that Japanese annual fisheries statistics were an inappropriate data source on which to base stock assessments due to considerable illegal and unreported glass eel catches in Japan. To illustrate how inclusion of stocked individuals in assessments may mask declines of wild populations, Kaifu *et al.* (2018) used stable isotope analysis of otoliths (ear bones) to distinguish wild *A. japonica* from stocked individuals in Okayama Prefecture, where stocking occurs in inland but not coastal waters. Of the 161 eels sampled from inland waters, 98.1% were identified as stocked, while 82.8% of the 128 eels captured from brackish coastal areas were wild (Kaifu *et al.*, 2018). Notably, CPUE data from coastal sites, where wild eels were predominant, showed significant declines between 2003 and 2016 in both longline and set-net fisheries (Kaifu *et al.*, 2018).

Declines in *A. japonica* are also illustrated in Japan’s annual fisheries statistics: domestic glass eel catches of *A. japonica* have remained at low levels since the 1970s, declining consistently from historical catches of over 100 tonnes per year to below 20 tonnes per year since 2010, with recent catches of 5.6 and 7 tonnes in 2023 and 2024, respectively (Japan Fisheries Agency, 2024) (see Figure 3 in section 6.1 and Annex 7). It is important

⁷ The two fisheries cooperatives that did not have a significant negative CPUE trend had been sampled for a shorter timescale (8 years compared to 14–16 years for the other sites) (Kaifu & Yokouchi, 2019).

to note that early glass eel catch statistics may have included “kuroko” eels up to the 1980s, elvers which are at a later development stage and are heavier than glass eels (Japan Fisheries Agency, 2024; CITES Management Authority (MA) of Japan *in litt.* to European Commission, 2025). It is unclear if declines in catches since the 1980s are due to a reduction in the number of inland fishers due to management interventions, or whether this reflects declines in the population (Hakoyama *et al.*, 2024), however, as noted above, CPUE has reduced over time. Glass eel catches in recent years have fluctuated, with preliminary statistics for the 2025 fishing season estimated at 16 tonnes (CITES MA of Japan *in litt.* to European Commission, 2025). Despite fluctuating catches, according to a report produced by the Fisheries Agency of Japan and the Japan Fisheries Research and Education Agency (FRA), the available data “indicate that the population has been experiencing a long-term decrease and now remains low” (Hakoyama *et al.*, 2024). A joint Fisheries Agency and FRA report in 2025 identified overfishing, pollution and changes in the marine environment as well as habitat degradation as factors that have contributed to the decline of *A. japonica* (Hakoyama *et al.*, 2025) (see section 5).

No other stock assessments for other parts of the range of *A. japonica* (e.g. China) could be located, however there are anecdotal reports that wild *A. japonica* is extremely rare in the Yangtze and Pearl rivers of China (Guo *et al.*, 2021; Shuai *et al.*, 2024) and the species was categorised as ‘possibly Extinct in the Wild’ in Viet Nam’s Red Data Book in 2007 (Ministry of Science and Technology & Vietnamese Academy of Science and Technology, 2007).

A. rostrata: A range-wide stock assessment for *A. rostrata* has not yet been conducted; however, the International Council for the Exploration of the Sea (ICES) American Eel Working Group is undertaking tasks that will support progress towards a range-wide stock assessment for American eel (see section 7.2). Cairns *et al.* (2022) noted a lack of data on abundance and demographic indices outside of *A. rostrata*’s Atlantic range. *A. rostrata* was assessed as Endangered in a 2020 IUCN Red List assessment with a stable population trend (Pike *et al.*, 2023). The assessment clarified that the current population trend was defined by IUCN as a period of ca. 3 years from the present⁸ (Pike *et al.*, 2023), but when considering the population trend over the past three generations (36 years), a mixture of declining, stable, and increasing trends are observed depending on the area (Pike *et al.*, 2023). Overall, over the past three generations, the assessment concluded that there was an average downward trend in recruitment and continental population size that corresponded to a ~50% decline in abundance (Pike *et al.*, 2023). It was further noted that the IUCN SSC Anguillid Eel Specialist Group was working on an updated assessment to reflect the results of a 2023 Atlantic States Marine Fisheries Commission stock assessment, which is described below (Pike *et al.*, 2023).

Canada: Cornic *et al.* (2021) concluded that most available abundance indices for *A. rostrata* in Canada showed either a non-significant or decreasing trend, which suggested its population was either stable or decreasing; only two of twelve fishery-independent datasets indicating increasing eel abundance. However, Cornic *et al.* (2021) emphasised that incomplete data coverage across the species’ range and uncertainties associated with the data made it difficult to draw confident conclusions regarding the overall national status. Significant historic declines have been documented in the region: for example, the *A. rostrata* population in the upper St-Lawrence-Lake Ontario was noted to be <1% of historical levels, despite a closure of the commercial eel fishery in Lake Ontario in 2004 and stocking programs (Cairns *et al.*, 2014; Cornic *et al.*, 2021). While some increasing abundance indices were observed in the St Lawrence Estuary, this was considered likely to be due to the presence of stocked eels, rather than recovery of the wild population (Cornic *et al.*, 2021). Additionally, yellow eels were nearly absent in Lake Ontario and yellow and silver eels were in low abundance in Quebec in recent decades, which was thought to have a significant impact on overall spawning biomass of *A. rostrata*, noting that this region may be an important source of older and more fecund females (Cornic *et al.*, 2021; Stahl *et al.*, 2023).

The CITES MA of Canada (*in litt.* to European Commission, 2025a) referred to an updated 2024 assessment of *A. rostrata* in Canada conducted by Fisheries and Oceans Canada (DFO, 2024a in CITES MA of Canada *in litt.* to European Commission, 2025a). This assessment, which was based on a time series of standardised relative abundances from twelve fishery-independent datasets, includes data on yellow, silver, and elver life stages (DFO,

⁸ The [Guidelines for Using the IUCN Red List Categories and Criteria \(Version 16, March 2024\)](#) stated: “Note that continuing decline is different from “current population trend”, which is a required field in IUCN Red List assessments, but not used when applying the criteria. There is not a simple correspondence between these two terms. The current population trend may be stable or increasing, with a continuing decline projected in the future. If the current population trend is declining, then there is continuing decline, but only if the trend is liable to continue into the future and it is not the declining phase of a fluctuation.”

2024a in CITES MA of Canada *in litt.* to European Commission, 2025a). At the time of writing, the report had not yet been published.

United States: As described in section 4.2, the *A. rostrata* Atlantic coast stock was considered depleted in 2023 and at or near historically low levels, consistent with previous assessments conducted in 2012 and 2017 (American Eel Benchmark Stock Assessment Peer Review Panel, 2023). The abundance time series suggested that the stock, as well as possibly recruitment, had decreased (American Eel Benchmark Stock Assessment Peer Review Panel, 2023) and the modelling approach used (e.g. MARSS) indicated the stock had been in decline for multiple decades and was currently at its lowest abundance over the monitored time series (CITES SA of the United States *in litt.* to European Commission, 2025). In particular, the yellow eel population was lower in the 2023 assessment compared to the 2017 assessment (with slight increases in 2021 and 2022, but remaining near all-time lows), resulting in a recommendation to decrease the coastwide yellow eel harvest cap (American Eel Benchmark Stock Assessment Peer Review Panel, 2023). This recommendation was implemented through a lower coastwide yellow eel harvest cap for the period 2025–2027 (see Annex 10).

4.5 Geographic trends

See section 4.4.

5. Threats

Due to a complex life history that relies on several habitat types, anguillid eels are impacted by several threats throughout their range, including overexploitation, climate change, migration barriers and degradation of freshwater habitat (Gollock *et al.*, 2018; Jacoby *et al.*, 2015). While the relative importance of these individual threats in driving population declines was noted to be difficult to evaluate (Jacoby *et al.*, 2015; Righton *et al.*, 2021), it is likely that they all act in synergy (Williamson *et al.*, 2023).

Anguillid eels are in demand from both domestic and international markets for direct consumption and for stocking eel farms (Williamson *et al.*, 2023), with all continental life stages (glass eels, elvers, yellow and silver eels) targeted (Silfvergrip, 2009). *A. anguilla*, *A. japonica* and *A. rostrata* are generally the key target species for consumption (Arai, 2014; CITES, 2022), with *A. japonica* considered the most commercially important species (CITES, 2022). The availability of *A. japonica* live eel fry (i.e. glass eels and elvers) is therefore believed to be an important driver of trends in harvest and trade of other *Anguilla* species, leading to shifting patterns of trade among these three key species to supply international demand for eel products. For example, demand for *A. anguilla* glass eels to supplement eel farms in East Asia began in the 1990s following declines in *A. japonica* stocks (Gollock *et al.*, 2018; Pike *et al.*, 2020b). Gollock *et al.* (2018) reported that the introduction of EU restrictions on international trade of *A. anguilla* in 2010 “undoubtedly” led to increased trade in other species of anguillid eels. A shift was particularly noted towards *A. rostrata* (Americas) and *A. bicolor* (Southeast Asia/South Asia) (CITES, 2022), with China’s reported *A. rostrata* glass eel inputs in aquaculture ponds increasing from 9 tonnes in 2011–2012 to ~30 tonnes per year since 2014–2015, representing the main species input into aquaculture ponds in several fishing seasons (Annex 6). In recent years, a “boom” in *A. rostrata* glass eel harvesting was observed in Caribbean countries such as Haiti and the Dominican Republic (CITES, 2022). Demand for tropical species, particularly *A. bicolor*, *A. marmorata* and *A. mossambica* (Gollock *et al.*, 2018), was reported to have increased following declines of temperate eel species (Williamson *et al.*, 2023). In Singapore, a 2023 survey of 327 anguillid eel products in markets did not identify any tropical eel species: only the temperate species *A. rostrata*, *A. japonica* and *A. anguilla* (Choo *et al.*, 2025). Whilst the extent of tropical anguillid species in international trade remains unclear, the centre of demand is likely to be in other East Asian countries (see section 6).

Dams and hydroelectric power stations present barriers to eel migration (both upstream and downstream) and have had demonstrable negative impacts on anguillid eel populations, including contributing to direct mortality (Jacoby *et al.*, 2015; Williamson *et al.*, 2023). For example, density of *A. japonica* elvers and young yellow eels in a small river in Fukushima, Japan was negatively correlated with increased number of weirs, demonstrating their negative impact on upstream migration (Kume *et al.*, 2019). Hydropower stations cause substantial direct mortality to *A. rostrata*, with turbine passage mortality rates ranging from 11% to 26% depending on turbine type, posing a major barrier to their downstream migration (Pracheil *et al.*, 2016).

Anguillid eels, due to their ability to store high levels of body fat over their lifetimes, are particularly vulnerable to accumulation of pollutants (Belpaire *et al.*, 2019). Experimental studies suggest that bioaccumulation of contaminants, such as polychlorinated biphenyls (PCBs), dioxin-like compounds (DLCs) and heavy metals,

impact gonad development and reproductive success, as well as embryo and larval development (Belpaire *et al.*, 2019). As most studies are focused on one life stage of eels in experimental conditions, the impacts of pollutants on anguillid eels over their lifetime remains unknown; however, pollutants are believed to be a key contributor to anguillid eel population declines (Belpaire *et al.*, 2019; Righton *et al.*, 2021).

The impacts of climate change, particularly rising temperatures and changes in ocean currents, are suspected to have considerable impacts on the larval stage of anguillid eels, particularly their migration and the success of recruitment to inland freshwater habitats (Jacoby *et al.*, 2015; Righton *et al.*, 2021). Diseases and parasites, particularly the invasive nematode *Anguillicola crassus*, are also likely to have significant impacts on the ability of silver eels to migrate and reproduce (Righton *et al.*, 2021). While silver eel escapement is a key metric in eel stock assessments, such assessments rarely examine the impacts of pollution, parasites and disease on the quality of spawners and their ability to migrate and breed, despite these impacts likely having considerable consequences on eel life cycles (ICES, 2021). Accordingly, the Joint EIFAAC/ICES/GFCM Working Group on Eels (WGEEL) recommended that silver eel quality should be monitored as part of monitoring programmes (ICES, 2021).

6. Utilization and trade

As described in section 5, *A. japonica* and *A. rostrata* are considered a delicacy in many countries and are therefore in high demand in international trade, with East Asia the centre of demand for anguillid eel products (Kaifu *et al.*, 2019). Within this region, Shiraishi & Crook (2015) noted that Japan was historically a key consumer, however demand had declined considerably in recent years with emerging demand from mainland China, Republic of Korea, and other smaller markets outside of East Asia. There is also significant demand in the United States and Western Europe, where anguillid eels, including *A. japonica* and *A. rostrata*, are widely used in sushi and other restaurant cuisines (Ely *et al.*, 2023; Stein *et al.*, 2021). Estimating levels of demand at the national level was noted to be difficult given uncertainties associated with the data available on global production and consumption (Shiraishi & Crook, 2015).

Depending on the country and region, glass eels, yellow eels, or silver eels may be consumed (Shiraishi & Crook, 2015). To supply the demand for adult eel meat, large quantities of glass eels are harvested to stock aquaculture facilities, with China being the largest eel producer of farmed eels, and these facilities are dependent on a continued supply of juvenile eels from the wild (Pike *et al.*, 2020b). Following declines of native *A. japonica*, these facilities have become increasingly reliant on glass eels harvested from other countries, particularly *A. anguilla* and *A. rostrata* (Gollock *et al.*, 2018), resulting in considerable international trade in glass eels for this purpose. These aquaculture facilities fulfil the global demand for eel products, including outside of East Asia: for example, while most eel products consumed in the United States represent *A. rostrata* (94.1% of 137 eel products tested by Ely *et al.*, 2023), the majority of these eels are first exported as juveniles to farms in China, where they are reared and ultimately re-exported (Ely *et al.*, 2023).

Shifts in demand between the key anguillid eel species in trade are reflected in price data: in 2019, *A. japonica* glass eels were valued at USD 3.14/individual, compared to USD 0.57/individual for *A. anguilla* and USD 0.90/individual for *A. rostrata*, with the much higher price of *A. japonica* glass eels reflecting their rarity (Yuan *et al.*, 2022). *A. rostrata* in particular has seen increasing value over time: landed values for *A. rostrata* elvers in Canada increased by more than ten-fold from CAD 450 (USD 314) per kg in 2009 to CAD 5000 (USD 3492) per kg in 2023 (DFO, 2025c).

Several databases quantifying global anguillid production and trade are available, however most do not provide species-specific information. A summary of global production based on FAO data is provided in section 6.1, followed by a summary of international trade (section 6.2) based on information from the UN Comtrade database, regional customs data and national data.

6.1 National utilization

FAO global production (aquaculture and capture)

Figure 2 provides an overview of global production of *Anguilla* spp. based on data reported to FAO for the years 1950–2023, highlighting the shift over time from almost exclusively wild capture production in the 1950s to aquaculture production, which has accounted for the majority of *Anguilla* spp. production since the late 1970s. Aquaculture production has continued to increase almost exponentially: between 2014–2023, 2.78 million tonnes of live eels were produced, representing 88% of global anguillid production. In the most recent year for which

complete data was available, 2023, the level of aquaculture production was the highest over the 10-year period (340 232 tonnes live eels) (Figure 2). China accounted for the majority of aquaculture production 2014–2023 (86%), followed by Japan (6.7%), Republic of Korea (4.2%), and Taiwan (1.3%) (Table A1, Annex 5). While these four producers reported aquaculture production under *A. japonica* only, other *Anguilla* species are known to be farmed in East Asia (Shiraishi & Crook, 2015). It is important to note that captive breeding of anguillid eels on a commercial scale has not yet been achieved, therefore aquaculture systems remain reliant on offtake of juveniles (glass eels and elvers) from the wild (Pike *et al.*, 2020b).

In contrast, global capture production from the wild has generally declined since the 1970s, and totalled 93 509 tonnes live eels 2014–2023. However, Righton *et al.* (2021) emphasised that capture production data was impacted by a lack of reporting consistency across countries and uncertainties associated with the level of illegal, unreported and unregulated (IUU) fisheries. Indonesia (26%) and Philippines (21%) accounted for approximately half of global *Anguilla* spp. captures 2014–2023; other countries with significant captures included Egypt (8.8%), France (7.9%), Netherlands (4.9%) and New Zealand (4.3%) (Table A2, Annex 5).

In the FAO production database, there are eleven possible species-specific '3-alpha codes' for anguillid eels, and one code for the genus *Anguilla* spp., that can be used when reporting production data to FAO. The majority of anguillid aquaculture production 2014–2023 was recorded as *A. japonica* (98%), while for capture production, captures were mostly recorded under either *Anguilla* spp. (51%) or *A. anguilla* (42%).

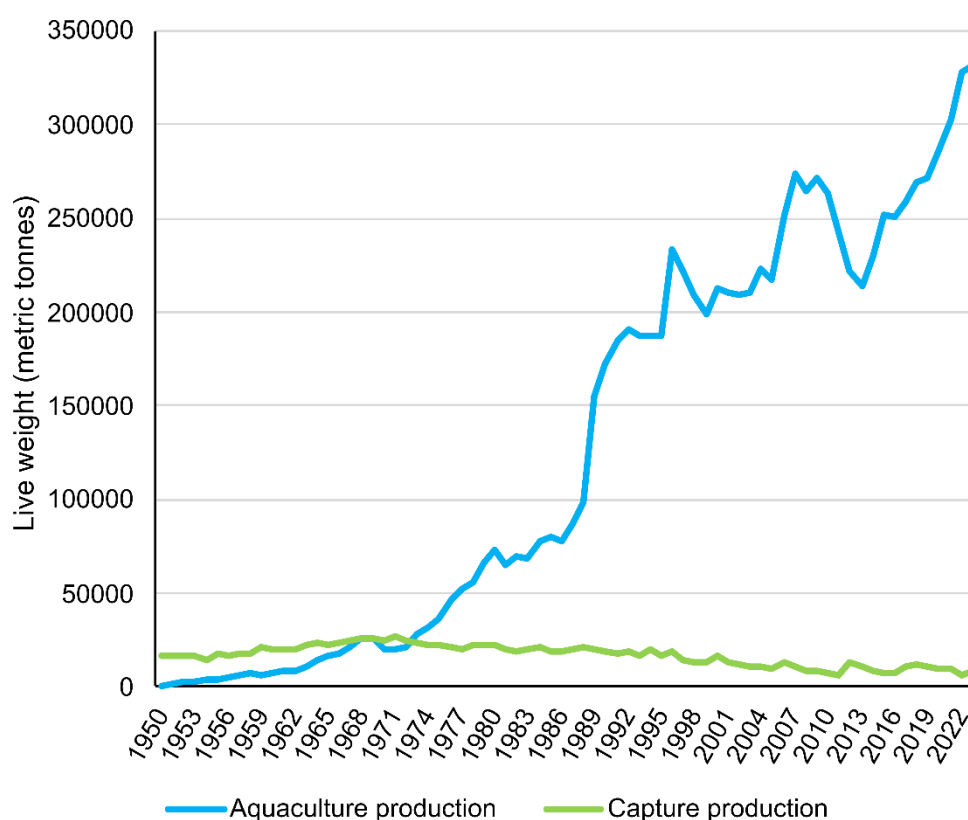


Figure 2. Wild capture and aquaculture production (in metric tonnes, live weight) of 'Anguillidae' (taxonomic code: 1430020) reported to the FAO 1950–2023.

National production statistics

***Anguilla japonica*:** National production statistics have been published annually by members of the Informal Consultation on International Cooperation for Conservation and Management of Japanese Eel Stock (China, Japan, Republic of Korea and Taiwan) since 2015 (Joint Statement, 2014). These statistics were most recently published in the Joint Press Release (2024), which contains data on annual wild captures of *A. japonica* (Table 1) and annual aquaculture production statistics (Table 2) reported by each member, including levels of production

of non-native species such as *A. anguilla* and *A. rostrata*. According to this data, Japan and Republic of Korea's wild adult eel catches (the only members which have reported adult eel catches) appear to have declined 2011–12 to 2022–23: Japan reported 165 tonnes wild adult eel catch in the 2011–12 fishing season, declining to approximately 60 tonnes per year in the most recent years for which data is available (2020-21 and 2021-22) (Joint Press Release, 2024). Republic of Korea reported 102 tonnes wild adult eel catches in the 2011–12 fishing season, and since 2016, catches have fluctuated between 9 and 84 tonnes per fishing season (Table 1). China's total aquaculture production for *Anguilla* spp. was estimated at 145 800 tonnes for the 2022–2023 season; this is almost half that reported by China to the FAO for the year 2022, which amounted to 281 730 tonnes anguillid eels (Table A1, Annex 5). Shiraishi & Crook (2015) highlighted the discrepancies between China's aquaculture production data reported in Joint Press Releases and to FAO, attributing them to differences in data processing through various intermediaries and under- or over-reporting of glass eel production due to illegal fishing. Annual input of glass eels into aquaculture ponds are also reported in the Joint Press Release (2024) (see section 7.2), which is summarised in Annex 6.

Separate national production statistics published by Japan's Fisheries Agency, which are estimated based on glass eel inputs into aquaculture ponds subtracted by imports of glass eels (Hakoyama *et al.*, 2025), indicate that domestic catches of *A. japonica* glass eels were estimated at over 200 tonnes per year in the late 1950s, declining steadily over the next decades; glass eel catches have since fluctuated between ~5 tonnes to ~28 tonnes per year 1990–2024 (Figure 3; Table A3 in Annex 7). In 2025, the most recent year for which data is available, 16 tonnes glass eels were reported in domestic catches (CITES MA of Japan *in litt.* to European Commission, 2025).

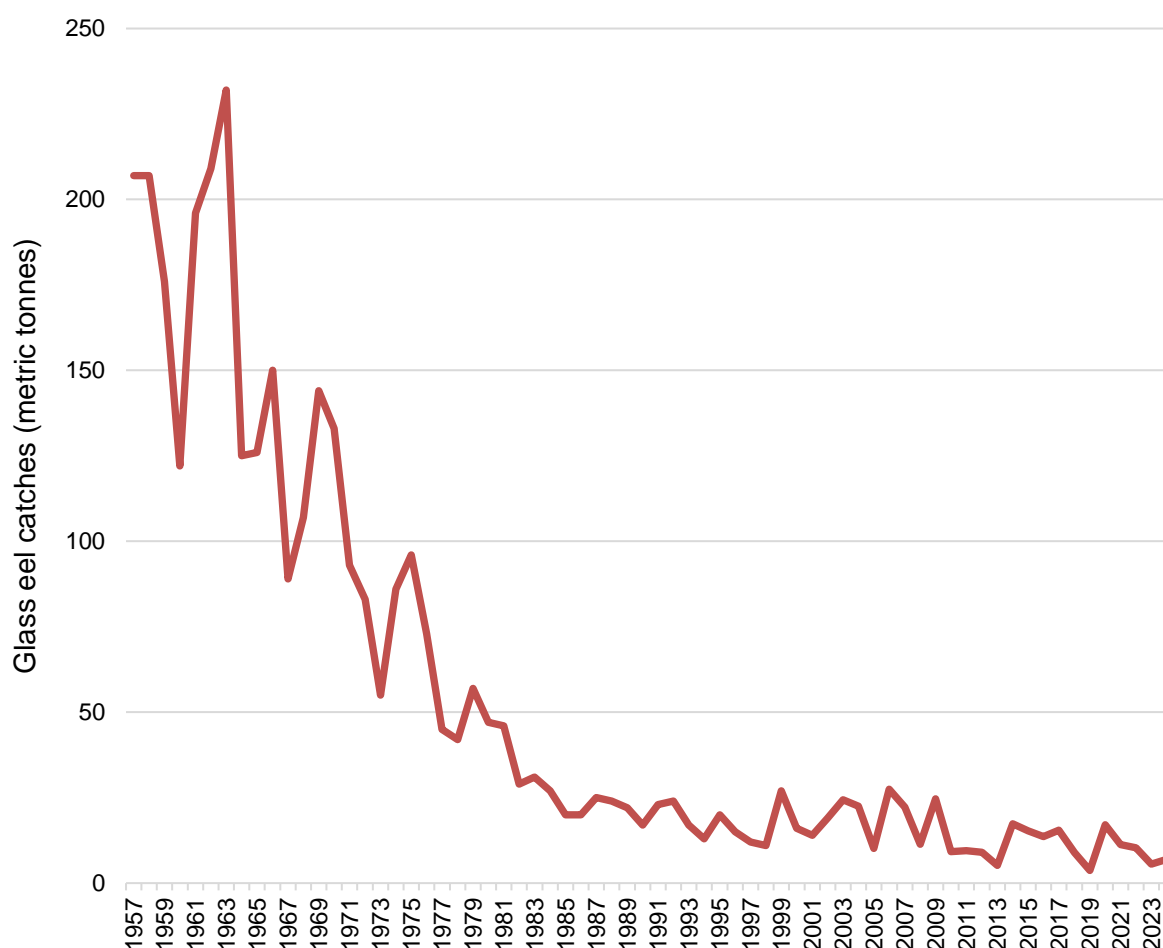


Figure 3. Glass eel catches in Japan, 1957–2023. Figures obtained from Fisheries Agency of Japan (available at <https://www.jfa.maff.go.jp/j/saibai/unagi.html>, accessed 17/03/2025); see Table A3 in Annex 7. From 1957–2002, glass eel catch volumes were obtained from the Fisheries and Aquaculture production Statistics Annual Report, and from 2003 onwards, the data is based on the Fisheries Agency survey, calculated as volume put into aquaculture ponds – amount of glass eels imported. Catches up to 1980 likely included 'kuroko', elvers which are at a later development stage and are heavier than glass eels (CITES MA of Japan *in litt.* to European Commission, 2025).

Table 1. *A. japonica* wild captures (tonnes) reported by mainland China, Japan, Republic of Korea and Taiwan to the Fifteenth Meeting of the Informal Consultation on International Cooperation for Conservation and Management of Japanese Eel Stock and Other Relevant Eel Species. (-) no relevant data or data not available. Eel captures are recorded by fishing season; data for the 2023–2024 fishing season is preliminary. No members reported catches of ‘eel fry’/‘kuroko’; it is unclear if this is because data was not available or if no catches occurred. No statistics are available for Taiwan’s adult eel fishery.

| | | 2011–12 | 2012–13 | 2013–14 | 2014–15 | 2015–16 | 2016–17 | 2017–18 | 2018–19 | 2019–20 | 2020–21 | 2021–22 | 2022–23 | 2023–24 |
|-------------------|--------|-------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Glass eels | China | 28 | 19.5 | 55 | 20.5 | 21 | 26.5 | 16 | 14.5 | 50 | 38 | 29.5 | 40.45 | 24.3 |
| | Japan | 9 | 5.2 | 17.4 | 15.3 | 13.6 | 15.4 | 9.0 | 3.7 | 17.1 | 11.3 | 10.3 | 5.7 | 5.8 |
| | Korea | 1.5 | 1.0 | 5.5 | 4.7 | 1.8 | 2.7 | 1.0 | 0.6 | 4.5 | 3.2 | 2.5 | 2.2 | 1.3 |
| | Taiwan | 1.9 | 1.0 | 8.3 | 1.1 | 3.1 | 4.5 | 1.1 | 2.8 | 5.2 | 6.0 | 1.6 | 1.9 | 1.3 |
| Adult eels | China | No adult eel fishery in China | | | | | | | | | | | | |
| | Japan | 165 | 135 | 112 | 70 | 71 | 71 | 69 | 66 | 66 | 63 | 59 | - | - |
| | Korea | 102 | 73 | 80 | 85 | 70 | 48 | 56 | 60 | 59 | 84 | 9 | 55 | - |
| | Taiwan | - | - | - | - | - | - | - | - | - | - | - | - | - |

Source: Joint Press Release (2024)

Table 2. Aquaculture production (tonnes) reported by mainland China, Japan, Republic of Korea and Taiwan. (-) no relevant data or data not available. Aquaculture production is reported by calendar year, and data for 2024 is preliminary. * *Anguilla* spp. (species-specific data not available)

| | | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|--------------------------|----------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|---------------|-------------|
| Mainland China | <i>A. japonica</i> | 8000 | 12000 | 11000 | 14000 | 16000 | 16000 | 18000 | 14000 | 14000 | 28000 | - | - | - |
| | <i>A. bicolor</i> | 1000 | 2000 | 2000 | 3000 | 1000 | 1000 | | | | | - | - | - |
| | <i>A. anguilla</i> | 22000 | 15000 | 16000 | 15000 | 13000 | 12000 | 12000 | 8000 | 5000 | 3000 | - | - | - |
| | <i>A. rostrata</i> | 9000 | 13000 | 17000 | 24000 | 36000 | 39000 | 45000 | 57000 | 63000 | 61000 | - | - | - |
| | <i>A. marmorata</i> | | | | | | | | | | | - | - | - |
| | <i>A. mossambica</i> | | | | | | | | | | | - | - | - |
| | Total | 40000 | 42000 | 46000 | 56000 | 66000 | 68000 | 75000 | 79000 | 82000 | 92000 | 120000 | 145800 | - |
| Japan | Total* | 17377 | 14204 | 17627 | 20119 | 18907 | 20979 | 15111 | 17071 | 16806 | 20673 | 19167 | - | - |
| Republic of Korea | Total* | 4259 | 5149 | 5631 | 9009 | 9836 | 11095 | 10530 | 10885 | 9724 | 15678 | 18131 | 16045 | 2048 |
| Taiwan | <i>A. japonica</i> | 2244 | 1500 | 1675 | 5187 | 4658 | 3665 | 4204 | 3521 | 1693 | 5044 | 3471 | 2664 | - |
| | Other eel species | - | 404 | 228 | 394 | 154 | 81 | 106 | 142 | 155 | 219 | 152 | 46 | - |
| | Total | 2244 | 1904 | 1903 | 5581 | 4812 | 3746 | 4310 | 3663 | 1848 | 5263 | 3623 | 2710 | - |

Source: Joint Press Release (2024)

Anguilla rostrata: In the United States, in 2023, commercial landings for Maine’s glass eel fishery⁹ totalled 9710 lbs (~4.40 metric tonnes), which appears to have exceeded the quota of 9688 lbs (~4.39 metric tonnes) established for the fishery (Atlantic States Marine Fisheries Commission, 2024a). Preliminary landings data for 2024 indicate 9842 lbs glass eels landed (~4.46 metric tonnes), which would suggest the quota was also exceeded for 2024. Glass eel landings in Maine 2007–2024 peaked in 2012 at 9.81 tonnes landed (prior to any quota setting), settling to generally 4–4.4 tonnes landed per year 2014–2022 (Atlantic States Marine Fisheries Commission, 2024a) (Table 3). Across 11 coastal yellow eel fisheries, 334 653 lbs (~152 metric tonnes) were landed in 2022, representing ~37% of the yellow eel quota of 916 473 lbs (~416 tonnes) in place at the time (Atlantic States Marine Fisheries Commission, 2024b). The coastwide landings quota was reduced for the years 2025–2027 to 518 281 lbs (Atlantic States Marine Fisheries Commission, 2024b). Coastal yellow eel fishery catches 2014–2022 have shown a general downward trend, from 481 tonnes landed in 2014 to approximately 120–150 tonnes landed per year 2020–2022 (Atlantic States Marine Fisheries Commission, 2024b) (Table 4).

In Canada, “large” or “adult” eel harvest ranged from 700 to 1000 tonnes annually between 1970 and 1990, and has since declined to around 300 tonnes annually in recent years (CITES MA of Canada *in litt.* to European Commission, 2025b). The 3-year average of elver harvest from 2019–2022 (excluding 2020 due to pandemic-related impacts on fishing operations and market channels and early fishery closure) was estimated at 7095 kg with the average value of CAD 33.7 million (~USD 24.1 million) (Table 5). Canada’s annual elver landings have remained within quota (9960 kg wet weight) for all years since the quota was established in 2005 (CITES MA of Canada *in litt.* to European Commission, 2025b).

Mexico¹⁰, Cuba, and the Dominican Republic are the only Central and South American and Caribbean countries to report landings of *A. rostrata* to FAO (Cairns, 2020). However, Cairns (2020) noted that responses to a questionnaire at the American Eel Range States Workshop held in 2018 (see section 7.1) and personal communications with fisheries officials from these countries indicated that figures reported to FAO likely underestimate actual landings. Data provided through the workshop and summarised by Cairns (2020) indicated that in Haiti, reported elver landings from 2013 to 2016 totalled 36.83 tonnes; in Jamaica, landings for 2013–2016 were 363 kg; and in Cuba, mean landings of “large eels” from 2001 to 2010 were 3.5 tonnes annually, dropping slightly to 3 tonnes per year from 2011 to 2012. From 2013 to 2017, Cuba reported landings for elvers only, with an average of 3 tonnes in 2013 and 2014, declining to 1.2–1.5 tonnes in 2015–2016 and 0.13 tonnes in 2017; though the distinction between elvers and large eels was noted to be uncertain¹¹. Only glass eel export data was available for Jamaica, which is summarised in section 6.2.

Table 3. Glass eel/elver landings in Maine, United States, 2007–2024 and value in USD. Landings were reported in pounds (lbs) and converted here to metric tonnes. A quota of 9688 lbs (~4.4 metric tonnes) has been established each year 2014–2024; no quota was in place prior to 2014. *Data for 2024 are preliminary.

| Year | Capture (lb/t) | Value (USD) | Year | Capture (lb/t) | Value (USD, millions) |
|------|----------------|-------------|-------|----------------|-----------------------|
| 2007 | 3714 / 1.69 | 1 287 479 | 2016 | 9400 / 4.27 | 13.4 |
| 2008 | 6951 / 3.16 | 1 486 353 | 2017 | 9343 / 4.24 | 12.2 |
| 2009 | 5199 / 2.36 | 519 569 | 2018 | 9194 / 4.17 | 21.8 |
| 2010 | 3158 / 1.43 | 584 851 | 2019 | 9620 / 4.37 | 20.1 |
| 2011 | 8585 / 3.90 | 7 653 332 | 2020 | 9652 / 4.38 | 5.1 |
| 2012 | 21611 / 9.81 | 40 384 618 | 2021 | 9106 / 4.13 | 16.7 |
| 2013 | 18080 / 8.21 | 32 931 077 | 2022 | 9459 / 4.28 | 20.2 |
| 2014 | 9690 / 4.40 | 8 474 302 | 2023 | 9710 / 4.40 | 19.5 |
| 2015 | 5259 / 2.39 | 11 422 831 | 2024* | 9842 / 4.46 | 12.2 |

Source: Maine Department of Marine Resources (in Atlantic States Marine Fisheries Commission, 2024a).

⁹ Maine is the only glass eel fishery in the United States except for South Carolina, for which data is confidential but reported to be less than 750 lbs (340 kg) per year (Atlantic States Marine Fisheries Commission, 2024c; CITES, 2022)

¹⁰ The CITES Management Authority of Mexico (*in litt.* to the European Commission, 2024) confirmed that there is no commercial exploitation of *A. rostrata* in the country, and Mexico’s response to the American Eel Range States Workshop questionnaire indicated that the species is only taken incidentally (Cairns, 2020). As such, Cairns (2020) considered the eel landings for Mexico within the FAO capture production database to be unreliable.

¹¹ Cairns (2020) noted that “Based on information provided to the workshop, Table 26 shows eel landings up to 2012 as probably yellow eels, but in the following year the same tonnage is listed as probably elvers. Such a switch in category, with the same volume of landings, seems unlikely, but a clarification of this anomaly is unavailable”.

Table 4. Yellow eel landings across fifteen Atlantic coast states in the United States, 2014-2022. Data for 2021 and 2022 are preliminary. Landings were reported in pounds (lbs) and converted here to metric tonnes. A coastwide cap of 907 671 lbs was established in 2014, which was increased to 916 473 lbs in 2019 and decreased to 518 281 lbs for the years 2025–2027.

| Year | Capture (lb/t) |
|------|----------------|
| 2014 | 1060725 / 481 |
| 2015 | 868 663 / 394 |
| 2016 | 946045 / 429 |
| 2017 | 864360 / 392 |
| 2018 | 776112 / 352 |
| 2019 | 539301 / 245 |
| 2020 | 263892 / 120 |
| 2021 | 328618 / 149 |
| 2022 | 317456 / 99 |

Source: Atlantic Coastal Cooperative Statistics Program, 2023 (in Atlantic States Marine Fisheries Commission, 2024b).

Table 5. Canada's elver landings and value 2013–2022. A quota of 9960 kg has been in place since 2005.

| Year | Capture (kg) | Value (CAD, millions) |
|------|--------------|-----------------------|
| 2013 | 5412 | 25 |
| 2014 | 4284 | 10 |
| 2015 | 3576 | 17 |
| 2016 | 5202 | 15 |
| 2017 | 5197 | 15 |
| 2018 | 7267 | 35 |
| 2019 | 7408 | 39 |
| 2020 | 2943 | 4 |
| 2021 | 6321 | 24 |
| 2022 | 7557 | 39 |

Source: Department of Fisheries and Oceans (2022). Zonal Interchange File [database]. Ottawa in Fisheries and Oceans Canada (2024). Available at: <https://www.dfo-mpo.gc.ca/acts-lois/cost-benefit-analysis-analyses-couts-avantages/elver-civelle-eng.html> [Accessed 09/05/2025]

Anguilla rostrata is of significant cultural, spiritual, and economic importance for Indigenous Peoples throughout eastern North America, including several First Nations and Native American communities (Engler-Palma *et al.*, 2013; Gansworth and Bowser, 2024). In addition to subsistence use and independent fisheries (Giles *et al.*, 2016), some Indigenous fishers participate in the commercial *A. rostrata* fishery: for example, a portion of Canada's annual elver quota is allocated to First Nations fishers to participate in the general commercial elver fishery (AC33 Doc. 40).

6.2 Legal trade

International trade – UN Comtrade Database

Analyses of international trade in non-CITES listed *Anguilla* spp. have relied on national or regional customs data, as well as global trade databases such as the UN Comtrade Database and the FAO Global Aquatic Trade Database (Gollock *et al.*, 2018; Shiraishi, 2020; Shiraishi & Crook, 2015). There are currently four global Harmonised System (HS) codes that relate to *Anguilla* spp. (Table 6)¹². As these global HS codes do not distinguish between species or life stage (Gollock *et al.*, 2018), analyses of trends in anguillids in international trade have inferred the species based on the geographic origin¹³ reported in the trade data itself (Gollock *et al.*,

¹² Several other HS codes are likely used by exporters and importers to report trade in *Anguilla* spp., however, data from these codes have not been extracted due to the high likelihood that they also encompass non-anguillid species.

¹³ The limitations of this approach include: the country/territory reported as the 'origin' of the trade may in fact represent a re-exporter, as eels are farmed, processed and traded across the world (Shiraishi & Crook, 2015); several anguillid species can occur in one country (Shiraishi, 2020); and non-native *Anguilla* species are farmed around the world (Gollock *et al.*, 2018).

2018; CITES, 2022; Shiraishi & Crook, 2015). Gollock *et al.* (2018) proposed that anguillid species could be broadly inferred from the reported geographic origin as follows: **East Asia:** *A. japonica*; **Americas:** *A. rostrata*; **Southeast Asia:** *A. bicolor* and other tropical species; **Oceania:** *A. australis*, *A. dieffenbachii* and *A. reinhardtii*; **East/Southern Africa:** *A. mossambica* and other tropical species and; **Europe and North Africa:** *A. anguilla*.

Table 6. Relevant global HS codes for *Anguilla* spp.

| HS code | Description |
|---------|---|
| 030192 | Live eels “ <i>Anguilla</i> spp.” |
| 030274 | Fresh or chilled eels “ <i>Anguilla</i> spp.” |
| 030326 | Frozen eels “ <i>Anguilla</i> spp.” |
| 160417 | Prepared or preserved eels, whole or in pieces (excl. minced) ¹⁴ |

According to the UN Comtrade Database, between 2014–2023¹⁵, over 920 000 tonnes eel products were exported globally: prepared or preserved eels (47%); live eels (33%); frozen eels (17%); and fresh or chilled eels (2%) (Table 7). Overall, global exports of anguillid products fluctuated between ~80 000 to ~110 000 tonnes per year over the ten-year period. Notably, exports of live eels generally decreased 2014–2023, approximately halving from 41 599 tonnes live eels exported in 2014 to 23 609 tonnes in 2023. Trade in prepared/preserved eels increased over the ten years, accounting for approximately 60% of global exports in 2023.

Table 7. Global exports of *Anguilla* spp. products 2014–2023 reported by weight (metric tonnes; 1000 kg = 1 tonne).

| Product (HS Code) | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | Total |
|-----------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|--------------|--------------|---------------|
| Prepared/ preserved eels (160417) | 31649 | 38244 | 31662 | 37860 | 44417 | 44418 | 45347 | 62940 | 51705 | 51110 | 439353 |
| Live eels (030192) | 41599 | 37826 | 40911 | 31642 | 35569 | 25566 | 24269 | 27790 | 21415 | 23609 | 310197 |
| Frozen eels (030326) | 13632 | 14178 | 19166 | 16326 | 13533 | 17118 | 19263 | 20865 | 15656 | 11623 | 161359 |
| Fresh/chilled eels (030274) | 2278 | 1623 | 1627 | 1352 | 1987 | 1721 | 1244 | 1398 | 1088 | 2713 | 17033 |
| Annual total | 89158 | 91871 | 93367 | 87181 | 95506 | 88823 | 90124 | 112993 | 89864 | 89055 | 927942 |

Source: [UN Comtrade Database](#) (Accessed 25/03/2025)

A breakdown of the top 10 exporters of anguillid products 2014–2023 based on the UN Comtrade Database is provided in Annex 8. Across the four HS codes specific to *Anguilla* spp., China was the largest exporter of eel products (526 498 tonnes, 57%), followed by Indonesia (83 685 tonnes, 9%) and Myanmar (71 185 tonnes, 8%). The vast majority of prepared and preserved eels exported globally 2014–2023 were exported by China (408 948 tonnes, 93%). Live eels were mainly exported by China (98 652 tonnes, 32%), Myanmar (66 322 tonnes, 21%) and Philippines (46 585 tonnes, 15%); frozen eels by Indonesia (58 470 tonnes, 36%), India (24 930 tonnes, 15%), Malaysia (19 241 tonnes, 12%), and China (14 642 tonnes, 9%); and fresh or chilled eels were exported by China (4 256 tonnes; 25%), Myanmar (2 310 tonnes; 14%), and Spain (2 197 tonnes; 13%). The global exports presented in Annex 8 also include intra-EU trade data. Gollock *et al.* (2018) cautioned that trade in non-*Anguilla* species from Southeast Asia (e.g. in swamp eels and moray eels) was known to be reported under HS codes for *Anguilla* eels, resulting in a potential overestimation of trade in *Anguilla* spp. from the region in the UN Comtrade Database. Equally, trade in *Anguilla* spp. is likely reported under several other HS codes that are not specific to the genus, which in turn means some trade is not accounted for in these estimates.

International trade – regional customs data

A recent analysis of customs import data from East Asia (China, Republic of Korea, Taiwan and Hong Kong Special Administrative Region of China, hereafter SAR) observed a decline in imports of live eel fry from Europe and North Africa (assumed to correspond to *A. anguilla*) over the period 2004–2010, after which imports from the Americas (assumed to correspond to *A. rostrata*) increased (Shiraishi & Kaifu, 2024). In 2004, imports of live eel

¹⁴ The HS code for prepared and preserved eels does not specify *Anguilla* spp., therefore trade reported under this code may include other taxa that are commonly referred to as eels, such as conger eels and hagfish (Shiraishi & Crook, 2015).

¹⁵ Trade data for 2024 were not included in the analysis, as key exporting countries such as China and Indonesia had not yet reported their data to the UN Comtrade database at the time of data download. 184 reporting States had submitted at least one year of data 2014–2023 to UN Comtrade as of 25/03/2025. This includes 140 to have submitted all years, and 153 to have submitted in 2023.

fry from the Americas were estimated at 2 tonnes, which increased to 53 tonnes in 2021 and to 157 tonnes in 2022 (representing 89% of East Asian imports of live eel fry that year) (Shiraishi & Kaifu, 2024). Imports of *A. rostrata* in 2022 represented a five-fold increase compared to the average imports 2004–2021, signalling “unprecedented demand” for the species (Shiraishi & Kaifu, 2024). Hong Kong SAR of China (the main transit point for eel fry entering East Asia; CITES, 2022) was the main importer of live eel fry from the Americas in 2022, importing 100.6 tonnes from Haiti (64%); 43.4 tonnes from Canada (28%); 12.7 tonnes from the United States (8%); and 0.2 tonnes from the Dominican Republic (Shiraishi & Kaifu, 2024). The import of 43.4 tonnes eel fry from Canada in 2022 significantly exceeds the total of Canada’s total allowable catch of 10 tonnes and the United States’ limit of 4.4 tonnes catch of glass eels in that year (see Annex 10), however some of these imports represent re-exports (Shiraishi & Kaifu, 2024). CITES (2022) noted that large quantities of glass eels were harvested in the Caribbean and re-exported via North America, but that this trade appears in East Asian customs data as direct exports from the United States and Canada rather than re-exports.

More recent customs import data from East Asia provided by H. Shiraishi (pers. comm. to UNEP-WCMC, 2025) indicate that live eel fry imports from *A. rostrata* range States declined from 157 tonnes in 2022 to 96.9 tonnes in 2023, and to 73.2 tonnes in 2024. Despite this decline, reported import volumes remain significantly higher than those observed prior to 2021 (H. Shiraishi pers. comm. to UNEP-WCMC, 2025). While exports from Haiti dropped sharply to just one tonne in 2024, the majority of reported imports in 2024 originated from Canada and the United States (H. Shiraishi pers. comm. to UNEP-WCMC, 2025). However, H. Shiraishi (pers. comm. to UNEP-WCMC, 2025) emphasised the considerable uncertainty around the customs data, including species composition and origin of imports.

EUROSTAT (European Union trade data): According to the EUROSTAT database, between 2014–2023, the EU-27 imported 14 989 tonnes of eel products from the rest of the world: 6731 tonnes of prepared or preserved eels (45%); 3476 tonnes frozen eels (23%); 2501 tonnes live eels (17%); 2276 tonnes fresh or chilled eels (15%); and 5 tonnes smoked eels (0.03%). Since 2021, EU imports of anguillid products have consisted almost entirely of prepared/preserved eels, frozen eels, and live eels, with negligible quantities of smoked and fresh or chilled eels. As well as the HS codes in Table 6, the EU Combined Nomenclature includes three subdivisions for live eels (*Anguilla* spp.), distinguished by size. Of the 2501 tonnes live eel imported 2014–2023, 2131 tonnes (81%) were ≥ 20 cm in length, followed by eels < 12 cm length¹⁶ (330 tonnes; 13%) and eels ≥ 12 cm length but < 20 cm (40 tonnes, 2%).

Annex 9 provides a breakdown of the trading partner for EU imports of anguillid products 2014–2023¹⁷. Prepared/preserved eels were largely from China (95%), while frozen eels were predominantly from China (45%), New Zealand (31%), and Canada (12%); imports of fresh or chilled eels were mostly imported from New Zealand (90%); live eels were imported from the United States (66%) and Canada (28%); and smoked eels were imported from China (70%), with low levels of imports from Ghana and Nigeria. Given the geographic origin of these products, it is likely the EU is an importer of *A. japonica*; *A. rostrata*; *A. australis*/*A. dieffenbachii* or *A. reinhardtii*; as well as low levels of tropical eel species such as *A. mossambica*.

International trade – national data

Eel imports by Japan increased rapidly in the mid-1980s due to declines in the native *A. japonica* and increased farming of *A. anguilla* in China, with a peak of 133 211 tonnes imported in 2000 (Japan Fisheries Agency, 2024; Table A4 and Figure A2 in Annex 7). Imports of eels into Japan have remained at approximately 30 000–40 000 tonnes per year over the past decade (Japan Fisheries Agency, 2024); these imports figures reflect live adult eels as well as processed products, converted into their live weight equivalents (H. Shiraishi pers. comm. to UNEP-WCMC, 2025). Imports of glass eels are reported separately: since the 2020–2021 fishing season, Japan has imported ~6–11 tonnes *A. japonica* eel fry annually for input into aquaculture ponds (Annex 6).

Japan’s Fisheries Agency (2024) reported that its imports of *A. rostrata* had increased in recent years, however, as non-*A. japonica* eel species are rarely used for farming in Japan (CITES MA of Japan *in litt.* to European Commission, 2025; Shiraishi *et al.* in press), increasing imports of *A. rostrata* likely represent live adult eels and processed products for direct consumption, rather than for input into aquaculture. This aligns with findings from Shiraishi *et al.* (in press), who investigated the species composition of eel products in Japan using DNA

¹⁶ The *Guidelines for the preparations and submission of CITES annual reports* specify that live *Anguilla anguilla* < 12 cm should be reported as fingerlings (code FIG); other live specimens of 12 cm or larger as reported as LIV.

¹⁷ Data reported to EUROSTAT for import of eels by the European Union from Northern Ireland have been excluded from the analyses as this is considered intra-EU trade under the Northern Ireland Protocol.

barcoding: 133 retail samples collected in 2024 were categorised as either domestically produced or imported based on place of origin labels, which are required for processed eel products sold in Japan (Shiraishi *et al.* in press). The study found that all 51 domestically produced products were *A. japonica*, while over half of imported products (82 samples, all imported from China) represented *A. rostrata* (59.8%), followed by *A. japonica* (37.8%) and *A. anguilla* (2.4%) (Shiraishi *et al.* in press). It should be noted that ‘domestically produced’ *A. japonica* products may include eels that were originally imported as eel fry from China or Taiwan and subsequently farmed in Japan (H. Shiraishi pers. comm. to UNEP-WCMC, 2025).

LEMIS and United States transit data: According to US Fish and Wildlife Service Law Enforcement Management Information System (LEMIS) data spanning 2020–2024 provided by the CITES MA of the United States (*in litt.* to European Commission, 2025), approximately 284 tonnes live *A. rostrata* were exported by the United States 2020–2024 (Table 8). The majority of this total represents adult eels, which account for the majority of *A. rostrata* exported by the United States when reported as weight (CITES MA of the United States, *in litt.* to European Commission, 2025). Due to a declaration exemption, imports and exports of *A. rostrata* meat for human consumption are not included in the LEMIS database, therefore the database does not provide a comprehensive overview of *A. rostrata* imports or exports from the United States (CITES MA of United States *in litt.* to European Commission, 2025). As the United States is a major importer (rather than exporter) of anguillid eel meat products, this exemption results in particularly limited data on meat imports into the country (CITES MA of the United States, *in litt.* to European Commission, 2025).

Table 8: Direct exports of live *A. rostrata* by the United States reported by weight (metric tonnes; 1000 kg = 1 tonne), 2020–2024.

| Species | Term | Unit | Purpose | Source | 2020 | 2021 | 2022 | 2023 | 2024 | Total |
|--------------------|------|---------------------|---------|--------|------|------|------|------|------|-------|
| <i>A. rostrata</i> | live | ton | T | W | 35.8 | 79.3 | 78.5 | 46.1 | 44.3 | 284.1 |
| | | number of specimens | T | W | | | | 6 | 250 | 256 |

Source: LEMIS data provided by the CITES MA of the United States (*in litt.* to European Commission, 2025).

Import data recorded in the LEMIS database indicates that the United States imported 417 tonnes live *A. anguilla* 2020–2024 from Morocco (84%) and Egypt (16%). Other anguillid species imported 2020–2024 in significant quantities included 303 tonnes and 54 806 individuals of *A. rostrata* predominantly from Canada (99%); 11.1 tonnes and 134 925 individuals of *A. australis* from New Zealand; and 102 090 *A. bengalensis* individuals from Bangladesh (Table 9).

Table 9: Direct imports of live *Anguilla spp.* by the United States, 2020–2024 (metric tonnes; 1000 kg = 1 tonne).

| Species | Term | Unit | Purpose | Source | 2020 | 2021 | 2022 | 2023 | 2024 | Total | |
|-----------------------|------|---------------------|---------|--------|-------|-------|-------|--------|-------|--------|-----|
| <i>A. anguilla</i> | live | ton | T | C | | | | 2.0 | | 2.0 | |
| | | | | F | | 5.0 | | | | 5.0 | |
| | | number of specimens | T | R | | 42.7 | 68.2 | 123.9 | 106.6 | 341.4 | |
| | | | | W | | | 18.0 | 21.3 | 29.0 | 68.3 | |
| <i>A. australis</i> | live | ton | T | C | | | 1.6 | | | 1.6 | |
| | | | | W | 6.4 | | 1.0 | | 2.1 | 9.5 | |
| | | number of specimens | T | C | | | 28230 | 4414 | 3036 | 35680 | |
| | | | | W | 15796 | | 2340 | 29305 | 51804 | 99245 | |
| <i>A. bengalensis</i> | live | ton | T | W | 2.7 | | | | | 2.7 | |
| | | number of specimens | T | W | 76410 | 25680 | | | | 102090 | |
| <i>A. bicolor</i> | live | number of specimens | T | C | 32 | | | | | 32 | |
| | | | | W | 46 | | | | | | 46 |
| <i>A. japonica</i> | live | ton | T | W | | | | <0.001 | | | |
| | | number of specimens | T | W | 100 | | | | | | 100 |
| <i>A. marmorata</i> | live | ton | T | W | | | | | 0.2 | 0.2 | |
| | | number of specimens | T | W | 518 | | 1621 | 224 | | 2363 | |
| <i>A. mossambica</i> | live | number of specimens | T | C | | | 26 | | | 26 | |
| | | | | S | W | | | 1.8 | | | 1.8 |
| | | | | T | C | 3.1 | 3.5 | | | | 6.6 |
| <i>A. rostrata</i> | live | ton | T | W | 49.7 | 116.9 | 53.4 | 48.7 | 26.0 | 294.6 | |
| | | | | C | | 1046 | 655 | 1195 | 60 | 2956 | |
| | | number of specimens | T | W | | 34300 | 16900 | | 650 | 51850 | |
| | | | | C | | | | | | | |

Source: LEMIS data provided by the CITES MA of the United States (*in litt.* to European Commission, 2025).

The CITES MA of the United States (*in litt.* to European Commission, 2025) additionally provided data on international shipments of eel transiting through the Port of Miami, Florida; this data is separate from the LEMIS database and is collected on an *ad hoc* basis, therefore should not be considered fully comprehensive (CITES MA of the United States *in litt.* to European Commission, 2025). According to this data, 50 tonnes of eels (of which the majority are likely to be elvers) were re-exported via the United States over the 7-year period 2019–20 and 2024–25 (Figure 4) (CITES MA of the United States *in litt.* to European Commission, 2025). The 2024 season commenced in October 2024, therefore data for this period are incomplete. The majority (81%) of re-exports originated from Haiti, with the remainder originating from the Dominican Republic; 74% of re-exports were destined for Hong Kong SAR of China, 26% were destined for Canada, and negligible quantities recorded the United States as the final destination.

According to national customs data reported by *A. rostrata* range States in the Caribbean region, between 2016–2021, approximately 12 tonnes of glass eels were exported by the Dominican Republic, with Canada, China, Hong Kong SAR of China, Spain and the United Kingdom reported as key destinations, though some of these represented re-exporters (Sargasso Sea Commission, 2021). In Jamaica, glass eel exports 2013–2020 totalled 86 kg (fluctuating annually, but not exceeding 30 kg), which were exported to East Asia via Canada (Sargasso Sea Commission, 2021).

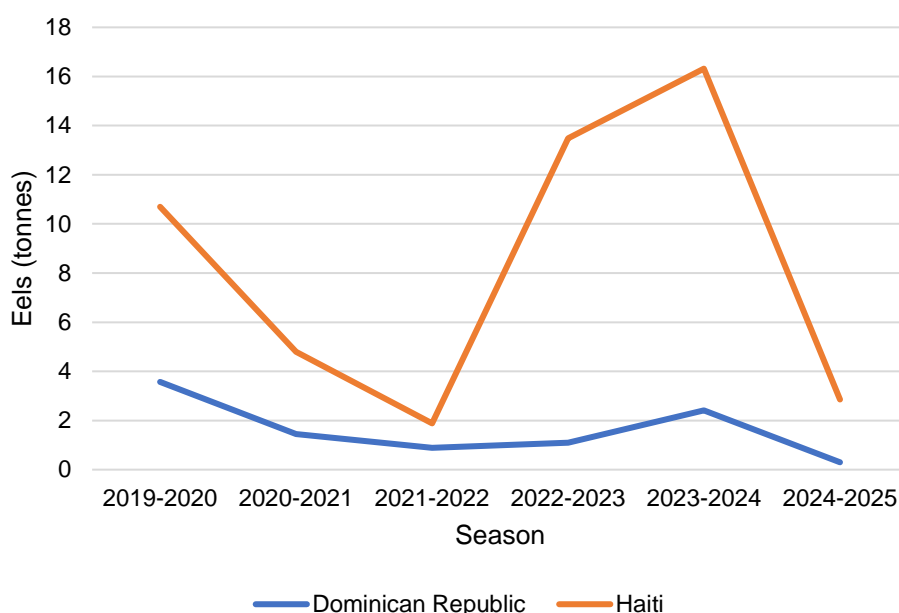


Figure 4. Re-exports of eels (elvers) from the Caribbean via the Port of Miami, Florida, United States. Data for the 2024–2025 season are incomplete. Shipment weights are estimated at 1 kg per box. Data provided by the CITES MA of the United States (*in litt.* to European Commission, 2025).

6.3 Parts and derivatives in trade

Anguillid eels are highly valued in international trade, with various life stages and body parts utilised. The most commercially significant product is eel meat from adult eels, which is consumed fresh, frozen, smoked, or processed into fillets, particularly in East Asian markets where demand is high (Gollock *et al.*, 2018; Shiraishi & Crook, 2015). Eel meat is referred to as “unagi” in Japanese cooking and is used in sushi or donburi dishes (Choo *et al.*, 2025; Goymer *et al.*, 2023). To supply demand for eel meat, glass eels are harvested to restock aquaculture facilities and are traded internationally for this purpose (Pike *et al.*, 2020b; Pike *et al.*, 2023). Other than consumption for culinary purposes, anguillid eel leather is also traded in small volumes (Pike *et al.*, 2023; Pike *et al.*, 2020a; 2020b).

6.4 Illegal trade

Illegal trade presents a serious threat to anguillid eels (Williamson *et al.*, 2023). Large-scale illegal trade in *A. anguilla* has been reported since the introduction of a zero-export quota by EU Member States in 2010, with illegally sourced *A. anguilla* entering the commercial eel farming industry in East Asia (UNODC, 2020). In a report

presented at the 30th meeting of the Animals Committee, Musing *et al.* (2018) identified several issues related to illegal trade and enforcement of the Appendix II listing for *A. anguilla*, particularly the frequent misdeclaration of *A. anguilla* shipments as non-CITES listed anguillid species. This practice is widely documented, with reports of illegally exported *A. anguilla* glass eels mixed with *A. rostrata*, *A. japonica* and *A. bicolor* in Hong Kong SAR of China before export from Europe to mainland China (Alonso & Van Uhm, 2023). Several illegal trade incidents recorded in the TRAFFIC Wildlife Trade Portal have also described misdeclaration of illegal *A. anguilla* shipments to North America, including 90 tonnes eel meat seized in Canada in 2023 declared as *A. rostrata* but mixed with *A. anguilla* (North Shore Daily Post, 2023) and the prosecution of a United States-based importer and distributor that imported approximately 138 shipping containers containing all or mostly *A. anguilla* but were falsely declared as *A. rostrata* (U.S. Department of Justice, 2022).

DNA-testing of eel products in retail and restaurants has revealed that *A. anguilla* remains available for sale to consumers in international retail markets in significant quantities (Nijman & Stein, 2022). While *A. anguilla* can be legally traded from non-EU range States, the scale of documented mislabelling, seizures, and forensic testing points to the persistence of widespread illegal trade from the European Union (Europol, 2023). In major supermarket chains in Hong Kong SAR of China, 45% of all eel products tested were identified as *A. anguilla*, many of which were labelled as “product of China” (Richards *et al.*, 2020). In Canada, a market survey conducted in 2019 as part of an INTERPOL operation discovered that almost half of eel meat in Canadian markets represented *A. anguilla* (Sustainable Eel Group, 2020), and a Canadian company was fined for transporting eel meat from China labelled as *A. rostrata*, while shipments actually contained 6.5% to 47.8% *A. anguilla* meat (Environment and Climate Change Canada, 2021).

Illegal, unreported and unregulated fishing (IUU) of eels is prevalent, with many authors noting that official fisheries statistics underestimate the scale of eel harvest considerably due to IUU (Gollock *et al.*, 2018; Kaifu *et al.*, 2019; Shiraishi & Crook, 2015). This results in considerable uncertainty in stock assessments (Kaifu, 2019); for example, a recent stock assessment of *A. rostrata* in the Maritimes region of Canada reported high levels of unauthorised elver harvesting that were not reflected in reported catches for eel or elver (DFO, 2024b). In response to increasing unauthorised fishing activity, Canada’s eel fishery was closed for approximately two years, from April 2023 until its reopening in March 2025 (DFO, 2025a, 2025c). Within East Asia, demand for *A. japonica* glass eels for aquaculture drives significant illegal trade within the region: for example, recent seizures of large quantities of eel fry have been reported from ports in Quanzhou and Shenzhen in China (China News Network, 2021; Zhou, 2024). Seizures of smuggled *A. japonica* eel fry have also been reported in Hong Kong SAR of China, including shipments illegally exported from Taiwan (Chen, 2022), as well as those transiting from Japan to the Republic of Korea via Hong Kong SAR of China (Asahi Shimbun, 2020).

The CITES MA of the United States (*in litt.* to European Union, 2024) stated its law enforcement agency had many concerns related to illegal trade in *Anguilla* spp., including misdeclaration of smuggled European eels as non-CITES listed species, and reported it “routinely” encounters import shipments of *A. anguilla* mislabelled as *A. rostrata* (CITES MA of the United States *in litt.* to European Union, 2024). Concerns were also expressed regarding illegal trade in *A. rostrata*, including of harvesting of glass eels in Caribbean countries with closed fisheries, and inconsistencies in trade data from Caribbean nations (CITES MA of the United States *in litt.* to European Union, 2024). In December 2024, approximately 60 000 live *A. rostrata* were seized in Sint Maarten from a vessel that originated from the Dominican Republic, and the documents associated with the shipments were deemed fraudulent (Nature Foundation Sint Maarten, 2024). Moreover, there is emerging evidence of significant eel trafficking operating from Haiti, with a recent UN Security Council Briefing reporting that eel trade was being used to launder money from drug operations and emphasising the need to support the Haitian authorities in analysing money laundering linked to illegal wildlife trade (UNODC Executive Director, 2025).

6.5 Actual or potential trade impacts

A. japonica and *A. rostrata* are categorised as Endangered by IUCN, having undergone significant population declines and their populations are believed to be at historic lows. While the drivers of these declines are believed to be driven by a myriad of factors, including overexploitation, barriers to migration, pollution and habitat degradation, all these factors are believed to act in synergy (Williamson *et al.*, 2023). Addressing the decline in anguillid eels therefore requires comprehensive, concerted and coordinated conservation actions, which include ensuring that exploitation and international trade is regulated and sustainable, alongside other measures. Furthermore, patterns of trade and demand are known to be interlinked among anguillid species. Following declines of *A. japonica*, demand shifted to *A. anguilla*; however, following catastrophic population declines of the European eel and subsequent trade restrictions, demand has once again shifted to another species, *A. rostrata*. These patterns of shifting demand and international trade are expected to continue into the future (CITES, 2022).

Inclusion of all anguillid species in Appendix II would also complement and strengthen the existing Appendix II listing of the Critically Endangered *A. anguilla*. While *A. anguilla* was included in CITES Appendix II in 2009, and the European Union prohibited the import and export of the species since 2010, *A. anguilla* continues to appear in international markets both in the form of glass eels for restocking aquaculture facilities and available for sale to consumers in retail markets. This reflects not only legal trade from non-EU range States but also, as indicated by documented mislabelling, seizures, and forensic testing, the persistence of illegal trade. Despite several coordinated enforcement efforts by multiple agencies, a fundamental challenge to the implementation of CITES Appendix II for *A. anguilla* has been the degree of similarity of this species with other species in the genus. The difficulties in differentiating anguillid eel species in their traded forms means that mislabelling of shipments has continued. Applying CITES controls to all *Anguilla* species would improve traceability and provide an important safeguard for globally endangered species (*A. japonica* and *A. rostrata*) where international trade remains unregulated.

7. Legal instruments

7.1 National

Specific regulations for each range State are detailed in Annex 10, based on several sources, including a summary of responses by CITES Parties to [Notification to the Parties 2021/018](#) seeking information on the status, management and trade in eels (*Anguilla* spp.) as analysed by CITES (2022) as well as range State responses to the consultation of the European Union in 2024 (see section 10).

Legal protections and regulations for *A. rostrata* and *A. japonica* vary across range States. For ***A. japonica***, China, Japan, Republic of Korea, and Taiwan have set upper limits on the input of wild-caught *A. japonica* glass eels into aquaculture (36 t, 21.7 t, 11.1 t, and 10 t respectively) as per the Joint Statement (see section 7.2), however it is unclear if these are legally binding. Permits or licenses for glass eel fishing and aquaculture operations and seasonal closures on glass eel fisheries are implemented in all these range States, typically from October to March, and Japan, Republic of Korea, and Taiwan have also established minimum size limits for adult eel fisheries.

In North America, *A. rostrata* is regulated in Canada under Canada's Fisheries Act, with strict quotas and reporting requirements for elver fisheries, as well as recent regulatory updates in March 2025 to improve traceability and enforcement through its Elver Regulations. The United States manages *A. rostrata* through state-level regulations, with coordinated oversight by the Atlantic States Marine Fisheries Commission for the coastal population from Maine to Florida, which sets catch limits. Varying levels of protections are in place in the Caribbean, with an apparent lack of measures in place in Haiti, but with legally binding quotas and seasonal fishing restrictions in place elsewhere, such as in the Dominican Republic.

7.2 International

A. japonica: In 2014, at the Seventh Meeting of the Informal Consultation on International Cooperation for Conservation and Management of Japanese Eel Stock and Other Relevant Eel Species, China, Japan, Republic of Korea, and Taiwan released a non-binding Joint Statement that committed to, *inter alia*: 1) restrict the input¹⁸ of *A. japonica* eel seeds (glass eels and eel fry) taken from the wild into aquaculture ponds for the 2014–2015 season to no more than 80% of that taken for the 2013–2014 season (totalling 78.8 tonnes for *A. japonica*), and for all other *Anguilla* spp., to take every possible measure not to increase the amount of initial input of eel seeds from the last three years; 2) monitor the quantity of eel seeds that are input into aquaculture ponds; and 3) collect trade statistics (import and export) of eels from aquaculture ponds and their products (Joint Statement, 2014). Details of the national measures implemented by the members are detailed in Annex 10. According to a Japanese aquaculture newspaper, for the 2024–2025 fishing season, the quantity of eel seeds input into aquaculture ponds by China, Japan, Republic of Korea, and Taiwan was approaching 150 tonnes, nearly double the agreed 2014 upper limit of 78.8 tonnes (Japan Aquaculture Newspaper No. 1843 (May 10, 2025) in WWF Japan, 2025).

Since the Joint Statement was released in 2014, the annual limit of *A. japonica* eel seed inputs taken from the wild to stock aquaculture ponds has remained unchanged (80% of the input of the 2013–2014 season) (Shiraishi & Kaifu, 2024), and the most recent draft Joint Press Release from June 2024 indicated this limit would also

¹⁸ Gollock *et al.* (2018) stated that “input is used to describe the supply of live eel fry into grow-out eel farms”; the Joint Statement indicates that these inputs are acquired from the wild.

remain for the 2024–2025 and 2025–2026 seasons (Joint Press Release, 2024). However, according to the Fisheries Agency of Japan and Japan Fisheries Research and Education Agency, the upper limit of eel seed input into aquaculture ponds has remained the same because no scientific evidence has been provided to change it (Hakoyama *et al.*, 2025). Moreover, as China did not participate in the Joint Meetings held between 2018 and 2021, it is unclear whether the upper limit of 36 tonnes for *A. japonica* glass eel input into aquaculture, as set out in the Joint Statement, was applicable to China during this period.

A. rostrata: There is currently no international agreement for the conservation and management of *A. rostrata*. Two workshops for *A. rostrata* range States were held in 2018 and 2021; the second workshop explored the development of a roadmap for future collaboration between *A. rostrata* range States (Sargasso Sea Commission, 2021). The Working Group on American Eels (WGAMEEL), under the auspices of the International Council for the Exploration of the Sea (ICES), is a fixed-term working group initially operating from 2022 to 2024 focused on enhancing collaboration between Canada and the United States, which included the collation of abundance and spatial population data for *A. rostrata* and to improve integration of Indigenous knowledge systems (ICES, 2023). An additional three-year term for the working group was approved in 2025, with terms of reference to, *inter alia*, evaluate data needs for eel stock assessments and spatial modelling; test approaches to improve eel management and integrate social science and Indigenous knowledge systems; and summarise available data in the Greater Caribbean and Gulf of Mexico to improve the scientific basis of assessments in the region (ICES, 2025).

8. Species management

8.1 Management measures

Several countries have introduced management measures for *Anguilla* spp.; these are elaborated in detail for *A. japonica* and *A. rostrata* in Annex 10, as well as for other anguillid species in trade.

A. japonica management is generally focused on limiting the input of wild sourced specimens for the purposes of aquaculture, with China, Japan, Republic of Korea, and Taiwan introducing limits which are detailed in section 7.2. Some countries, such as Japan and Republic of Korea, have also introduced seasonal closures and size limits to protect migrating eels and developed restocking programs to support wild populations. In almost all prefectures of Japan where *A. japonica* is distributed, it is prohibited to catch silver eel (Hakoyama *et al.*, 2025). In 2020, China banned all commercial fishing in the Yangtze River and its tributaries and adjoining lakes for ten years to address degradation and fish population declines (Mei *et al.*, 2020). This included a no-fishing zone in the Yangtze River Estuary to facilitate the successful migration of glass eels (Joint Press Release, 2024). The need for population management through a combination of national measures and international cooperation was highlighted as of critical importance to ensure the sustainable use of *A. japonica* (Hakoyama *et al.*, 2025).

In Canada, **A. rostrata** fisheries are managed through an Integrated Fisheries Management Plan which includes non-transferable individual quotas, size limits, gear restrictions and open and closed seasons. Canada's total allowable catch (TAC) for elvers has remained at 9.96 tonnes per year since 2005, aside from a fisheries closure for the 2023 and 2024 fishing seasons due to an increase in illegal fishing. In the United States, glass eel harvesting is conducted in the states of Maine and South Carolina only, and with yellow fisheries in all Atlantic states and jurisdictions apart from Pennsylvania and the District of Columbia. An annual glass eel quota of 4.4 tonnes per year for the Maine fishery has been in place since 2015, and the coastwide commercial quota for yellow eel was lowered from 416 tonnes to 235 tonnes for the 2025–2017 fishing period following a 2023 stock assessment that determined the yellow eel population had decreased since the previous assessment in 2017. The 2023 stock assessment for *A. rostrata* along the United States Atlantic Coast from Maine to Florida recommended that an internationally coordinated range-wide assessment across Canada, the United States (including Gulf and inland states), and the Caribbean should be undertaken, as the management of a panmictic species within the United States must necessarily consider the status of *A. rostrata* beyond its territory (Atlantic States Marine Fisheries Commission, 2023).

8.2 Population monitoring

Fishery-independent data in East Asia was generally noted to be sparse, with abundance trends mostly informed by catch-per-unit-effort data (Kaifu, 2019). In Japan, continuous population surveys of glass eel migration were reported to be conducted in six areas (Chiba, Wakayama, Fukuoka, Miyazaki, Kagoshima and Ishigaki (FAO *in litt.* to European Commission, 2025); no results of ongoing monitoring could be located. The Fisheries Agency of Japan and the Japan Fisheries Research and Education Agency highlighted the need for better data to work

towards a sustainable harvest of *A. japonica*, including improved temporal and spatial data and better knowledge of the population genetic structure, together with the development of a mathematical model for population management (Hakoyama *et al.*, 2025). The importance of cooperation with other range States at regular scientific meetings was also underscored.

In Canada and the United States, glass eel and yellow eel *A. rostrata* fisheries are monitored in periodic stock assessments conducted by Fisheries and Oceans Canada and the Atlantic States Marine Fisheries Commission (ASMFC), respectively (Atlantic States Marine Fisheries Commission, 2023; COSEWIC, 2012). ASMFC conducted benchmark stock assessments approximately every ten-years, with updates every five years between benchmark assessments (ASMFC *in litt.* to European Commission, 2024). The CITES SA of the United States (*in litt.* to European Commission, 2025) considered *A. rostrata* to be a data-poor species, with significant gaps in biological knowledge, including limited information on abundance, population status across life stages, and habitat use throughout its range. Conventional stock assessment methods were noted to be particularly challenging due to the species' complex life history and broad distribution (CITES SA of the United States *in litt.* to European Commission, 2025).

8.3 Control measures

8.3.1 International

8.3.2 Domestic

See section 8.1.

8.4 Captive breeding and artificial propagation

While the *A. japonica* life cycle has been successfully closed in captivity (Masuda *et al.*, 2012) and Japan's Fisheries Agency has reported substantial progress towards developing technologies for commercial-scale production (Asahi Shimbun, 2024), mass captive breeding of *A. japonica* remains logistically and economically challenging (Gollock *et al.*, 2018; Masuda *et al.*, 2012; Japan Fisheries Agency, 2024). Artificial maturation and fertilisation of *A. rostrata* and *A. anguilla* have been achieved (Oliveira & Hable, 2010; Tomkiewicz *et al.*, 2012), however the life cycles of both species have not yet been closed in captivity (Pike *et al.*, 2020b; Pike *et al.*, 2023).

8.5 Habitat conservation

In Japan, the Eel Habitat Improvement Support Project has installed 'reefs' in rivers across several prefectures in Japan to act as hiding and feeding zones for eels (Japan Fisheries Agency, 2024). The CITES MA of the Republic of Korea (*in litt.* to European Commission, 2024) reported it had installed four eel-specific fishways in tidal embankments to facilitate the migration of wild glass eels. Chen *et al.* (2014) noted that internationally coordinated strategies for habitat restoration, including removal of dams, establishment of eel ladders, and pollution management was urgently needed for *A. japonica*.

In the United States, removal of dams and establishment of 'eel ladders' is reported to be a common habitat restoration strategy (Pike *et al.*, 2023), with several projects to remove barriers to upstream migration increasing access to historical habitats along the Atlantic coast (Hitt *et al.*, 2012; Turner *et al.*, 2018). However, restoration of downstream migration impeded by hydroelectric facilities was reported to be rare (Pike *et al.*, 2023).

8.6 Safeguards

See section 7.1.

9. Information on similar species

Several authors report that identification of live *Anguilla* species in their glass eel form based on morphological features is difficult and, in many cases, impossible (Jacoby *et al.*, 2015; Tanaka, 2014; Watanabe & Miller, 2012). Tropical anguillid species are particularly difficult to distinguish (Gollock *et al.*, 2018). The CITES identification guide for Anguillidae (based on the 15 *Anguilla* species that were recognised at the time of publication) outlines a customs protocol for identification of live eels which recommends that morphological identification should be always accompanied with molecular identification (Silfvergrip, 2009), as morphological identification is only possible for certain life stages and is challenging for customs officers (Silfvergrip, 2009; Musing *et al.*, 2018).

Molecular analysis is always required for processed products such as smoked and canned eels (Silfvergrip, 2009). While all *Anguilla* species can be distinguished using molecular techniques (Watanabe *et al.*, 2005; Silfvergrip, 2009), existing techniques (such as conventional PCR assays) have significant limitations, such as being able to detect only one species per assay, which is problematic for mixed-species shipments (Noh *et al.*, 2025). More complex molecular identification techniques that overcome these limitations have been developed for *A. japonica*, *A. rostrata*, *A. bicolor pacifica*, *A. anguilla* and *A. marmorata*, with the potential for expansion to other eel species (Noh *et al.*, 2025). However, the feasibility of the uptake of these techniques by customs officers remains unclear. For example, despite the availability of molecular identification tools, the protocol proposed by Silfvergrip (2009) was not considered feasible by the CITES MA of the United States (*in litt.* to European Commission, 2024). From an enforcement perspective, it was noted that while action can be taken post-entry if a violation is confirmed through molecular testing, shipments cannot be withdrawn from trade once released, thereby limiting the conservation impact of such interventions.

While native populations of several *Anguilla* species are geographically distinct (for example, *A. anguilla* and *A. japonica*), trade dynamics result in multiple species being transported globally for aquaculture, leading to mixed-species shipments. Anguillid eel shipments frequently contain multiple species, and there are difficulties associated with identifying multiple species in a shipment using small samples and morphological identification techniques (Silfvergrip, 2009).

Given evidence that the European Union acts as a transit point for exports of *A. rostrata* to East Asia (Gollock *et al.*, 2018; Musing *et al.*, 2018), the potential mixing of *A. anguilla* and *A. rostrata* during this transit presents a significant enforcement issue, as DNA testing is required to distinguish these species in their glass eel form. Gollock *et al.* (2018) reported cases of shipments declared as *Anguilla* spp. that contained conger eels (*Conger* spp.), hagfish (Myxinidae spp.), swamp eels (Synbranchidae spp.), and snake eels (Ophichthidae spp.). Silfvergrip (2009) considered many of these taxa to be readily distinguishable based on morphological characteristics, however this was noted to be difficult once in their processed form (CoP14 Prop. 18).

Natural hybridisation between *A. anguilla* and *A. rostrata* has been documented in overlapping areas of their range, particularly in Iceland, where both species occur (Albert *et al.*, 2006).

10. Consultations

All range States were consulted by the European Union in November 2024 and responses are summarised in Annex 11. A number of range States have provided preliminary views.

11. Additional remarks

12. References

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Annex 1: Proposed Standard Reference for the genus *Anguilla* spp.

Taxonomic Checklist of the genus *Anguilla*

Species information extracted from
Eschmeyer, W.N., R. Fricke, and R. van der Laan (eds.) 2024.
ESCHMEYER'S CATALOG OF FISHES: GENERA, SPECIES, REFERENCES.
(<http://researcharchive.calacademy.org/research/ichthyology/catalog/fishcatmain.asp>).
Electronic version accessed 27 March 2024, revised 6 June 2025

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Edited for compactness and with additional comments included by the
Nomenclature Specialist of the CITES Animals Committee

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- Class **Actinopteri**
 - Order **Anguilliformes**
 - Family **Anguillidae** Rafinesque 1810 (freshwater eels)

Genus ***Anguilla*** Schrank [F. von P.] 1798:304, 307 [Fauna Boica. Durchgedachte Geschichte der in Baieren einheimischen und zahmen Thiere. v. 1; ref. [6444](#)] Fem. *Muraena anguilla* Linnaeus 1758. Type by monotypy. Kottelat 2013:37 dates to *Anguilla* Garsault 1764, Pl. 661 with no species; it is here considered a forgotten name not used by current workers. Apparently appeared first as name only in Thunberg 1795 [not researched]. Schrank as author predates Shaw 1803. See Opinion 1672 in which *Anguilla* is placed on the Official List, and the type species is confirmed as *Muraena anguilla* Linnaeus 1758. **Current status:** Valid as *Anguilla* Schrank 1798. Anguillidae.

Anguilla Garsault [F. A. P. de] 1764:Pl. 661 [Les figures des plantes et animaux d'usage en medicine Tome V. Animaux table; ref. [1570](#)] Fem. *Muraena anguilla* Linnaeus 1758. Type by subsequent monotypy. Type designated by Schrank 1798: 304, 307 [ref. [6444](#)]. *Anguilla* Schrank 1798 is on official list [Opinion 1672]. Current status: Synonym of *Anguilla* Schrank 1798. Anguillidae.

Terpolepis (subgenus of *Anguilla*) McClelland [J.] 1844:225 [Calcutta Journal of Natural History v. 5 (no. 18); ref. [2928](#)] Fem. *Anguilla brevirostris* McClelland 1844. Type by subsequent designation. Proposed somewhat conditionally in a "Note" on p. 225 as a subgenus for Bengal species of the genus *Anguilla*, which includes more than one species mentioned on p. 208. Subsequent designation is by Blache 1973:220 [ref. [7185](#)] according to Smith 1989:32 [ref. [13285](#)]; genus not treated by Jordan. Current status: Synonym of *Anguilla* Schrank 1798. Anguillidae.

Tribranchus Peters [W. (C. H.)] in Müller 1846:193, footnote [Abhandlungen der Königlichen Akademie der Wissenschaften zu Berlin for 1844; ref. [13283](#)] Masc. *Tribranchus anguillaris* Peters 1846. Type by monotypy. Very brief description but regarded as available. •Synonym of *Anguilla* Garsault 1764 -- (Kottelat 2013:37 [ref. [32989](#)]). Current status: Synonym of *Anguilla* Schrank 1798. Anguillidae.

Anguilla anguilla (Linnaeus 1758)

Muraena anguilla Linnaeus [C.] 1758:245 [Systema Naturae, Ed. X v. 1; ref. [2787](#)] Europe, Mediterranean Sea, Baltic Sea, northeastern Atlantic [original: "in Europa; maxima in lacu Cornachio Ferrariensi"]; localities include Sweden; England; Belgium; Germany; Poland; France; Ferrara and Rome, Italy; Lesbos Island, Greece; Syria. No types known. Originally spelled *angvilla*, also *angvilla* in Linnaeus 1766:426 [ref. [2786](#)]. Neotype designated by Fricke 1999:19 [ref. [24101](#)], but withdrawn in Fricke 2000:639 [ref. [24537](#)]. Originally based on at least 34 pre-Linnaean sources. **Current status:** Valid as *Anguilla anguilla* (Linnaeus 1758). Anguillidae. **Distribution:** Western Atlantic: larvae in Sargasso Sea and Gulf Stream; eastern Atlantic, Baltic Sea, North Sea, White Sea, Mediterranean Sea, Sea of Marmara, Black Sea: European seas and adjacent watersheds, spawning and larval migration routes to and from the western Atlantic. Introduced in the Caspian Sea basin. Habitat: freshwater, brackish, marine.

Muraena anguilla var. *acerine* Schneider [J. G.] in Bloch & Schneider 1801:560 [M. E. Blochii, Systema Ichthyologiae; ref. [471](#)] No locality. No types known. Based on "Acerine" (variety of *Muraena anguilla* Linnaeus 1758) of Lacepède 1800:261 [ref. [2709](#)]. Current status: Synonym of *Anguilla anguilla* (Linnaeus 1758). Anguillidae.

Muraena anguilla anguillechien Schneider [J. G.] in Bloch & Schneider 1801:560 [M. E. Blochii, Systema Ichthyologiae; ref. [471](#)] No locality [Seine River, France]. No types known. Based on "Anguille chien" (variety of *Muraena anguilla* Linnaeus 1758) of Lacepède 1800:263 [ref. [2709](#)]. Current status: Synonym of *Anguilla anguilla* (Linnaeus 1758). Anguillidae.

Muraena anguilla guiseau Schneider [J. G.] in Bloch & Schneider 1801:560 [M. E. Blochii, Systema Ichthyologiae; ref. [471](#)] "Sequanam" [Seine River, northern France]. No types known. Based on "Guiseau" (variety of *Muraena anguilla* Linnaeus 1758) of Lacepède 1800:262 [ref. [2709](#)]. Current status: Synonym of *Anguilla anguilla* (Linnaeus 1758). Anguillidae.

- Anguilla vulgaris* Shaw [G.] 1803:15 [General zoology or systematic natural history v. 4; ref. [4014](#)] No locality. No types known. Neotype designated by Fricke 1999:18 [ref. [24101](#)], but withdrawn in Fricke 2000:639 [ref. [24537](#)]. Based in part on *Muraena anguilla* Linnaeus 1758. Current status: Synonym of *Anguilla anguilla* (Linnaeus 1758). Anguillidae.
- Anguilla vulgaris* Rafinesque [C. S.] 1810:37 [Indice d'ittologia siciliana; ref. [3595](#)] Sicily, Italy, Mediterranean Sea. New name for *Muraena anguilla* Linnaeus 1758. Current status: Synonym of *Anguilla anguilla* (Linnaeus 1758). Anguillidae.
- Anguilla acutirostris* Risso [A.] 1827:198 [Histoire naturelle des principales productions de l'Europe méridionale v. 3; ref. [3757](#)] Nice, France, northwestern Mediterranean Sea. Holotype (unique): MNHN (not found). Type catalog: Bauchot et al. 1993:124 [ref. [20810](#)]. Current status: Synonym of *Anguilla anguilla* (Linnaeus 1758). Anguillidae.
- Anguilla latirostris* Risso [A.] 1827:199 [Histoire naturelle des principales productions de l'Europe méridionale v. 3; ref. [3757](#)] Nice, France, northwestern Mediterranean Sea. Holotype (unique): MNHN (not found). Current status: Synonym of *Anguilla anguilla* (Linnaeus 1758). Anguillidae.
- Anguilla mediorostris* Risso [A.] 1827:199 [Histoire naturelle des principales productions de l'Europe méridionale v. 3; ref. [3757](#)] Nice, France, northwestern Mediterranean Sea. Holotype (unique): MNHN (not found). Current status: Synonym of *Anguilla anguilla* (Linnaeus 1758). Anguillidae.
- Anguilla fluviatilis* Ansljij [N.] 1828:226, Pl. 93 [Systematische Beschrijving der voor ons meest belangrijke visschen.; ref. [13455](#)] •Unneeded new name for *Anguilla anguilla* (Linnaeus 1758) -- (Blache et al. 1973:220 [ref. [7185](#)]). Current status: Synonym of *Anguilla anguilla* (Linnaeus 1758). Anguillidae.
- Muraena platyrhina* Ekström [C. U.] 1832:287 [Kongliga Vetenskaps-Academiens Handlingar, Stockholm; ref. [13467](#)] Mörkö Island, near Stockholm, Sweden. No types known. Current status: Synonym of *Anguilla anguilla* (Linnaeus 1758). Anguillidae.
- Muraena oxyrhina* Ekström [C. U.] 1832:287 [Kongliga Vetenskaps-Academiens Handlingar, Stockholm; ref. [13467](#)] Mörkö Island, near Stockholm, Sweden. No types known. Current status: Synonym of *Anguilla anguilla* (Linnaeus 1758). Anguillidae.
- Anguilla canariensis* Valenciennes [A.] 1843:88, Pl. 20 (fig. 1) [Ichthyologie des îles Canaries v. 2 (pt 2); ref. [4502](#)] Tenerife, Canary Islands. Lectotype: MNHN 0000-3783. Paralectotypes: MNHN 0000-3784 (3). Type catalog: Bauchot et al. 1993:94 [ref. [20810](#)] as holotype and paratypes, but no type was established originally. Lectotype designated by Eschmeyer 1998:316 [ref. [23416](#)]. Current status: Synonym of *Anguilla anguilla* (Linnaeus 1758). Anguillidae.
- Anguilla avisotis* Richardson [J.] 1845:no p., Pl. 51 (fig. 1) [Ichthyology.--Part 2. The zoology of the voyage of H. M. S. Sulphur; ref. [20574](#)] Canton, China. No types known. Available from plate. Text in Richardson 1845:104 [ref. [20275](#)]. Based solely on illustration by Reeves (see Whitehead 1970:297 [ref. [11606](#)]). Anguillidae.
- Anguilla cloacina* Bonaparte [C. L.] 1846:38 [Atti della Settima Adunanza degli Scienziati Italiani Sesta Riunione, Milano 7a Adunanza, Napoli, Part 2; ref. [519](#)] France. No types known. Current status: Synonym of *Anguilla anguilla* (Linnaeus 1758). Anguillidae.
- Anguilla nilotica* Heckel [J. J.] 1847:313 [Reisen in Europa, Asien und Africa v. 2 (pt 3); ref. [2068](#)] Nile River, Egypt, North Africa. Syntypes: MNHN 0000-3769 to 0000-3771 (1, 1, 1). Type catalog: Bauchot et al. 1993:96 [ref. [20810](#)] but with authorship as Kaup 1857. Current status: Synonym of *Anguilla anguilla* (Linnaeus 1758). Anguillidae.
- Anguilla fluviatilis* Gistel [J.] 1848:104 [Naturgeschichte des Thierreichs; ref. [1822](#)] Der Gauzen Erde. No types known. Perhaps not an original description. Current status: Synonym of *Anguilla anguilla* (Linnaeus 1758). Anguillidae.
- Anguilla migratoria* Krøyer [H. N.] 1849:616 [Danmarks Fiske; ref. [18437](#)] Denmark. No types known. Current status: Synonym of *Anguilla anguilla* (Linnaeus 1758). Anguillidae.

- Anguilla platyrhynchus* Costa [O. G.] 1850:Anguilla p. 50, Pls. 58, 60 (figs. 3a, 3b) [Fauna del regno di Napoli Part 1; ref. [976](#)] Lake Ligola, Italy. Syntypes: whereabouts unknown. Published 10 July 1850. Current status: Synonym of *Anguilla anguilla* (Linnaeus 1758). Anguillidae.
- Anguilla callensis* Guichenot [A.] 1850:111, Pl. 7 (fig. 1) [Histoire naturelle des reptiles et poissons; ref. [1940](#)] La Calle, Algeria, western Mediterranean Sea. Syntypes: (10) MNHN 0000-3160 (5), 0000-3220 (1), 0000-3774 (4). Type catalog: Bauchot et al. 1993:93-94 [ref. [20810](#)]. Current status: Synonym of *Anguilla anguilla* (Linnaeus 1758). Anguillidae.
- Anguilla bibroni* Kaup [J. J.] 1856:54 [Archiv für Naturgeschichte v. 22 (pt. 1); ref. [2572](#)] Sicily, Italy. Syntypes: MNHN 0000-3760 (1), 0000-3779 (3). Type catalog: Bauchot et al. 1993:93 [ref. [20810](#)]. Also in Kaup 1856:33, Pl. 3 (fig. 16) [ref. [2573](#)]. Current status: Synonym of *Anguilla anguilla* (Linnaeus 1758). Anguillidae.
- Anguilla cuvieri* Kaup [J. J.] 1856:54 [Archiv für Naturgeschichte v. 22 (pt. 1); ref. [2572](#)] Abbeville, France. Syntypes: MNHN 0000-3758 (2), 0000-3759 (7). Type catalog: Bauchot et al. 1993:94 [ref. [20810](#)]. Also in Kaup 1856:33 [ref. [2573](#)]. Current status: Synonym of *Anguilla anguilla* (Linnaeus 1758). Anguillidae.
- Anguilla kieneri* Kaup [J. J.] 1856:54 [Archiv für Naturgeschichte v. 22 (pt. 1); ref. [2572](#)] Toulon, France, northwestern Mediterranean Sea. Holotype: MNHN 0000-3757. Type information: Bauchot et al. 1993:95 [ref. [20810](#)]. Also in Kaup 1856:22, Fig. 15 [ref. [2573](#)]. Current status: Synonym of *Anguilla anguilla* (Linnaeus 1758). Anguillidae.
- Anguilla savignyi* Kaup [J. J.] 1856:55 [Archiv für Naturgeschichte v. 22 (pt. 1); ref. [2572](#)] [Napoli] Naples, Italy, Mediterranean Sea. Holotype: MNHN 0000-3131 [?3731]. Type catalog: Bauchot et al. 1993:97 [ref. [20810](#)]. Also in Kaup 1856:34 [ref. [2573](#)]. Current status: Synonym of *Anguilla anguilla* (Linnaeus 1758). Anguillidae.
- Anguilla eurystoma* Heckel [J. J.] & Kner [R.] 1857:325, Fig. 168 [Die Süßwasserfische der Monarchie; ref. [2078](#)] Dalmatia, Croatia, Adriatic Sea (Mediterranean Sea). Syntypes: (2) NMW 9284 (1). Current status: Synonym of *Anguilla anguilla* (Linnaeus 1758). Anguillidae.
- Anguilla aegyptiaca* Kaup [J. J.] 1857:40 [Catalogue of the apodal fish in the collection of the British Museum; ref. [2573](#)] Nile River, Egypt. Syntypes: MNHN 0000-3772 (1), 0000-3773 (1). Type catalog: Bauchot et al. 1993:93 [ref. [20810](#)]. Appeared first as name only in Kaup 1856:55 [ref. [2572](#)]. Current status: Synonym of *Anguilla anguilla* (Linnaeus 1758). Anguillidae.
- Anguilla altirostris* Kaup [J. J.] 1857:37, Pl. 4 (fig. 24) [Catalogue of the apodal fish in the collection of the British Museum; ref. [2573](#)] Mouth of Seine River, France, La Manche/English Channel, northeastern Atlantic. Holotype (unique): MNHN 0000-3768. Type catalog: Bauchot et al. 1993:93 [ref. [20810](#)]. Appeared first as name only in Kaup 1856:55 [ref. [2572](#)]. Current status: Synonym of *Anguilla anguilla* (Linnaeus 1758). Anguillidae.
- Anguilla ancidda* Kaup [J. J.] 1857:37, Pl. 4 (fig. 22) [Catalogue of the apodal fish in the collection of the British Museum; ref. [2573](#)] Sicily and Pergamont, Italy. Syntypes: MNHN 0000-3767 (1), 0000-3780 (1). Type catalog: Bauchot et al. 1993:93 [ref. [20810](#)]. Appeared first as name only in Kaup 1856:55 [ref. [2572](#)]. Current status: Synonym of *Anguilla anguilla* (Linnaeus 1758). Anguillidae.
- Leptocephalus brevirostris* Kaup [J. J.] 1857:150, Pl. 18 (fig. 15) [Catalogue of the apodal fish in the collection of the British Museum; ref. [2573](#)] Messina, Sicily, Italy, Mediterranean Sea. Holotype: MNHN 0000-2901. Possible types: BMNH 1860.9.31.4 (1), ZMB 4742 (1) Messina. Type catalog: Bertin 1935:100 [ref. [21550](#)], Bauchot et al. 1993:120 [ref. [20810](#)]. Subjectively invalid; secondarily preoccupied in *Anguilla* by *Anguilla brevirostris* Cisternas 1877. 2°Homonym. Current status: Synonym of *Anguilla anguilla* (Linnaeus 1758). Anguillidae.
- Anguilla capitone* Kaup [J. J.] 1857:34, Pl. 3 (fig. 17) [Catalogue of the apodal fish in the collection of the British Museum; ref. [2573](#)] Naples, Italy, Mediterranean Sea. Holotype (unique): MNHN 0000-3762. Type catalog: Bauchot et al. 1993:94 [ref. [20810](#)]. Appeared first without description in Kaup 1856:55 [ref. [2572](#)]. Current status: Synonym of *Anguilla anguilla* (Linnaeus 1758). Anguillidae.
- Anguilla eurylaema* Kaup [J. J.] 1857:50, Pl. 8 (fig. 40) [Catalogue of the apodal fish in the collection of the British Museum; ref. [2573](#)] No locality. Holotype (unique): MNHN (not found). Type catalog:

- Bauchot et al. 1993:124 [ref. [20810](#)]. Appeared first without description in Kaup 1856:56 [ref. [2572](#)].
Anguillidae.
- Anguilla fasciata* Kaup [J. J.] 1857:48, Pl. 7 (fig. 37) [Catalogue of the apodal fish in the collection of the British Museum; ref. [2573](#)] No locality. Holotype (unique): RMNH ancient collection (whereabouts unknown). Appeared first without distinguishing features in Kaup 1856:56 [ref. [2572](#)]. *Anguillidae*.
- Anguilla malgumora* Kaup [J. J.] (ex Schlegel) 1857:42, Pl. 6 (fig. 30) [Catalogue of the apodal fish in the collection of the British Museum; ref. [2573](#)] Borneo [in error]. Holotype (unique): MNHN A-9954. Type catalog: Bauchot et al. 1993:95 [ref. [20810](#)]. Appeared first as name only in Kaup 1856:55 [ref. [2572](#)]. Current status: Synonym of *Anguilla anguilla* (Linnaeus 1758). *Anguillidae*.
- Anguilla marginata* Kaup [J. J.] 1857:36, Pl. 4 (fig. 20) [Catalogue of the apodal fish in the collection of the British Museum; ref. [2573](#)] Valencia, Spain. Holotype (unique): MNHN 0000-3765. Type catalog: Bauchot et al. 1993:95 [ref. [20810](#)]. Appeared first as name only in Kaup 1856:55 [ref. [2572](#)]. Current status: Synonym of *Anguilla anguilla* (Linnaeus 1758). *Anguillidae*.
- Anguilla melanochir* Kaup [J. J.] 1857:35, Pl. 4 (fig. 19) [Catalogue of the apodal fish in the collection of the British Museum; ref. [2573](#)] Tiber River, Italy. Holotype (unique): MNHN 0000-3764. Type catalog: Bauchot et al. 1993:96 [ref. [20810](#)]. Appeared first as name only in Kaup 1856:55 [ref. [2572](#)]. Current status: Synonym of *Anguilla anguilla* (Linnaeus 1758). *Anguillidae*.
- Anguilla microptera* Kaup [J. J.] 1857:36, Pl. 4 (fig. 21) [Catalogue of the apodal fish in the collection of the British Museum; ref. [2573](#)] Bay of Algeciras, Spain, eastern Atlantic. Holotype (unique): MNHN 0000-3766. Type catalog: Bauchot et al. 1993:96 [ref. [20810](#)]. Appeared first as name only in Kaup 1856:55 [ref. [2572](#)]. Current status: Synonym of *Anguilla anguilla* (Linnaeus 1758). *Anguillidae*.
- Anguilla morena* Kaup [J. J.] 1857:35, Pl. 3 (fig. 18) [Catalogue of the apodal fish in the collection of the British Museum; ref. [2573](#)] Naples, Italy, Mediterranean Sea. Holotype (unique): MNHN 0000-3763. Type catalog: Bauchot et al. 1993:96 [ref. [20810](#)]. Appeared first as name only in Kaup 1856:55 [ref. [2572](#)]. Current status: Synonym of *Anguilla anguilla* (Linnaeus 1758). *Anguillidae*.
- Anguilla platycephala* Kaup [J. J.] 1857:38, Pl. 5 (fig. 25) [Catalogue of the apodal fish in the collection of the British Museum; ref. [2573](#)] Abbeville, France. Syntypes: MNHN 0000-3210 (1), 0000-5707 (now 4). Type catalog: Bauchot et al. 1993:97 [ref. [20810](#)] with 3210 as holotype. Appeared first as name only in Kaup 1856:55 [ref. [2572](#)]. Current status: Synonym of *Anguilla anguilla* (Linnaeus 1758). *Anguillidae*.
- Anguilla hibernica* Couch [J.] 1865:328, Pl. 235 [The history of the fishes of the British islands v. 4; ref. [18055](#)] Liffey River, Dublin, Ireland. No types known. Current status: Synonym of *Anguilla anguilla* (Linnaeus 1758). *Anguillidae*.
- Anguilla oblongirostris* Blanchard [C. E.] 1866:496 [Les poissons des eaux douces de la France; ref. [310](#)] Huveaune stream, near Marseille, France; Lot river; Lake Bourget, France. Syntypes: MNHN 1880-0343 (5), 9985 (1). Type catalog: Bauchot et al. 1993:96 [ref. [20810](#)]. Current status: Synonym of *Anguilla anguilla* (Linnaeus 1758). *Anguillidae*.
- Anguilla anacamptoentera* Balsamo-Crivelli [G. G.] & Maggi [L.] 1873:229, Pl. [Memorie del Reale Istituto Lombardo di Scienze e Lettere, Classe di Scienze Matematiche e Naturali v. 12 [= (Ser. 3) v. 3]; ref. [15763](#)] Italy. Current status: Synonym of *Anguilla anguilla* (Linnaeus 1758). *Anguillidae*.
- Anguilla orthoentera* Balsamo-Crivelli [G. G.] & Maggi [L.] 1873:229, Pl. [Memorie del Reale Istituto Lombardo di Scienze e Lettere, Classe di Scienze Matematiche e Naturali v. 12 [= (Ser. 3) v. 3]; ref. [15763](#)] Italy. Current status: Synonym of *Anguilla anguilla* (Linnaeus 1758). *Anguillidae*.
- Anguilla brevirostris* Cisternas [R.] 1877:108 [Anales de la Sociedad Española de Historia Natural, Madrid v. 6 (for 7 Mar. 1877); ref. [14239](#)] Valencia, Spain. No types known. Current status: Synonym of *Anguilla anguilla* (Linnaeus 1758). *Anguillidae*.
- Anguilla linnei* Malm [A. W.] 1877:590 [ref. [2881](#)] Original as *Linnéi*. Unneeded replacement name for *Muraena anguilla* Linnaeus 1758 (to avoid "Strickland tautonomy"). Locality Sweden. Replacement Name. Current status: Synonym of *Anguilla anguilla* (Linnaeus 1758). *Anguillidae*.

Anguilla australis Richardson 1841

Anguilla australis Richardson [J.] 1841:22 [Proceedings of the Zoological Society of London 1841 (pt 9); ref. [18626](#)] Port Arthur, Tasmania, Australia; Auckland Island Southern Ocean. Holotype (unique): BMNH 1848.3.18.236. Also described in Richardson 1844:157 [ref. [20295](#)]. **Current status:** Valid as *Anguilla australis* Richardson 1841. Anguillidae. **Distribution:** Southwestern Pacific. Introduced elsewhere. Habitat: freshwater, brackish, marine.

Anguilla schmidtii Phillipps [W. J.] 1925:30, Fig. 4 [The New Zealand Journal of Science and Technology v. 8 (no. 2); ref. [23932](#)] Foxton, western coast of Wellington, New Zealand. Holotype (unique): NMNZ. Current status: Synonym of *Anguilla australis* Richardson 1841. Anguillidae.

Anguilla australis forma *occidentalis* Schmidt [E. J.] 1928:198, 203, Fig. 9d-f [Records of the Australian Museum v. 16 (no. 4); ref. [18703](#)] Eastern Australia and Lord Howe Island. Syntypes: (several) ?AMS IA.3995-97 (3) Lord Howe I. Appeared first as a postscript in Schmidt 1928:388 [ref. [18704](#)] but without identifying characters. Described as a new "forma" along with *A. a. orientalis*, the forma occurring in New Zealand (for which features were provided). Current status: Synonym of *Anguilla australis* Richardson 1841. Anguillidae.

Anguilla australis forma *orientalis* Schmidt [E. J.] 1928:388 [Transactions of the New Zealand Institute v. 58 (no. 4); ref. [18704](#)] New Zealand. Syntypes: (several) Carlsberg Lab., Copenhagen or NMNZ. Name first mentioned in the postscript of the above reference, but treated in more detail in Schmidt 1928 [ref. [18703](#)]. Current status: Synonym of *Anguilla australis* Richardson 1841. Anguillidae.

Anguilla bengalensis (Gray 1831)

Muraena bengalensis Gray [J. E.] 1831:no page number, Pl. 95 (fig. 5) [Illustrations of Indian zoology; ref. [1878](#)] India. No types known. •Questionably a synonym of *Anguilla nebulosa* McClelland 1844 -- (Ege 1939:36 [ref. [13172](#)]). **Current status:** Valid as *Anguilla bengalensis* (Gray 1831). Anguillidae. **Distribution:** Indian Ocean and adjacent freshwater habitats: South Africa north to Kenya, east to Malaysia, north to Nepal. Habitat: freshwater, brackish, marine.

Anguilla elphinstonei Sykes [W. H.] 1839:165 [Proceedings of the Zoological Society of London 1838 (pt 6) (for 27 Nov. 1838); ref. [18720](#)] Deccan, India. Appeared first as above, then in Sykes 1839:62 [ref. [4306](#)]; more complete treatment in Sykes 1841:377, Pl. 67 (fig. 3) [ref. [18868](#)]. Current status: Synonym of *Anguilla bengalensis* (Gray 1831). Anguillidae.

Anguilla arracana McClelland [J.] 1844:178, 202, 209, Pl. 6 (fig. 2) [Calcutta Journal of Natural History v. 5 (no. 18); ref. [2928](#)] Sandoway, Burma. Syntypes: SMF 768 (2). •Questionably a synonym of *Anguilla nebulosa* McClelland 1844 -- (Ege 1939:36 [ref. [13172](#)]). Current status: Synonym of *Anguilla bengalensis* (Gray 1831). Anguillidae.

Anguilla brevirostris McClelland [J.] 1844:177, 202, 208, Pl. 5 (fig. 1) [Calcutta Journal of Natural History v. 5 (no. 18); ref. [2928](#)] Bengal, India and Arrakan, Burma. Syntypes: lost. Current status: Synonym of *Anguilla bengalensis* (Gray 1831). Anguillidae.

Anguilla variegata McClelland [J.] 1844:179, 204, 208, Pl. 9 (fig. 7) [Calcutta Journal of Natural History v. 5 (no. 18); ref. [2928](#)] Ganges at Behar, Bengal, India. No types known. Current status: Synonym of *Anguilla bengalensis* (Gray 1831). Anguillidae.

Muraena (Anguilla) labiata Peters [W. (C. H.)] 1852:684 [Bericht über die zur Bekanntmachung geeigneten Verhandlungen der Königlichen Preussischen Akademie der Wissenschaften zu Berlin 1852; ref. [18539](#)] Zambezi and Licuare River, Mozambique. Syntypes: ZMB 6227 (1), 6228 (3, now 2). Also in Peters 1868:94, Pl. 17 [ref. [3440](#)] as *anguilla labiata*. Status for CITES purposes: Valid as subspecies *Anguilla bengalensis labiata* (Peters 1852). Anguillidae. Distribution: Western Indian Ocean and Africa: South African, East African, Réunion and Mauritius (western Mascarenes) watersheds and adjacent waters of Western Indian Ocean. Habitat: freshwater, brackish, marine.

Muraena (Anguilla) macrophthalmos Peters [W. (C. H.)] 1852:684 [Bericht über die zur Bekanntmachung geeigneten Verhandlungen der Königlichen Preussischen Akademie der Wissenschaften zu Berlin 1852; ref. [18539](#)] Tette [Tete], Zambezi River, Mozambique. Holotype (unique): ZMB 6226. Also in Peters 1868:99, Pl. 19 [ref. [3440](#)] as *Anguilla macrophthalma*. Current status: Synonym of *Anguilla [bengalensis] labiata* (Peters 1852). Anguillidae.

***Anguilla bicolor* McClelland 1844**

Anguilla bicolor McClelland [J.] 1844:178, 202, 209, Pl. 6 (fig. 1) [Calcutta Journal of Natural History v. 5 (no. 18); ref. [2928](#)] Sandoway, Malay coast, India. Syntypes: SMF 776 (1). **Current status:** Valid as *Anguilla bicolor* McClelland 1844. Anguillidae. **Distribution:** Indo-West Pacific: Socotra (Yemen), Seychelles, Mayotte (France), Madagascar and Mascarenes (La Réunion, Mauritius, Rodrigues) east to China, Philippines and New Britain (Papua New Guinea), south to northern Western Australia. Habitat: freshwater, brackish, marine.

Anguilla moa Bleeker [P.] 1849:22 [Verhandelingen van het Bataviaasch Genootschap van Kunsten en Wetenschappen. v. 23 (no. 12); ref. [16883](#)] Jakarta, Banjumas, Ambarawa, Java, Indonesia. Syntypes: SMNS 10652 (1) Java. Current status: Synonym of *Anguilla bicolor* McClelland 1844. Anguillidae.

Muraena macrocephala Rapp [W. L. von] 1849:142, Pl. 2 [Jahreshefte des Vereins für Vaterländische Naturkunde in Württemberg v. 4; ref. [19492](#)] Umlaas River/Umlazi River, Durban, KwaZulu-Natal, South Africa, southwestern Indian Ocean. Holotype (unique): SMNS 26204. Objectively invalid; preoccupied by *Muraena macrocephala* Lesueur 1817. 1°Homonym. Current status: Synonym of *Anguilla bicolor* McClelland 1844. Anguillidae.

Anguilla mowa Bleeker [P.] 1852:16 [Verhandelingen van het Bataviaasch Genootschap van Kunsten en Wetenschappen. v. 25 (art. 5); ref. [339](#)] Jakarta, Banjoemas, Ambarawa, and Java, Indonesia. Syntypes: (5). Unjustified emendation of *Anguilla moa* Bleeker 1849. Current status: Synonym of *Anguilla bicolor* McClelland 1844. Anguillidae.

Anguilla sidat Bleeker [P.] 1852:17 [Verhandelingen van het Bataviaasch Genootschap van Kunsten en Wetenschappen. v. 25 (art. 5); ref. [339](#)] Tjikandi, Tjampea, Jakarta, and western Java, Indonesia. Syntypes and/or Bleeker specimens: (12) AMS B.8207 (1), BMNH 1867.11.28.231 [or .231] (1) no locality, NMV A947 (2). Current status: Synonym of *Anguilla bicolor* McClelland 1844. Anguillidae.

Muraena (Anguilla) virescens Peters [W. (C. H.)] 1852:684 [Bericht über die zur Bekanntmachung geeigneten Verhandlungen der Königlichen Preussischen Akademie der Wissenschaften zu Berlin 1852; ref. [18539](#)] Licuare River at Boror, Mozambique. Syntypes: ZMB 6229 (2). Also in Peters 1868:101, Pl. 18 (fig. 2) [ref. [3440](#)] as *Anguilla virescens*. Current status: Synonym of *Anguilla bicolor* McClelland 1844. Anguillidae.

Anguilla bleekeri Kaup [J. J.] 1856:56, Pl. 9 (fig. 45) [Archiv für Naturgeschichte v. 22 (pt. 1); ref. [2572](#)] India. Holotype: MNHN B-2099. Paratypes: MNHN B-3124 [ex B-2099]. Type catalog: Bauchot et al. 1993:93 [ref. [20810](#)]. Appeared first as name only in Kaup 1856:56 [ref. [2572](#)]. Current status: Synonym of *Anguilla bicolor* McClelland 1844. Anguillidae.

Anguilla cantori Kaup [J. J.] 1857:52, Pl. 9 (fig. 46) [Catalogue of the apodal fish in the collection of the British Museum; ref. [2573](#)] Mumbai, India. Syntypes: ?MNHN B-3125 [ex MNHN 0000-3207], 0000-3207 (1),. Type catalog: Bauchot et al. 1993:94 [ref. [20810](#)]. Appeared first as name only in Kaup 1856:56 [ref. [2572](#)]. Current status: Synonym of *Anguilla bicolor* McClelland 1844. Anguillidae.

Anguilla dussumieri Kaup [J. J.] 1857:51, Pl. 8 (fig. 43) [Catalogue of the apodal fish in the collection of the British Museum; ref. [2573](#)] Mahé, Malabar, India. Holotype (unique): MNHN 0000-3209. Type catalog: Bauchot et al. 1993:95 [ref. [20810](#)]. Appeared first without distinguishing features in Kaup 1856:56 [ref. [2572](#)]. Current status: Synonym of *Anguilla bicolor* McClelland 1844. Anguillidae.

Anguilla malabarica Kaup [J. J.] 1857:52, Pl. 9 (fig. 47) [Catalogue of the apodal fish in the collection of the British Museum; ref. [2573](#)] Malabar, India. Holotype: MNHN 0000-3208. Type catalog: Bauchot et al. 1993:95 [ref. [20810](#)]. Appeared first as name only in Kaup 1856:56 [ref. [2572](#)]. Current status: Synonym of *Anguilla bicolor* McClelland 1844. Anguillidae.

Muraena halmaherensis Bleeker [P.] 1863:158 [Nederlandsch Tijdschrift voor de Dierkunde v. 1; ref. [17001](#)] Galéla, Halmahera, Indonesia. Holotype (unique): whereabouts unknown. Current status: Synonym of *Anguilla bicolor* McClelland 1844. Anguillidae.

Anguilla spengeli Weber [M.] 1912:591, Fig. G [Zoologische Jahrbücher, Jena, Supplementband v. 15 (pt. 1); ref. [17832](#)] Java, Indonesia; Borneo. Syntypes: (several) ZMA 116466 (1). Type catalog:

Nijssen et al. 1982:7 [ref. [19236](#)]. • Current status: Synonym of *Anguilla bicolor* McClelland 1844. Anguillidae.

Anguilla amblodon Günther [A.] in Playfair & Günther 1867:125, Fig. [The fishes of Zanzibar; ref. [3490](#)] Seychelles. Holotype (unique): BMNH 1867.3.9.422 (stuffed). Current status: Synonym of *Anguilla bicolor* McClelland 1844. Anguillidae.

Anguilla pacifica Schmidt [E. J.] 1928:190, 206 [Records of the Australian Museum v. 16 (no. 4); ref. [18703](#)] Pacific, north of the equator. Syntypes: (several) whereabouts unknown. Written description of this species is apparently lacking in the text, but several tables within the work list meristic counts. Often seen dated to Schmidt 1932. Status for CITES purposes: Valid as subspecies *Anguilla bicolor pacifica* Schmidt 1928. Anguillidae. Distribution: Western Pacific; north of the equator, north to Iriomote Island (Japan). Habitat: freshwater, brackish, marine.

Anguilla foochowensis Chu [Y.-T.] & Jin [Y.-T.] in Chu 1984:187, Fig. 126 [ref. [8173](#)] Fuzhou [Fuchow], China. Holotype (unique): SFC 57-4104. Current status: Synonym of *Anguilla bicolor* McClelland 1844. Anguillidae.

Anguilla borneensis Popta 1924

Anguilla borneensis Popta [C. M. L.] 1924:73 [Zoologische Mededeelingen (Leiden) v. 8 (no. 2) (art. 7); ref. [15466](#)] Bo River, eastern Borneo. Syntypes: RMNH 7654 (2). •Synonym of *Anguilla malgumora* Kaup 1856 -- (authors). **Current status:** Valid as *Anguilla borneensis* Popta 1924. Anguillidae.

Distribution: Western Pacific: northeast Borneo and western Philippines. Habitat: freshwater, brackish, marine.

Anguilla celebesensis Kaup 1857

Anguilla celebesensis Kaup [J. J.] 1857:42, Pl. 6 (fig. 31) [Catalogue of the apodal fish in the collection of the British Museum; ref. [2573](#)] Lake Tondano, Sulawesi, Indonesia. Holotype (unique): MNHN 0000-2150. Type catalog: Bauchot et al. 1993:94 [ref. [20810](#)]. **Current status:** Valid as *Anguilla celebesensis* Kaup 1857. Anguillidae. **Distribution:** Western Pacific: Philippines to central Indonesia. Habitat: freshwater, brackish, marine.

Anguilla amboinensis Peters [W. (C. H.)] 1866:523 [Monatsberichte der Königlichen Preussischen Akademie der Wissenschaften zu Berlin 1866; ref. [3439](#)] Ambon Island, Molucca Islands, Indonesia. Holotype: ZMB 6178. Current status: Synonym of *Anguilla celebesensis* Kaup 1857. Anguillidae.

Anguilla ancestralis Ege [V.] 1939:36, Pl. 4 (fig. 1) [Dana Report No. 16; ref. [13172](#)] Paigar River near Manado, Sulawesi, Indonesia. Syntypes: (158 elvers) ZMUC P31251-62 (12). Type catalog: Nielsen 1974:52 [ref. [9588](#)]. Current status: Synonym of *Anguilla celebesensis* Kaup 1857. Anguillidae. Habitat: freshwater.

Anguilla dieffenbachii Gray 1842

Anguilla dieffenbachii Gray [J. E.] 1842:73 [Zoological Miscellany [No. 1]; ref. [18157](#)] River Thames, New Zealand. Holotype (unique): BMNH 1965.11.5.9. **Current status:** Valid as *Anguilla dieffenbachii* Gray 1842. Anguillidae. **Distribution:** New Zealand. Habitat: freshwater, brackish, marine.

Anguilla aucklandii Richardson [J.] 1848:113, Pl. 45 (figs. 7-13) [Ichthyology of the voyage of H. M. S. Erebus & Terror v. 2 (2); ref. [3740](#)] Auckland Islands, New Zealand. Syntypes: BMNH 1848.3.18.230-231 (?). Current status: Synonym of *Anguilla dieffenbachii* Gray 1842. Anguillidae.

Anguilla waitei Phillipps [W. J.] 1925:28, Fig. 1 [The New Zealand Journal of Science and Technology v. 8 (no. 2); ref. [23932](#)] Smith's Bay, Makara, North Island, New Zealand. Holotype: NMNZ. Other material or paratypes: (1) Karori, (1) near Kaikohe. Current status: Synonym of *Anguilla dieffenbachii* Gray 1842. Anguillidae.

Anguilla interioris Whitley 1938

Anguilla interioris Whitley [G. P.] 1938:224, Fig. 1 [Records of the Australian Museum v. 20 (no. 3); ref. [4693](#)] Gumanj, a tributary of Wahgi River, Mt. Hagen District, upper Purari River, central New Guinea, elevation 5700 feet. Holotype (unique): AMS IA.6075. **Current status:** Valid as *Anguilla interioris* Whitley 1938. Anguillidae. **Distribution:** Eastern Indian Ocean, western Pacific: Sumatra (Indonesia) east to Philippines and New Guinea. Habitat: freshwater, brackish, marine.

Anguilla japonica Temminck & Schlegel 1846

Anguilla japonica Temminck [C. J.] & Schlegel [H.] 1846:258, Pl. 13 (fig. 1) [Fauna Japonica Parts 10-14; ref. [4374](#)] Japan. Lectotype: RMNH 3661a. Paralectotypes: RMNH 3659 (1), 3660 (2), 3661b (1). Lectotype selected by Boeseman 1947:185 [ref. [12876](#)]. On the Official List of specific names, Opinion 901. **Current status:** Valid as *Anguilla japonica* Temminck & Schlegel 1846. Anguillidae. **Distribution:** Northwestern Pacific. Habitat: freshwater, brackish, marine.

Anguilla sinensis McClelland [J.] 1843:406, Pl. 25 (fig. 2) [Calcutta Journal of Natural History v. 4 (no. 4) (for 1844); ref. [2927](#)] Chusan, China. No types known. Current status: Synonym of *Anguilla japonica* Temminck & Schlegel 1846. Anguillidae.

Anguilla angustidens Kaup [J. J.] 1846:49, Pl. 7 (fig. 39) [Catalogue of the apodal fish in the collection of the British Museum; ref. [2573](#)] No locality. Holotype (unique): MNHN B-3153. Type catalog: Bauchot et al. 1993:93 [ref. [20810](#)]. Appeared first as name only in Kaup 1856:56 [ref. [2572](#)]. Current status: Synonym of *Anguilla japonica* Temminck & Schlegel 1846. Anguillidae.

Muraena pekinensis Basilewsky [S.] 1855:246, Pl. 3 (fig. 2) [Nouveaux mémoires de la Société impériale des naturalistes de Moscou v. 10; ref. [200](#)] China: streams near Tianjin and Beijing. No types at ZIN. Current status: Synonym of *Anguilla japonica* Temminck & Schlegel 1846. Anguillidae.

Anguilla remifera Jordan [D. S.] & Evermann [B. W.] 1902:325, Fig. 7 [Proceedings of the United States National Museum v. 25 (no. 1289); ref. [2447](#)] Hokoto [Hokuto, Taipei City], Taiwan. Holotype: ZUMT uncat. (lost) (ex. No. 12064). Type catalog: Ho & Shao 2011:21 [ref. [31432](#)], Aizawa et al. 2022:140 [ref. [39647](#)]. The holotype is apparently lost (Kazuo Sakamoto, pers. comm. 2007, cited in Ho & Shao 2011:21 [ref. [31432](#)]). Current status: Synonym of *Anguilla japonica* Temminck & Schlegel 1846. Anguillidae.

Anguilla manabei Jordan [D. S.] 1913:359, Pl. 57 [Proceedings of the United States National Museum v. 44 (no. 1957); ref. [14960](#)] Rapid in tributary of Yoshino River, near Koyadaira, a village at foot of Mt. Tsurugi, Awa, Shikoku, Japan. Holotype (unique): USNM 74118. Type catalog: Smith 1994:3 [ref. [21917](#)]. Current status: Synonym of *Anguilla japonica* Temminck & Schlegel 1846. Anguillidae.

Anguilla breviceps Chu [Y.-T.] & Jin [Y.-T.] in Chu 1984:183, Fig. 122 [ref. [8173](#)] Fuchow, China. Holotype (unique): SFC 57-2318. Current status: Synonym of *Anguilla japonica* Temminck & Schlegel 1846. Anguillidae.

Anguilla nigricans Chu [Y.-T.] & Wu [Y. T.] in Chu 1984:185, Fig. 124 [ref. [8173](#)] Xiamen, China. Holotype (unique): SFC 60-9452. Second author is H. W. Wu. Current status: Synonym of *Anguilla japonica* Temminck & Schlegel 1846. Anguillidae.

Anguilla luzonensis Watanabe, Aoyama & Tsukamoto 2009

Anguilla luzonensis Watanabe [S.], Aoyama [J.] & Tsukamoto [K.] 2009:389, Fig. 2 [Fisheries Science (Tokyo) v. 75; ref. [30611](#)] Upper reaches of the Pinacananan River near Saua, north Luzon Island, Philippines. Holotype: NSMT-P 90000. Paratypes: NSMT-P 90001 (1), 90002 (1), 90003 (1), 90004-28 (25). Predates *Anguilla huangi* Lin & Tzeng 2009 (Nov.); *luzonensis* published in Mar. 2009. **Current status:** Valid as *Anguilla luzonensis* Watanabe, Aoyama & Tsukamoto 2009. Anguillidae. **Distribution:** Western Pacific: Philippines and Taiwan, north to Ryukyu Islands (Japan). Habitat: freshwater, brackish, marine.

Anguilla huangi Teng [H.-Y.], Lin [Y.-S.] & Tzeng [C.-S.] 2009:812, Figs. 1-2 [Zoological Studies v. 48 (no. 6); ref. [30569](#)] Cagayan River, Luzon Island, Philippines. Holotype: ASIZP 0069360. Paratypes: ASIZP 0069361-9 (9). *Anguilla huangi* was published Nov. 2009, *luzonensis* Mar. 2009. Current

status: Synonym of *Anguilla luzonensis* Watanabe, Aoyama & Tsukamoto 2009. Anguillidae. Habitat: freshwater.

***Anguilla marmorata* Quoy & Gaimard 1824**

Anguilla marmorata Quoy [J. R. C.] & Gaimard [J. P.] 1824:241, Pl. 51 (fig. 2) [Voyage autour du monde; ref. [3574](#)] Waigeo [Waigiou], Indonesia. Syntypes: MNHN A-4109 (1), 0000-3130 (1). Type catalog: Bauchot et al. 1993:95 [ref. [20810](#)]. **Current status:** Valid as *Anguilla marmorata* Quoy & Gaimard 1824. Anguillidae. **Distribution:** Indo-West Pacific: South Africa, East Africa, Mayotte (France), Madagascar and Mascarenes (La Réunion, Mauritius, Rodrigues) east to Caroline Islands (Micronesia), Mariana Islands, Gambier Islands and Marquesas Islands (French Polynesia), north to southern Japan, south to South Australia and New Caledonia. Habitat: freshwater, brackish, marine.

Anguilla mauritiana Bennett [E. T.] 1831:128 [Proceedings of the Committee of Science and Correspondence of the Zoological Society of London 1830-31 (pt 1); ref. [16794](#)] Mauritius, Mascarenes, southwestern Indian Ocean. No types known. Current status: Synonym of *Anguilla marmorata* Quoy & Gaimard 1824. Anguillidae.

Anguilla labrosa Richardson [J.] 1848:113 [Ichthyology of the voyage of H. M. S. Erebus & Terror v. 2 (2); ref. [3740](#)] South Seas. Holotype (unique): BMNH 1848.5.18.198. Current status: Synonym of *Anguilla marmorata* Quoy & Gaimard 1824. Anguillidae.

Muraena manillensis Bleeker [P.] 1864:31 [Nederlandsch Tijdschrift voor de Dierkunde v. 2; ref. [13922](#)] Manila, Philippines. No types known. Current status: Synonym of *Anguilla marmorata* Quoy & Gaimard 1824. Anguillidae.

Anguilla johannae Günther [A.] in Playfair & Günther 1867:124, fig'd. [The fishes of Zanzibar; ref. [3490](#)] Johanna Island, Anjouan Island, Comoro Islands. Holotype (unique): BMNH 1867.3.9.419 (stuffed). Current status: Synonym of *Anguilla marmorata* Quoy & Gaimard 1824. Anguillidae.

Anguilla fidjiensis Günther [A.] 1870:26 [Catalogue of the fishes in the British Museum v. 8; ref. [1995](#)] Fiji Islands: Kandavu, Nairai. Syntypes: (2) BMNH 1869.11.12.59 (1). Current status: Synonym of *Anguilla marmorata* Quoy & Gaimard 1824. Anguillidae.

Anguilla hildebrandti Peters [W. (C. H.)] 1881:19 [Sitzungsberichte der Gesellschaft Naturforschender Freunde zu Berlin 1881 (no. 2) (for 15 Feb. 1881); ref. [18546](#)] Northwestern Madagascar. Holotype: ZMB 11385. Paratypes: ?MNHN 1880-0508 (1). Type catalog: Bauchot et al. 1993:95 [ref. [20810](#)] but as MNHN A.4146, holotype, for Sauvage 1891:499; Fricke et al. 2018:31 [ref. [35805](#)]. Current status: Synonym of *Anguilla marmorata* Quoy & Gaimard 1824. Anguillidae.

***Anguilla megastoma* Kaup 1857**

Anguilla megastoma Kaup [J. J.] 1857:50, Pl. 8 (fig. 42) [Catalogue of the apodal fish in the collection of the British Museum; ref. [2573](#)] Mangareva, Gambier Islands, French Polynesia. Holotype (unique): MNHN A-9952. Type catalog: Bauchot et al. 1993:96 [ref. [20810](#)]. Appeared first as name only in Kaup 1856:56 [ref. [2572](#)]. **Current status:** Valid as *Anguilla megastoma* Kaup 1857. Anguillidae.

Distribution: Western Pacific: New Britain (Papua New Guinea) and New Caledonia to Society and Gambier islands. Habitat: freshwater, brackish, marine.

Anguilla otaheitensis Kaup [J. J.] 1859:17, Pl. 2 (fig. 2) [Abhandlungen aus dem Gebiete der Naturwissenschaften herausgegeben von dem Naturwissenschaftlichen Verein in Hamburg v. 4 (no. 2); ref. [2586](#)] Tahiti, Society Islands. Holotype (unique): ZMH H388. Type catalog: Ladiges et al. 1958:160 [ref. [19181](#)], Wilkens & Dohse 1993:404 [ref. [21161](#)]. Current status: Synonym of *Anguilla megastoma* Kaup 1857. Anguillidae.

Anguilla aneitensis Günther [A.] 1870:34, Fig. [Catalogue of the fishes in the British Museum v. 8; ref. [1995](#)] Aneityum [Anatom] Island, Vanuatu. Holotype (unique): BMNH 1855.8.16.52. Current status: Synonym of *Anguilla megastoma* Kaup 1857. Anguillidae.

Anguilla mossambica (Peters 1852)

Muraena (Anguilla) mossambica Peters [W. (C. H.)] 1852:684 [Bericht über die zur Bekanntmachung geeigneten Verhandlungen der Königlichen Preussischen Akademie der Wissenschaften zu Berlin 1852; ref. [18539](#)] Molumbo [Lumbo] River, Mozambique [East Africa]. Holotype (unique): ZMB 6230. Also in Peters 1868:98, Pl. 18 (fig. 1) [ref. [3440](#)] as *Anguilla mossambica*. **Current status:** Valid as *Anguilla mossambica* (Peters 1852). Anguillidae. **Distribution:** Western Indian Ocean: South Africa and East Africa, Mayotte (France), Madagascar and western Mascarenes (La Réunion, Mauritius). Habitat: freshwater, brackish, marine.

Tribranchus anguillar Peters [W. (C. H.)] in Müller 1846:193, footnote [Abhandlungen der Königlichen Akademie der Wissenschaften zu Berlin for 1844; ref. [13283](#)] Perhaps available, very brief description in footnote. Current status: Synonym of *Anguilla mossambica* (Peters 1852). Anguillidae.

Anguilla delalandi Kaup [J. J.] 1857:50, Pl. 8 (fig. 41) [Catalogue of the apodal fish in the collection of the British Museum; ref. [2573](#)] Great Fish River, Cape of Good Hope, South Africa. Holotype (unique): MNHN (not found). Type catalog: Bauchot et al. 1993:124 [ref. [20810](#)]. Appeared first without description in Kaup 1856:55 [ref. [2572](#)]. Current status: Synonym of *Anguilla mossambica* (Peters 1852). Anguillidae.

Anguilla capensis Kaup [J. J.] 1859:18, Pl. 2 (fig. 3) [Abhandlungen aus dem Gebiete der Naturwissenschaften herausgegeben von dem Naturwissenschaftlichen Verein in Hamburg v. 4 (no. 2); ref. [2586](#)] Holotype (unique): ZSM [old collection] destroyed in WWII. Type catalog: Neumann 2006:265 [ref. [28925](#)]. Current status: Synonym of *Anguilla mossambica* (Peters 1852). Anguillidae.

Anguilla capensis Castelnau [F. L.] 1861:73 [Mémoire sur les poissons de l'Afrique australe; ref. [767](#)] Grand Namaquois (Namaquas), South Africa. Holotype (unique): MNHN A-2337. Type catalog: Bauchot et al. 1993:94 [ref. [20810](#)]. Objectively invalid; preoccupied by *Anguilla capensis* Kaup 1860. 1°Homonym. Current status: Synonym of *Anguilla mossambica* (Peters 1852). Anguillidae.

Anguilla nebulosa McClelland 1844

Anguilla nebulosa McClelland [J.] 1844:179, 202, Pl. 5 (fig. 2) [Calcutta Journal of Natural History v. 5 (no. 18); ref. [2928](#)] Bengal, India and Sandoway, Burma. Syntypes: SMF 993 (1). **Current status:** Valid as *Anguilla nebulosa* McClelland 1844. Anguillidae. **Distribution:** Indo-West Pacific. Habitat: freshwater, brackish, marine.

Anguilla obscura Günther 1872

Anguilla obscura Günther [A.] 1872:673 [Proceedings of the Zoological Society of London 1871 (pt 3) (art. 1) (for 21 Nov. 1871); ref. [1997](#)] Kanathea, Fiji Islands. Holotype (unique): BMNH 1871.9.13.145. **Current status:** Valid as *Anguilla obscura* Günther 1872. Anguillidae. **Distribution:** Western Pacific: eastern Australia and Papua New Guinea east to Tuamotu Archipelago and Gambier Islands. Habitat: freshwater, brackish, marine.

Anguilla marginipinnis Macleay [W.] 1883:210 [Proceedings of the Linnean Society of New South Wales v. 8 (pt 2); ref. [14342](#)] Lillesmere Lagoon, Burdekin River, Queensland, Australia. Syntypes: AMS A.17994 (1), A.17997-99 (1, 1, 1), A.18001 (1); QM I.3497 (1); Macleay Mus. [ex AMS I.17995] (1). Syntype AMS A.17998 is *Anguilla reinhardtii* Steindachner 1867 -- (Paxton et al. 1989:123 [ref. [12442](#)]). Current status: Synonym of *Anguilla obscura* Günther 1872. Anguillidae.

Anguilla reinhardtii Steindachner 1867

Anguilla reinhardtii Steindachner [F.] 1867:15, Figs. a-b [Sitzungsberichte der Mathematisch-Naturwissenschaftlichen Classe der Kaiserlichen Akademie der Wissenschaften v. 55 (1. Abth.); ref. [4214](#)] Fitzroy River, Rockhampton, Queensland, Australia. Holotype (unique): NMW 3307. **Current status:** Valid as *Anguilla reinhardtii* Steindachner 1867. Anguillidae. **Distribution:** Southwestern Pacific: Australia, New Guinea and New Caledonia. Habitat: freshwater, brackish, marine.

Anguilla rostrata (Lesueur 1817)

Muraena rostrata Lesueur [C. A.] 1817:81 [Journal of the Academy of Natural Sciences, Philadelphia v. 1 (pt 1, no. 5) (19 Aug.); ref. [17509](#)] Cayuga and Geneva lakes, New York, U.S.A. No types known. See Smith 1989:35 [ref. [13285](#)] for nomenclatural discussion. **Current status:** Valid as *Anguilla rostrata* (Lesueur 1817). Anguillidae. **Distribution:** Western Atlantic: north to Newfoundland and Greenland; North, Central and South America; West Indies and in Atlantic and Caribbean draining rivers; eastern Atlantic: rarely Azores. Introduced in Italy. Habitat: freshwater, brackish, marine.

Muraena argentea Lesueur [C. A.] 1817:82 [Journal of the Academy of Natural Sciences, Philadelphia v. 1 (pt 1, no. 5) (19 Aug.); ref. [17509](#)] Boston Harbor, Massachusetts, U.S.A. No types known. Current status: Synonym of *Anguilla rostrata* (Lesueur 1817). Anguillidae.

Muraena bostoniensis Lesueur [C. A.] 1817:81 [Journal of the Academy of Natural Sciences, Philadelphia v. 1 (pt 1, no. 5) (19 Aug.); ref. [17509](#)] Boston, Massachusetts, U.S.A. No types known. Current status: Synonym of *Anguilla rostrata* (Lesueur 1817). Anguillidae.

Muraena macrocephala Lesueur [C. A.] 1817:82 [Journal of the Academy of Natural Sciences, Philadelphia v. 1 (pt 1, no. 5) (19 Aug.); ref. [17509](#)] Saratoga, New York; Philadelphia market, U.S.A. No types known. Current status: Synonym of *Anguilla rostrata* (Lesueur 1817). Anguillidae.

Muraena serpentina Lesueur [C. A.] 1817:81 [Journal of the Academy of Natural Sciences, Philadelphia v. 1 (pt 1, no. 5) (19 Aug.); ref. [17509](#)] Harbor of Newport, Rhode Island, U.S.A. No types known. Current status: Synonym of *Anguilla rostrata* (Lesueur 1817). Anguillidae.

Anguilla blephura Rafinesque [C. S.] 1817:120 [American Monthly Magazine and Critical Review v. 2 (no. 2); ref. [18584](#)] Southwestern shore of Long Island, New York, U.S.A. No types known. As name only in Ref 1817:453 [ref. [18585](#)]. Current status: Synonym of *Anguilla rostrata* (Lesueur 1817). Anguillidae.

Anguilla chrysypa Rafinesque [C. S.] 1817:120 [American Monthly Magazine and Critical Review v. 2 (no. 2); ref. [18584](#)] Lake George, Lake Champlain, and Hudson River above the Falls, U.S.A. No types known. Spelled *chrysypa* in early literature. Current status: Synonym of *Anguilla rostrata* (Lesueur 1817). Anguillidae.

Anguilla laticanda Rafinesque [C. S.] 1818:447 [American Monthly Magazine and Critical Review v. 3 (no. 6) (art. 6) (Oct.); ref. [3587](#)] Ohio River, Wabash River, Green River, etc., U.S.A. No types known. Spelled *laticanda* twice but *laticauda* intended based on subsequent use by Rafinesque (e.g., 1820:245 [ref. [5088](#)]). See Smith 1989:35 [ref. [13285](#)] for nomenclatural discussion. Current status: Synonym of *Anguilla rostrata* (Lesueur 1817). Anguillidae.

Anguilla aterrima Rafinesque [C. S.] 1820:245 [Western Review and Miscellaneous Magazine: a monthly publ., devoted to literature and science, Lexington, KY v. 3 (no. 4); ref. [5088](#)] Tennessee River, Cumberland River, etc., U.S.A. No types known. Also in Rafinesque 1820:78 [ref. [3592](#)]. Current status: Synonym of *Anguilla rostrata* (Lesueur 1817). Anguillidae.

Anguilla lutea Rafinesque [C. S.] 1820:246 [Western Review and Miscellaneous Magazine: a monthly publ., devoted to literature and science, Lexington, KY v. 3 (no. 4); ref. [5088](#)] Cumberland, Green and Licking rivers, U.S.A. No types known. Also in Rafinesque 1820:78 [ref. [3592](#)]. Current status: Synonym of *Anguilla rostrata* (Lesueur 1817). Anguillidae.

Anguilla xanthomelas Rafinesque [C. S.] 1820:245 [Western Review and Miscellaneous Magazine: a monthly publ., devoted to literature and science, Lexington, KY v. 3 (no. 4); ref. [5088](#)] Ohio River, U.S.A. No types known. Also in Rafinesque 1820:78 [ref. [3592](#)]. Current status: Synonym of *Anguilla rostrata* (Lesueur 1817). Anguillidae.

Anguilla tenuirostris DeKay [J. E.] 1842:310, Pl. 53 (fig. 173) [Zoology of New-York; ref. [1098](#)] New York, U.S.A. No types known. Current status: Synonym of *Anguilla rostrata* (Lesueur 1817). Anguillidae.

Anguilla cubana Kaup [J. J.] 1857:44 [Catalogue of the apodal fish in the collection of the British Museum; ref. [2573](#)] Cuba. Holotype (unique): MNHN B-2105. Type catalog: Bauchot et al. 1993:94 [ref. [20810](#)]. Appeared first as name only in Kaup 1856:55 [ref. [2572](#)]. Current status: Synonym of *Anguilla rostrata* (Lesueur 1817). Anguillidae.

- Anguilla macrops* Kaup [J. J.] 1857:49, Pl. 7 (fig. 38) [Catalogue of the apodal fish in the collection of the British Museum; ref. [2573](#)] No locality. Holotype (unique): MNHN B-3154. Type catalog: Bauchot et al. 1993:95 [ref. [20810](#)]. Appeared first as name only in Kaup 1856:56 [ref. [2572](#)]. Current status: Synonym of *Anguilla rostrata* (Lesueur 1817). Anguillidae.
- Anguilla novaeorleanensis* Kaup [J. J.] 1857:43, Pl. 6 (fig. 33) [Catalogue of the apodal fish in the collection of the British Museum; ref. [2573](#)] New Orleans, Louisiana, U.S.A. Syntypes: MNHN B-2111 (2). Type catalog: Bauchot et al. 1993:96 [ref. [20810](#)]. Appeared first as name only in Kaup 1856:55 [ref. [2572](#)]. Current status: Synonym of *Anguilla rostrata* (Lesueur 1817). Anguillidae.
- Anguilla novaeterrae* Kaup [J. J.] 1857:45, Pl. 7 (fig. 35) [Catalogue of the apodal fish in the collection of the British Museum; ref. [2573](#)] Newfoundland, Canada. Holotype (unique): MNHN B-2106. Type catalog: Bauchot et al. 1993:96 [ref. [20810](#)]. Appeared first as name only in Kaup 1856:55 [ref. [2572](#)] as *novaterrae*. Current status: Synonym of *Anguilla rostrata* (Lesueur 1817). Anguillidae.
- Anguilla punctatissima* Kaup [J. J.] 1857:44 [Catalogue of the apodal fish in the collection of the British Museum; ref. [2573](#)] Niagara Falls, U.S.A. and Canada. Holotype (unique): MNHN (not found). Type catalog: Bauchot et al. 1993:124 [ref. [20810](#)]. Appeared first without description in Kaup 1856:55 [ref. [2572](#)]. Current status: Synonym of *Anguilla rostrata* (Lesueur 1817). Anguillidae.
- Anguilla texana* Kaup [J. J.] 1857:45, Pl. 7 (fig. 36) [Catalogue of the apodal fish in the collection of the British Museum; ref. [2573](#)] Texas, U.S.A. Holotype (unique): MNHN B-2109. Type catalog: Bauchot et al. 1993:97 [ref. [20810](#)]. Appeared first as name only in Kaup 1856:56 [ref. [2572](#)]. Current status: Synonym of *Anguilla rostrata* (Lesueur 1817). Anguillidae.
- Anguilla wabashensis* Kaup [J. J.] 1857:46 [Catalogue of the apodal fish in the collection of the British Museum; ref. [2573](#)] Wabash River, tributary of Ohio River, U.S.A. Holotype (unique): MNHN B-2117. Type catalog: Bauchot et al. 1993:97 [ref. [20810](#)]. Appeared first as name only in Kaup 1856:56 [ref. [2572](#)]. Current status: Synonym of *Anguilla rostrata* (Lesueur 1817). Anguillidae.
- Anguilla tyrannus* Girard [C. F.] 1858:171 [Proceedings of the Academy of Natural Sciences of Philadelphia v. 10; ref. [1813](#)] Mouth of Rio Grande del Norte (Rio Bravo), Texas, U.S.A. Holotype (unique): USNM 857 [= USNM 43108]. See also Girard 1859:75, Pl. 40 [ref. [13405](#)]. Current status: Synonym of *Anguilla rostrata* (Lesueur 1817). Anguillidae.
- Leptocephalus grassii* Eigenmann [C. H.] & Kennedy [C. H.] 1902:84, Figs. 1, 1a-b [Bulletin of the U. S. Fish Commission v. 21 (1901); ref. [11071](#)] Atlantic, Albatross station 2103, 38°47'20"N, 72°37'W, depth 0-1091 fathoms; 38°25'N, 72°40'W. Syntypes USNM 49751-52 (1, 1). Type catalog: Smith 1994:3 [ref. [21917](#)]. Appeared as *Leptocephalus grassii*, sp. nov. = *Anguilla chrysypa*. Current status: Synonym of *Anguilla rostrata* (Lesueur 1817). Anguillidae.

Family Anguillidae – indeterminate names:

- Anguilla latirostris* Yarrell [W.] 1836:298 [A history of British fishes; ref. [4812](#)] Great Britain. No types known. Apparently independent of, and preoccupied by *Anguilla latirostris* Risso 1827; objectively invalid. Appeared earlier as the "Grig" without Latinization in Yarrell 1832 [ref. [17746](#)] and perhaps Jenyns 1835 [ref. [18335](#)] (not researched). 1°Homonym. Anguillidae.
- Anguilla macroptera* McClelland [J.] 1843:407, Pl. 25 (fig. 1) [Calcutta Journal of Natural History v. 4 (no. 4) (for 1844); ref. [2927](#)] Chusan, China. Anguillidae.
- Anguilla isinglaena* Kaup [J. J.] 1856:50, Pl. 8 (fig. 40) [Archiv für Naturgeschichte v. 22 (pt. 1); ref. [2572](#)] No locality. Anguillidae.
- Anguilla porphyrea* Günther [A.] (ex Hodgson) 1861:226 [Proceedings of the Zoological Society of London 1861 (pt 2) (art. 3) (for 28 May 1861); ref. [18214](#)] Rosi Khola, a clear hill-stream, central region of Nepal. No types known. Based on a drawing. Perhaps not intended as new by Günther, who cited Hodgson's species name. Anguillidae.
- Anguilla caeca* Smith [H. M.] 1904:121, Fig. 1 [Proceedings of the Biological Society of Washington v. 17; ref. [10233](#)] Western Atlantic, 60 miles south of Noman's Land, Massachusetts, U.S.A. Holotype:

USNM 51483 (lost). Type lost; unidentifiable (D. G. Smith, pers. Comm. 12/2000). Anguillidae.
Habitat: marine.

Leptocephalus inferior Shen [S.-C.] 1963:261, Figs. 1-3 [Quarterly Journal of the Taiwan Museum (Taipei) v. 16 (nos 3-4); ref. [5280](#)] Estuary of the Tam-sui River, northern Taiwan. Syntypes: NTUM uncat. (2). Type catalog: Ho & Shao 2011:63 [ref. [31432](#)]. •Larvae, may belong to a species of *Anguilla* -- (Ho & Shao 2011:63 [ref. [31432](#)]). Anguillidae. Habitat: marine.

Annex 2: List of synonyms according to Fricke *et al.* (2024) and common names (compiled from FishBase and IUCN Red List assessments)

| Species | Synonyms | Common name (language) |
|--|--|---|
| <i>Anguilla anguilla</i> (Linnaeus 1758) | <i>Anguilla acutirostris</i> Risso 1827; <i>Anguilla aegyptiaca</i> Kaup 1856; <i>Anguilla altirostris</i> Kaup 1856; <i>Anguilla anacamptentera</i> Balsamo-Crivelli & Maggi 1873; <i>Anguilla ancidda</i> Kaup 1856; <i>Anguilla bibroni</i> Kaup 1856; <i>Anguilla brevisrostris</i> Cisternas 1877; <i>Anguilla callensis</i> Guichenot 1850; <i>Anguilla canariensis</i> Valenciennes 1843; <i>Anguilla capitone</i> Kaup 1856; <i>Anguilla cloacina</i> Bonaparte 1846; <i>Anguilla cuvieri</i> Kaup 1856; <i>Anguilla eurystoma</i> Heckel & Kner 1858; <i>Anguilla fluviatilis</i> Anslin 1828; <i>Anguilla fluviatilis</i> Gistel 1848; <i>Anguilla hibernica</i> Couch 1865; <i>Anguilla kieneri</i> Kaup 1856; <i>Anguilla latirostris</i> Risso 1827; <i>Anguilla linnei</i> Malm 1877; <i>Anguilla marginata</i> Kaup 1856; <i>Anguilla mediorostris</i> Risso 1827; <i>Anguilla melanochir</i> Kaup 1857; <i>Anguilla microptera</i> Kaup 1857; <i>Anguilla migratoria</i> Krøyer 1849; <i>Anguilla morena</i> Kaup 1857; <i>Anguilla nilotica</i> Heckel 1847; <i>Anguilla oblongirostris</i> Blanchard 1866; <i>Anguilla orthoentera</i> Balsamo-Crivelli & Maggi 1873; <i>Anguilla platycephala</i> Kaup 1857; <i>Anguilla platyrhynchus</i> Costa 1850; <i>Anguilla savignyi</i> Kaup 1856; <i>Anguilla vulgaris</i> Rafinesque 1810; <i>Anguilla vulgaris</i> Shaw 1803; <i>Leptocephalus brevisrostris</i> Kaup 1856; <i>Muraena Anguilla subsp. anguillechien</i> Schneider 1801; <i>Muraena Anguilla subsp. guiseau</i> Schneider 1801; <i>Muraena Anguilla var. acerine</i> Schneider 1801; <i>Muraena oxyrhina</i> Ekström 1832; <i>Muraena platyrhina</i> Ekström 1832; <i>Anguilla malgumora</i> Kaup 1857 | European eel, Sing eel, River eel, Yellow eel, Weed eel, Common eel, Eel, Silver eel (EN) Margignou, Anguille argentée, Thaoundella, Anguille européenne, Civelle, Anguielo, Pouchuroto, Verniau, Bouiron, Sili, Anguille d'Europe, Coureuse, Pouchurote, Pougau, Resso, Pimperneau, Pibale, Bomarinque, Anguille jaune, Angèle, Anguille, Thaudelo, De la riviere (FR). Anguila europea, Anguilla maresa, Anguilla fartona, Anguilla catarrojina, Anguilla pugaron, Anguila, Anguilla martina, Anguilla pastorena, Anguilla (ES). |
| <i>Anguilla australis</i> Richardson 1841 | <i>Anguilla australias occidentalis</i> Schmidt 1928; <i>Anguilla australis orientalis</i> Schmidt 1928; <i>Anguilla schmidtii</i> Phillipps 1925 | Australian shortfinned eel, Australian short-finned eel, Eel, Freshwater eel, River eel, Shortfin eel, Shortfinned eel, Short-finned eel, Short-finned freshwater eel, Silver eel, Southern shortfin eel, Yellow eel (EN) Anguille d'Australie (FR) Anguila australiana (ES) |
| <i>Anguilla bengalensis</i> (Gray 1831) | <i>Anguilla arracana</i> McClelland 1844; <i>Anguilla brevisrostris</i> McClelland 1844; <i>Anguilla elphinstonei</i> Sykes 1839; <i>Anguilla variegata</i> McClelland 1844 | Bengal eel, African mottled eel, Indian mottled eel. Mottled eel, European eel, Freshwater eel, Indian longfin eel, Long finned eel, Longfin freshwater eel, Moorish eel, Starry moray (EN) Z'amab, Z'anguille (FR) Anguia, Anguila, Angula (ES) Afrika-bontpaling (Afrikaans) বানেশারা, Banehara (BD - Bengali) சேரம் பாம்பு, பொரி விலாங்கு, விலாங்கு, Porivelangu, Porivilangu, Seram pambu, Serampambo, Vallango, Vellango, Vilangu (Tamil) ആരല്, മലഞ്ഞില, മലിഞ്ഞില, വിളങ്ങ, Aarel, Aerel, Gnal, Maniangel, Mlangil, Vilangu (Malayalam) Aheer, Ahir (Marathi) Hanchu mennu, Hanchumeenu, Harimeenu (Kannada) Malamgulu, Malugu (Telugu) Naprum (Meitei) Thumbi (Oriya) |

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|--|--|---|
| | | <p>रज बाम, Raj bam, Rajbam, Rem (Nepali)</p> <p>Gal arndha, Ganga arndha, Kabara arndha, Kaha arndha, Pol mal andha, Polon arndha, Pulli arndha, Vali arndha (Sinhalese)</p> <p>Nkunga (Nyanja)</p> <p>Badung, Batung, Belut, Belut benggala, Butul, Roluo, Sinsilud, Tuna (MY)</p> <p>Nga-mee-toung (MM)</p> |
| <i>Anguilla bicolor</i> McClelland 1844 | <p><i>Anguilla amblodon</i> Günther 1867; <i>Anguilla bleekeri</i> Kaup 1856; <i>Anguilla cantori</i> Kaup 1857; <i>Anguilla dussumieri</i> Kaup 1857; <i>Anguilla fochowensis</i> Chu & Yin 1984; <i>Muraena halmaherensis</i> Bleeker 1863; <i>Muraena macrocephala</i> Rapp 1849; <i>Anguilla malabarica</i> Kaup 1857; <i>Anguilla moa</i> Bleeker 1849; <i>Anguilla mowa</i> Bleeker 1852; <i>Anguilla sidat</i> Bleeker 1852; <i>Anguilla spengeli</i> Weber 1912; <i>Muraena (Anguilla) virescens</i> Peters 1852</p> | <p>Indian bicolor eel, Amalona, Bicolor eel, Freshwater eel, Indian Ocean eel, Indian short-finned eel, Indonesian shortfin eek, Level finned eel, Level-finned eel, Lever-finned eel, Northern eel, River eel, Shortfin eel, Short-finned eel (EN)</p> <p>Anguille à nageoire courte, Anguille bicolore (FR)</p> <p>Anguila de aleta corta (ES)</p> <p>Trey chlok (Khmer)</p> <p>二色鳗, 双色鳗, 双色鳗, 太平洋双色鳗, 太平洋雙色鳗, 雙色鳗 (Mandarin Chinese)</p> <p>Hanchu, Hanchumeenu (Kannada)</p> <p>മലഞ്ഞിൽ, മലിഞ്ഞിൽ, Mlangil (Malayalam)</p> <p>வில்லாங்கு, Vilangu (Tamil)</p> <p>Mkunga, Mukunga (Pokomo)</p> <p>Amalona (Malagasy, Betsimisaraka)</p> <p>Nkunga (Nyanja)</p> <p>Badung, Batung, Belut, Belut dwiwarna, Butul, Roluo, Sinsilud, Tuna (Malay)</p> <p>Valuveng (Maldivian)</p> <p>Enguia de brabatana curta (PT)</p> <p>Nga-she-gya (MM)</p> <p>Anguilla (Chavacano), Casili (Cebuano), Kasili (Cebuano/Davawenyo/Waray-waray), Igat (Ilokano/Tagalog), Indong, Nipa-nipa (Hiligaynon), Indong Honasan (Maranao/Samal/Tao Sug), Palos (Tagalog)</p> <p>Kortvin-paling (Afrikaans)</p> <p>Kakkuta arndha, Kalu aandha, Kalu arndha (Sinhalese)</p> <p>Mkunga (Swahili)</p> |
| <i>Anguilla borneensis</i> Popta 1924 | | <p>Borneo eel, Indonesian longfinned eel (EN)</p> <p>Anguille de Bornéo (FR)</p> <p>Anguila de Borneo (ES)</p> |

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|---|---|--|
| <i>Anguilla celebesensis</i> Kaup 1857 | <i>Anguilla amboinensis</i> Peters 1866; <i>Anguilla ancestralis</i> Ege 1939 | Celebes eel, Celebes longfin eel (EN) Anguille des Célèbes (FR) Anguila de Célebes (ES) Menguling (Malay) Casili (Cebuano), Kasili (Cebuano/Davawenyo/Visayan/Waray-waray), Igat (Tagalog) |
| <i>Anguilla dieffenbachii</i> Gray 1842 | <i>Anguilla aucklandii</i> Richardson 1848; <i>Anguilla waitei</i> Phillipps 1925 | New Zealand longfin eel, Longfinned eel (EN) Anguille de Nouvelle-Zélande (FR) Anguila de Nueva Zelanda (ES) |
| <i>Anguilla interioris</i> Whitley 1938 | | New Guinea eel, Highlands long-finned eel (EN) Anguille de Nouvelle-Guinée (FR) Anguila de Nueva Guinea, Anguila de aleta larga de las Highlands (ES) |
| <i>Anguilla japonica</i> Temminck & Schlegel 1846 | <i>Anguilla angustidens</i> Kaup 1846; <i>Anguilla breviceps</i> Chu & Jin 1984; <i>Anguilla manabei</i> Jordan 1913; <i>Anguilla nigricans</i> Chu & Wu 1984; <i>Muraena pekinensis</i> Basilewsky 1855; <i>Anguilla remifera</i> Jordan & Evermann 1902; <i>Anguilla sinensis</i> McClelland 1843 | Japanese eel, Freshwater eel, Eel (EN) Anguille du Japon (FR) Anguila, Anguila japonesa (ES) Bái shàn, Mán lí, Mán yú, Rì běn mán lí, 日本鰻鱺, 日本鰻, 日本鰻鱺, 鰻鱺 (Mandarin Chinese) Nihon-unagi, Unagi, ウナギ (JP) Paen-jang-ö, 뱀장어 (KR) Casili (Bikol/Cebuano), Igat (Tagalog), Kasili (Cebuano/Davawenyo/Waray-waray), Ubod (Hiligaynon) Pla lai yee pun, ปลาไหลญี่ปุ่น (TH) Cá chình Nhật (VN) |
| <i>Anguilla luzonensis</i> Watanabe, Aoyama & Tsukamoto 2009 | <i>Anguilla huangi</i> Teng, Lin & Tzeng 2009 | Luzon eel, Luzon mottled eel, Philippine mottled eel (EN) |
| <i>Anguilla marmorata</i> Quoy & Gaimard 1824 | <i>Anguilla fidjiensis</i> Günther 1870; <i>Anguilla hildebrandti</i> Peters 1881; <i>Anguilla johannae</i> Playfair & Günther 1867; <i>Anguilla labrosa</i> Richardson 1848; <i>Anguilla manillensis</i> Bleeker 1864; <i>Anguilla mauritiana</i> Bennett 1831 | Indo-Pacific eel, Giant long-finned eel, Giant mottled eel, Madagascar mottled eel, Marbled eel, River eel, Eel (EN) Anguille marbrée, Congre, Grande anguille marbrée (FR) Anguilla moteada gigante (ES) Antong Tunleir (Khmer) 毛里求斯鰻鱺, 毛里求斯鰻, 花鰻鱺, 花鰻, 花鰻鱺(鲈鰻), 鲈鰻, 鱸鰻 (Mandarin Chinese) Diria, Duna (FJ) 花錦鱻, 花鰻鱺/花錦鱻 (Cantonese) |

| | | |
|--|--|---|
| | | <p>Gateng, Lembu, Lumbon, Moa, Pelus, Sidang, Sidat, Uling, Uling asu, Uling kirik (Javanese)</p> <p>Belus, Belut, Belut sinsilog, Moa kembang, Sinsilud, Tuna (Malay)</p> <p>Ô-unagi, オオウナギ (JP)</p> <p>Pa lai fai fa, Pba lat meow (LA)</p> <p>Amalomaitso, Amalombandana, Amalona, Drietra (Malagasy)</p> <p>Enguia gigante (PT)</p> <p>Almang (Agutaynen), Anguilla (Chavacano), Casili (Bikol/Cebuano), Endong (Kuyunon), Igat (Tagalog), Indong honasan (Maranao/Samul/Tao Sug), Kasili (Cebuano/Davawenyo/Visayan/Waray-waray), Palos (Tagalog), Pangitan (Kagayanen), Pubukangbinhi (Tagalog), Talunasan (Kapampangan)</p> <p>Tuna (Samoan)</p> <p>Madagaskar-bontpaling, Reus-bontpaling (Afrikaans)</p> <p>Marai, Mera, Merit, Namarae, Wewe (Bislama)</p> <p>Cá chình (VN)</p> |
| Anguilla megastoma Kaup 1857 | <i>Anguilla aneitensis</i> Günther 1870; <i>Anguilla otaheitensis</i> Kaup 1859 | <p>Polynesian longfin eel, Pacific long-finned eel, Polynesian longfinned eel (EN)</p> <p>Anguille de montagne, Anguille rouge (FR)</p> <p>Anguila Bocona (ES)</p> <p>Bādamu (FJ)</p> <p>Kekar, Marai, Mera, namarae, Pankara (Bislama)</p> |
| Anguilla mossambica (Peters 1852) | <i>Tribranchus anguillaris</i> Müller 1846; <i>Anguilla capensis</i> Kaup 1859; <i>Anguilla capensis</i> Castelnau 1861; <i>Anguilla delalandi</i> Kaup 1857 | <p>Mozambique eel, African longfin eel, Longfin eel (EN)</p> <p>Anguille à longue nageoire, Anguille du Mozambique (FR)</p> <p>Anguila de aleta larga de Africa (ES)</p> <p>Mkunga, Mukunga (Pokomo)</p> <p>Amalomainty, Amalomaitso, Tona (Malagasy)</p> <p>Enguia moçambicana (PT)</p> <p>Geelbek-paling, Geelbekpaling (Afrikaans)</p> <p>Mkunga (Swahili)</p> |
| Anguilla nebulosa McClelland 1844 | | <p>African Bengal eel, African mottled eel, Indian longfin eel, Indian mottled eel, Long finned eel, Long-finned eel, Mottled eel, River eel (EN)</p> <p>Anguila moteada (ES)</p> |
| Anguilla obscura Günther 1872 | <i>Anguilla marginipinnis</i> Macleay 1883 | <p>Polynesian shortfin eel, Brown eel, Pacific shortfin eel, Pacific shortfinned eel, Pacific short-finned eel, Pacific shortfinned freshwater eel, Pacific shortfinned eel, Short-finned eel, South pacific eel, (EN)</p> |

| | | |
|--|--|---|
| | | Anguille de vase, Anguille sombre (FR) Bonu, Malavo (FJ) Chuma, namarae (Bislama) |
| <i>Anguilla reinhardtii</i> Steindachner 1867 | | Australian longfin eel, Conger eel, Freshwater eel, Longfin eel, Longfinned eel, Marbled eel, River eel, Speckled longfin eel, Spotted eel (EN) Anguille de Reinhardt, Anguille tachetée (FR) Anguila de Reinhardt (ES) |
| <i>Anguilla rostrata</i> (Lesueur 1817) | <i>Muraena argentea</i> Lesueur 1817; <i>Anguilla aterrima</i> Rafinesque 1820; <i>Anguilla blephura</i> Rafinesque 1817; <i>Muraena bostoniensis</i> Lesueur 1817; <i>Anguilla chrysypa</i> Rafinesque 1817; <i>Anguilla cubana</i> Kaup 1857; <i>Leptocephalus grasii</i> Eigenmann & Kennedy 1902; <i>Anguilla laticanda</i> Rafinesque 1818; <i>Anguilla lutea</i> Rafinesque 1820; <i>Muraena macrocephala</i> Lesueur 1817; <i>Anguilla macrops</i> Kaup 1857; <i>Anguilla novaeorleanensis</i> Kaup 1857; <i>Anguilla novaeterrae</i> Kaup 1857; <i>Anguilla punctatissima</i> Kaup 1857; <i>Muraena serpentina</i> Lesueur 1817; <i>Anguilla tenuirostris</i> DeKay 1842; <i>Anguilla texana</i> Kaup 1857; <i>Anguilla tyrannus</i> Girard 1858; <i>Anguilla wabashensis</i> Kaup 1857; <i>Anguilla xanthomelas</i> Rafinesque 1820 | American eel, Common eel, Eel, Elver (joven), Freshwater eel, Silver eel (EN) Anguille, Anguille américaine, Anguille d'Amérique (FR) Anguila, Anguila americana (ES) Enguia (PT) |

Annex 3: Images of *A. japonica* and *A. rostrata*

Figure A1. (A) Adult *Anguilla japonica* 국립국어원 (National Institute of the Korean Language), [CC BY-SA 2.0 KR](#), via Wikimedia Commons (B) Adult *Anguilla japonica* 국립국어원, (National Institute of the Korean Language) [CC BY-SA 2.0 KR](#), via Wikimedia Commons (C) Adult *Anguilla rostrata*, Erickson Smith (ESmithWildlife) [CC BY-NC 2.0](#), via [Flickr](#) (D) Adult *Anguilla rostrata*, Steve Droter/Chesapeake Bay Program) [CC BY-NC 2.0](#), via [Flickr](#)

Annex 4: Summary of conservation status, distribution, and range States of the seventeen *Anguilla* species proposed for listing.

| Species (common name) | IUCN category (pop. trend) (year) | Distribution | Tropical / temperate (based on Arai, 2022 unless specified) | Range States ¹⁹ | Dependent territories (range State) |
|--|-----------------------------------|--|---|---|--|
| <i>Anguilla anguilla</i> (European eel) | CR (↓) (2018) | Western Atlantic (Fricke <i>et al.</i> , 2024) | Temperate | See Species+ | See Species+ |
| <i>Anguilla australis</i> (Shortfin eel) | NT (?) (2018) | Southwestern Pacific (Fricke <i>et al.</i> , 2024) | Temperate | Australia, New Zealand | New Caledonia (France) |
| <i>Anguilla bengalensis</i> (Indian mottled eel) | NT (?) (2019) | Indian Ocean and adjacent freshwater habitats (Fricke <i>et al.</i> , 2024). | Tropical | Bangladesh, Eswatini, Ethiopia, India, Indonesia, Kenya, Madagascar, Malawi, Malaysia, Mozambique, Myanmar, Nepal, South Africa, Sri Lanka, United Republic of Tanzania, Yemen, Zimbabwe | |
| <i>Anguilla bicolor</i> (Shortfin eel) | NT (?) (2019) | Indo-west Pacific (Fricke <i>et al.</i> , 2024) | Tropical | Australia, Bangladesh, Cambodia, China, India, Indonesia, Japan, Kenya, Madagascar, Malawi, Malaysia, Maldives, Mauritius, Mozambique, Myanmar, Oman, Papua New Guinea, Philippines, Republic of Korea, Seychelles, Solomon Islands, Somalia, South Africa, Sri Lanka, Thailand, United Republic of Tanzania, Viet Nam, Yemen | Commonwealth of the Northern Mariana Islands (United States), Mayotte (France), Réunion (France), Taiwan |
| <i>Anguilla borneensis</i> (Indonesian longfinned eel) | VU (?) (2018) | Western Pacific (Fricke <i>et al.</i> , 2024). | Tropical | Indonesia, Malaysia, Philippines | |

¹⁹ The MA of Pakistan (*in litt.* to European Commission, 2025) confirmed Pakistan is not a range State for any *Anguilla* spp.

| Species (common name) | IUCN category (pop. trend) (year) | Distribution | Tropical / temperate (based on Arai, 2022 unless specified) | Range States ¹⁹ | Dependent territories (range State) |
|---|-----------------------------------|---|---|--|--|
| <i>Anguilla celebesensis</i> (Celebes longfin eel) | DD (?) (2018) | Western Pacific (Fricke <i>et al.</i> , 2024). | Tropical | Indonesia, Malaysia, Philippines* * Gollock <i>et al.</i> (2018) noted geographic range still not yet fully understood due to misidentification of the species. | |
| <i>Anguilla dieffenbachii</i> (New Zealand longfin eel) | EN (?) (2018) | Endemic to New Zealand (Fricke <i>et al.</i> , 2024) | Temperate | New Zealand (Fricke <i>et al.</i> , 2024) | |
| <i>Anguilla interioris</i> (Highlands long-finned eel) | DD (?) (2018) | Eastern Indian Ocean, western Pacific (Fricke <i>et al.</i> , 2024) | Tropical | Indonesia, Papua New Guinea, Philippines | |
| <i>Anguilla japonica</i> (Japanese eel) | EN (↓) (2018) | Northwestern Pacific (Fricke <i>et al.</i> , 2024) | Temperate | China, Japan, Philippines, Republic of Korea, Thailand, Viet Nam | Guam (United States), Hong Kong SAR of China, Taiwan |
| <i>Anguilla luzonensis</i> (Philippine mottled eel) | VU (?) (2018) | Western Pacific (Fricke <i>et al.</i> , 2024) | Tropical | Philippines (Luzon Island, Mindanao Island) | Taiwan |

| Species (common name) | IUCN category (pop. trend) (year) | Distribution | Tropical / temperate (based on Arai, 2022 unless specified) | Range States ¹⁹ | Dependent territories (range State) |
|--|---|--|---|--|--|
| <i>Anguilla marmorata</i> (Marbled eel) | LC (?) (2018) | Indo-West Pacific (Fricke <i>et al.</i> , 2024) | Tropical | Australia, Cambodia, China, Comoros, Eswatini, Fiji, Hong Kong SAR of China, India, Indonesia, Indonesia, Japan, Kenya, Lao PDR, Madagascar, Malaysia, Mauritius, Mozambique, Myanmar, Palau, Papua New Guinea, Papua New Guinea, Philippines, Republic of Korea, Samoa, Solomon Islands, South Africa, Sri Lanka, Tanzania, Thailand, Tonga, United States, Vanuatu, Viet Nam, Zimbabwe | Commonwealth of the Northern Mariana Islands (United States), Guam (United States), Mayotte (France), French Polynesia (France), New Caledonia (France), Réunion (France), Taiwan, Wallis and Futuna Islands (France) |
| <i>Anguilla megastoma</i> (Pacific long-finned eel) | DD (?) (2018) | Western Pacific (Fricke <i>et al.</i> , 2024) | Tropical | Fiji, Indonesia, Papua New Guinea, Samoa, Solomon Islands, Tonga, Vanuatu | French Polynesia (France); New Caledonia (France); Pitcairn Islands (United Kingdom)*; Wallis and Futuna Islands (France) *Pike <i>et al.</i> , 2018b notes uncertainty as to whether <i>A. megastoma</i> occurs in Pitcairn Islands. |
| <i>Anguilla mossambica</i> (African longfin eel) | NT (?) (2018) | Western Indian Ocean (Fricke <i>et al.</i> , 2024) | Tropical | Comoros, Eswatini, Kenya, Madagascar, Mauritius, Mozambique, Seychelles, South Africa, United Republic of Tanzania, Zimbabwe | Mayotte (France), Réunion (France) |
| <i>Anguilla nebulosa</i> (Indian mottled eel) | NT (?) (2019) [Assessed as <i>A. bengalensis</i> ; considered a synonym] | Indo-West Pacific (Fricke <i>et al.</i> , 2024) | Tropical (as <i>A. bengalensis</i>) (Kaifu <i>et al.</i> , 2019) | Bangladesh, Indonesia, Myanmar Little information found on distribution; FishBase reports 'East Africa to Sumatra, Indonesia' (FishBase, 2024). | |

| Species (common name) | IUCN category (pop. trend) (year) | Distribution | Tropical / temperate (based on Arai, 2022 unless specified) | Range States ¹⁹ | Dependent territories (range State) |
|---|-----------------------------------|--|---|---|---|
| <i>Anguilla obscura</i> (Pacific shortfin eel) | DD (?) (2018) | Western Pacific (Fricke <i>et al.</i> , 2024) | Tropical | Australia, Fiji, Indonesia, Papua New Guinea, Samoa, Solomon Islands, Tonga, Vanuatu | French Polynesia (France); New Caledonia (France); Wallis and Futuna Islands (France) |
| <i>Anguilla reinhardtii</i> (Australian longfin eel) | LC (?) (2018) | Southwestern Pacific (Fricke <i>et al.</i> , 2024) | Tropical | Australia, Papua New Guinea, New Zealand | New Caledonia (France) |
| <i>Anguilla rostrata</i> (American eel) | EN (-) (2020) | Western Atlantic (Fricke <i>et al.</i> , 2024) | Temperate | Antigua and Barbuda, Bahamas, Barbados, Belize, Brazil, Canada, Colombia, Costa Rica, Cuba, Dominica, Dominican Republic, Dominican Republic, Grenada, Guatemala, Honduras, Italy (introduced), Jamaica, Jamaica, Mexico, Nicaragua, Panama, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Trinidad and Tobago, United States, Venezuela (Bolivarian Republic of) | <u>France</u> : Guadeloupe, Martinique, Saint Barthélemy, Saint Martin, Saint Pierre and Miquelon <u>Denmark</u> : Greenland <u>Netherlands</u> : Aruba, Bonaire, Saint Eustatius and Saba, Curaçao, Sint Maarten <u>United Kingdom</u> : Anguilla, Bermuda, British Virgin Islands, Cayman Islands, Montserrat <u>United States</u> : Puerto Rico, Virgin Islands of the United States |

Annex 5: FAO capture and aquaculture production data**Table A1.** Top 10 *Anguilla* spp. **aquaculture** production countries/territories according to FAO global production data, 2014–2023 in tonnes, live weight (1000 kg = 1 tonne). FAO 3-alpha species codes indicate which species was reported: ELJ = *A. japonica*; ELE = *A. anguilla*; ELX = *Anguilla* spp.

| Country/territory (3-alpha species code) | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | Total |
|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|----------------|
| China (ELJ) | 198210 | 211129 | 210995 | 217263 | 233222 | 234223 | 250740 | 255311 | 281730 | 291566 | 2384389 |
| Japan (ELJ) | 17627 | 20119 | 18907 | 20979 | 15111 | 17071 | 16806 | 20673 | 19167 | 18294 | 184754 |
| Republic of Korea (ELJ) | 5631 | 9009 | 9836 | 11018 | 10550 | 10885 | 9724 | 15686 | 18131 | 16045 | 116515 |
| Taiwan (ELJ) | 1675 | 5187 | 4657 | 3665 | 4204 | 3521 | 1693 | 5044 | 3471 | 2667 | 35784 |
| Netherlands (ELE) | 2335 | 2100 | 2100 | 2050 | 2150 | 2240 | 2040 | 1950 | 2000 | | 18965 |
| Germany (ELE) | 643 | 1147 | 1062 | 1202 | 1229 | 1202 | 1157 | 1160 | 1158 | 1163 | 11123 |
| Denmark (ELE) | 789 | 1232 | 1067 | 549 | 451 | 456 | 626 | 1157 | 451 | 121 | 6898 |
| Indonesia (ELX) | 1149 | 869 | 298 | 710 | 323 | 953 | 783 | 281 | 127 | 124 | 5617 |
| Italy (ELE) | 572 | 545 | 710 | 875 | 510 | 460 | 407 | 443 | 550 | 272 | 5343 |
| Greece (ELE) | 285 | 322 | 474 | 358 | 391 | 404 | 370 | 384 | 369 | 604 | 3961 |

Source: [FAO](#) (Accessed 30/05/2025)**Table A2.** Top 10 *Anguilla* spp. wild **capturing** countries/territories according to the FAO global production data, 2014–2023 in tonnes, live weight (1000 kg = 1 tonne). FAO 3-alpha species codes indicate which species was reported: ELX = *Anguilla* spp.; ELE = *A. anguilla*; AAQ = *A. dieffenbachii*; ELA = *A. rostrata*. New Zealand reported capture data under both *Anguilla* spp. (ELX) and *A. dieffenbachii* (AAQ).

| Country/territory (3-alpha species code) | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | Total |
|--|------|------|------|------|------|------|------|------|------|------|--------------|
| Indonesia (ELX) | 1581 | 1146 | 765 | 4407 | 4940 | 3123 | 3542 | 3403 | 780 | 591 | 24278 |
| Philippines (ELX) | 2377 | 1876 | 1615 | 1718 | 1604 | 1564 | 1473 | 2239 | 1453 | 3836 | 19755 |
| Egypt (ELE) | 489 | 659 | 569 | 632 | 1295 | 1445 | 1404 | 581 | 583 | 590 | 8247 |
| France (ELE) | 558 | 670 | 826 | 868 | 1261 | 759 | 710 | 604 | 578 | 586 | 7419 |
| Netherlands (ELE) | 328 | 329 | 345 | 434 | 492 | 495 | 484 | 539 | 565 | 563 | 4574 |
| New Zealand (ELX, AAQ) | 590 | 504 | 480 | 494 | 490 | 417 | 281 | 318 | 250 | 202 | 4026 |
| Canada (ELA) | 384 | 302 | 303 | 237 | 325 | 200 | 145 | 205 | 293 | 316 | 2708 |
| United Kingdom (ELE) | 400 | 355 | 356 | 333 | 341 | 333 | 325 | 223 | 15 | 26 | 2706 |
| United States (ELA) | 457 | 390 | 423 | 391 | 105 | 247 | 34 | 193 | 44 | 136 | 2420 |
| Denmark (ELE) | 332 | 263 | 268 | 259 | 183 | 186 | 183 | 233 | 163 | 126 | 2196 |

Source: [FAO](#) (Accessed 19/06/2025)

Annex 6: Glass eel inputs into aquaculture ponds reported by China, Japan, Republic of Korea and Taiwan, 2011–2024 in metric tonnes (1 tonne = 1000 kg). Figures refer to domestic catches unless indicated otherwise. (-) no relevant data or data not available. Data for the 2023–2024 fishing season is preliminary. Upper limits of *A. japonica* glass eel inputs that were agreed in the Joint Statement (2014) based on 2013–14 input levels (blue highlight) are indicated.

| | | 2011–12 | 2012–13 | 2013–14 | 2014–15 | 2015–16 | 2016–17 | 2017–18 | 2018–19 | 2019–20 | 2020–21 | 2021–22 | 2022–23 | 2023–24 |
|-------------------|--|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| China | <i>A. japonica</i> total (upper limit 36 t) | 8 | 7 | 45 | 9.3 | 8.2 | 16.5 | 3.5 | 3 | 36 | 33 | 18 | 20 | 9 |
| | <i>A. bicolor</i> | 5.5 | 7 | 13.5 | 3.5 | 8 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 0 |
| | <i>A. anguilla</i> | 0 | 0 | 0 | 0 | 4.5 | 5 | 4 | 2.5 | 2 | 0 | 0 | 0 | 0 |
| | <i>A. rostrata</i> | 9 | 13 | 18.5 | 32 | 27 | 28 | 29 | 31 | 33 | 29 | 28 | 31 | 30 |
| | <i>A. marmorata</i> | | | | | | | | | | | | | |
| | <i>A. mossambica</i> | | | | | | | | | | | | | |
| | Total other eel species (upper limit 32 t) | 14.5 | 20 | 32 | 35.5 | 39.5 | 36 | 33 | 33.5 | 35 | 29 | 28 | 34 | 30 |
| Japan | <i>A. japonica</i> total (limit 21.7 t) | 15.9 | 12.6 | 27.1 | 18.3 | 19.716 | 19.590 | 14.179 | 15.175 | 20.131 | 18.286 | 16.188 | 16.204 | 13.624 |
| | domestic catch | 9 | 5.2 | 17.4 | 15.3 | 13.625 | 15.442 | 8.968 | 3.670 | 17.112 | 11.334 | 10.345 | 5.660 | 5.629 |
| | imports | 6.9 | 7.4 | 9.7 | 3 | 6.091 | 4.148 | 5.211 | 11.505 | 3.019 | 6.952 | 5.843 | 10.544 | 7.995 |
| | <i>A. bicolor</i> | 0.43 | 1.3 | 3.5 | 0.05 | 0.18 | 0.09 | 0.03 | 0.05 | 0.06 | 0.06 | 0.07 | 0.06 | 0.02 |
| | <i>A. anguilla</i> | | | | | | | | | | | | | 0.02 |
| | <i>A. rostrata</i> | | | | | | | | | | | | | 0.00 |
| | <i>A. marmorata</i> | | | | | | | | | | | | | 0.00 |
| | <i>A. mossambica</i> | | | | | | | | | | | | | 0.00 |
| | Total other eel species (limit 3.5 t) | 0.43 | 1.3 | 3.5 | 0.05 | 0.175 | 0.095 | 0.035 | 0.052 | 0.059 | 0.060 | 0.075 | 0.056 | 0.036 |
| Republic of Korea | <i>A. japonica</i> total (limit 11.1 t) | 3.595 | 2.992 | 13.927 | 6.707 | 9.38 | 10.596 | 5.234 | 2.524 | 9.502 | 8.149 | 8.185 | 10.214 | 7.806 |
| | domestic catch | 1.53 | 1.002 | 5.489 | 4.725 | 1.83 | 2.717 | 0.973 | 0.649 | 4.5 | 3.228 | 2.512 | 2.165 | 1.33 |
| | imports | 2.065 | 1.99 | 8.438 | 1.982 | 7.55 | 7.879 | 4.261 | 1.875 | 5.002 | 4.921 | 5.673 | 8.049 | 6.476 |
| | <i>A. bicolor</i> | 4 | 6 | 3 | 5 | 3 | 0.59 | 3 | 0.393 | 0.542 | 0.714 | 0.88 | 0.588 | 0.153 |
| | <i>A. anguilla</i> | 0.075 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | <i>A. rostrata</i> | 2 | 6 | 0.498 | 0.159 | 0.035 | 0.035 | 0.168 | 0 | 0.005 | 0.008 | 0.028 | 0 | 0 |
| | <i>A. marmorata</i> | 0.294 | 0.439 | 0 | 0 | 0.032 | 0.032 | 0.117 | 3 | 0.145 | 0.575 | 1 | 1 | 0.04 |
| | <i>A. mossambica</i> | 0.025 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Total other eel species (limit 13.1 t) | 6 | 14 | 3 | 5 | 3 | 0.657 | 4 | 3 | 0.692 | 1 | 2 | 2 | 0.193 |
| Taiwan | <i>A. japonica</i> total (limit 10 t) | 2.21 | 1.51 | 12.5 | 2.8 | 3.6 | 7.3 | 1.03 | 0.834 | 8.144 | 4.558 | 0.887 | 0.776 | 0.082 |

| | | | | | | | | | | | | | | |
|-------------------|---|------------|-----------|-------------|------------|-------------|------------|-------------|--------------|--------------|--------------|-------------|--------------|----------|
| Taiwan (cont.) | <i>A. bicolor</i> | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | <i>A. anguilla</i> | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | <i>A. rostrata</i> | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | <i>A. marmorata</i> | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | <i>A. mossambica</i> | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | Total other eel species (limit 10 t) | 5.5 | 10 | 1.45 | 0.2 | 0.08 | 0.1 | 0.05 | 0.141 | 0.124 | 0.114 | 0.07 | 0.052 | 0 |

Annex 7: Japan national fisheries statistics

Table A3. Trends in domestic catches of juvenile *A. japonica*, 1957–2024 (metric tonnes; 1000 kg = 1 tonne).

| Year | Glass eel catch (tonnes) | Year | Glass eel catch (tonnes) |
|------|--------------------------|------|--------------------------|
| 1957 | 207 | 1992 | 24 |
| 1958 | 207 | 1993 | 17 |
| 1959 | 176 | 1994 | 13 |
| 1960 | 122 | 1995 | 20 |
| 1961 | 196 | 1996 | 15 |
| 1962 | 209 | 1997 | 12 |
| 1963 | 232 | 1998 | 11 |
| 1964 | 125 | 1999 | 27 |
| 1965 | 126 | 2000 | 16 |
| 1966 | 150 | 2001 | 14 |
| 1967 | 89 | 2002 | 19 |
| 1968 | 107 | 2003 | 24.4 |
| 1969 | 144 | 2004 | 22.5 |
| 1970 | 133 | 2005 | 10.1 |
| 1971 | 93 | 2006 | 27.5 |
| 1972 | 83 | 2007 | 22.2 |
| 1973 | 55 | 2008 | 11.4 |
| 1974 | 86 | 2009 | 24.7 |
| 1975 | 96 | 2010 | 9.2 |
| 1976 | 73 | 2011 | 9.5 |
| 1977 | 45 | 2012 | 9.0 |
| 1978 | 42 | 2013 | 5.2 |
| 1979 | 57 | 2014 | 17.4 |
| 1980 | 47 | 2015 | 15.3 |
| 1981 | 46 | 2016 | 13.6 |
| 1982 | 29 | 2017 | 15.5 |
| 1983 | 31 | 2018 | 8.9 |
| 1984 | 27 | 2019 | 3.7 |
| 1985 | 20 | 2020 | 17.1 |
| 1986 | 20 | 2021 | 11.3 |
| 1987 | 25 | 2022 | 10.3 |
| 1988 | 24 | 2023 | 5.6 |
| 1989 | 22 | 2024 | 7.0 |
| 1990 | 17 | 2025 | ~16 ²⁰ |
| 1991 | 23 | | |

Source: Figures obtained from Fisheries Agency of Japan (available at <https://www.jfa.maff.go.jp/j/saibai/unagi.html>, accessed 17/03/2025). From 1957–2002, glass eel catch volumes were obtained from the Fisheries and Aquaculture production Statistics Annual Report, and from 2003 onwards, the data is based on the Fisheries Agency survey, calculated as volume put into aquaculture ponds – amount of glass eels imported.

²⁰ Preliminary data provided by the CITES MA of Japan *in litt.* to European Commission, 2025.

Table A4. Changes in supply of Japan's eel production, 1956–2024 (metric tonnes; 1000 kg = 1 tonne).

| Year | Capture production | Aquaculture production | Total domestic production (capture + aquaculture) | Imports | Total |
|------|--------------------|------------------------|---|---------|--------|
| 1956 | 2438 | 4902 | 7340 | | 7340 |
| 1957 | 2743 | 5688 | 8431 | | 8431 |
| 1958 | 2801 | 6276 | 9077 | | 9077 |
| 1959 | 2694 | 5663 | 8357 | | 8357 |
| 1960 | 2871 | 6136 | 9007 | | 9007 |
| 1961 | 3387 | 8105 | 11492 | | 11492 |
| 1962 | 3084 | 7572 | 10656 | | 10656 |
| 1963 | 2690 | 9918 | 12608 | | 12608 |
| 1964 | 2776 | 13418 | 16194 | | 16194 |
| 1965 | 2803 | 16017 | 18820 | | 18820 |
| 1966 | 2826 | 17015 | 19841 | | 19841 |
| 1967 | 3162 | 19605 | 22767 | | 22767 |
| 1968 | 3124 | 23640 | 26764 | | 26764 |
| 1969 | 3194 | 23276 | 26470 | | 26470 |
| 1970 | 2726 | 16730 | 19456 | | 19456 |
| 1971 | 2624 | 14233 | 16857 | | 16857 |
| 1972 | 2418 | 13355 | 15773 | | 15773 |
| 1973 | 2107 | 15247 | 17354 | 6934 | 24288 |
| 1974 | 2083 | 17077 | 19160 | 7740 | 26900 |
| 1975 | 2202 | 20749 | 22951 | 10927 | 33878 |
| 1976 | 2040 | 26251 | 28291 | 14207 | 42498 |
| 1977 | 2102 | 27630 | 29732 | 15428 | 45160 |
| 1978 | 2068 | 32106 | 34174 | 12102 | 46276 |
| 1979 | 1923 | 36781 | 38704 | 13268 | 51972 |
| 1980 | 1936 | 36618 | 38554 | 15356 | 53910 |
| 1981 | 1920 | 33984 | 35904 | 17800 | 53704 |
| 1982 | 1927 | 36642 | 38569 | 10971 | 49540 |
| 1983 | 1818 | 34489 | 36307 | 17328 | 53635 |
| 1984 | 1573 | 38030 | 39603 | 16854 | 56457 |
| 1985 | 1526 | 39568 | 41094 | 41148 | 82242 |
| 1986 | 1505 | 36520 | 38025 | 40184 | 78209 |
| 1987 | 1413 | 36994 | 38407 | 40212 | 78619 |
| 1988 | 1334 | 39558 | 40892 | 55668 | 96560 |
| 1989 | 1273 | 39704 | 40977 | 57837 | 98814 |
| 1990 | 1128 | 38855 | 39983 | 68174 | 108157 |
| 1991 | 1080 | 39013 | 40093 | 74115 | 114208 |
| 1992 | 1092 | 36299 | 37391 | 77365 | 114756 |
| 1993 | 970 | 33860 | 34830 | 79038 | 113868 |
| 1994 | 949 | 29431 | 30380 | 80852 | 111232 |
| 1995 | 899 | 29131 | 30030 | 72234 | 102264 |
| 1996 | 901 | 28595 | 29496 | 87279 | 116775 |
| 1997 | 880 | 24171 | 25051 | 105762 | 130813 |
| 1998 | 860 | 21971 | 22831 | 99703 | 122534 |
| 1999 | 817 | 23211 | 24028 | 106156 | 130184 |

| Year | Capture production | Aquaculture production | Total domestic production (capture + aquaculture) | Imports | Total |
|------|--------------------|------------------------|---|---------|--------|
| 2000 | 765 | 24118 | 24883 | 133211 | 158094 |
| 2001 | 677 | 23123 | 23800 | 133017 | 156817 |
| 2002 | 612 | 21207 | 21819 | 120472 | 142291 |
| 2003 | 600 | 22000 | 22600 | 94573 | 117173 |
| 2004 | 618 | 21791 | 22409 | 107864 | 130273 |
| 2005 | 483 | 19744 | 20227 | 77590 | 97817 |
| 2006 | 302 | 20733 | 21035 | 79387 | 100422 |
| 2007 | 289 | 22644 | 22933 | 80353 | 103286 |
| 2008 | 270 | 20952 | 21222 | 43923 | 65145 |
| 2009 | 263 | 22406 | 22669 | 46179 | 68848 |
| 2010 | 245 | 20533 | 20778 | 53065 | 73843 |
| 2011 | 229 | 22006 | 22235 | 34061 | 56296 |
| 2012 | 165 | 17377 | 17542 | 19660 | 37202 |
| 2013 | 135 | 14204 | 14339 | 18258 | 32597 |
| 2014 | 112 | 17627 | 17739 | 20197 | 37936 |
| 2015 | 70 | 20119 | 20189 | 31156 | 51345 |
| 2016 | 71 | 18907 | 18978 | 31470 | 50448 |
| 2017 | 71 | 20979 | 21050 | 32274 | 53324 |
| 2018 | 69 | 15111 | 15180 | 33236 | 48416 |
| 2019 | 66 | 17071 | 17137 | 31383 | 48520 |
| 2020 | 66 | 16806 | 16872 | 34189 | 51061 |
| 2021 | 63 | 20673 | 20736 | 42367 | 63103 |
| 2022 | 59 | 19167 | 19226 | 38581 | 57807 |
| 2023 | 55 | 18294 | 18349 | 38750 | 57099 |
| 2024 | 55 | 18341 | 18396 | 44743 | 63139 |

Source: Ministry of Agriculture, Forestry and Fisheries "Annual Report on Fisheries and Aquaculture Production Statistics" and Ministry of Finance "Trade Statistics"), obtained from Fisheries Agency of Japan (available at <https://www.jfa.maff.go.jp/j/saibai/unagi.html>, accessed 12/06/2025).

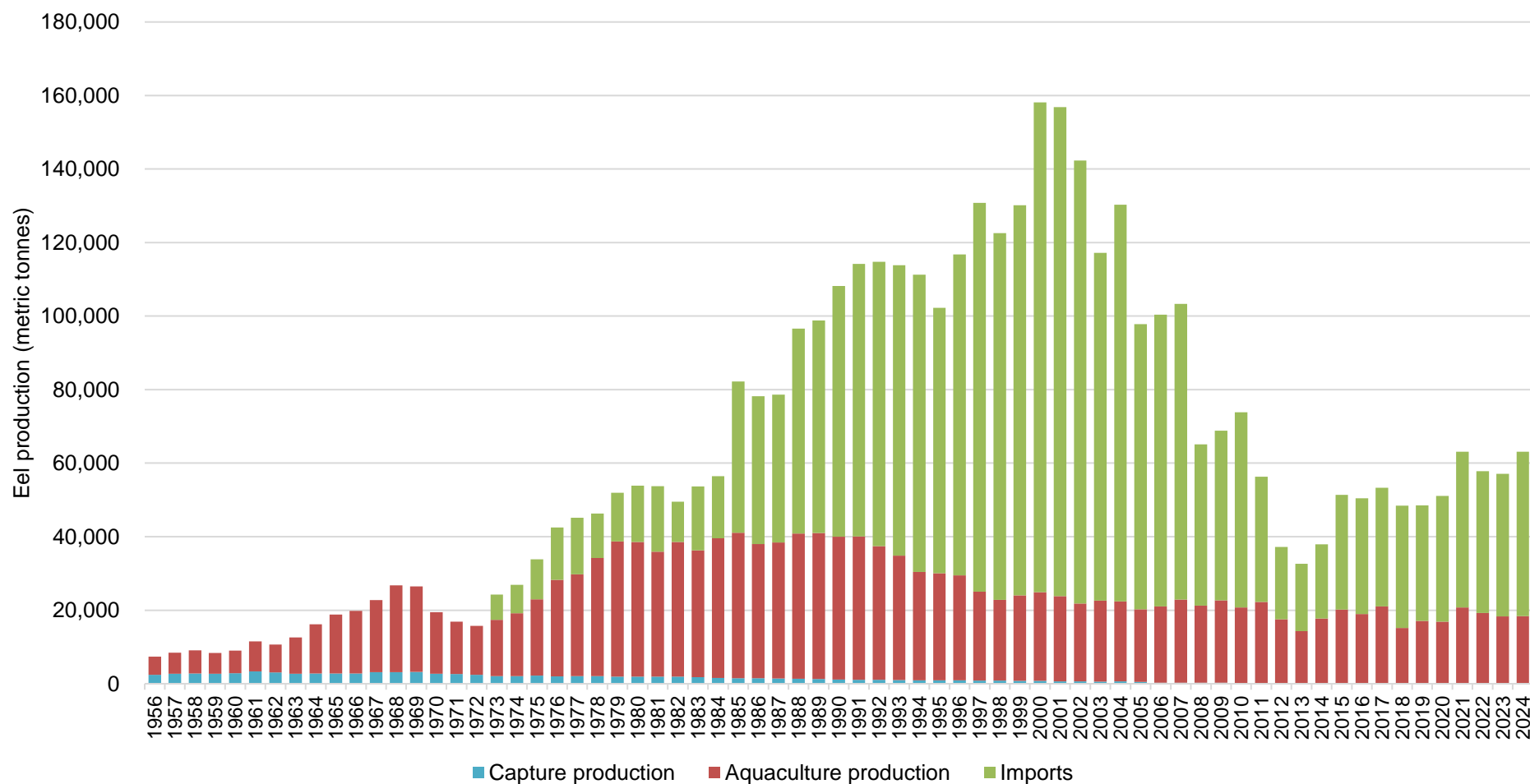


Figure A2. Changes in sources of eel production in Japan, 1956–2024. (Source: Ministry of Agriculture, Forestry and Fisheries "Annual Report on Fisheries and Aquaculture Production Statistics" and Ministry of Finance "Trade Statistics"). Available at <https://www.jfa.maff.go.jp/j/saibai/unagi.html> (accessed 12/06/2025).

Annex 8: Global exports and intra-EU trade of *Anguilla* spp. products reported by weight (metric tonnes; 1000 kg = 1 tonne) 2014–2023 according to the UN Comtrade Database, sorted by commodity (HS code) and volume of exports. Only the top ten exporters of each product are shown. It is unclear which exporters are represented within ‘Other Asia, nes’, however Gollock *et al.* (2018) reported this represented exports from Taiwan.

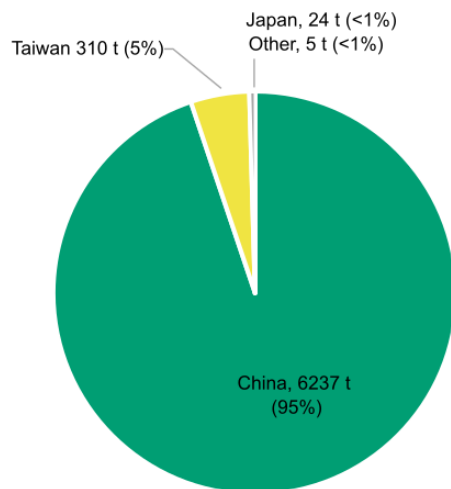
| Commodity code | Reporter | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | Total |
|--|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|---------------|
| Prepared or preserved eels <i>160417</i> | China | 29183 | 34733 | 28966 | 35557 | 39026 | 39224 | 42802 | 59810 | 50147 | 49501 | 408948 |
| | Belarus | 22 | 505 | 733 | 360 | 827 | 1445 | 867 | 1059 | | | 5816 |
| | USA | 309 | 335 | 268 | 242 | 1829 | 1288 | 209 | 147 | 143 | 211 | 4982 |
| | Thailand | 1090 | 1301 | 307 | 350 | 449 | 13 | 48 | 147 | 122 | 81 | 3910 |
| | China, Hong Kong SAR | 265 | 260 | 442 | 183 | 458 | 1231 | 147 | 90 | 19 | 26 | 3121 |
| | Other Asia, nes | 182 | 632 | 311 | 291 | 210 | 177 | 207 | 523 | 203 | 170 | 2905 |
| | Netherlands | 8 | 5 | 11 | 159 | 184 | 226 | 267 | 350 | 375 | 375 | 1960 |
| | Germany | 179 | 195 | 159 | 167 | 222 | 193 | 139 | 191 | 173 | 197 | 1815 |
| | Russian Federation | 70 | 23 | 55 | 96 | 680 | 154 | 73 | 94 | | | 1245 |
| | Kazakhstan | | | 19 | 44 | 153 | 108 | 151 | 102 | 185 | 150 | 911 |
| Live eels <i>030192</i> | China | 5818 | 5562 | 13192 | 6781 | 8712 | 7527 | 9706 | 10113 | 14058 | 17184 | 98652 |
| | Myanmar | 8752 | 7768 | 7242 | 7029 | 8138 | 9039 | 7818 | 9583 | 301 | 650 | 66322 |
| | Philippines | 14265 | 8683 | 8423 | 8001 | 7212 | | | | | | 46585 |
| | Indonesia | 4366 | 3698 | 3593 | 2313 | 2399 | 2407 | 1261 | 2071 | 1688 | 755 | 24550 |
| | Other Asia, nes | 912 | 2859 | 2545 | 2049 | 2450 | 1880 | 1010 | 1532 | 1666 | 1637 | 18539 |
| | USA | 1181 | 1114 | 1101 | 1246 | 1368 | 1104 | 928 | 774 | 1347 | 1061 | 11224 |
| | Netherlands | 1767 | 1824 | 1178 | 1124 | 955 | 985 | 991 | 996 | 498 | 851 | 11167 |
| | Denmark | 855 | 1103 | 811 | 464 | 407 | 372 | 557 | 941 | 536 | 141 | 6186 |
| | France | 393 | 345 | 502 | 437 | 1835 | 400 | 305 | 267 | 308 | 365 | 5157 |
| | Germany | 156 | 322 | 375 | 407 | 426 | 436 | 492 | 395 | 94 | 81 | 3186 |
| Frozen eels <i>030326</i> | Indonesia | 2450 | 4472 | 6152 | 5347 | 4823 | 7763 | 9676 | 7974 | 6540 | 3273 | 58471 |
| | India | 1942 | 2876 | 4441 | 3240 | 2936 | 1978 | 2050 | 2422 | 1661 | 1384 | 24930 |
| | Malaysia | 904 | 1462 | 1757 | 1241 | 1200 | 1674 | 2925 | 4844 | 1867 | 1367 | 19241 |
| | China | 3685 | 2857 | 3150 | 846 | 402 | 472 | 371 | 503 | 879 | 1477 | 14642 |
| | Iran | 319 | 80 | 381 | 437 | 257 | 1699 | 1718 | 2342 | 1326 | | 8558 |
| | USA | 391 | 249 | 1068 | 1523 | 1600 | 1632 | 518 | 483 | 242 | 46 | 7753 |
| | Pakistan | | | 56 | | | | | 1208 | 1279 | 1943 | 2536 |

| Commodity code | Reporter | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | Total |
|--------------------------------------|----------------------|------|------|------|------|------|------|------|------|------|------|-------------|
| Frozen eels (cont.) | China, Hong Kong SAR | 703 | 1274 | 459 | 188 | 335 | 712 | 45 | 33 | 34 | 43 | 3826 |
| | Netherlands | 2199 | 50 | 32 | 20 | 13 | 28 | 17 | 40 | 82 | 173 | 2654 |
| | Peru | 0 | | 0 | 1111 | 1035 | 431 | | | 0 | | 2577 |
| Fresh/chilled eels 030274 | China | 1059 | 593 | 335 | 267 | 305 | 618 | 393 | 426 | 108 | 152 | 4256 |
| | Myanmar | | | 236 | 1 | 162 | | | | 58 | 1854 | 2310 |
| | Spain | 319 | 358 | 257 | 128 | 169 | 226 | 228 | 187 | 166 | 160 | 2197 |
| | Denmark | 221 | 220 | 231 | 179 | 174 | 176 | 163 | 182 | 199 | 91 | 1838 |
| | USA | 170 | 138 | 6 | 92 | 324 | 73 | 94 | 214 | 277 | 155 | 1544 |
| | Netherlands | 146 | 63 | 188 | 214 | 160 | 197 | 130 | 162 | 87 | 114 | 1462 |
| | Thailand | | | | 174 | 487 | 126 | 14 | 31 | 15 | 1 | 847 |
| | United Kingdom | 83 | 45 | 55 | 72 | 56 | 61 | 35 | 1 | 2 | 0 | 410 |
| | Sweden | 51 | 49 | 49 | 54 | 42 | 29 | 27 | 27 | 14 | 24 | 364 |
| | Iran | 102 | 62 | 91 | | | | 70 | | | | 326 |

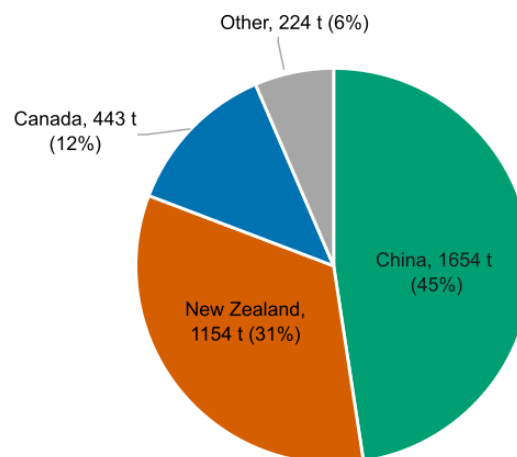
Source: [UN Comtrade Database](https://uncomtrade.org/) (Accessed 25/03/2025). For details of the coverage and limitations of UN Comtrade data, see <https://uncomtrade.org/docs/read-me-first-disclaimer/>

Annex 9: Reported trading partner of EU-27 imports of *Anguilla* spp. products, 2014–2023. Gollock *et al.* (2018) suggested that species could be broadly inferred from geographic provenance as follows: East Asia: *A. japonica*; Americas: *A. rostrata*; Southeast Asia: *A. bicolor* and other tropical species; Oceania: *A. australis*, *A. dieffenbachii* and *A. reinhardtii*; East/Southern Africa: *A. mossambica* and other tropical species and; Europe and North Africa: *A. anguilla*.

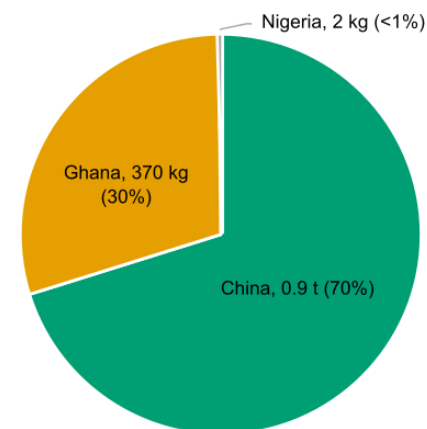
Prepared or preserved eels, whole or in pieces (excl. minced)



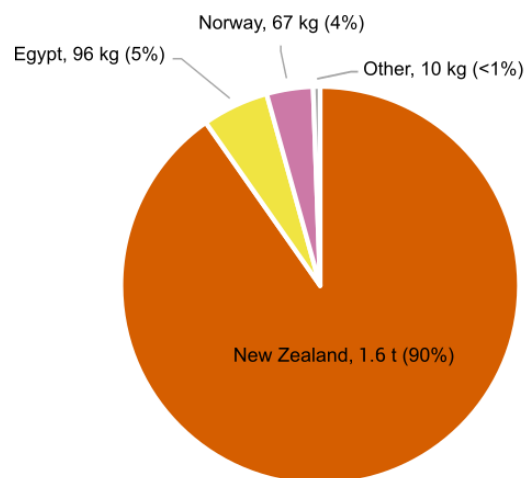
Frozen eels "*Anguilla* spp."



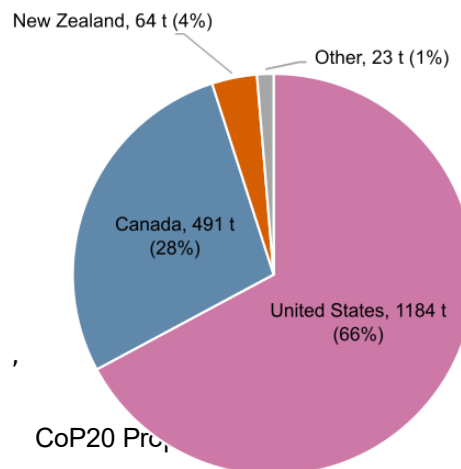
Smoked eels "*Anguilla* spp.", incl. fillets (excl. offal)



Fresh or chilled eels "*Anguilla* spp."



Live eels "*Anguilla* spp."



Annex 10: Legal protections and management measures in place for *Anguilla* spp.

| Range State | Legal protection and management measures |
|--|---|
| <i>Anguilla rostrata</i>²¹ | |
| Belize | <i>Anguilla rostrata</i> is not harvested, farmed or traded in Belize (Young, 2018). |
| Bermuda | <i>Anguilla rostrata</i> is protected under Bermuda's Protected Species Act (2003), which prohibits the injuring, disturbing, harassing, killing, capture or collection of the species unless authorised with a permit. A management plan for <i>A. rostrata</i> was published in 2022, which focuses on wetland restoration to improve habitat availability for <i>A. rostrata</i> (Outerbridge, 2022). |
| Canada | <p>In response to Notification 2021/018, Canada reported that its eel fisheries were regulated through its national Fisheries Act (1985) as well as other regional and provincial level legislation (CITES, 2022). Canada outlined several management measures that were detailed within its Elver Integrated Fisheries Management Plan, which included a non-transferable individual quota system; fishery-by-fishery open and closed seasons; and gear restrictions and size limits (CITES, 2022). Reporting requirements were considered to vary by region and fishery, but commercial elver fisheries were generally required to use logbooks to record daily hail-in and hail-outs, weigh-outs, and daily landing reports (CITES, 2022). The catch season was noted to be spring through autumn, but a small number of fisheries operate during the winter (CITES, 2022).</p> <p>Canada's total allowable catch (TAC) for elvers has remained at 9960 kg per year since 2005 (DFO, 2025c). However, due to an increase in unauthorised fishing in 2020 and 2023, a Fisheries Management Order was issued to close the commercial elver fishery from 15 April 2023 (DFO, 2024c) and no elver licenses were issued for the 2024 fishing season (DFO, 2025c). The elver fishery was reopened 1 March 2025 (DFO, 2025a) due to the introduction of the Possession and Export of Elvers Regulations ('Elver Regulations') which came into force on 1 March 2025 (DFO, 2025b). The Elver Regulations introduce requirements for a licence for the possession and export of elvers and make it offence to combine eels legally caught in Canada in the same container as foreign caught elvers of any species and elvers caught illegally in Canada (DFO, 2025b). Additionally, an Elver Management and Tracking application was introduced to collect information on fishing levels, transport of elvers between facilities, and shipments of elvers from facilities to the port of export (DFO, 2025a). The TAC for the 2025 fishing season was again set at 9960 kg (DFO, 2025a). In addition to the federal management framework, some First Nations operate elver fisheries under their own independent management plans, such as the Mi'kmaw communities that fish under the Netukulimk Treaty Right Protected (TRP) elver fishery management plan (Indigenous Watchdog, 2025).</p> <p>In 2015 and 2016, public consultations were held on the potential addition of <i>A. rostrata</i> to Schedule 1 of Canada's Species at Risk Act (SARA); in April 2024, interested parties were invited to confirm their previous positions and offer additional information (COSEWIC, 2024). The inclusion of <i>A. rostrata</i> in Schedule 1 of Canada's SARA would prohibit capture and trade and would require the development of a species recovery plan (COSEWIC, 2024). At the time of writing, no update to this consultation could be located.</p> |
| Cuba | <i>A. rostrata</i> is designated as a species under a special protection regime according to <i>Decree No. 1 of 2019 - Regulation of Law No. 129 "Fisheries Law"</i> , however in response to Notification 2021/018, Cuba reported that fishing for commercial purposes was permitted if a fishing license was obtained from the Ministry of the Food Industry (CITES, 2022), and Cuba's fishery appears to have expanded significantly in recent decades (Barcelo, 2021). Cuba reported that its glass eel fishery was open 22 September to 20 March of each year, and that national-level reporting was conducted based on daily glass eel captures that are reported by each fishery and catch site to produce an annual report at the end of each season (CITES, 2022). |
| Dominican Republic | The Dominican Republic did not submit a response to Notification to the Parties 2021/018. The Dominican Republic adopted Resolution No. 02-22 on 15 June 2022, which established a maximum exploitation and export quota of 1500 kg for the period 15 October 2022 to 31 March 2023 and implemented a general ban on fishing and trade of all life stages from 1 April 2023 to 14 October 2023 (Resolution No. 02-22). A resolution establishing a quota for the 2023-2024 or 2024-2025 fishing season could not be located. In 2021, the Dominican Council of Fisheries and Aquaculture reportedly issued an average of 20 permits per year to capture eel larvae between the months of October and March (García Marcano, 2021). |

²¹ No legislative or management measures for *A. rostrata* could be located for Anguilla; Antigua and Barbuda; Aruba; Bahamas; Barbados, Sint Eustatius and Saba; Brazil, Cayman Islands; Colombia; Costa Rica; Curaçao; Dominica; Greenland; Grenada; Guadeloupe; Guatemala; Honduras; Martinique; Mexico; Montserrat; Nicaragua; Panama; Puerto Rico; Saint Barthélemy; Saint Kitts and Nevis; Saint Lucia; Saint Pierre and Miquelon; Saint Vincent and the Grenadines; Sint Maarten; Trinidad and Tobago; Turks and Caicos Islands, Venezuela (Bolivarian Republic of); British Virgin Islands, British; Virgin Islands (U.S). Several of these countries and territories have small populations of *A. rostrata* and are unlikely to be significant harvesters and exporters of the species.

| Range State | Legal protection and management measures |
|---------------------------------|--|
| | At the 74 th meeting of the Standing Committee (November 2022, Panama City), the Dominican Republic stated it had sent a letter to the Secretariat regarding the inclusion of <i>A. rostrata</i> in Appendix III “as a precautionary measure” (SC74 Summary Record). |
| Haiti | Haiti did not submit a response to Notification to the Parties 2021/018 (but is a non-Party to CITES). Haiti was reported to allocate a quota of 6400 kg each exporter per year, however the number of exporters allocated a quota for <i>A. rostrata</i> is unclear (Anderson, 2021). While export permits were noted to be required, no catch limits or fishing permits were reported to be in place (Anderson, 2021). Gollock <i>et al.</i> (2022) stated that there was “no catch quota, fisheries management or enforcement” for <i>A. rostrata</i> in Haiti. |
| Jamaica | Jamaica did not submit a response to Notification to the Parties 2021/018. While there is no commercial <i>A. rostrata</i> fishery in Jamaica, there has been small-scale “exploratory” fishing since 2013 (Kong, 2021). A feasibility study on the viability of an <i>A. rostrata</i> fishery in Jamaica concluded that the country’s rivers could potentially support a glass eel/elver fishery between October to March, following which four companies were awarded exploratory fishing licenses for twelve months (Kong, 2021). More recent information on the development of Jamaica’s glass eel fishery could not be located. |
| Mexico | No commercial exploitation of <i>A. rostrata</i> occurs in Mexico’s waters (CITES MA of Mexico <i>in litt.</i> to European Commission, 2024). |
| Puerto Rico | While Puerto Rico does not have a commercial fishery for <i>A. rostrata</i> , illegal fisheries were reported to operate (CITES MA of the United States <i>in litt.</i> to European Commission, 2024). |
| United States | <p>In Gollock <i>et al.</i> (2022), in response to Notification 2021/018, the United States reported that its management and reporting of commercial and recreational <i>A. rostrata</i> fisheries was conducted at the level of the state, but with regional coordination of fishing regulations through the Atlantic States Marine Fisheries Commission (ASMFC) (CITES, 2022). The ASMFC covers fifteen Atlantic coastal US states (Eastern Ecological Science Center, 2024); coordinated management of the <i>A. rostrata</i> population that occurs along the Atlantic coast from Maine to Florida was based on the Interstate Fishery Management Plan adopted in 2000 and last updated in May 2024 (Atlantic States Marine Fisheries Commission, 2024b). However, the US states of Texas, Louisiana, Mississippi, Alabama and western Florida were reported to be under the jurisdiction of the Gulf States Marine Fisheries Commission (GSMFC) and therefore not subject to the interstate management plan for <i>A. rostrata</i> (Pike <i>et al.</i>, 2023), and the CITES MA of the United States (<i>in litt.</i> to European Commission, 2024) confirmed that the GSMFC does not have a management plan for the American eel.</p> <p>Glass eel harvesting was noted to be prohibited in the United States with the exception of the states of Maine and South Carolina; catch figures for the South Carolina fishery are confidential, but reportedly small (CITES, 2022). An annual commercial quota of 9688 lbs (~4.4 metric tonnes) for Maine’s glass eel fishery was in place 2015–2022 and was maintained for the years 2025–2027 in the most recent evaluation of the stock by the Atlantic States Marine Fisheries Commission (Atlantic States Marine Fisheries Commission, 2024a). Yellow eel fisheries are present in all Atlantic states and jurisdictions except Pennsylvania and the District of Columbia (Atlantic States Marine Fisheries Commission, 2024c). In 2019, the yellow eel coastwide commercial quota was set at 916 473 lbs (~416 tonnes), however following a 2023 stock assessment that determined the yellow eel population was depleted and lower than the previous stock assessment, this quota was reduced to 518 281 lbs (~235 tonnes) for the period 2025–2027 (Atlantic States Marine Fisheries Commission, 2024b). The ASMFC (<i>in litt.</i> to European Commission, 2024) reported that <i>A. rostrata</i> stock assessments were constrained by the data-poor nature of the species, preventing a formal overfishing determination through traditional stock assessment models and that in response, the most recent assessment introduced the <i>ITARGET</i> tool, which uses available data to quantitatively inform quota-setting in the absence of an overfishing threshold. However, due to a lack of data, no analysis can confirm whether these quotas are biologically sustainable, but the <i>ITARGET</i> tool was applied to the available data to set an informed quota (ASMFC <i>in litt.</i> to European Commission, 2024). As a supplementary measure, the assessment also developed an egg-per-recruit (EPR) model and other approaches to qualitatively support the establishment of sustainable harvest levels (ASMFC <i>in litt.</i> to European Commission, 2024).</p> <p>In 2015, the United States Fish & Wildlife Service (USFWS) determined that <i>A. rostrata</i> did not qualify for listing under its Endangered Species Act on the basis that while the species appeared to be depleted compared to historical levels, its population was stable (USFWS, 2015). However, 31 of 50 US States listed <i>A. rostrata</i> as a ‘Species of Greatest Conservation Need’ within their State Wildlife Action Plans in 2015 (USGS, 2024).</p> |
| <i>Anguilla japonica</i> | |
| China | <p>Under the Fisheries Law of the People’s Republic of China, its Implementation Rules, and the Measures for the Management of Aquatic Seedlings, the import and export of <i>Anguilla japonica</i> glass eels requires approval from the competent fisheries administration department, and fishing requires a license (CITES MA of China <i>in litt.</i> to European Commission, 2024).</p> <p>China did not submit a response to Notification to the Parties 2021/018. The number of fishing licenses issued for <i>A. japonica</i> was reported to be restricted in China (Pike <i>et al.</i>, 2020a). The upper limit of <i>A. japonica</i> input from the wild into aquaculture agreed in the Joint Statement in 2014 for China was 36 tonnes per year, and 32 tonnes for</p> |

| Range State | Legal protection and management measures |
|-------------------|---|
| | <p>other <i>Anguilla</i> spp. (CITES, 2022). However, in the most recent draft Joint Press Release (2024), China reported that its input limits would be “further considered for future Informal Consultations including complementary measures, possibly taking into account scientific advice from the Scientific Meeting”. China also stated that its glass eel fishery was open from the beginning of November to end of April of the subsequent year in “several coastal fishing provinces”, and that the issuance of fishing licenses for eel fry in the Yangtze River Estuary had been suspended (Joint Press Release, 2024), aligning with the 10-year commercial fishing ban in the Yangtze River and its tributaries and adjoining lakes that was established in 2020 (Mei <i>et al.</i>, 2020). China reported that it does not have an adult eel fishery (Joint Press Release, 2024).</p> <p>At the 33rd meeting of the Animals Committee in July 2024, the Animals Committee requested China to submit detailed information on trade in eels for consideration at the 78th meeting of the Standing Committee, which was considered by the intersessional working group on eels in its report to SC78 (SC78 Doc. 69.1).</p> |
| Japan | <p>Under the Inland Water Fishery Promotion Act (2015), eel aquaculture farms require licensing, with each license valid for one year. A quota for the initial input of glass eels into each farm is set, and there are monthly reporting requirements to the central government to ensure inputs do not exceed the allocated quota (CITES MA of Japan <i>in litt.</i> to European Commission, 2024). The annual upper limit for input of <i>A. japonica</i> into aquaculture is 21.7 tonnes, with 3.5 tonnes allocated for other eel species (Joint Press Release, 2024). According to information provided by Japan in response to Notification 2021/018 and summarised in Gollock <i>et al.</i> (2022), the glass eel fishing season lasts from December to April.</p> <p>In 2018, eels < 13 cm were listed as “Specified Aquatic Animals and Plants” under the Fisheries Act, meaning that a permit from the prefectural government is required to fish eels of this size (CITES MA of Japan <i>in litt.</i> to European Commission, 2024). Each prefecture was reported to have its own gear restrictions, harvest limits, and temporal closures (Hakoyama <i>et al.</i>, 2025). Japan has also reported that its adult eel fishery has a minimum size limit of 20 cm–30 cm “in most regions” (Joint Press Release, 2024). During the key migration period of October to March, fishing bans were reportedly introduced in “major areas” (CITES MA of Japan <i>in litt.</i> to European Commission, 2024). The export of eels < 13 grams in weight requires approval by the Minister of Economy, Trade and Industry (CITES MA of Japan <i>in litt.</i> to European Commission, 2024). Following the Proper Domestic Distribution and Importation of Specified Aquatic Animals and Plants Act that came into effect in 2022, it became obligatory for businesses harvesting and handling glass eels to report catch volumes and transaction records (Hakoyama <i>et al.</i>, 2025).</p> |
| Republic of Korea | <p>The CITES MA of the Republic of Korea (<i>in litt.</i> to European Commission, 2024) stated that eel aquaculture in the country is managed according to a licensing system through the Aquaculture Industry Development Act, with Article 29 of the Act requiring a license for the operation of eel farming (Presidential Decree No. 30977, 2020). A permit for glass eel fishing is required under the Fisheries Act (1990), and the CITES MA of the Republic of Korea (<i>in litt.</i> to European Commission, 2024) reported that 732 glass eel catch permits had been issued as of November 2024, a reduction from 941 since May 2012 based on stock assessments conducted by the National Institute of Fisheries Science (NIFS). <i>A. japonica</i> harvest is prohibited during the migratory phase, from 1 October to 31 March, however fishing of eels < 15 cm for restocking of aquaculture farms is permitted during this closure, and fishing of eels 15 cm to 45 cm length is prohibited year-round (CITES MA of the Republic of Korea <i>in litt.</i> to European Commission, 2024). The annual upper limit for input of <i>A. japonica</i> for aquaculture for Republic of Korea is set at 11.1 tonnes, with 14 tonnes established for eels other than <i>A. japonica</i> (Joint Press Release, 2024).</p> <p>The CITES MA of the Republic of Korea (<i>in litt.</i> to European Commission, 2024) reported it had released approximately 3.96 million farmed eels (intermediate-stage <i>A. japonica</i> eels > 10 cm) between 2017 and 2023 as part of efforts to support the recovery of wild eel populations.</p> |
| Taiwan | <p>The glass eel fishery in Taiwan was reported to be closed from 1 October to 31 March, and its adult eel fishery has a minimum size limit of 8 cm (Joint Press Release, 2024). In addition, the catch of young and adult eels was prohibited in 41 rivers in Taiwan (Joint Press Release, 2024). The upper limit of <i>A. japonica</i> input into aquaculture agreed in the Joint Statement in 2014 for Taiwan was set at 10 tonnes, with an additional 10 tonnes set for eels other than <i>A. japonica</i> (Joint Press Release, 2024). Further details of <i>A. japonica</i> management in Taiwan were described by Han (2018, in Pike <i>et al.</i>, 2020a), which included a prohibition on fishing in Yilian County and individual input limits for fish farmers that are reviewed and updated annually.</p> |
| Viet Nam | <p><i>A. japonica</i> is included in Viet Nam’s Red Data Book as ‘possibly Extinct in the Wild’ (Ministry of Science and Technology & Vietnamese Academy of Science and Technology, 2007).</p> <p>Viet Nam’s Fisheries Law of 2003 (amended 2017) reportedly introduced provisions on eel fisheries and aquaculture and their import and export (Muthmainnah <i>et al.</i>, 2022). According to Muthmainnah <i>et al.</i> (2022), <i>A. japonica</i> and <i>A. bicolor</i> are Category I species under Decree No. 26/2019/ND-CP, implementing Viet Nam’s Fisheries Law (2017), which means these species are only permitted to be fished for conservation or scientific purposes, initial seed research, and “international cooperation”. Circular No. 19/2018 introduced fishing closures for the protection of <i>A. japonica</i> and <i>A. marmorata</i>.</p> |

| Range State | Legal protection and management measures |
|---------------------------------------|---|
| Tropical eels | |
| Cambodia | <i>A. marmorata</i> and <i>A. bicolor pacifica</i> are imported from the Philippines and farmed in Cambodia for domestic consumption (CITES MA of Cambodia, <i>in litt.</i> to European Commission, 2024). |
| Indonesia | Indonesia's nine native eel species are managed under the Eels Fishery Management Plan in accordance with the Decree of the Minister of Marine Affairs and Fisheries (118/2021) and the National Plan of Action for the Conservation of Eels (<i>Anguilla</i> spp.) 2022-2024 (Decree 73/2022) (CITES MA of Indonesia, <i>in litt.</i> to European Commission, 2024). The Decree of the Minister of Marine Affairs and Fisheries 80/2020 on the Partial Protection of Eels (<i>Anguilla</i> spp.) further prohibits catches of all glass eels during the new moon, catches of adult <i>A. bicolor</i> and <i>A. interioris</i> > 2 kg and adult <i>A. marmorata</i> and <i>A. celebensis</i> > 5 kg, and prohibits the export of "eel seeds" of all species < 150 g (CITES MA of Indonesia, <i>in litt.</i> to European Commission, 2024). The CITES MA of Indonesia (<i>in litt.</i> to European Commission, 2024) further reported that it enforces good breeding practices for its eel aquaculture facilities through the 'Good Fish Breeding/Farming' Practices. |
| Malaysia | While Malaysia reports exports of anguillid eels (AC30 Inf. 11), little information could be located on management. |
| Myanmar | While no targeted fishery for anguillid eels was reported in Myanmar, <i>A. bicolor</i> , <i>A. bengalensis</i> , and <i>A. marmorata</i> yellow eels were noted to be incidentally caught during the rainy season in stow nets, crab traps, and on longline hooks (AC30 Inf. 11). Farming of <i>A. bicolor</i> yellow eels for export to China was reported from a single facility (AC30 Inf. 11). Myanmar's Department of Fisheries issued a regulation prohibiting the harvest of <i>A. bicolor</i> and <i>A. bengalensis</i> during the spawning season from 1 June to 31 August each year (Ngala/Aqua.0 11/2006 (1538)) (AC30 Inf. 11); however, it is unclear whether this prohibition remains in effect. |
| Philippines | Fisheries Administrative Order No. 242 (2012) reinstated a ban on the export of eel 'fingerlings' > 5cm and ≤ 15 cm in length and glass eels ≤ 5 cm that had previously been revoked by Fisheries Administrative Order No. 159 (1986), applying to the following species reported to occur in the country: <i>A. luzonensis</i> , <i>A. celebensis</i> , <i>A. marmorata</i> , <i>A. japonica</i> , <i>A. bicolor bicolor</i> , <i>A. bengalensis</i> , and <i>A. australis</i> . The CITES MA of the Philippines (<i>in litt.</i> to European Commission, 2024) reported that the Philippines Eel Management Plan had established fish sanctuaries and initiated eel stock enhancement in twelve sites of Northern Luzon, including restocking of approximately one million elvers per year. Several eel aquaculture facilities were reported to be registered in the country (CITES MA of the Philippines <i>in litt.</i> to European Commission, 2024), however the number of facilities was reported to have declined in recent years due to the impacts of overfishing and the COVID-19 pandemic, from 42 facilities in 2016 to 24 in 2023 (CITES MA of the Philippines <i>in litt.</i> to European Commission, 2025). Additionally, the Philippines' Bureau of Fisheries and Aquatic Resources (BFAR) initiated stock enhancement activities in the inland waters of Cagayan Valley and the Cordillera Administrative Region (CITES MA of the Philippines <i>in litt.</i> to European Commission, 2025). |
| Sri Lanka | The CITES MA of Sri Lanka (<i>in litt.</i> to European Commission, 2024) reported that it lacked a formal conservation strategy or management framework for its native eel species, <i>A. bicolor</i> and <i>A. bengalensis</i> , and that there was little farming in these species but there could be opportunities to expand this sector in the future. |
| Thailand | No glass eel fisheries were reported in Thailand, but elvers and yellow eels of <i>A. marmorata</i> , <i>A. bengalensis</i> and <i>A. bicolor</i> were noted to be incidentally caught in crab traps (AC30 Inf. 11). However, glass eels from China and yellow eels from Indonesia were noted to be farmed in several provinces for export to China, with three farms reported to operate in 2018 (AC30 Inf. 11) |
| Australia and New Zealand eels | |
| Australia | <p>Two species, <i>A. australis</i> and <i>A. reinhardtii</i>, are commercially harvested in Australia across four fisheries: the Queensland eel fishery, New South Wales (NSW) estuary general fishery, Victorian eel fishery and Tasmanian eel fishery (CITES MA of Australia <i>in litt.</i> to European Commission, 2024). The majority of catch of <i>A. reinhardtii</i> occurs in the northern fisheries of Queensland and NSW, while most <i>A. australis</i> catches occur in the southerly states of Victoria and Tasmania (CITES MA of Australia <i>in litt.</i> to European Commission, 2024). Stock assessments of these species were conducted in 2023 (Hall <i>et al.</i>, 2023; Victorian Fisheries Authority <i>et al.</i>, 2023).</p> <p>Harvest of juvenile eels is prohibited in NSW and Tasmania, and while juvenile eel fishing licenses are issued in Queensland, glass eels are not authorised for export and there was reported to be negligible harvest, with no catches since 2019 (CITES MA of Australia <i>in litt.</i> to European Commission, 2024). In the Victoria fishery, one license of 75 kg of glass eels has been issued, with a maximum of 50 kg glass eels permitted for export annually from this fishery (CITES MA of Australia <i>in litt.</i> to European Commission, 2024). The CITES MA of Australia <i>in litt.</i> to European Commission (2024) indicated this limit would remain in place until updated scientific data showed that increased glass eel harvest could be sustainable.</p> <p>The CITES MA of Australia <i>in litt.</i> to European Commission (2024) indicated that its anguillid eel harvest was managed at the level of the state, with state agencies setting limits on fishing gear and restrictions on the number of commercial eel fishers, as well as spatial and temporal fishing closures. Reporting mechanisms were noted to differ depending on the state management agency, but that logbooks were the primary reporting mechanism (CITES, 2022).</p> |

| Range State | Legal protection and management measures |
|-------------|---|
| | <p>A survey of cultural fishing in the Tweed River catchment, New South Wales, identified <i>A. reinhardtii</i> and <i>A. australis</i> as species harvested by Aboriginal fishers, but these comprised a small proportion of overall catches in freshwater habitats (Schnierer and Egan, 2016). While statewide harvest data are lacking, the annual Aboriginal harvest of <i>A. reinhardtii</i> in New South Wales was considered likely to be significant (Hall, 2024).</p> |
| New Zealand | <p><i>A. australis</i> and <i>A. dieffenbachii</i> are managed under the Quota Management System (QMS) through individual transferable quotas (ITQ), along with the setting of a total allowable catch that accounts for both commercial and recreational catches (CITES MA of New Zealand <i>in litt.</i> to European Commission, 2024). A minimum weight limit of 220 g and a maximum weight limit of 4 kg was noted to be in place, meaning that no glass eels are harvested or exported (CITES MA of New Zealand <i>in litt.</i> to European Commission, 2024). The CITES MA of New Zealand (<i>in litt.</i> to European Commission, 2024) further reported that, with the exception of one catchment in the South Island, fisheries voluntarily avoid catching migrating silver eels. No eel farming was reported to occur in New Zealand (CITES MA of New Zealand <i>in litt.</i> to European Commission, 2024). Stocks within the ITQ system were reported to be monitored through logbooks, electronic reporting, and at-vessel reporting of landings (CITES MA of New Zealand <i>in litt.</i> to European Commission, 2024). New Zealand's <i>Anguilla</i> stocks are assessed annually by the Fisheries Assessment Plenary, the most recent of which was published May 2024 (Fisheries New Zealand, 2024).</p> <p>As part of the settlement process following the inclusion of freshwater eels in New Zealand's Quota Management System (QMS), Māori were allocated 20% of the commercial quota and an additional quantity (equivalent to 20% of the commercial quota) for customary harvest (NIWA, 2025). The CITES MA of New Zealand (<i>in litt.</i> to European Commission, 2024) reported that Māori customary use (for local consumption only) is regulated by Māori guardians. The majority of the North Island quota was reported to be held by Māori companies (NIWA, 2025).</p> |

Annex 11: Summary of range State responses received by the proposal submission date

| Range State | Response |
|---------------------------------------|---|
| Antigua and Barbuda | |
| Australia | No position indicated. |
| Bahamas | |
| Bangladesh | |
| Barbados | |
| Belize | |
| Brazil | |
| Cambodia | No position indicated. |
| Canada | No position indicated. |
| China | Does not support Appendix II genus listing. |
| Colombia | |
| Comoros | No position indicated. |
| Costa Rica | |
| Cuba | |
| Democratic People's Republic of Korea | |
| Dominica | |
| Dominican Republic | Supports inclusion of genus in Appendix II, with the aim of establishing stricter fishing regulations and more transparent trade controls given the pressures of overfishing, growing commercial demand, increasing illegal trafficking, and the difficulties in differentiating species in the genus in international trade. |
| Eswatini | |
| Ethiopia | |
| Fiji | |
| Grenada | |
| Guatemala | |
| Haiti | |
| Honduras | Supports inclusion of genus in Appendix II |
| India | |
| Indonesia | Does not consider a genus listing a priority, with no Endangered or Critically Endangered species in Indoensia and with national legislation and management plans in place. |
| Jamaica | |
| Japan | Does not support genus listing; considers national management of <i>A. japonica</i> sufficient along with regional agreement on offtake of glass eels. |

| Range State | Response |
|----------------------------------|--|
| Kenya | |
| Lao People's Democratic Republic | |
| Madagascar | |
| Malawi | |
| Malaysia | |
| Maldives | |
| Mauritius | |
| Mexico | No position indicated. |
| Mozambique | |
| Myanmar | |
| Nepal | No position indicated. |
| New Zealand | Does not support Appendix II genus listing. |
| Nicaragua | |
| Oman | Supports inclusion of <i>A. japonica</i> and <i>A. rostrata</i> in Appendix II |
| Pakistan | Confirmed Pakistan is not a range State for <i>Anguilla</i> spp. |
| Palau | |
| Panama | Supports inclusion in Appendix II, as this will allow the development of better controls on trafficking of <i>A. japonica</i> and <i>A. rostrata</i> . |
| Papua New Guinea | |
| Philippines | Position must be agreed by three Philippine CITES MAs; one of these institutions, the Bureau of Fisheries and Aquatic Resources, does not support the genus listing. |
| Republic of Korea | Does not support genus listing. |
| Saint Kitts And Nevis | |
| Saint Lucia | |
| Saint Vincent and the Grenadines | |
| Samoa | |
| Seychelles | Welcomes proposal for additional CITES measures. |
| Solomon Islands | |
| Somalia | |
| South Africa | |
| Sri Lanka | No position indicated. |
| Thailand | |
| Tonga | |
| Trinidad and Tobago | |

| Range State | Response |
|--|---|
| United Kingdom of Great Britain and Northern Ireland | Supportive of a common CITES approach such as an Appendix II genus listing, which would address identification issues and shifting demand between species. |
| United Republic of Tanzania | |
| United States of America | No position indicated. The CITES MA of the United States stated that regulating the species within the United States alone was insufficient to protect <i>A. rostrata</i> , noting the wide range of the species and increasing trade from Caribbean countries. |
| Vanuatu | |
| Venezuela (Bolivarian Republic of) | |
| Viet Nam | |
| Yemen | In principle, supportive of proposal but pending a final decision. |
| Zimbabwe | |

Responses from range States of *A. anguilla* (European eel)

| Range State | Response |
|------------------------|--|
| Albania | Supports inclusion of <i>A. japonica</i> and <i>A. rostrata</i> in Appendix II |
| Bosnia and Herzegovina | No position indicated. |
| Iceland | No position indicated. |
| Lebanon | No objection to proposed listing. No record of international trade in <i>Anguilla</i> species in Lebanon. |
| Norway | No position indicated. Reported an enforcement case in 2025 in which conflicting results between qPCR and DNA barcoding in identifying a shipment of <i>Anguilla rostrata</i> highlighted limitations of current molecular tools, noting that the existing qPCR marker may not reliably distinguish <i>A. anguilla</i> from <i>A. rostrata</i> , with a need to identify species-specific markers. |
| Switzerland | No position indicated |
| Ukraine | Supports genus proposal |

**State of Maine Aquaculture Plan for American Eel Pursuant to
Addendum IV to the ASMFC Interstate Fishery Management Plan**



Maine Department of Marine Resources
32 Blossom Lane
Augusta, ME 04330

May 30, 2025



Photo By American Unagi, LLC

Table of Contents

| | |
|---|-----------|
| Background | 3 |
| Previous Years Harvests..... | 3 |
| Pounds Requested | 7 |
| Location of Harvest..... | 7 |
| Dates of Harvest | 8 |
| Methods of Harvest..... | 8 |
| Monitoring Program..... | 9 |
| Penalties for Violation | 10 |
| Prior Approval of Permits..... | 11 |
| Description of Market (s) | 11 |
| Description of facilities (design, capabilities, and technical facts)..... | 11 |
| References | 12 |
| Maine Revised Statutes Title 12: Conservation | 13 |

Background

The Maine Department of Marine Resources (ME DMR) supports the development of domestic aquaculture in Maine. With Maine’s existing fishery management measures and eel management infrastructure, the State is in a good place to implement a domestic aquaculture quota into its current management plan. Connecting Maine’s fishery to domestic aquaculture provides year-round jobs directly in eel grow-out, supports indirect jobs throughout the local seafood and marine-related industries, and produces an eel product grown under the high standards of US aquaculture production.

ME DMR solicited interested parties to participate in this quota request and has selected to work with American Unagi for FY2026. For over ten years, American Unagi has utilized recirculating aquaculture (RAS) technology, specifically using designs developed and successfully utilized for eels in Europe. This has allowed the company to grow high-value American eels in a controlled environment, certify sustainability and source, and provide a level of product supply to growing customer segments that prefer locally grown/sourced and fully traceable seafood products. Given the success of seven years of pilot production, American Unagi scaled production to 240 MT with the construction of a site in Mid-Coast Maine; the company started operating out of this facility in 2022.

In October 2014, the ASMFC adopted Addendum IV to the Interstate Fishery Management Plan for American Eel. Addendum IV implemented a provision allowing states and jurisdictions to submit an Aquaculture Plan to allow for the limited harvest of American eel glass eels (hereinafter “glass eels”) for use in domestic aquaculture facilities. Specifically, Addendum IV states: *“Under an approved Aquaculture Plan, states and jurisdictions may harvest a maximum of 200 pounds of glass eel annually from within their waters for use in domestic aquaculture facilities provided the state can objectively show the harvest will occur from a watershed that minimally contributes to the spawning stock of American eel. The request shall include: pounds requested; location, method, and dates of harvest; duration of requested harvest; prior approval of any applicable permits; description of the facility, including the capacity of the facility the glass eels will be held, and husbandry methods; description of the markets the eels will be distributed to; monitoring program to ensure harvest is not exceeded; and adequate enforcement capabilities and penalties for violations.”* Pursuant to Addendum IV to the Interstate Fishery Management Plan for American Eel, ME DMR is submitting the following Aquaculture Plan for approval. ME DMR received one application for FY2026 and has elected to work with American Unagi. American Unagi is requesting a domestic aquaculture quota for its commercial facility.

Previous Years Harvests

In 2019, the first year of fishing the Maine aquaculture quota, American Unagi obtained glass eels from the Medomak River, Pemaquid River, Megunticook Stream, and Somes Pond outlet. The four sites listed are commonly fished for glass eels and are routinely monitored by Marine Patrol Officers. These sites also have obstacles for passage, including several impassible dams for eels. In particular, Megunticook Stream has a steep gradient and multiple dams without upstream or downstream passage and Somes Pond is small. As a result, these locations would likely not produce a large number of adult eels. The company chose to only harvest 130.5 lbs for 2019.

In 2020, due to issues around COVID-19 American Unagi did not fish its aquaculture quota.

In 2021, American Unagi harvested 138.91 lbs under the aquaculture quota. Locations of harvest in 2021 include the same sites as in 2019 (see Table 1). In addition, American Unagi obtained glass eels from the Orland River in 2021. The Orland River has several impassible dams, including the Orland Dam at the head-of-tide. Given the dam's placement, upstream passage is only effective during part of the tidal cycle and there is no dedicated downstream passage. Therefore, it is unlikely that this river contributes significantly to the adult population of eels. Glass eel harvest in the Orland River is also routinely monitored by Marine Patrol Officers.

In 2022, American Unagi harvested 200 lbs under the aquaculture quota. This is the maximum amount of quota allowed under an ASMFC approved Aquaculture Plan and the first time American Unagi harvested the full amount. As in 2019 and 2021, harvesters in 2022 obtained glass eels from Medomak River, Pemaquid River, Mequnticook Stream, Orland River, and Somes Pond outlet. In addition, American Unagi worked with several new harvesters fishing in the Mousam River, Presumpscot River, Ames Pond Outlet, and Flanders Stream. The Mousam River is a heavily dammed river in Maine, with 13 dams between Kennebunk and Mousam Lake, all which lack fish passage. The Presumpscot River includes 7 dams between Sebago Lake and the ocean; the first of these dams is the Cumberland Mills Dam which includes a denil fishway which is not appropriate for eels. Both Flanders Stream and Ames Pond are small waterways which are not expected to significantly contribute to the adult population of eels. Ames Pond is the smallest waterway harvested from in 2022 as it is only 6 acres in size and Flanders Stream has a watershed of 11.5 square miles. There is no upstream habitat from Ames Pond and there is a culvert barrier at its outlet to the ocean. These additional four harvest locations in 2022 are routinely monitored by Maine Marine Patrol.

In 2023, American Unagi again harvested 200 lbs under the aquaculture quota. As in previous years, harvesters obtained glass eels from Medomak River, Pemaquid River, Mequnticook Stream, Orland River, and Somes Pond outlet. Three new waterways were used for harvest in 2023 (Union, Passagassawakeag, and St. Croix rivers), all of which contain multiple dams that significantly limit, or prevent, passage. The Union River has two impassible dams between Union River Bay and Graham Lake, including the Ellsworth Dam which is an operational hydroelectric power facility in Maine. The Passagassawakeag River similarly has two impassible dams between the Passagassawakeag Lake and Belfast Bay, including Holmes Mill Dam in Belfast, Maine. The St. Croix River forms the border between eastern Maine and Canada and has a history of being heavily dammed for hydropower. There are four main dams on the St. Croix River including the Milltown Power Station Dam which sits half a mile upstream of head of tide. The four dams have varying degrees of fish passage infrastructure, including no fishway, a vertical slot fishway, a pool-weir fishway, and a denil fishway in very poor condition which significantly limits passage. There have been ongoing efforts to decommission the Milltown Power Station Dam; however, the dam was still in place during the 2023 elver season. The additional three harvest sites in 2023 are all used during Maine's elver season and are therefore routinely monitored by Marine Patrol. Harvest in 2023 under the elver aquaculture quota did not occur in the Mousam River, Presumpscot River, Ames Pond Outlet, or Flanders Stream.

In 2024, American Unagi harvested 200 lbs under the aquaculture quota. Harvesters obtained glass eels from the Pemaquid, Medomak, Megunticook, Orland, Presumpscot, Passagassawakeag, and St. Croix rivers and Somes Pond outlet. All harvest was from waterways which were utilized in 2022 or 2023, which continue to be monitored by Marine Patrol. Harvest in 2024 under the elver aquaculture quota did not occur in the Mousam River, Flanders Stream, Union River, or Ames Pond Outlet. The St. Croix River restoration

efforts continue. The Milltown Power Station Dam was removed prior to the 2024 elver season. However, improvements of the fishway at Woodland Dam are necessary to promote upstream passage. Construction of the new fish lift is scheduled to begin in 2025.

As of May 27, 2025, American Unagi has harvested 116 lbs of the 200 lbs aquaculture quota. American Unagi anticipates the remaining 84 lbs of aquaculture quota will be harvested before the end of the season (June 7). Harvesters obtained glass eels from the Medomak, Megunticook, Orland, Passagassawakeag, and St. Croix rivers and the Somes Pond Outlet. American Unagi partnered with a new indigenous harvester in 2025 who harvest from a new waterway, the Machias River. The Machais River in eastern Maine has a long history of being heavily dammed for the logging industry. However, thanks to restoration efforts for Atlantic salmon, the river has been unencumbered since 1986. The Machias River is frequently harvested from during elver season, by both Pasamaquoddy tribal members and nonnative harvesters, and therefore routinely monitored by Marine Patrol. In 2025, harvest did not occur in the Pemaquid, Presumpscot, Mousam, or Union rivers as well as Ames Outlet and Flanders Stream. St. Croix River restoration efforts continue at Woodland Dam to promote upstream passage.

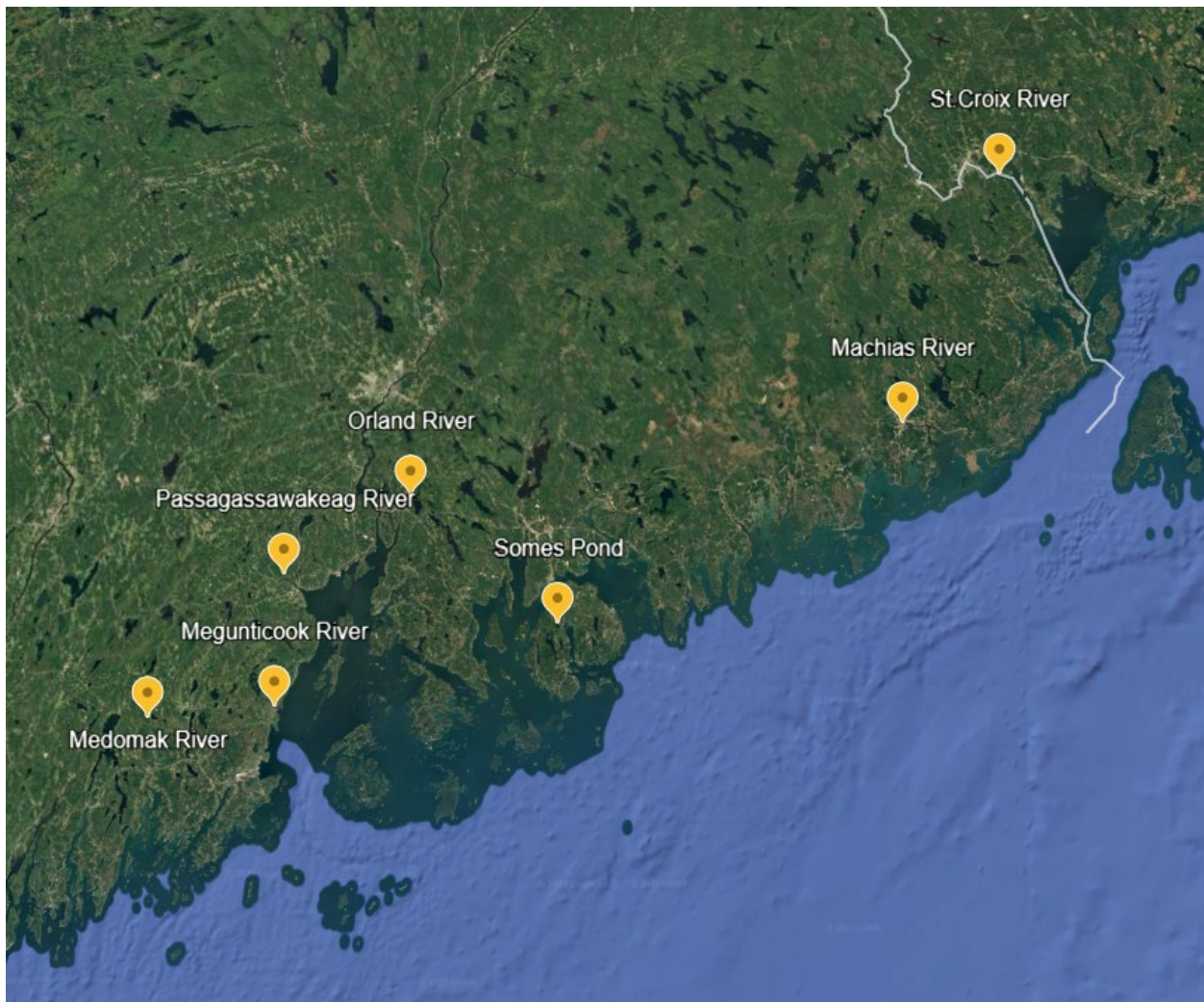


Figure 1: Locations of glass eel harvest under the aquaculture quota in FY2025. Source: Google Earth.

Table 1: Characteristics of the rivers/watersheds of glass eel harvest under the aquaculture quota.

| Waterway | Tributary Name ¹ | Drainage Area | River Mile ¹ | Years Harvested | Presence of Hydro | Number of Impossible dams ⁴ | Number of Possible Dams |
|--------------------------------|-----------------------------|-------------------|-------------------------|--------------------------------|-------------------|--|-------------------------|
| Pemaquid River | n/a | 46.9 sq mi | n/a | 2019/2021/2022/2023 /2024 | no | 2 | 0 |
| Medomak River | n/a | 74 sq mi | n/a | 2019/2021/2022/2023 /2024/2025 | no | 3 | 0 |
| Megunticook River | n/a | 30.82 sq mi | n/a | 2019/2021/2022/2023 /2024/2025 | yes | 7 | 0 |
| Somes Pond Outlet ⁵ | n/a | pond is 104 acres | n/a | 2019/2021/2022/2023 /2024/2025 | no | 3 | 2 |
| Orland River | n/a | 112.7sq mi | n/a | 2021/2022/2023/2024 /2025 | no | 4 | 0 |
| Union River | n/a | 545.48 sq. mi | n/a | 2023 | yes | 2 | 0 |
| Passagassawakeag River | n/a | 90.49 sq mi | n/a | 2023/2024/2025 | no | 2 | 0 |
| St. Croix River | n/a | 1500 sq mi | n/a | 2023/2024/2025 | yes | 2 | 2 |
| Mousam River | n/a | 117 sq mi | n/a | 2022 | yes | 13 | 0 |
| Presumpscot River | n/a | 648 sq mi | n/a | 2022/2024 | yes | 3 | 4 |
| Machias River | n/a | 458 sq mi | n/a | 2025 | No | 0 | 0 |
| Flanders Stream | n/a | 11.5 sq mi | n/a | 2022 | no | 0 | 0 |
| Ames Pond outlet | n/a | pond is 6 acres | n/a | 2022 | no | 0 | 0 |

*

Notes

- 1 -Tributary name and river mile- do not pertain as elvers as are harvested at the head of tide of the river system noted.
- 2 - USGS gauge station monitor locations on the Mousam, St. Croix, and Presumpscot rivers.
- 3 -Tidal amplitude for all sites is 10-12 feet, except the St. Croix that has a 17-20 feet amplitude.
- 4 -Number of dams from Maine Stream Habitat Viewer, dams either have no fish passage or passage for alewife (Alaskan steepass or Denil) that is not appropriate for eels.
- 5 - First fishway on Somes Pond outlet is a Denil.

Table 2 presents CPUE for glass eel annual harvest from 2019 and 2021 - 2025. There is no data for the 2020 season because no glass eels were harvested under the aquaculture quota due to COVID precautions. CPUE is calculated by assessing the number of pounds harvested from each waterway, the number of fishermen who harvested aquaculture quota at each waterway, and the estimated hours of tides they fished. The greater CPUEs in 2022 - 2024 follow trends in the broader Maine elver fishery where quotas were

quickly caught by early May, roughly a month ahead of the end of the elver season on June 7¹. However, the 2025 season has been very slow due to unseasonably cold weather and abundant precipitation. The 200-pound aquaculture quota has not been fully harvested at the time of this report. American Unagi anticipates the quota will be caught before the season ends.

Table 2: Annual CPUE (average pounds per hour) under the Maine aquaculture quota.

| Waterway | 2019 | 2021 | 2022 | 2023 | 2024 | 2025* |
|------------------------|------|------|------|------|------|-------|
| Pemaquid River | 0.54 | 0.07 | 0.87 | 0.76 | 0.55 | n/a |
| Medomak River | 0.56 | 0.03 | 0.52 | 0.83 | 0.21 | 0.19 |
| Megunticook River | 0.41 | 0.09 | 1.67 | 0.50 | 0.63 | 0.17 |
| Somes Pond Outlet | 1.12 | 0 | 1.67 | 1.67 | 0.42 | 0.48 |
| Orland River | n/a | 0.15 | 0.83 | 0.83 | 0.97 | 0.24 |
| Presumpscot River | n/a | n/a | 0.83 | n/a | 0.46 | n/a |
| Mousam River | n/a | n/a | 0.83 | n/a | n/a | n/a |
| Ames Outlet | n/a | n/a | 0.83 | n/a | n/a | n/a |
| Flanders Stream | n/a | n/a | 0.83 | n/a | n/a | n/a |
| Union River | n/a | n/a | n/a | 0.95 | n/a | n/a |
| Machias River | n/a | n/a | n/a | n/a | n/a | 1.02 |
| Passagassawakeag River | n/a | n/a | n/a | 0.56 | 0.63 | 0.38 |
| St. Croix River | n/a | n/a | n/a | 0.67 | 1.29 | 0.3 |

*2025 landings as of May 26, 2025. Fishing still continues until June 7.

Pound Requested

American Unagi is requesting 200 pounds for the 2026 fishing year.

Location of Harvest

The Aquaculture Plan proposal requirements were modified based on the following criteria (as recommended by the Technical Committee):

States and jurisdictions may develop a Plan for aquaculture purposes. Under an approved Aquaculture Plan, states and jurisdictions may harvest a maximum of 200 pounds of glass eels annually from within their waters for use in domestic aquaculture facilities. Site selection for harvest will be an important consideration for applicants and reviewers. Suitable harvest locations will be evaluated with a preference to locations that have:

¹ Maine's elver season runs from noon on March 22 to noon on June 7 (12 M.R.S. §6575)

- (1) established or proposed glass eel monitoring,
- (2) are favorable to law enforcement and
- (3) watershed characteristics that are prone to relatively high mortality rates.

Watersheds known to have features (ex. impassible dams, limited area of upstream habitat, limited water quality of upstream habitat, and hydropower mortality) that would be expected to cause lower eel productivity and/or higher glass eel mortality will be preferred targets for glass eel harvest. This is not an exclusive requirement, because there will be coastal regions with interest in eel aquaculture where preferred watershed features do not occur or are not easily demonstrated. In all cases, the applicant should demonstrate the above three interests were prioritized and considered.

Maine's glass eel monitoring currently occurs at West Harbor Pond, where the eel life cycle study is occurring. Removing glass eels from that site would compromise Maine's required study.

As in previous years, American Unagi is planning to source the glass eels from several regions in Maine's watersheds to limit the impacts to individual river systems and be consistent with the statewide approach of the existing fishery. In addition to data for regulatory measures, having full traceability and accountability of the facility's eels is important to the company's end market so the fishermen, volume, and harvest location will be identified for all eels entering the facility.

As previously mentioned, the sites of harvest used in previous years are commonly fished for glass eels and are all routinely monitored by Marine Patrol Officers. Many of these waterways also have features which make them unlikely to produce a large number of adult eels. Megunticook Stream has a steep gradient and multiple dams without upstream or downstream passage; Somes Pond is small; Orland River has the Orland Dam at head-of-tide which significantly limits upstream passage to parts of the tidal cycle; and the Union River has a hydroelectric dam in Ellsworth, Maine.

Dates of Harvest

Aquaculture harvest will be limited to the current glass eel fishing season per State of Maine. By law, the elver season occurs between March 22 and June 7 (Appendix A; 12 M.R.S.A. §6575).

Methods of Harvest

A licensed harvester will be required to fish for all eels used for domestic aquaculture. Licenses are issued by the Department of Marine Resources and as authorized by federally recognized Indian Tribes (Appendix A; 12 M.R.S.A. §6505-A, and §6302-A). For the aquaculture quota, one or more individuals will be issued a specialty aquaculture fishing allowance by the ME DMR Commissioner which permits the harvester to harvest glass eels for aquaculture purposes beyond the limits of their personal harvest quotas.

Glass eels shall be harvested only by dip net or elver fyke net, with the size and construction in compliance with current Maine law (Appendix A; 12 M.R.S.A. §6001). A license issued under this section must identify the number and types of nets that the license holder may use (Appendix A; 12 M.R.S.A. §6505-A). Elver

fyke nets must display a tag issued by the ME DMR when they are submerged (Appendix A; 12 M.R.S.A. §6505-B).

Additional harvest measures include a prohibition on fishing in the middle third of any waterway, within 150 feet of a fishway or a dam with a fishway, and specific area closures where fishing for elvers is prohibited (12 M.R.S.A. §6575-B; §6575-C; §6575-F; §6575-G). As adopted via rulemaking in 2021, there is now a tending requirement so that the contents of fyke nets and Sheldon box traps are removed at least once every 16 hours ([Chapter 32](#)). The tending requirement is intended to reduce by-catch and elver mortality by requiring harvesters to check nets and box traps on a regular basis.

Finally, no person may fish for, take, possess, or transport pigmented eels. All catches shall be screened and graded immediately upon harvest, whereas all eels failing to pass through 1/8" bar mesh net, as well as all bycatch, will be returned to the water.

Monitoring Program

The Maine glass eel fishery has been managed under a Total Allowable Catch (TAC) established by the Atlantic States Marine Fisheries Commission (ASMFC) since 2014. In 2014, the TAC was 11,749 lbs, which was determined by calculating a 35% reduction from the 2013 Maine elvers landings. The TAC was subsequently dropped to 9,688 lbs in Addendum IV and maintained at this level in Addendum V. This TAC was based on the Maine landings achieved during the 2014 season. In October 2021, the American Eel Management Board voted to extend Maine's glass eel quota of 9,688 lbs for an additional three years (2022-2024). Landings have typically approached the TAC, except for the 2015 season, when poor weather prevented fishermen from filling their quotas. In 2024, via Addendum VI, the Board again voted to maintain Maine's glass eel quota at 9,688 pounds. The Board will review Maine's quota ahead of the 2028 season. By law, 21.9% of the annual TAC is allocated to the four federally recognized Indian Tribes in the state.

Concurrently with the implementation of the TAC, Maine implemented an individual quota system for state license holders, calculated based on harvester reported landings during the 2011, 2012, and 2013 seasons. The individual quota system was historically monitored using a "swipe" card. Beginning with the 2024 season, Maine has transitioned to the use of an NFC token or QR code, generated through the VESL app on the harvester's phone.

The swipe card system was created in 2013 to enable Maine to monitor the elver quota. The system was designed to allow dealers to enter data daily and allow ME DMR staff to quickly analyze that data within 24 hours of receipt. Additionally, the swipe card system was developed as the mechanism to monitor the individual fishing quota of harvesters.

In 2024, Maine implemented elver reporting using an NFC token or QR code. This technology utilizes electronic reporting through the VESL app on harvester's phones. The transition to the VESL app allowed the ME DMR Landings Program to align elver reporting with other state commercial fisheries which require state harvester reports. All functionality developed through the swipe card system remains under this new technology. Harvester sales are checked daily against their quota, and when the harvester's quota is reached or exceeded, their token is deactivated by ME DMR Landings Program staff.

Each elver dealer has a phone or tablet that can read NFC technology for the permanent facility, as well as all vehicles used to transport elvers. Dealers are required to submit transaction reports (including negative reports) by 2 p.m. each day of the elver season (March 22nd to June 7th). If dealers are delinquent with two days' worth of reports, the system will not allow dealers to purchase elvers from harvesters until they submit all outstanding reports or create a negative report for the missing days. A dealer-to-dealer program was added in 2015. The dealer-to-dealer program requires a record each time dealers move elvers to another location or dealer. The dealer-to-dealer program uses the same system as the harvester to dealer system and is also subject to daily reporting including negative reports.

For the aquaculture quota, ME DMR will issue separate aquaculture amounts to the assigned harvesters for a total allocation of 200 pounds. When the facility is assigned its quota, it will designate the licensed harvesters that will be collecting the 200lbs. The aquaculture facility will be required to hold an elver dealer permit and license its buying station, transport vehicles, and facility. The permitted aquaculture facility will be the only dealer allowed to purchase aquaculture quota. The data collection on these transactions from harvester to facility will include the harvester's name, harvest site, harvest method, date, and pounds. When the 200-pound quota is achieved, tokens will be deactivated.

Due to the nature of the production, the facility will also be able to provide a status report to ME DMR on glass eel survival when eels are moved from glass eel intake system into the production facility at approximately four months from arrival (see facility description for more details).

Penalties for Violation

Since 2012, Maine has made numerous law changes to close remaining loopholes and create the proper penalties for elver violations. The majority of elver violations were criminalized in 2014, changing from a civil violation to a Class D crime with a \$2000 fine. At the same time, mandatory license revocations were imposed for the second violation of several elver offenses, including untagged gear, fishing out of season, or exceeding the individual fishing quota. In addition to the \$2000 fine, individuals who exceed their quota are subject to a "pecuniary gain" fine, where they must pay back to the State the value of any elvers that were taken in excess of their quota. The Department is authorized to deny the renewal of the license of an individual who has failed to pay their pecuniary gain fine in its entirety prior to the following elver season. Prior to the 2020 season, ME DMR submitted a bill that was passed into legislation that made the penalty for buying or selling elvers without using the swipe card system permanent revocation of the license for the first offense.

Harvesters, dealers, and aquaculture facilities may have random inspection conducted of the facility and places of harvest to ensure all rules and regulations under conditions of permit(s) are being adhered to. An aquaculture facility permit would hold to these same penalties and loss of license for violations.

Regardless of specific penalties that may be provided in law, the Commissioner also has the authority to suspend any licenses or certificates issued by the Department if a person is convicted or adjudicated in court of violating any marine resources law or regulation. In addition, the Commissioner may pursue license suspension without criminal conviction or civil adjudication through an administrative process.

Prior Approval of Permits

American Unagi was first approved to hold and grow eels by ME DMR in 2014. During the course of operating the pilot facility, American Unagi worked closely with State regulators on permitting for its operations. The company holds the necessary permits to buy, culture, and sell American eels.

For purchasing elvers from licensed Maine harvesters, American Unagi holds a ME DMR Elver dealer license that is renewed annually. Under this permit, the company has permitted a buying station, transport vehicle, and facility. For sale of grown product, the company holds a ME DMR Wholesale Dealer Permit that is renewed annually. Starting in 2021, American Unagi was issued a Land-Based Aquaculture permit by ME DMR for its facility in Mid-Coast Maine. All permits have been renewed for 2025.

Description of Market(s)

The primary goal of American Unagi is to serve US markets demanding high quality product. American Unagi has already been supplying domestic outlets for the eel produced in its facility. The company successfully launched processed eel products in 2020, including butterflied and smoked eels, and is planning to expand its sales and further develop processed products for domestic consumption. For propriety reasons, specific details are not being provided.

Description of facilities (design, capabilities, and technical facts)

American Unagi operates at a 240MT commercial scale land-based recirculating aquaculture plant in Mid-Coast Maine which was completed ahead of the 2022 season. There were no changes to the facility between 2023 and 2025.

Following the formula for success of eels and RAS, American Unagi engaged a worldwide leader in RAS design in eels to assist in assessing the feasibility of its commercial plant, develop a schematic design, provide detailed operations and equipment costs to develop the plant. The farm consists of two separate systems: a glass eel system and a grow-out system. When glass eels are brought in, they will go into the glass eel system which also serves as quarantine area. This recirculated system includes 18 round tanks of 2.25-meter diameter and 100 cm deep. Every 12 minutes the water is filtered and then recycled. The outlet of the fish tank is equipped with a brushing machine, basically a cylindrical screen that is constantly brushed to prevent clogging. The brushing machine is fed with water from the bottom center of the tank, pulling up dead and dying fish and feces. Glass eels are held in this system for 1-4 months as they are acclimated to commercial aquaculture diet. Once the glass eels reach a weight of 3-5 grams, they are size graded and moved into the grow-out system. This system has two series of tanks split into “nursery” and “grow-out”. The first series of nursery tanks hold the eels from 3-5 grams until around 20 grams. The eels are then moved to the largest series of tanks within the same systems, where they are grown to market size.

Each system has its own filtration equipment. The wastewater leaving the tanks is first sieved with a drum filter; a rotating sieve that is equipped with a 36-40 micron sieve cloth. Once the screen gets clogged with solids it automatically starts a rinsing cycle, spraying the waste into a gutter that is collected and processed. From the drum filter the water is pumped into a biofilter for the stripping of carbon dioxide and conversion of ammonia (NH₃) into the relatively harmless nitrate (NO₃). The biofilter is a moving bed biological

reactors (MBBRs). These are energy efficient, compact, and are more efficient in maintaining heat than other biofilters. From the biofilter the water flows by gravity through an MHO oxygen reactor to add pure oxygen and then by gravity back to the fish tanks.

A monitoring/control system is used for guarding pH, temperature, and oxygen. All fish tanks are equipped with water level sensors. Together with some pressure sensors these are connected to an alarm system that dials out to cell phones. Additionally, the facility is equipped with video surveillance for both security and monitoring purposes.

During the course of the aquaculture process there are some expected mortalities and losses are anticipated in production planning. In American Unagi's experience, the largest period of mortality occurs during weaning process after glass eels first arrive. While the company has seen as little as 1% loss, it anticipates as high as 10% loss into its production planning to accommodate for this expected mortality. Therefore, to produce 240 MT annually the company will stock up to 620 lbs of glass eels, with up to 200 lbs of this being secured under the domestic aquaculture permit and the remaining 420 lbs secured through the standard quota system. Each year when the glass eels are stocked into the facility, the first one to four months they are kept separate from previous year classes. During this intake period the company tracks growth, survival, and numbers for the years glass eels that would be available to ME DMR for review and tracking.

During the production process the eels are size graded every 6-8 weeks. Given eel is a non-domesticated species there is a very big variance between the performance of different individuals. A fast grower may reach market weight in just 6 months, but other fish may still weigh a few grams after one year. As a result of the growth variation, the farm population in the grow-out tanks will comprise of 2-3 year classes of eel. As part of operating a successful aquaculture facility, meticulous records of growth, survival, and biomass are a necessary part of the business so during the course of the grow-out the farm maintains records of current eels onsite. In addition to supporting the successful operation of the business, these records are also used to support that best management practices are being followed.

References

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Oliveira, K. and J.D. McCleave. 2000. Variation in population and life history traits of the American eel, *Anguilla rostrata*, in four rivers in Maine. *Environmental Biology of Fishes* 59: 141-151.

Maine Revised Statutes Title 12: Conservation

§6001. DEFINITIONS

13-F. Elver. "Elver" means a member of the species *Anguilla rostrata* in that stage of its life cycle when it is less than 6 inches in length.

[1995, c. 536, Pt. A, §1 (NEW) .]

13-G. Elver fyke net. "Elver fyke net" means a fyke net that is 30 feet or less in length from cod end to either wing tip, is fitted with netting that measures 1/8-inch bar mesh or less, contains a 1/2-inch or less bar mesh excluder panel that covers the entrance of the net, and consists of not more than one funnel end, one cod end and 2 wings.

[1997, c. 575, §1 (AMD) .]

13-H. Elver dip net. "Elver dip net" means a dip net with a hoop of not more than 30 inches in diameter and fitted with netting that measures 1/8 inch bar mesh or less.

[1999, c. 7, §1 (AMD) .]

40-A. Sheldon eel trap. "Sheldon eel trap" means a box trap with a netted wing 10 feet or less in length used to intercept and direct elvers into the trap.

§6302-A. TAKING OF MARINE ORGANISMS BY FEDERALLY RECOGNIZED INDIAN TRIBES

1. Tribal exemption; commercial harvesting licenses. A member of the Passamaquoddy Tribe, Penobscot Nation, Aroostook Band of Micmacs or Houlton Band of Maliseet Indians who is a resident of the State is not required to hold a state license or permit issued under section 6421, 6501, 6502-A, 6505-A, 6505-C, 6535, 6601, 6602, 6701, 6702, 6703, 6731, 6745, 6746, 6748, 6748-A, 6748-D, 6751, 6803, 6804 or 6808 to conduct activities authorized under the state license or permit if that member holds a valid license issued by the tribe, nation or band or the agent of the band to conduct the activities authorized under the state license or permit. A member of the Passamaquoddy Tribe, Penobscot Nation, Aroostook Band of Micmacs or Houlton Band of Maliseet Indians issued a tribal license pursuant to this subsection to conduct activities is subject to all laws and rules applicable to a person who holds a state license or permit to conduct those activities and to all the provisions of chapter 625, except that the member of the tribe, nation or band:

A. May utilize lobster traps tagged with trap tags issued by the tribe, nation or band or the agent of the band in a manner consistent with trap tags issued pursuant to section 6431-B. A member of the tribe, nation or band is not required to pay trap tag fees under section 6431-B if the tribe, nation or band or the agent of the band issues that member trap tags; [2011, c. 598, §17 (AMD) .]

B. May utilize elver fishing gear tagged with elver gear tags issued by the tribe, nation or band or the agent of the band in a manner consistent with tags issued pursuant to section 6505-B. A member of the tribe, nation or band is not required to pay elver fishing gear fees under section 6505-B if the tribe, nation or band or the agent of the band issues that member elver fishing gear tags; and [2011, c. 598, §17 (AMD) .]

D. Is not required to complete an apprentice program established under section 6422 if the tribe, nation or band provides documentation to the commissioner to show that the license applicant has completed an apprentice program that is satisfactory to the tribe, nation or band. [PL 2023, c. 207, §9 (NEW).]

[PL 2023, c. 207, §§7-9 (AMD).]

2. Tribal exemption; sustenance or ceremonial tribal use. Notwithstanding any other provision of law, a member of the Passamaquoddy Tribe, Penobscot Nation, Aroostook Band of Micmacs or Houlton Band of Maliseet Indians who is a resident of the State may at any time take, possess, transport and distribute:

A. Any marine organism, except lobster, for sustenance use if the tribal member holds a valid sustenance fishing license issued by the tribe, nation or band or the agent of the band. A sustenance fishing license holder who fishes for sea urchins may not harvest sea urchins out of season; [2011, c. 598, §17 (AMD).]

B. Lobsters for sustenance use, if the tribal member holds a valid sustenance lobster license issued by the tribe, nation or band or the agent of the band. The sustenance lobster license holder's traps must be tagged with sustenance use trap tags issued by the tribe, nation or band or the agent of the band in a manner consistent with trap tags issued pursuant to section 6431-B; however, a sustenance lobster license holder may not harvest lobsters for sustenance use with more than 25 traps; and [2011, c. 598, §17 (AMD).]

C. Any marine organism for noncommercial use in a tribal ceremony within the State, if the member holds a valid ceremonial tribal permit issued to the tribal member by the Joint Tribal Council of the Passamaquoddy Tribe or the governor and council at either Passamaquoddy reservation, by the Penobscot Reservation Tribal Council, by the Aroostook Band of Micmacs Tribal Council or its agent or by the Houlton Band of Maliseet Indians Tribal Council or its agent. [2013, c. 254, §2 (AMD).]

For purposes of this subsection, "sustenance use" means all noncommercial consumption or noncommercial use by any person within Passamaquoddy Indian territory, as defined in Title 30, section 6205, subsection 1, Penobscot Indian territory, as defined in Title 30, section 6205, subsection 2, Aroostook Band Trust Land, as defined in Title 30, section 7202, subsection 2, or Houlton Band Trust Land, as defined in Title 30, section 6203, subsection 2-A, or at any location within the State by a tribal member, by a tribal member's immediate family or within a tribal member's household. The term "sustenance use" does not include the sale of marine organisms.

A member of the Passamaquoddy Tribe, Penobscot Nation, Aroostook Band of Micmacs or Houlton Band of Maliseet Indians who takes a marine organism under a license or permit issued pursuant to this subsection must comply with all laws and rules applicable to a person who holds a state license or permit that authorizes the taking of that organism, except that a state law or rule that sets a season for the harvesting of a marine organism does not apply to a member of the Passamaquoddy Tribe, Penobscot Nation, Aroostook Band of Micmacs or Houlton Band of Maliseet Indians who takes a marine organism for sustenance use or for noncommercial use in a tribal ceremony. A member of the Passamaquoddy Tribe, Penobscot Nation, Aroostook Band of Micmacs or Houlton Band of Maliseet Indians issued a license or permit under this subsection is exempt from paying elver gear fees under section 6505-B or trap tag fees under section 6431-B and is not required to hold a state shellfish license issued under section 6601 to obtain a municipal shellfish license pursuant to section 6671. A member of the Passamaquoddy Tribe, Penobscot Nation, Aroostook Band of Micmacs or Houlton Band of Maliseet Indians who fishes for or takes lobster under a license or permit issued pursuant to this subsection must comply with the closed periods under section 6440.

[2013, c. 254, §2 (AMD).]

3. Lobster, sea urchin, scallop and elver licenses; limitations. Pursuant to subsection 1:

A. The Passamaquoddy Tribe and Penobscot Nation may each issue to members of its tribe or nation, as the case may be, up to 24 commercial lobster and crab fishing licenses in any calendar year, including all licenses equivalent to Class I, Class II or Class III licenses and student licenses, but not including apprentice licenses. Licenses issued under this paragraph are subject to the eligibility requirements of section 6421, subsection 5; [2011, c. 598, §17 (AMD).]

A-1. The Aroostook Band of Micmacs or its agent may issue to members of the band up to 10 commercial lobster and crab fishing licenses in any calendar year, including all licenses equivalent to Class I, Class II or Class III licenses and student licenses, but not including apprentice licenses. Licenses issued under this paragraph are subject to the eligibility requirements of section 6421, subsection 5; [2011, c. 598, §17 (NEW).]

A-2. The Houlton Band of Maliseet Indians or its agent may issue to members of the band up to 10 commercial lobster and crab fishing licenses in any calendar year, including all licenses equivalent to Class I, Class II or Class III licenses and student licenses, but not including apprentice licenses. Licenses issued under this paragraph are subject to the eligibility requirements of section 6421, subsection 5; [2013, c. 254, §3 (NEW).]

B. The Passamaquoddy Tribe may not issue to members of the tribe more than 24 commercial licenses for the taking of sea urchins in any calendar year. Sea urchin licenses must be issued by zone in accordance with section 6749-P; [2011, c. 598, §17 (AMD).]

C. The commissioner shall adopt rules authorizing the Penobscot Nation to issue to members of the nation commercial sea urchin licenses if the commissioner determines that sea urchin resources are sufficient to permit the issuance of new licenses. The commissioner may not authorize the Penobscot Nation to issue more than 24 commercial sea urchin licenses to members of the nation in any calendar year; [2011, c. 598, §17 (AMD).]

C-1. The commissioner shall adopt rules authorizing the Aroostook Band of Micmacs or its agent to issue to members of the band commercial sea urchin licenses if the commissioner determines that sea urchin resources are sufficient to permit the issuance of new licenses. The commissioner may not authorize the Aroostook Band of Micmacs or its agent to issue more than 24 commercial sea urchin licenses to members of the band in any calendar year; [2011, c. 598, §17 (NEW).]

C-2. The commissioner shall adopt rules authorizing the Houlton Band of Maliseet Indians or its agent to issue to members of the band commercial sea urchin licenses if the commissioner determines that sea urchin resources are sufficient to permit the issuance of new licenses. The commissioner may not authorize the Houlton Band of Maliseet Indians or its agent to issue more than 24 commercial sea urchin licenses to members of the band in any calendar year; [2013, c. 254, §3 (NEW).]

D. The Penobscot Nation may not issue to members of the nation more than 20 commercial licenses for the taking of scallops in any calendar year, except that the commissioner shall by rule allow the Penobscot Nation to issue additional commercial licenses to members of the nation for the taking of scallops if the commissioner determines that scallop resources are sufficient to permit the issuance of new licenses; [2011, c. 598, §17 (AMD).]

D-1. The Aroostook Band of Micmacs or its agent may not issue to members of the band more than 10 commercial licenses for the taking of scallops in any calendar year, except that the commissioner shall by rule allow the Aroostook Band of Micmacs or its agent to issue additional commercial licenses to members of the band for the taking of scallops if the commissioner determines that scallop resources are sufficient to permit the issuance of new licenses; [2011, c. 598, §17 (NEW).]

D-2. The Passamaquoddy Tribe may not issue to members of the tribe more than 20 commercial licenses for the taking of scallops in any calendar year, except that the commissioner shall by rule allow the Passamaquoddy Tribe to issue additional commercial licenses to members of the tribe for the taking of scallops if the commissioner determines that scallop resources are sufficient to permit the issuance of new licenses; [2013, c. 8, §1 (NEW).]

D-3. The Houlton Band of Maliseet Indians or its agent may not issue to members of the band more than 10 commercial licenses for the taking of scallops in any calendar year, except that the commissioner shall by rule allow the Houlton Band of Maliseet Indians or its agent to issue additional commercial licenses to members of the band for the taking of scallops if the commissioner determines that scallop resources are sufficient to permit the issuance of new licenses; [2013, c. 254, §3 (NEW).]

E. The Penobscot Nation may not issue to members of the nation commercial licenses for the taking of elvers in any calendar year that exceed the following limits:

- (1) Eight licenses that allow the taking of elvers with 2 pieces of gear; and
- (2) Forty licenses that allow the taking of elvers with one piece of gear.

The commissioner shall by rule allow the Penobscot Nation to issue additional commercial licenses to members of the nation for the taking of elvers if the commissioner and the Penobscot Nation determine that elver resources are sufficient to permit the issuance of new licenses; [2015, c. 391, §3 (AMD).]

E-1. The Passamaquoddy Tribe may issue to members of the tribe commercial licenses for the taking of elvers with one piece of gear; [2015, c. 391, §4 (AMD).]

F. The Aroostook Band of Micmacs or its agent may not issue to members of the band more than 8 commercial licenses for the taking of elvers in any calendar year, except that the commissioner shall by rule allow the Aroostook Band of Micmacs or its agent to issue additional commercial licenses for the taking of elvers to

members of the band if the commissioner determines that elver resources are sufficient to permit the issuance of new licenses; and [2013, c. 8, §1 (AMD) .]

G. The Houlton Band of Maliseet Indians or its agent may not issue to members of the band more than 16 commercial licenses for the taking of elvers in any calendar year except that the commissioner shall by rule allow the Houlton Band of Maliseet Indians or its agent to issue additional commercial licenses for the taking of elvers to members of the band if the commissioner determines that elver resources are sufficient to permit the issuance of new licenses. [2015, c. 391, §5 (RPR) .]

The Passamaquoddy Tribe, Penobscot Nation, Aroostook Band of Micmacs, Houlton Band of Maliseet Indians and Department of Marine Resources shall report on the status of the sea urchin, scallop and elver fisheries to the joint standing committee of the Legislature having jurisdiction over marine resources matters by January 15th of each even-numbered year.

Rules adopted pursuant to this subsection are routine technical rules as defined in Title 5, chapter 375, subchapter 2-A.

§6302-B. ELVER QUOTA FOR FEDERALLY RECOGNIZED INDIAN TRIBES IN THE STATE

If the commissioner adopts an elver individual fishing quota system pursuant to section 6505-A, subsection 3-A, this section governs the allocation of the elver quota to federally recognized Indian tribes in the State. [2013, c. 485, §3 (NEW) .]

1. Annual allocation. In accordance with section 6505-A, the commissioner shall annually allocate 21.9% of the overall annual quota of elver fishery annual landings to the federally recognized Indian tribes in the State. If the Passamaquoddy Tribe, the Penobscot Nation, the Aroostook Band of Micmacs and the Houlton Band of Maliseet Indians reach an agreement regarding the division of this 21.9% portion of the overall annual quota among them and communicate in writing that agreement to the commissioner prior to March 1st of the year in which the quota is allocated, the commissioner shall allocate that portion of the quota in accordance with that agreement. If no agreement is reached, the commissioner shall allocate that portion of the quota in accordance with the following:

- A. To the Passamaquoddy Tribe, 14% of the overall annual quota; [2013, c. 485, §3 (NEW) .]
- B. To the Penobscot Nation, 6.4% of the overall annual quota; [2013, c. 485, §3 (NEW) .]
- C. To the Houlton Band of Maliseet Indians, 1.1% of the overall annual quota; and [2013, c. 485, §3 (NEW) .]
- D. To the Aroostook Band of Micmacs, 0.4% of the overall annual quota. [2013, c. 485, §3 (NEW) .]

In making any allocations under this subsection, the commissioner shall reserve a portion no greater than 10% of each allocation in order to ensure that the quota is not exceeded.

[2013, c. 485, §3 (NEW) .]

2. Individual allocations. The following provisions govern the allocation of the quotas established under subsection 1 to members of each of the federally recognized Indian tribes.

A. The commissioner may enter into an agreement with a federally recognized Indian tribe in the State that does not provide for individual allocations of the quota established under subsection 1 to members of that tribe, nation or band. If the commissioner enters into an agreement pursuant to this paragraph, the following provisions apply.

- (1) An elver transaction card under section 6305 must be issued to each person to whom the tribe, nation or band issues a license under section 6302-A, subsection 3.
- (2) The holder of a license issued under section 6302-A, subsection 3 must meet the reporting requirements established by rule pursuant to section 6173.

(3) The quota established under subsection 1 applies to all elvers taken under licenses issued by the tribe, nation or band under section 6302-A, subsection 3.

(4) When the quota established under subsection 1 is reached, the department shall notify the tribe, nation or band. When the quota established under subsection 1 is reached, the holder of a license issued by the tribe, nation or band under section 6302-A, subsection 3 may not thereafter take, possess or sell elvers. Taking, possessing or selling elvers after the quota established under subsection 1 is reached is deemed a violation by the license holder of the prohibition on fishing in excess of the person's individual quota in section 6505-A, subsection 3-A. [2015, c. 391, §6 (NEW).]

B. This paragraph governs the allocation of the quotas established in subsection 1 to members of a federally recognized Indian tribe in the State when the commissioner has not entered into an agreement with members of the tribe, nation or band under paragraph A that applies to members of that tribe, nation or band.

(1) If there is no agreement under paragraph A between the commissioner and the Passamaquoddy Tribe, the Passamaquoddy Tribe shall allocate to each person to whom it issues a license under section 6302-A, subsection 3, paragraph E-1 a specific amount of the quota allocated to the Passamaquoddy Tribe under subsection 1, paragraph A and shall provide documentation to the department of that allocation for each individual license holder. The Passamaquoddy Tribe shall allocate all of the quota that it has been allocated and may not alter any individual allocations once documentation has been provided to the department.

(2) If there is no agreement under paragraph A between the commissioner and the Penobscot Nation, the Penobscot Nation shall allocate to each person to whom it issues a license under section 6302-A, subsection 3, paragraph E a specific amount of the quota allocated to the Penobscot Nation under subsection 1, paragraph B and shall provide documentation to the department of that allocation for each individual license holder. The Penobscot Nation shall allocate all of the quota that it has been allocated and may not alter any individual allocations once documentation has been provided to the department.

(3) If there is no agreement under paragraph A between the commissioner and the Houlton Band of Maliseet Indians, the Houlton Band of Maliseet Indians shall allocate to each person to whom it issues a license under section 6302-A, subsection 3, paragraph G a specific amount of the quota allocated to the Houlton Band of Maliseet Indians under subsection 1, paragraph C and shall provide documentation to the department of that allocation for each individual license holder. The Houlton Band of Maliseet Indians shall allocate all of the quota that it has been allocated and may not alter any individual allocations once documentation has been provided to the department.

(4) If there is no agreement under paragraph A between the commissioner and the Aroostook Band of Micmacs, the Aroostook Band of Micmacs shall allocate to each person to whom it issues a license under section 6302-A, subsection 3, paragraph F a specific amount of the quota allocated to the Aroostook Band of Micmacs under subsection 1, paragraph D and shall provide documentation to the department of that allocation for each individual license holder. The Aroostook Band of Micmacs shall allocate all of the quota that it has been allocated and may not alter any individual allocations once documentation has been provided to the department. [2015, c. 391, §6 (NEW).]

The department shall issue an elver transaction card under section 6305 to a person licensed by the Passamaquoddy Tribe under section 6302-A, subsection 3, paragraph E-1, the Penobscot Nation under section 6302-A, subsection 3, paragraph E, the Houlton Band of Maliseet Indians under section 6302-A, subsection 3, paragraph G or the Aroostook Band of Micmacs under section 6302-A, subsection 3, paragraph F only upon receipt of adequate documentation specifying the individual quota allocated to that person by the tribe, nation or band under this subsection.

[2015, c. 391, §6 (RPR).]

3. Overage. If the total weight of elvers sold by persons licensed by the Passamaquoddy Tribe, Penobscot Nation, Aroostook Band of Micmacs or Houlton Band of Maliseet Indians exceeds the quota allocated under subsection 1 to that tribe, nation or band, the commissioner shall deduct the amount of the overage from any future allocation to that tribe, nation or band. If the overage exceeds the overall annual quota allocated to that tribe, nation or band for the following year, the overage must be deducted from the overall annual quota allocations to that tribe, nation or band in subsequent years until the entire overage has been accounted for.

[2013, c. 485, §3 (NEW) .]

4. Emergency prohibition. The commissioner may adopt emergency rules to prohibit the Passamaquoddy Tribe, the Penobscot Nation, the Aroostook Band of Micmacs or the Houlton Band of Maliseet Indians from fishing for elvers under a license issued under this Title if the commissioner finds that the tribe, nation or band has authorized fishing for elvers in a way that the commissioner determines will cause the tribe, nation or band to exceed the annual allocation set forth in subsection 1.

[2015, c. 391, §7 (NEW) .]

SECTION HISTORY

2013, c. 485, §3 (NEW) . 2015, c. 391, §§6, 7 (AMD) .

§6404-N. Revocation based on conviction of failing to record the sale of elvers with an elver transaction card

The commissioner shall permanently revoke the elver fishing license, elver dealer's license or elver exporter's license of any license holder convicted of violating section 6505-A, subsection 1-D. [PL 2019, c. 163, §4 (NEW) .]

§6505-A. ELVER FISHING LICENSE

(CONTAINS TEXT WITH VARYING EFFECTIVE DATES)

1. License required. Except as provided in section 6302-A and section 6302-B, a person may not engage in the activities authorized under subsection 1-A unless the person is issued one of the following elver fishing licenses under this section:

- A. A resident elver fishing license for one device; [2003, c. 452, Pt. F, §11 (NEW); 2003, c. 452, Pt. X, §2 (AFF) .]
- B. A resident elver fishing license for 2 devices; [2003, c. 452, Pt. F, §11 (NEW); 2003, c. 452, Pt. X, §2 (AFF) .]
- C. A nonresident elver fishing license for one device; [2013, c. 468, §23 (AMD) .]
- D. A nonresident elver fishing license for 2 devices; [2013, c. 468, §23 (AMD) .]
- E. A resident elver fishing license with crew for one device; [2013, c. 468, §23 (NEW) .]
- F. A resident elver fishing license with crew for 2 devices; [2013, c. 468, §23 (NEW) .]
- G. A nonresident elver fishing license with crew for one device; or [2013, c. 468, §23 (NEW) .]
- H. A nonresident elver fishing license with crew for 2 devices. [2013, c. 468, §23 (NEW) .]

The department may not issue a license under paragraph E, F, G or H until January 1, 2015.

[2013, c. 485, §5 (AMD) .]

1-A. Licensed activity. The holder of an elver fishing license or elver fishing license with crew may fish for, take or possess elvers. The holder of an elver fishing license or elver fishing license with crew may transport and sell within state limits elvers that the license holder has taken. The holder of an elver fishing license with crew is liable for the licensed activities under this subsection of an unlicensed crew member assisting that license holder pursuant to subsection 1-B. The license holder to whom a tag is issued or the unlicensed crew member may empty an elver fyke net.

[PL 2023, c. 81, §1 (AMD).]

1-B. License limitations. An elver fishing license with crew authorizes the license holder to engage in the licensed activities under subsection 1-A. The holder of an elver fishing license with crew may engage one unlicensed crew member to assist the license holder only in certain activities as authorized by rule, and the unlicensed crew member may assist only under the direct supervision of the license holder.

[2013, c. 468, §24 (NEW) .]

1-C. Elver transaction card issued. The department may issue an elver transaction card to each license holder under this section and to each license holder under section 6302-A, subsection 3, paragraphs E, E-1, F and G in accordance with section 6302-B. The department may charge each license holder an annual fee for the elver transaction card that may not exceed \$35. Fees collected under this subsection must be deposited in the Eel and Elver Management Fund under section 6505-D. The license holder shall use the elver transaction card to meet electronic reporting requirements established by rule pursuant to section 6173. The elver transaction card must include the license holder's name and license number.

[2017, c. 250, §2 (AMD) .]

1-D. Use of elver transaction card required. The holder of an elver fishing license issued under this section or section 6302-A, subsection 3, paragraph E, E-1, F or G may not sell or transfer elvers the license holder has taken to an elver dealer licensed under section 6864 unless the holder of the elver fishing license presents to the elver dealer the elver transaction card issued to that person under subsection 1-C and that card is used to record the transaction between the license holder and the dealer so that the amount of elvers transferred or sold is deducted from the license holder's quota.

[PL 2019, c. 163, §5 (AMD) .]

1-E. Elver transaction card limited. A person may not possess an elver transaction card unless that person holds a license issued under this section or section 6302-A, subsection 3, paragraph E, E-1, F or G and the elver transaction card was issued to that person pursuant to subsection 1-C.

[2013, c. 468, §24 (NEW) .]

1-F. Licenses issued. The commissioner may issue up to 425 elver fishing licenses each year under this section.

[2017, c. 250, §3 (NEW) .]

2. Eligibility. An elver fishing license may be issued only to an individual who:

A. [1999, c. 534, §1 (RP) .]

B. [1999, c. 534, §1 (RP) .]

C. Possessed an elver fishing license in the previous calendar year; [2011, c. 549, §3 (AMD) .]

D. [2005, c. 533, §1 (RP) .]

E. Did not possess an elver fishing license in the previous calendar year because the commissioner had suspended the person's license privileges for a length of time that included the previous calendar year; or [2011, c. 549, §3 (AMD) .]

F. Becomes eligible to obtain an elver fishing license pursuant to the elver lottery under subsection 2-C. [2017, c. 250, §4 (AMD) .]

[2017, c. 250, §4 (AMD) .]

2-A. Elver license lottery.

[2005, c. 533, §2 (RP) .]

2-B. Elver lotteries.

[2017, c. 250, §5 (RP) .]

2-C. Elver license lottery. The commissioner shall establish an elver fishing license lottery under which a person may become eligible for that license under subsection 2, paragraph F. An applicant to the lottery must submit a lottery application together with a \$35 nonrefundable application fee no later than January 15th of the same calendar year as the lottery. An applicant may not submit more than 5 elver fishing license lottery applications per lottery year. In any year in which a lottery is held, the lottery must be held on or before February 15th.

The commissioner may adopt rules to implement the elver fishing license lottery, including provisions for the method and administration of the lottery. Rules adopted pursuant to this subsection are routine technical rules as defined in Title 5, chapter 375, subchapter 2-A.

Twenty-five dollars of the application fee collected under this subsection must be deposited in the Eel and Elver Management Fund established in section 6505-D and used to fund a life-cycle study of the elver fishery. Ten dollars of the application fee may be used by the department to fund the costs of administering the elver fishing license lottery.

[2017, c. 250, §6 (NEW) .]

3. Limits on issuance.

[2013, c. 8, §3 (RP) .]

3-A. Elver fishing quotas. The commissioner may adopt rules to establish, implement and administer an elver individual fishing quota system in order to ensure that the elver fishery annual landings do not exceed the overall annual quota established by the Atlantic States Marine Fisheries Commission. Except as provided in section 6575-L, a person issued a license under this section or section 6302-A, subsection 3, paragraph E, E-1, F or G may not take, possess or sell elvers in excess of the weight quota allocated to that person under the quota system. The rules must:

A. Establish an overall annual quota for the State; [2013, c. 485, §7 (NEW) .]

B. Establish the amount of the overall annual quota under paragraph A that is allocated to persons licensed under this section and specify a formula to establish individual quotas for persons licensed under this section. The formula may take into account the amount of elvers a person licensed under this section lawfully harvested in previous seasons based on final harvesting reports. The rules must specify the date by which harvester reports are considered final for the purpose of determining individual quotas; and [2013, c. 485, §7 (NEW) .]

C. Provide, in accordance with section 6302-B, that 21.9% of the overall annual quota under paragraph A is allocated to the federally recognized Indian tribes in the State and establish the amount of that portion of the overall annual quota allocated to the Passamaquoddy Tribe, the Penobscot Nation, the Houlton Band of Maliseet Indians and the Aroostook Band of Micmacs. [2013, c. 485, §7 (NEW) .]

If persons issued licenses under this section collectively exceed the overall annual quota allocated to those persons pursuant to paragraph B, the number of pounds by which the license holders exceeded that overall annual quota must be deducted from the following year's overall annual quota allocated to persons licensed under this section. If the overage exceeds the overall annual quota allocated to persons licensed under this section for the following year, the overage must be deducted from the overall annual quota allocated to persons licensed under this section in subsequent years until the entire overage has been accounted for.

The commissioner may adopt or amend rules on an emergency basis if immediate action is necessary to establish and implement the elver individual fishing quota in advance of the beginning of the elver fishing season.

Rules adopted pursuant to this subsection are routine technical rules as defined in Title 5, chapter 375, subchapter 2-A.

[2015, c. 131, §1 (AMD) .]

4-A. License fee. Fees for elver fishing licenses are:

- A. For a resident elver fishing license for one device, \$55; [2017, c. 284, Pt. EEEEE, §8 (NEW); 2017, c. 284, Pt. EEEEE, §31 (AFF).]
- B. For a resident elver fishing license for 2 devices, \$63; [2017, c. 284, Pt. EEEEE, §8 (NEW); 2017, c. 284, Pt. EEEEE, §31 (AFF).]
- C. For a nonresident elver fishing license for one device, \$392; [2017, c. 284, Pt. EEEEE, §8 (NEW); 2017, c. 284, Pt. EEEEE, §31 (AFF).]
- D. For a nonresident elver fishing license for 2 devices, \$400; [2017, c. 284, Pt. EEEEE, §8 (NEW); 2017, c. 284, Pt. EEEEE, §31 (AFF).]
- E. For a resident elver fishing license with crew for one device, \$105; [2017, c. 284, Pt. EEEEE, §8 (NEW); 2017, c. 284, Pt. EEEEE, §31 (AFF).]
- F. For a resident elver fishing license with crew for 2 devices, \$113; [2017, c. 284, Pt. EEEEE, §8 (NEW); 2017, c. 284, Pt. EEEEE, §31 (AFF).]
- G. For a nonresident elver fishing license with crew for one device, \$1,126; and [2017, c. 284, Pt. EEEEE, §8 (NEW); 2017, c. 284, Pt. EEEEE, §31 (AFF).]
- H. For a nonresident elver fishing license with crew for 2 devices, \$1,134. [2017, c. 284, Pt. EEEEE, §8 (NEW); 2017, c. 284, Pt. EEEEE, §31 (AFF).]

[2017, c. 284, Pt. EEEEE, §8 (NEW); 2017, c. 284, Pt. EEEEE, §31 (AFF).]

4-B. License surcharge. In addition to the license fee established in subsection 4-A, the commissioner shall assess a surcharge on each license issued under this section as follows:

- A. For an elver fishing license issued under subsection 4-A, paragraphs A to D, \$150; and [2017, c. 284, Pt. EEEEE, §8 (NEW); 2017, c. 284, Pt. EEEEE, §31 (AFF).]
- B. For an elver fishing license issued under subsection 4-A, paragraphs E to H, \$300. [2017, c. 284, Pt. EEEEE, §8 (NEW); 2017, c. 284, Pt. EEEEE, §31 (AFF).]

The surcharge fees collected under this subsection must be deposited in the Eel and Elver Management Fund established under section 6505-D.

[2017, c. 284, Pt. EEEEE, §8 (NEW); 2017, c. 284, Pt. EEEEE, §31 (AFF).]

5. Gear. A person issued a license under this section may utilize one elver fyke net, one Sheldon eel trap or one dip net to fish for or take elvers without paying the fee required for a first net or trap pursuant to section 6505-B. A license issued under this section must identify the number and types of nets that the license holder may use pursuant to this section, section 6505-B and section 6575-B.

[2015, c. 391, §8 (AMD).]

5-A. Possession of elvers. The holder of an elver fishing license may possess elvers only during the open season established in section 6575 and for up to 6 hours beyond the end of the open season.

[2013, c. 301, §10 (NEW).]

6. Minimum age. A person who is under 15 years of age may not fish for or take elvers.

[2001, c. 421, Pt. B, §28 (AMD); 2001, c. 421, Pt. C, §1 (AFF).]

7. Nonresident licenses; reciprocity with other states. A nonresident is eligible to purchase an elver fishing license only if the nonresident documents to the commissioner that the nonresident's state of residence allows Maine residents to purchase an elver license and fish for elvers in that state.

[1999, c. 7, §5 (NEW).]

8. Violation.

[2013, c. 49, §8 (RP).]

8-A. Violation. A person who violates this section commits a Class D crime for which a fine of \$2,000 must be imposed, none of which may be suspended. Violation of this section is a strict liability crime as defined in Title 17-A, section 34, subsection 4-A.

[2013, c. 49, §9 (NEW).]

SECTION HISTORY

PL 1995, c. 536, §A8 (NEW). PL 1997, c. 297, §§1,2 (AMD). PL 1999, c. 7, §§2-5 (AMD). PL 1999, c. 534, §§1-3 (AMD). PL 2001, c. 421, §§B27-29 (AMD). PL 2001, c. 421, §C1 (AFF). PL 2003, c. 20, §WW7 (AMD). PL 2003, c. 452, §F11 (AMD). PL 2003, c. 452, §X2 (AFF). PL 2005, c. 533, §§1,2 (AMD). PL 2007, c. 615, §15 (AMD). PL 2009, c. 213, Pt. G, §6 (AMD). PL 2011, c. 549, §§3-5 (AMD). PL 2013, c. 8, §§2, 3 (AMD). PL 2013, c. 49, §§8, 9 (AMD). PL 2013, c. 301, §§9, 10 (AMD). PL 2013, c. 468, §§23-25 (AMD). PL 2013, c. 485, §§5-7 (AMD). PL 2015, c. 131, §1 (AMD). PL 2015, c. 391, §8 (AMD). PL 2017, c. 250, §§2-7 (AMD). PL 2017, c. 284, Pt. EEEEE, §7, 8 (AMD). PL 2017, c. 284, Pt. EEEEE, §31 (AFF). PL 2019, c. 163, §5 (AMD). PL 2019, c. 642, §5 (AMD). PL 2023, c. 81, §1 (AMD). PL 2023, c. 369, Pt. A, §4 (REV). PL 2023, c. 369, Pt. A, §5 (AFF).

§6505-B. ELVER GEAR FEES

1. Elver fyke net and Sheldon eel trap fee. A person may not submerge an elver fyke net or a Sheldon eel trap in the waters of the State to fish for or take elvers unless the net or trap owner pays annually the following fees:

A. Fifty dollars per net or trap for the use of an elver fyke net or Sheldon eel trap, except that the fee under this paragraph does not apply to an elver fyke net or Sheldon eel trap a person utilizes pursuant to section 6505-A, subsection 5. [2017, c. 284, Pt. EEEEE, §9 (AMD).]

B. [1999, c. 7, §6 (RP).]

C. [1999, c. 7, §6 (RP).]

[2017, c. 284, Pt. EEEEE, §9 (AMD).]

2. Tags for elver fyke net and Sheldon eel trap. A person may not submerge an elver fyke net or Sheldon eel trap in the coastal waters of the State to fish for or take elvers unless a tag issued by the department is affixed to the shoreside wing of the net or trap and is clearly visible. The department may issue a replacement tag when an owner issued a tag documents that a net or trap has been damaged or lost.

[2001, c. 421, Pt. B, §30 (AMD); 2001, c. 421, Pt. C, §1 (AFF).]

3. Dip net fee. A person may not utilize a dip net to fish for or take elvers without paying a fee of \$50 per dip net annually.

This subsection does not apply to a dip net a person utilizes pursuant to section 6505-A, subsection 5.

[2017, c. 284, Pt. EEEEE, §10 (AMD).]

4. Payment with license. The fees required under subsections 1 and 3 must be paid upon application for an elver fishing license under section 6505-A.

[1995, c. 536, Pt. A, §8 (NEW).]

5. Disposition of fees. Fees collected under this section accrue to the Eel and Elver Management Fund established in section 6505-D.

A. [2017, c. 284, Pt. EEEEE, §11 (RP).]

B. [2017, c. 284, Pt. EEEEE, §11 (RP).]

[2017, c. 284, Pt. EEEEE, §11 (AMD).]

6. Violation. A person who violates this section commits a Class D crime for which a fine of \$2,000 must be imposed, none of which may be suspended. Violation of this section is a strict liability crime as defined in Title 17-A, section 34, subsection 4-A.

[2013, c. 49, §10 (AMD).]

SECTION HISTORY

1995, c. 536, §A8 (NEW). 1997, c. 297, §§3-5 (AMD). 1997, c. 575, §2 (AMD). 1999, c. 7, §6 (AMD). 2001, c. 421, §B30 (AMD). 2001, c. 421, §C1 (AFF). 2009, c. 213, Pt. G, §§7-9 (AMD). 2011, c. 549, §6 (AMD). 2013, c. 49, §10 (AMD). 2017, c. 284, Pt. EEEEE, §§9-11 (AMD).

§6505-D. EEL AND ELVER MANAGEMENT FUND

1. Fund established. The Eel and Elver Management Fund, referred to in this section as the "fund," is established as a dedicated, nonlapsing fund.

[1995, c. 536, Pt. A, §8 (NEW).]

2. Permissible uses. The commissioner may use the fund to research and manage the State's eel and elver resources, to enforce the laws related to eels and elvers and to cover the costs associated with determining eligibility for elver fishing licenses.

[2011, c. 266, Pt. A, §17 (AMD).]

3. Plan required.

[2011, c. 266, Pt. A, §18 (RP).]

SECTION HISTORY

1995, c. 536, §A8 (NEW). 1999, c. 309, §2 (AMD). 2011, c. 266, Pt. A, §§17, 18 (AMD).

Article 5: ELVER AND EEL LIMITATIONS

§6575. OPEN SEASON; ELVER HARVESTING

1. Open season. It is unlawful for a person to fish for or take elvers within the waters of the State except during the open season from noon on March 22nd to noon on June 7th.

[2015, c. 391, §9 (AMD).]

1-A. Federally recognized Indian tribes; violation. It is unlawful for a person to fish for or take elvers in violation of rules adopted by the commissioner under section 6302-B, subsection 4.

[2015, c. 391, §10 (NEW).]

2. Setting nets and traps. It is unlawful for a person to immerse or leave immersed an elver fyke net or a Sheldon eel trap in any river, stream or brook of the waters of the State at any time other than the open season for elver fishing.

[1999, c. 7, §7 (AMD) .]

3. Locating nets. It is unlawful for a person to designate or claim by any means a location in which to set an elver fyke net or a Sheldon eel trap at any time other than the open season for elver fishing.

[1999, c. 7, §7 (AMD) .]

4. Nets of certain sizes.

[1999, c. 7, §7 (RP) .]

5. Violation. A person who violates this section commits a Class D crime for which a fine of \$2,000 must be imposed, none of which may be suspended. Violation of this section is a strict liability crime as defined in Title 17-A, section 34, subsection 4-A.

[2013, c. 49, §11 (NEW) .]

SECTION HISTORY

1995, c. 536, §A9 (NEW). 1995, c. 536, §A13 (AFF). 1997, c. 91, §4 (AMD). 1999, c. 7, §7 (AMD). 2013, c. 49, §11 (AMD). 2015, c. 391, §§9, 10 (AMD).

§6575-A. CLOSED PERIOD; ELVER HARVESTING

(REPEALED)

SECTION HISTORY

1995, c. 536, §A9 (NEW). 1995, c. 536, §A13 (AFF). 1997, c. 575, §3 (AMD). 1999, c. 7, §8 (AMD). 2011, c. 549, §7 (AMD). 2013, c. 49, §12 (RPR). 2013, c. 468, §26 (AMD). 2015, c. 391, §11 (RP).

§6575-B. METHOD OF ELVER FISHING; LIMITS ON GEAR

1. Gear. It is unlawful for a person to fish for or take elvers by any method other than by dip net, elver fyke net or Sheldon eel trap.

[1995, c. 536, Pt. A, §9 (NEW) .]

2. Number of elver fyke nets and Sheldon eel traps.

[1999, c. 7, §9 (RP) .]

2-A. Number of nets and Sheldon eel traps.

[1999, c. 534, §4 (RP) .]

2-B. Type and amount of gear. It is unlawful for a person to immerse elver fishing gear other than the types and amounts listed on the person's license pursuant to section 6505-A, subsection 5. A person may not immerse an amount of elver fishing gear that exceeds the amount of elver fishing gear listed on the person's license for the previous elver fishing season. A person may elect which types of gear are listed on the person's license prior to the issuance of the license for that elver fishing season. The commissioner may adopt rules to implement this subsection. Rules adopted pursuant to this subsection are routine technical rules as defined in Title 5, chapter 375, subchapter 2-A.

A. [2015, c. 391, §12 (RP) .]

B. [2005, c. 533, §3 (RP).]

C. [2005, c. 533, §3 (RP).]

[2015, c. 391, §12 (AMD).]

3. Rebuttable presumption. It is a rebuttable presumption that an elver fyke net, Sheldon eel trap or elver dip net immersed in any waters of the State at any time of the year is immersed for the purpose of fishing for or taking elvers.

[1999, c. 7, §11 (AMD).]

4. Prohibition on fishing from boats. It is unlawful for a person to set or tend an elver fyke net or a Sheldon eel trap from a boat or to fish for or take elvers from a boat. A person may transport an elver fyke net, a Sheldon eel trap or a dip net by boat.

[1995, c. 536, Pt. A, §9 (NEW).]

5. Use of dip nets. It is unlawful for a person to use a dip net to fish for or take elvers while standing in the coastal waters of the State.

[1997, c. 575, §4 (AMD).]

6. Prohibition on fishing from artificial platforms. A person may not build or use an artificial platform to fish for elvers. This subsection does not prohibit fishing for elvers from piers or floats established for purposes other than elver fishing.

[1999, c. 7, §12 (NEW).]

7. Bycatch release. A person immediately shall return alive into the waters of the State any species other than elver that is caught in an elver fyke net.

[1999, c. 7, §12 (NEW).]

8. St. Croix River; use of fyke nets prohibited.

[2015, c. 391, §13 (RP).]

SECTION HISTORY

1995, c. 536, §A9 (NEW). 1997, c. 91, §5 (AMD). 1997, c. 575, §4 (AMD). 1999, c. 7, §§9-12 (AMD). 1999, c. 534, §§4,5 (AMD). 2005, c. 533, §3 (AMD). 2013, c. 468, §27 (AMD). 2015, c. 391, §§12, 13 (AMD).

§6575-C. CLOSED AREAS; ELVER FISHING

1. Dams with fishways.

[2013, c. 49, §13 (RP).]

2. River herring traps. A person may not fish for or take elvers within 50 feet of a licensed river herring trap.

[2011, c. 598, §25 (AMD).]

3. Portion of rivers, streams and brooks. A person may not:

A. Fish for or take elvers at any time within the middle 1/3 of a river, stream, brook or other watercourse, as measured at mean high tide, within the coastal waters of the State; or [2003, c. 452, Pt. F, §14 (NEW); 2003, c. 452, Pt. X, §2 (AFF).]

B. Obstruct the middle 1/3 of any river, stream, brook or other watercourse, as measured at mean low tide, within the coastal waters of the State. [2003, c. 452, Pt. F, §14 (NEW); 2003, c. 452, Pt. X, §2 (AFF).]

[2003, c. 452, Pt. F, §14 (RPR); 2003, c. 452, Pt. X, §2 (AFF).]

4. Dip nets near elver fyke nets. A person may not fish for or take elvers with a dip net in the mouth of an elver fyke net. For the purposes of this subsection, "mouth of an elver fyke net" means that area within an elver fyke net that is net-side of a straight line that runs from one meshed wing tip of the net to the other meshed wing tip.

[2003, c. 452, Pt. F, §15 (AMD); 2003, c. 452, Pt. X, §2 (AFF).]

5. Fyke net placement. A person may not place or set an elver fyke net or take elvers from an elver fyke net when any portion of the net, including any anchoring device, is located within an imaginary line between the wing ends of another elver fyke net. Cod end anchoring devices may not exceed 10 feet in length and wing end anchoring devices may not interfere with or create a hazard to navigation within the middle 1/3 of a navigable watercourse. A marine patrol officer may open the cod end of a net that is located in violation of this subsection.

[1999, c. 7, §13 (NEW).]

6. Obstructing elver fyke nets. A person may not set an elver fyke net or place an obstruction near an elver fyke net in a manner that interferes with the operation of an elver fyke net.

[1999, c. 7, §13 (NEW).]

7. Rulemaking; gear placement. If necessary to conserve the elver resource, the commissioner may adopt rules pursuant to section 6171 relating to placement of elver fishing gear based on the configuration of specific rivers, streams, brooks or other watercourses. Rules adopted pursuant to this subsection are routine technical rules as defined in Title 5, chapter 375, subchapter II-A.

[1999, c. 7, §13 (NEW).]

SECTION HISTORY

1995, c. 536, §A9 (NEW). 1997, c. 91, §6 (AMD). 1997, c. 575, §5 (AMD). 1999, c. 7, §13 (AMD). 2003, c. 452, §§F13-15 (AMD). 2003, c. 452, §X2 (AFF). 2011, c. 598, §25 (AMD). 2013, c. 49, §13 (AMD).

§6575-D. MOLESTING ELVER FISHING GEAR

1. Prohibition. Except as provided in subsection 1-A, a person other than a marine patrol officer or the license holder issued a tag for an elver fyke net may not utilize, transfer, alter, possess or in any manner handle the net unless that person has been issued a license to fish for elvers with an elver fyke net under section 6302-A, subsection 3, paragraph E, E-1, F or G or section 6505-A or a license to fish for elvers with crew with an elver fyke net under section 6505-A and the license holder issued the tag for the elver fyke net is present and assisting in setting, tending or removing the net.

A. [1999, c. 7, §14 (RP).]

B. [2013, c. 468, §28 (RP).]

[2013, c. 468, §28 (AMD).]

1-A. Restriction on emptying net or trap; exception. A person other than the license holder identified on the tag for an elver fyke net or a Sheldon eel trap may not empty that net or trap unless that person has been issued an elver fishing license for the same gear type and has been issued written permission by a marine patrol officer to tend that net or trap. A marine patrol officer may issue a person written permission for the person to tend the license holder's net or trap only for the purpose of releasing captured elvers into the waters of the State if the license holder

is temporarily unable to tend that net or trap because of a disability or personal or family medical condition. If the license holder is unable to tend that net or trap for more than 2 consecutive weeks, the net or trap must be removed from the water.

[2013, c. 468, §28 (NEW) .]

2. Violation. A person who violates this section commits a Class D crime for which a fine of \$2,000 must be imposed, none of which may be suspended. Violation of this section is a strict liability crime as defined in Title 17-A, section 34, subsection 4-A.

[2013, c. 49, §14 (AMD) .]

SECTION HISTORY

1995, c. 536, §A9 (NEW). 1999, c. 7, §14 (AMD). 2001, c. 421, §B34 (AMD).
2001, c. 421, §C1 (AFF). 2011, c. 549, §8 (AMD). 2013, c. 49, §14 (AMD).
2013, c. 468, §28 (AMD) .

§6575-F. WEST SIDE OF ORLAND RIVER CLOSED TO ELVER FISHING

A person may not fish for or take elvers within the portion of the Orland River between the west bank and the center of the river from the southernmost point of land on Fish Point to the dam in Orland. [1999, c. 18, §1 (NEW) .]

SECTION HISTORY

1999, c. 18, §1 (NEW) .

§6575-G. DAMS WITH FISHWAYS; ELVER FISHING

1. Dams with fishways. A person may not fish for or take elvers within 150 feet of any part of a dam with a fishway or within 150 feet of a fishway.

[2013, c. 49, §15 (NEW) .]

2. Violation. A person who violates this section commits a Class D crime for which a fine of \$2,000 must be imposed, none of which may be suspended. Violation of this section is a strict liability crime as defined in Title 17-A, section 34, subsection 4-A.

[2013, c. 49, §15 (NEW) .]

SECTION HISTORY

2013, c. 49, §15 (NEW) .

§6575-H. SALE AND PURCHASE OF ELVERS

1. Sale of elvers. A person may not sell elvers except as follows.

A. A person may not sell elvers except to a person who holds a valid elver dealer's license under section 6864 or a person who, pursuant to section 6864, subsection 9, is an authorized representative of a person holding a license issued under section 6864. [2013, c. 301, §12 (NEW) .]

B. A person may not accept payment for elvers in any form other than a check or cashier's check that identifies both the buyer, by whom the landings will be reported, and the seller, each of whom must be a person holding a license issued under section 6864, a person who, pursuant to section 6864, subsection 9, is an authorized representative of a person holding a license issued under section 6864 or a person holding a license issued under section 6302-A, subsection 3, paragraph E, E-1, F or G or section 6505-A. [2013, c. 468, §29 (AMD) .]

[2013, c. 468, §29 (AMD) .]

1-A. Purchase of elvers. A person who holds a valid elver dealer's license under section 6864 or a person who, pursuant to section 6864, subsection 9, is an authorized representative of a person holding a license issued under section 6864 shall post at the point of sale the price that that buyer will pay.

[2013, c. 485, §8 (NEW) .]

2. Violation. A person who violates this section commits a Class D crime for which a fine of \$2,000 must be imposed, none of which may be suspended. Violation of this section is a strict liability crime as defined in Title 17-A, section 34, subsection 4-A.

[2013, c. 49, §15 (NEW) .]

SECTION HISTORY

2013, c. 49, §15 (NEW). 2013, c. 301, §12 (AMD). 2013, c. 468, §29 (AMD).
2013, c. 485, §8 (AMD).

§6575-I. ASSISTING IN ILLEGAL HARVEST OF ELVERS (REPEALED)

SECTION HISTORY

2013, c. 301, §13 (NEW). 2013, c. 468, §30 (RP).

§6575-J. Seizure of illegal elvers

In addition to any other penalty imposed, elvers that are taken, sold, purchased or possessed in violation of any law or rule pertaining to elvers are subject to seizure by any officer authorized to enforce this Part. The entire bulk pile containing illegal elvers may be seized. For the purposes of this section, "bulk pile" means all elvers in the possession of a person who fished for, took, possesses or bought elvers in violation of any law or rule regulating elvers under this Part. [PL 2019, c. 163, §6 (AMD).]

§6575-K. ELVER INDIVIDUAL FISHING QUOTA

1. Prohibition on possession or sale of elvers in excess of elver individual fishing quota. A person may not possess or sell a weight of elvers that exceeds the elver individual fishing quota that person has been allocated for the fishing season pursuant to section 6505-A, subsection 3-A, plus any additional quota the person may be authorized to take under section 6575-L.

[2015, c. 131, §2 (AMD) .]

2. Prohibition on fishing after elver individual fishing quota has been reached. Except as provided in section 6575-L, this section applies to fishing after a person's elver individual fishing quota has been reached. A person who has sold a weight of elvers that meets or exceeds that person's elver individual fishing quota may not fish for or possess elvers for the remainder of the season, except that such a person who has been issued a license to fish for elvers may in accordance with section 6575-D assist another person who has been issued a license to fish for elvers who has not met or exceeded that person's elver individual fishing quota as provided in section 6505-A, subsection 3-A. All gear tagged by a license holder who has met or exceeded that person's elver individual fishing quota must be removed. A marine patrol officer may seize the elver transaction card of a license holder who has met or exceeded that person's elver individual fishing quota.

[2015, c. 131, §2 (AMD) .]

3. Violation. An individual who in fact violates this section commits a crime in accordance with section 6204 for which a fine of \$2,000 must be imposed, none of which may be suspended.

[2013, c. 485, §9 (NEW) .]

SECTION HISTORY

2013, c. 485, §9 (NEW). 2015, c. 131, §2 (AMD).

§6575-L. TEMPORARY MEDICAL TRANSFER

The commissioner may authorize a temporary medical transfer of the elver individual fishing quota allocated to a person under section 6505-A in accordance with this section. The holder of an elver fishing license who requests a temporary medical transfer under this section must maintain a valid elver fishing license during the duration of the temporary medical transfer. [2015, c. 131, §3 (NEW).]

1. Temporary medical transfer. Notwithstanding section 6505-A, subsection 3-A, the commissioner may authorize a temporary medical transfer that permits the holder of an elver fishing license issued under section 6505-A to transfer the remaining annual quota allocated to that person at the time the request is made to another person holding an elver fishing license issued under section 6505-A if the following criteria are met:

- A. The transferor reported elver landings in the prior fishing year; and [PL 2023, c. 180, §1 (AMD).]
- B. The transferor is unable to fish the quota allocated to the transferor because the transferor has experienced a substantial illness or medical condition. The transferor shall provide the commissioner with documentation from a physician describing the substantial illness or medical condition. [PL 2023, c. 180, §1 (AMD).]
- C. [PL 2023, c. 180, §1 (RP).]

The commissioner may adopt rules that provide that a transferor may choose to retain the income and tax burden from the sale of the transferor's transferred quota or that the transferor may choose to allow the license holder receiving the transferor's quota to retain the income and assume the tax burden of the sale of the transferred quota.

Rules adopted pursuant to this subsection are routine technical rules as defined in Title 5, chapter 375, subchapter 2-A.

[PL 2023, c. 180, §1 (AMD).]

SECTION HISTORY

RR 2015, c. 1, §5 (COR). PL 2015, c. 131, §3 (NEW). PL 2023, c. 180, §1 (AMD).

From: Evan M. <badstider@yahoo.com>
Sent: Friday, November 1, 2024 10:12 AM
To: Comments
Subject: [External] Elver eels

Last year was the best year for elver eels/glass eels in over 30 years I would like to attest to this. Please loosen restrictions on this species in all states, thank you.

Sent from my iPhone

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