

	<p>North American Commission</p> <p><i>North American Commission Annual Report (Tabled by the United States)</i></p>	<p>NAC(24)05</p> <p>Agenda item: 7</p>
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***North American Commission Annual Report
(Tabled by the United States)***

United States, 2023 Activities

Submitted by: National Marine Fisheries Service

Date: May 16, 2024

1. Summary of Salmonid disease incidences

At the Milford trap on the Penobscot River, 1,570 sea-run Atlantic salmon were observed, of which 757 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. Each of the brood fish is tested for pathogens of concern. All tests were negative.

On two occasions (April 13, 2023 and June 21, 2023) the aquaculture industry notified the Maine Department of Marine Resources (MDMR) of detections of pathogenic (HPR-deleted) Infectious Salmon Anemia Virus (ISAV). One Atlantic salmon (*Salmo salar*) was detected at the Harbor Island marine net-pen site in Swans Island, Maine and another Atlantic salmon was detected at the Spectacle Island site in Beals, Maine. This is the first detection of a North American strain of HPR-deleted ISAV in farm-raised fish in Maine since 2006.

In September 2023, routine fish health screening at the Downeast Salmon Federation’s Peter Gray Hatchery in East Machias, Maine detected the Infectious Pancreatic Necrosis Virus (IPNV). The virus infected both East Machias and Narraguagus River stocks of Atlantic salmon destined for stock enhancement purposes. The hatchery was holding approximately 67,000 Narraguagus River origin parr and 98,000 East Machias origin parr accounting for over 95% of the individuals destined for conservation stocking in these watersheds. Given that there is no cure for IPNV and the threat that it poses to wild stocks, MDMR required that all fish on the premises be destroyed and the entire hatchery be disinfected.

U.S. Point of Contact on Disease:

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

In 2023, there were two reported escape events totaling approximately 50,000 smolts ranging from 230 grams to 390 grams from two marine net pen sites in Maine. The escapes both

occurred in August as a result of seal damage to the containment nets. It is believed that the seals went over the support ring and got in between the predator net and the containment net upon which they chewed a hole both through the containment net and the predator net. It is unknown at this time how many seals entered each of the pens or how many of the smolts were consumed by the seals.

Following the incident, the two pen sites were each inspected by the MDMR. The MDMR found both of the sites were well maintained and gear was in good condition with no deficiencies observed. In addition, National Oceanographic Atmospheric Administration (NOAA Fisheries) staff conducted a Containment Management System audit on August 17, 2023. Particular attention was made to the deployment of predator nets on each of the pens to determine if seals were able to access the production fish. While on site for the audit, Cooke staff secured an additional net on each of the pens to encircle the entire cage including the support rings. This additional Sapphire containment net will provide extra protection and should effectively deter seals from entering the pens. Follow up recommendations included; increased monitoring following spring stocking, more frequent removal of mortalities and more and more secure attachment of predator nets to the support rings and stanchions to ensure seals cannot enter the space between the containment net and predator net.

At this time, there have been no reports or observations of the escaped fish in Maine rivers with fish trapping facilities. Any fish escaping from a marine or hatchery facility that is recovered in the wild is identifiable back to the rearing site of origin by a unique genetic mark.

Species (Strain, if applicable)	Number¹	Average size of fish²	Location³	Result⁴	Cause of the breach	Date
ATS	24,600	230g	Cross Island (MACH C12)	None recaptured	Seal	August 7, 2023
ATS	25,600	390g	Cross Island North (MACH CIN)	None recaptured	Seal	August 7, 2023

1. This is our best estimate, though it is recognized that exact numbers may be difficult to obtain.

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 2023. 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
Atlantic salmon	250,000	eyed eggs	Riverence, Washington State	Maine	Commercial Aquaculture production	2023
Rainbow Trout	25,000	eyed eggs	Trout Lodge, Washington State	Maine	Recreational Fisheries-private pond stocking	2023
Rainbow Trout	35,000	eyed eggs	Ennis National Fish Hatchery, Ennis, MT	Vermont	Recreational Fisheries	2023

1. This would be the province or state for introductions from the west coast; or country for international introductions.

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

AquAdvantage 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 Food and Drug Administration (FDA) determined that AquAdvantage Salmon meets the statutory requirements for safety and effectiveness. This approval applies to only one U.S. facility located in Indiana. Under the approval, AquAdvantage 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.

In 2023, the FDA submitted a draft amended Environmental Assessment (EA) on the potential effects from rearing genetically modified Atlantic salmon at their facilities in Atlantic Canada for commercial production in the US. The revised EA included potential effects from fish escapes at their facilities. Their analysis included the risk of escapes occurring and the potential effects to the receiving environment. Their facilities are designed with multiple redundant barriers to prevent escapes, however, the EA analyzed what would happen if they did, including pathogen transfers to wild stocks and genetic introgression with wild conspecifics. In 2024, the FDA submitted a final EA and requested an Endangered Species Act consultation with the United States Fish and Wildlife Service and NOAA-Fisheries. The consultation is ongoing and should be completed in 2024.