North American Commission

NAC(14)3

(Tabled by the US)

Annual Report

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NAC Annual Report

United States, 2013
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1. Summary of Salmonid disease incidences

Renibacterium salmoninarum (causative agent of Bacterial Kidney Disease; BKD) was detected at two different Atlantic salmon net-pen facilities in Maine during the fall of 2013. Clinical signs were detected in some fish, but no elevated mortality was noted. All fish on both sites were treated with antibiotics for 14 days under veterinary supervision. Treatments have been effective at controlling the disease and mortalities. The remaining fish have been showing normal behavior and feeding regularly. Increased bio-security measures are being practiced to contain the disease on site and eliminate the likelihood of spreading between sites.

Renibacterium salmoninarum is considered a reportable pathogen in Maine. The Maine Department of Marine Resources (MDMR) Chapter 24 regulations define reportable pathogens as "those infectious agents of regulatory concern whose geographic distribution within the State of Maine is not fully known, but whose presence may pose a threat to wild or farmed marine organisms." The full regulations may be found at the following link: http://www.maine.gov/dmr/lawsandregs/regs/24080313emergency.pdf.

There were no plans to move or transfer the fish to any other facilities (MDMR's Chapter 24 regulations prohibit marine to marine transfers without a permit). MDMR consulted with the Aquatic Animal Health Technical Committee (AAHTC) regarding management options. The following actions were taken to contain or eradicate the pathogen:

- Mortality is monitored daily; mortalities collected 3 times a week.
- Strict disinfection and biosecurity protocols are being practiced.
- Contact with other sites is restricted.
- Sites are under supervision of a veterinarian who is monitoring weekly updates and reviewing results from disease surveillance.
- Sites were stocked in spring 2013 and are planned to be harvested fall 2014.

Approximately one month later, MDMR was notified of positive test results for BKD at a commercial aquaculture hatchery in Maine. Elevated mortality was not observed, but the pathogen was detected in several year classes during routine surveillance. Biosecurity measures and routine health surveillance have been increased. All broodstock in this facility underwent 100% lethal screening by Real Time PCR. The eggs from any broodstock that tested positive were culled, and all fry lots were tested prior to distribution to other facilities for rearing. A final report of all broodstock screening was submitted to MDMR upon completion of spawning. On March 12, 2014, the hatchery underwent a routine fish health inspection with screening of all lots on site. BKD, while detected at low levels during fall screening, was not detected during spring 2014.

U.S. Point of Contact on Disease:

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

Species (Strain, if applicable)	Number[1]	Average size of fish[2]	Location[3]	Result[4]	Cause of the breach	Date
North American origin farmed Atlantic salmon	66 individuals	Smolts – roughly 200 grams	Prince Cove, Cobscook Bay, Maine	No recapture attempted.	Interaction with fishing boat	25 June 2013
North American origin farmed Atlantic salmon	Unknown, but likely less than 50	4-5 kg	Deep Cove, Cobscook Bay, Maine	No fish were observed escaping; tear in net was repaired immediately and no recapture attempted.	Equipment malfunction (ripped net)	21 November 2013

Notes: The annual report for actions taken under the U.S. Implementation Plan shows only one escape event (the second event identified above). Federal permits for U.S. commercial aquaculture operations in Maine require reporting any escapes of 50 fish or greater, and specifically for marine sites; only fish larger than 2 kg or a loss of greater than 25% of cage biomass for fish smaller than 2 kg are reported (i.e., reportable escape). Accordingly, the events in the table above were technically not "reportable escape" events. For the purposes of transparency, however, we have included these in the table above as these were the only two known breaches of containment occurring in 2013. The first escape of 66 smolts was part of a small-scale research study being conducted in Cobscook Bay

to investigate sea lice abundance. The study design included deploying 4 small sentinel cages that were strategically placed throughout the Bay, each of these cages held approximately 70 smolts for one week. After one week fish were removed from the cage and new fish were stocked. During the study, a commercial fishing vessel inadvertently dragged one of the cages and destroyed the gear. After the cage was recovered the next day, it was reported all of the fish were missing (66 smolts). The second event listed was a report from a marine site and occurred during a sea lice treatment; while providing oxygen to the fish during the bath treatment, one of the oxygen stones ripped a hole in the net. Since there were divers on site and in the water, the hole was repaired immediately; no fish were observed escaping.

There were no suspected aquaculture-origin captures in rivers in Maine in 2013. There were, however, seven in 2012. The incident reports from the fall of 2012 indicated the fish were all commercially reared with the majority not showing any external secondary characteristics of being sexually mature; however, one fish captured was a sexually mature female. The fish ranged in size from around 2 kg to over 6 kg. Preliminary genetic analyses conducted on these fish indicated that only one fish was of U.S. origin. However, final results received in July and November of 2013, indicated two fish captured in the Union River (Sept. 12 and 13, 2012) and two fish captured in the Penobscot River (Oct 5 and 8, 2012) were from U.S. farm sites; the remaining fish did not match any spawning pairs in either of the databases. All fish tested were of North American origin. Additionally, no fish matched any parents in the U.S. Fish and Wildlife Service conservation hatchery program database. No diseases of concern were detected. Follow up meetings with the U.S. Army Corps of Engineers, Cooke Aquaculture, MDMR, U.S. Fish and Wildlife Service, National Marine Fisheries Service, and Maine Department of Environmental Protection are being conducted to resolve any outstanding data needs and to determine the cause of the escapes.

Following the reports of these fish capture events, the MDMR reviewed their suspected aquaculture origin (AQS) protocol following concern that the notification contact list was outdated. There had been no AQS intercepts in the previous five years, so MDMR aquaculture and sea run fisheries staff took this opportunity to review the entire protocol. MDMR's review found that existing identification protocol was robust and the AQS designations in 2011 and 2012 were made by experienced MDMR biologists. Accordingly, significant changes were made to the notification protocol only. The most significant revisions to the notification protocol are the establishment of a two-phase process with notification via email instead of phone to speed up the notification process.

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.

3. Summary of Salmonid introductions from outside the Commission Area

Species (strain, if applicable)	Number	Life Stage	Origin [1]	Destination [2]	Purpose [3]	Date
Salmo trutta (Iijoki River strain)	50,000	Eyed egg (to support culture and release of 1-year smolts)	Taivalkoski Hatchery, Finland	Two small streams that flow directly into Long Island Sound	Promote a sea-run trout fishery	January 2014

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.

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

The United States Food and Drug Administration (FDA) is currently considering approval of genetically engineered (GE) Atlantic salmon for commercial sale (as processed product only) and human consumption within the United States. A New Animal Drug Application (NADA) was submitted by a private biotechnology company called Aqua Bounty for fish being grown outside of the United States and proposed to be sold in select retail stores labeled as AquaAdvantage® salmon (AAS). The application is being reviewed under the authority of the Federal Food, Drug and Cosmetic Act as a new animal drug due to the genetic construct used to make genetically engineered animals qualifies as an "article" that meets the definition of a new animal drug. The FDA reviewed this application in regards to food safety issues focusing on consumption hazards and associated risks posed to the public. The draft environmental assessment (DEA) included an evaluation of effects from the following specific conditions for production and use; 1) production of eyed eggs in Prince Edward Island (PEI), Canada; 2) shipment of eyed eggs to Panama; 3) grow-out of fish in the highlands of Panama; 4) processing of fish in Panama, and; 5) shipment of table-ready processed fish to the United States. A preliminary Finding of No Significant Impact (FONSI) and DEA completed by the FDA were published in the Federal Register (77 FR 76050). An extended public comment period ended on April 26, 2013. Public comments are considered before any final decision and approval is made by the FDA. No decision has been announced.