

	<p>North American Commission</p> <p><i>North American Commission Annual Report (Tabled by the United States)</i></p>	<p>NAC(23)03</p> <p>Agenda item: 7</p>
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***North American Commission Annual Report
(Tabled by the United States)***

United States, 2022 Activities

Submitted by: National Marine Fisheries Service

Date: April 26, 2023

1. Summary of Salmonid disease incidences

In 2022, 1,324 sea-run Atlantic salmon were observed at the Milford Trap on the Penobscot River. Of these, 557 were taken to Craig Brook National Fish Hatchery (CBNFH) for use as broodstock. These fish are used in support of a conservation hatchery program geared towards preventing further loss of genetic diversity of the Penobscot River stock of Atlantic salmon. At CBNFH, each fish is tested for pathogens of concern. There were no confirmed pathogen detections.

In 2022, there were five positive detections of bacterial kidney disease (BKD) at one commercial aquaculture site in Machias Bay. In Maine, BKD is considered an “Endemic/Limited Distribution” pathogen. When any Endemic/Limited Distribution pathogen of regulatory concern is confirmed at any fish culture facility in Maine, the Maine Department of Marine Resources (MDMR) requires that the marine organism culture facility owner notify the MDMR Commissioner within 14 days after confirmation of the disease agent and prior to movement or transfer. At a minimum, the report to the Commissioner must include the species of fish affected; size group and age of fish; pathogen and whether it is clinical or nonclinical; prevalence; actions being taken to contain or eradicate the pathogen; and the proposed actions to restore the facility to a qualified source/hatchery. The net-pen sites had market size fish and were immediately harvested. There were no requirements to treat the remaining pens. Cooke was required to increase their monitoring of mortalities, with increased screening as needed.

Additionally Cooke aquaculture notified the MDMR of pathogenic (HPR-deleted) Infectious Salmon Anemia Virus (ISAV) on two separate occasions. The first incident occurred in early July when three Atlantic salmon at the marine net-pen site in Machias Bay, Maine tested positive for ISAV. The second ISAV detection occurred on December 29, 2022 when two of 1,611 sexually mature Atlantic salmon broodstock in Cobscook Bay tested positive. These are the first detections of a North American strain of HPR-deleted ISAV in farm-raised fish in Maine since 2006. European HPR-deleted ISAV has been detected in farm-raised salmon in the last 16 years, mostly recently in one fish in Cobscook Bay in May 2020, but has caused no disease outbreak. Both strains of HPR-deleted or pathogenic ISAV have occasionally been detected in wild returning Atlantic salmon, most recently in July 2021 (searun adult salmon captured at the Milford Dam, Penobscot River). The ISAV Technical Board did not assess the case as being significant and did not recommend MDMR implement any special control measures above those already being implemented by Cooke, which include enhanced biosecurity measures, continued screening per the ISAV control program, and harvesting of fish per their normal harvesting schedule. A portion of the remaining salmon from the site have since been sampled and screened with no further detections of the pathogenic variant nor any detections of ISAV HPR0 (non-pathogenic ISAV).

U.S. Point of Contact on Disease:

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2. Summary of breaches of containment of salmonids from net cages

There were no reported escapes in 2022.

Species (Strain, if applicable)	Number ¹	Average size of fish ²	Location ³	Result ⁴	Cause of the breach	Date

There were no reported escapes, and as such, this table has intentionally been left blank.

1. This should be the best estimate possible, though it is recognized that exact numbers may be difficult to obtain.
2. Based on the codes of containment, it was agreed that average size is a more accurate measurement than lifestage.
3. The more specific the information the better, however Bay level is considered sufficient.
4. This refers to using recapture methods as detailed in the relevant code of containment and summarizing the results of the recapture attempt.

Notes:

For commercial aquaculture permits in Maine (the location of all Atlantic salmon aquaculture in the eastern United States), a “reportable escape” is defined as any escape greater than 50 fish at sites where individual fish weigh more than 2 kg. For sites where the individual fish weigh less than 2 kg, operators must report any escape that exceeds 25% of cage biomass.

3. Summary of Salmonid introductions from outside the Commission Area

Listed below is information on salmonids brought into the Commission Area in 2022. No salmonids that originate from outside the NAC area are stocked directly into salmon rivers in Maine. The vast majority of fish brought in from outside the Commission area are stocked in inland ponds and lakes (e.g., private “farm ponds”) and, thus, pose no identifiable risk to Atlantic salmon in the wild as there are no connections between the water bodies where these fish are stocked and waters where Atlantic salmon occur. Any potential risks are further minimized by adherence to both state and federal fish health regulations.

Species (strain, if applicable)	Number	Life Stage	Origin ¹	Destination ²	Purpose ³	Date
Rainbow Trout	50,000	Eyed Eggs	Riverence, WA	Maine	Private Ponds, Recreational Fisheries	2022

1. This would be the province or state for introductions from the west coast; or country for international introductions. It was decided that introductions between Canada and the US that are within the Commission Area (between Maine and NB, for example) would not be included here as those introductions would be captured in other avenues (ICES WGITMO, for example) and because these are not as relevant.
2. The more specific the information the better, however Bay level is considered sufficient.
3. This refers to the intention for the introduction – aquaculture, research, stock enhancement, etc.

New proposed lease site in New Hampshire: “Blue Water Fisheries” has proposed locating a net-pen site off the coast of New Hampshire. The applicant is proposing to raise either Atlantic salmon or steelhead trout in submerged net pens in federal waters. Currently, the proposed project is in the early stages of the regulatory process, which includes a review by the Environmental Protection Agency and NOAA Fisheries. The review will consider the environmental impacts and impacts to marine mammals and other protected species such as endangered Atlantic salmon.

Proposed Whole-Oceans land based facility in Bucksport: There is no new information to report since our 2022 NAC report on Whole-Ocean’s proposed land-based aquaculture facility along the Penobscot River estuary in Bucksport, Maine. Whole-Oceans has proposed importing eyed-eggs from Iceland for use in this facility.

4. Summary of Transgenic activities within the Country Annex 1 of NAC(10)6

AquaAdvantage salmon are genetically modified Atlantic salmon developed by AquaBounty that grow to market size in half the time of conventional salmon. Based on a comprehensive analysis of the scientific evidence, as required by the Federal Food, Drug and Cosmetic Act, the FDA determined that AquaAdvantage Salmon meets the statutory requirements for safety and effectiveness. This approval applies to only one U.S. facility located in Indiana. Under the approval, AquaAdvantage salmon are subject to stringent conditions to prevent the possibility of escape into the wild. The salmon cannot be raised in ocean net pens: instead, the approval only allows for them to be grown at a specific land-based facility in Indiana.

The facility in Indiana has multiple and redundant physical barriers to prevent escapes, including metal screens on tank bottoms, standpipes, and incubator trays to prevent the escape of eggs and fish during hatching or rearing. The tanks also have covers, nets, jump fences, and screened overflow tanks to prevent escape over the sides of the tanks or incubators. In order to prevent eggs or small fish from passing through the pipes or plumbing, there is a closed septic system and additional screens and chlorine pucks are used to kill any escaped fish or eggs in the main drain area (See [Aqua Advantage Fact Sheet](#) for more information).