

## NAC(20)12

### *North American Commission Inter-sessional Correspondence*

The North American Commission's inter-sessional correspondence took place from 8 – 27 May. It is set out below, under the relevant Agenda item. If an Agenda item is not listed, no inter-sessional correspondence took place.

#### **4. Review of the 2019 Fishery and ACOM Report from ICES on Salmon Stocks in the Commission Area**

- 4.1 The representative of the United States noted that the United States continues to be concerned about the potential harvest of endangered U.S.-origin salmon in the Labrador fishery. She said that even small numbers of U.S. salmon harvested in Labrador could have significant impacts on U.S. stocks given their current low abundance. She noted that although the Labrador sampling program had not detected U.S. salmon in the catch since 2017, Canada had been sampling only a small fraction of the fishery (between 3% - 7% annually in recent years) and, of those samples, genetics processing has only been performed on a subsample. The representative said that the United States is concerned that this level of sampling may not be sufficient to adequately detect any U.S.-origin salmon that may be taken in the fishery, and adequate sampling is essential to know if management of the Labrador fishery is effectively minimizing harvests of U.S.-origin salmon. She noted that ICES has again recommended improved catch statistics and sampling of the Labrador fishery to improve information on, among other things, stock origin of harvested salmon.
- 4.2 The representative of the United States asked how Canada planned to respond to the ICES recommendation and improve the completeness and timely reporting of catch statistics from Labrador (and other areas of eastern Canada).
- 4.3 The representative of the United States thanked Canada for tabling its NAC report ([NAC\(20\)08](#)) and its mixed-stock fishery report ([NAC\(20\)07](#)). She said it was helpful that Canada's report on its mixed-stock fisheries contained more detailed information than in previous years. However, the issues and questions for Canada that the United States asked previously are not fully addressed in these reports, and the representative of the United States said she would very much appreciate a response to each.
- 4.4 The representative of Canada reported that the Labrador subsistence fisheries are managed using a number of measures including seasons, gear limits, and most importantly a maximum total allowable harvest based on carcass tagging (NASCO report NAC(20)07 Labrador mixed-stock fisheries).
- 4.5 He stated that harvests are reported by communities through logbooks issued to individual fishers or groups. Logbook return rates are relatively high and vary by community and user groups; individual group reporting rates were 68% to 100% in 2019 (74% overall for all logbooks). The representative of Canada noted that logbook return rates have improved in recent years through regular communication between Fisheries and Oceans Canada's (DFO) biologist working in Labrador and the user groups. DFO's biologist works directly with the user groups to ensure the data is complete and formatted for its application to the ICES and NASCO process.
- 4.6 The representative of Canada reported that for the other areas of eastern Canada, reporting rates of fisheries harvests vary by fishery. Recreational fisheries occur

exclusively in freshwater and exploit single stocks. For the recreational fishery, the harvest (killing) of any Atlantic salmon is currently only permitted in Quebec, and Newfoundland and Labrador. He said that for Quebec, there is mandatory reporting of catches, within 48 hours of the harvest. In Newfoundland and Labrador, anglers are required to return a completed licence stub of annual fishing activities detailing catches and harvests by date and location. He reported low compliance of licence stub returns in Newfoundland and Labrador and, as a result, estimates of total harvests are obtained by raising declared catches to the total pool of licences. The representative of Canada said a mobile application has been developed to improve the recreational reporting rate and will be released for the 2020 fishery. He noted that the timely and complete reporting of catches from all fisheries was indicated as an area requiring improvement in the 'six tenets' evaluation of the fisheries completed by Canada in 2017.

## **5. Mixed-Stock Fisheries Conducted by Members of the Commission**

- 5.1 The representative of the NGOs asked Canada when the relevant paper would be available. Canada tabled 'Labrador Subsistence Food Fisheries – Mixed-Stock Fisheries Context, NAC(19)07' on 20 May.
- 5.2 The representative of the United States noted that the United States continues to be concerned about the potential harvest of endangered U.S.-origin salmon in the Labrador fishery. She said that even small numbers of U.S. salmon harvested in Labrador could have significant impacts on U.S. stocks given their current low abundance. She noted that although the Labrador sampling program had not detected U.S. salmon in the catch since 2017, Canada had been sampling only a small fraction of the fishery (between 3% - 7% annually in recent years) and, of those samples, genetics processing has only been performed on a subsample. The representative said that the United States are concerned that this level of sampling may not be sufficient to adequately detect any U.S.-origin salmon that may be taken in the fishery, and adequate sampling is essential to know if management of the Labrador fishery is effectively minimizing harvests of U.S.-origin salmon. She noted that ICES has again recommended improved catch statistics and sampling of the Labrador fishery to improve information on, among other things, stock origin of harvested salmon.
- 5.3 The representative of the United States noted that Canada had been able to conduct genetics processing on only a subsample of all samples taken from the Labrador fishery due to resource constraints. She asked Canada what effect this is having on the understanding of contributing stocks to that fishery, in particular the contribution of United States-origin fish and other endangered populations, and on fishery management decisions.
- 5.4 In response, the representative of Canada stated that the goal of the Labrador subsistence fishery sampling program was to ensure that the samples reflect the characteristics of the entire harvest accurately. He reported that the sampling approach consists of random sampling throughout the duration of the fishing season that is stratified by communities throughout the geographic extent of the fishery. For the 2019 fishery, the temporal distribution of samples collected and the size of the fish sampled (small or large) was similar to that of the fishery (Figure 2 and Table 9 of the NASCO report NAC(20)07 Labrador mixed-stock fisheries).
- 5.5 He stated that the subsample analysed for genetics in 2019 was specifically selected from the coastal areas (SFA 1A, 2) where interception of non-local stocks has been more prevalent in the past. There were 579 tissue samples collected from the fishery in

this area and 423 of them were analysed for genetic origin (73%). From these analyses, 407 samples provided an origin result and only 10 samples were of non-Labrador origin (2.5%). These fish reported to three groups: two individuals to the Gulf of St. Lawrence, three to the St. Lawrence Lower North Shore and five to Northern Newfoundland. The representative of Canada reported that further to the genetic analyses, 581 scales samples (includes all of the 579 samples with tissue) from SFA 1A and two were interpreted for river age. There were no River Age 1 and only one River Age 2 salmon detected (0.2% of samples less than River Age 3).

- 5.6 The representative of Canada stated that in response to detections of two U.S.-origin salmon from samples in 2017, Canada undertook to change the fishing locations of some coastal fishing areas in southern Labrador in order to reduce the potential for interception of non-local origin salmon.
- 5.7 He stated that the combined information from genetic analyses and scale age interpretations present a simplified and less problematic description of the mixed-stock fishery context in Labrador than what is reported for the Greenland and St Pierre and Miquelon mixed-stock fisheries; those two fisheries exploit a large number of reporting groups from North America.

## **6. Sampling in the Labrador Fishery**

- 6.1 The representative of the United States noted that the United States continues to be concerned about the potential harvest of endangered U.S.-origin salmon in the Labrador fishery. She said that even small numbers of U.S. salmon harvested in Labrador could have significant impacts on U.S. stocks given their current low abundance. She noted that although the Labrador sampling program had not detected U.S. salmon in the catch since 2017, Canada had been sampling only a small fraction of the fishery (between 3% - 7% annually in recent years) and, of those samples, genetics processing has only been performed on a subsample. The representative said that the United States are concerned that this level of sampling may not be sufficient to adequately detect any U.S.-origin salmon that may be taken in the fishery, and adequate sampling is essential to know if management of the Labrador fishery is effectively minimizing harvests of U.S.-origin salmon. She noted that ICES has again recommended improved catch statistics and sampling of the Labrador fishery to improve information on, among other things, stock origin of harvested salmon.
- 6.2 The representative of the United States noted that in 2019, approximately 18% of the total subsistence harvest was taken from coastal areas and 82% from estuaries. She asked Canada to provide a description of how the samples were distributed across coastal and estuarine areas within SFA 1A, SFA 1B (Lake Melville), SFA 2.
- 6.3 In response, the representative of Canada reported that all of the harvest and samples collected from SFA 1B (Lake Melville) are estuarine. He stated that the samples from SFA 1A and SFA 2 have not been described as coastal or estuarine, but that this task could be completed if necessary. The representative of Canada noted that coastal harvests have been reduced significantly from the past to avoid the harvest of non-Labrador salmon. However, he stated that this does not preclude the harvest of non-Labrador salmon in estuaries. Of the six U.S. salmon detected in the Labrador fishery from the 2006 to 2019 sampling years, five were harvested in an estuary and only one in a coastal area.
- 6.4 As stated above, the representative stated that Canada will undertake changes to fishing locations to avoid the harvest of U.S. salmon when such areas are detected through the

sampling program.

- 6.5 The representative of the United States also asked whether Canada is considering improvements to its Labrador sampling program, such as expanding the percent of the fishery sampled, to increase the probability of detecting any endangered U.S.-origin salmon that may be in the catch and, if not, how we can be sure that the management actions taken for that fishery are minimising the harvest of U.S.-origin salmon?
- 6.6 The representative of Canada replied that Canada will continue to work with the Labrador subsistence fishery groups to ensure the sampling is representative of the harvest. The probability of detecting a U.S.-origin salmon in the Labrador fishery is inherently very low. He noted that based on the estimates of returns to each region of North America (data in ICES reports) over the past five years, annual combined returns of 1SW and MSW salmon to U.S. rivers equalled 0.2% to 1.1% of the total returns of salmon to Labrador. Hence, in terms of relative abundance, the expectation is that U.S.-origin salmon would represent, at most, the same order of magnitude in the fishery i.e. 1% or less.
- 6.7 The representative of Canada reported that based on the timing of the U.S. salmon returns and the Labrador fishery, the probability of harvesting U.S.-origin salmon in the Labrador fishery is even further reduced. He stated that a power analysis of the number of samples required to detect such rare events (ex. range of 0.01%, 0.05%, 0.1% U.S.-origin salmon) and to estimate the total harvest of U.S. fish (ex. < 5, < 10, ...) for various harvest levels in the Labrador fishery could be done, if desired, and reported to Parties in the near future.
- 6.8 The NGO representative referred to the ICES WGNAS report which identified that sampling of mixed-stock fisheries, including those in Canada, could be improved. He noted that ICES identifies that approximately 15% of the catch by number in 2019 at Greenland were examined; for St Pierre and Miquelon this value was approximately 13% and for Labrador 7%. Even at a 15% sampling rate, the ICES WGNAS report recommends expanding the sampling programme at Greenland to provide improved spatial and temporal coverage to estimate continent and region of origin and biological characteristics more accurately. He stated that at 7% there is a significant need for improvement at Labrador.
- 6.9 The NGO representative requested information to better understand the specific areas that are in need of improvement in Labrador. The NGO representative requested further details (that are not available within the ICES WGNAS Report) on the size of the subsistence fishery in Labrador (including salmon bycatch in the trout net fishery) by size category by Salmon Fishing Area, and the sampling that occurred for each of these components of the fishery. He also requested details of numbers of subsamples taken for genetic analysis.
- 6.10 The representative of Canada responded that the details requested would be available in the report on the Labrador Fishery which would soon be available.
- 6.11 After this report was issued, the representative of the NGOs thanked Canada for tabling documents NAC(20)07 (Labrador Subsistence Food Fisheries) and NAC(20)08 (Annual Report). However, he noted that the Labrador Fishery document answered most, but not all, of the NGO questions. The representative of the NGOs stated that he had previously referenced the need for improved sampling of these fisheries at Labrador as identified by ICES, and also that, even at a 15% sampling rate, ICES was recommending improvements needed in the Greenland sampling.

- 6.12 From Canada's paper NAC(20)07, the representative of the NGOs noted that sampling rate overall for genetics to identify stock origins was 3.8% of the catch in all of Labrador and was as low as 3.7% of the catch of large salmon in SFA 2 (Table 9) where there may be expectation of some interception of salmon from areas outside of Labrador. Where there is less likelihood of interception of non-Labrador salmon in Lake Melville, the sampling rate to determine genetic origin was as low as 1.0% for large salmon (as result of subsampling, as tissue samples available were about 4% of large salmon catch in this area).
- 6.13 The NGOs also noted there was a tendency to under-sample the large salmon component of the fishery in two of the areas: In SFA 1 (Lake Melville), large salmon accounted for 54% of the catch and 47% of the samples and in SFA 2 large salmon accounted for 34% of the catch yet only 16% of the samples (In SFA1, these percentages were about the same, at 65% and 64% respectively).
- 6.14 The representative of the NGOs stated that it is likely that few salmon destined to return to home rivers outside of Labrador would be returning as grilse (maturing 1SW) and therefore that non-local Labrador salmon in the 1SW category would be non-maturing (destined for another year at sea if they were not caught). In this way, they are similar to the salmon taken at Greenland at 1SW age (about 2.5-3.0 kg and likely in the large salmon category) and destined to return as 2SW salmon. The representative of the NGOs asked the following questions:
- a) Concerning the scale analysis where it is stated that 70% of the sampled scales examined were 1SW, the NGOs would be interested to know if it is possible from the scale analysis to determine what portion of the 1SW salmon were maturing and what portion were not?
- 6.15 The representative of Canada replied that purely from scale analysis, no, it is not possible. Using a combination of fork length (> 63 cm) and sea age (1SW), they could speculate on whether a 1SW fish is non-maturing (would spend an extra year at sea). However, they do get a few maturing 1SW maiden salmon in the large salmon category in the Miramichi so this approach would not be ideal.
- b) What portion of the 1SW salmon (determined by scale analysis) were from the small salmon category and what portion were from the large salmon category?
- 6.17 The representative of Canada replied that 96.3% of the 1SW salmon were from the small category and 3.7% from the large category and provided more detailed data:

**Labrador subsistence fisheries samples summary**

	Maiden Sea Age		2SW	%2SW	Total
	1SW	%1SW			
<b>Small Salmon</b>	593	99.2	5	0.8	598
Maiden	575	96.2	4	0.7	
Repeat	18	3.0	1	0.2	
<b>Large Salmon</b>	23	9.9	210	90.1	233
Maiden	8	3.4	200	85.8	
Repeat	15	6.4	10	4.3	
<b>Total</b>	<b>616</b>		<b>215</b>		<b>831</b>
%Small Salmon	96.3%				
%Large Salmon	3.7%				
Maiden 1SW	583	70.2			
Maiden 2SW	204	24.5			
Repeat	44	5.3			
Total	831				

- c) What analysis has Canada done to determine whether the sampling program is sufficiently powerful to estimate the catch of non-Labrador origin salmon with an acceptable level of confidence?
- 6.18 The representative of Canada replied that Canada has not conducted this analysis but could add this to the tasks for the 2021 ICES WGNAS meeting.
- d) Is Canada going to take any steps in 2020 to improve the sampling rate for the Labrador subsistence fisheries as well as consider steps to improve sampling to be representative of the catch?
- 6.19 The representative of Canada replied that the goal of the Labrador subsistence fishery sampling program is to ensure that the samples reflect the characteristics of the entire harvest accurately. The sampling approach consists of random sampling throughout the duration of the fishing season that is stratified by communities throughout the geographic extent of the fishery. For the 2019 fishery, the temporal distribution of samples collected and the size of the fish sampled (small or large) was similar to that of the fishery (Figure 2 and Table 9 of the NASCO report NAC 20/07 Labrador mixed-stock fisheries).
- 6.20 He stated that Canada will continue to work with the Labrador subsistence fishery groups to ensure the sampling is representative of the harvest.
- e) Resource constraints in 2019 were identified for the genetic sampling and requiring subsampling; how will this issue be addressed for sampling and analysis in 2020?
- 6.21 The representative of Canada replied that the federal government of Canada has provided funding on an annual basis through grants to Dr Bradbury. Funding has been secured for 2020 to analyse Labrador subsistence fisheries samples. Depending on the number of samples collected, subsampling may be required.
- 6.22 Under this funding allocation Dr Bradbury will also develop *‘amplicon based SNP panels which will increase the biological information obtained (i.e., sex, age at maturity), and both reduce cost and time required for the analysis.... will develop sequencing based assays to collect data on 96 baseline SNPs and test these assays on the newly purchased MISEQ DNA sequencer in the DFO NL Region.’* This new method may make conducting genetic origin analyses of salmon less expensive and more

efficient in future years.

- 6.23 He stated that the subsample analysed for genetics in 2019 was selected specifically from the coastal areas (SFA 1A, 2) where interception of non-local stocks has been more prevalent in the past. There were 579 tissue samples collected from the fishery in this area and 423 of them were analysed for genetic origin (73%). From this analysis, 407 samples provided an origin result and only 10 samples were of non-Labrador origin (2.5%). These fish reported to three groups: 2 individuals to the Gulf of St. Lawrence, 3 to the St. Lawrence Lower North Shore and 5 to Northern Newfoundland.
- 6.24 Further to the genetic analyses, 581 scales samples (includes all of the 579 samples with tissue) from SFA 1A and 2 were interpreted for river age. There were no River Age 1 and only one River Age 2 salmon detected (0.2% of samples less than River Age 3).
- 6.25 The representative of Canada concluded that the combined information from genetic analyses and scale age interpretations present a simplified and less problematic description of the mixed-stock fishery context in Labrador than what is reported for Greenland and Saint Pierre and Miquelon mixed-stock fisheries; those two fisheries exploit a large number of reporting groups from North America.

## **7. The St Pierre and Miquelon Salmon Fishery**

- 7.1 The representative of the United States noted appreciation for the report provided by France (in respect of St Pierre and Miquelon) on the outcome of its 2019 fishery but that the United States continues to be concerned about the potential harvest of endangered U.S.-origin salmon in the St Pierre and Miquelon fishery, as even small harvests of U.S.-origin salmon in that fishery could have significant impacts on United States stocks given their current low abundance. The representative of the United States noted concern that the sampling design for the St Pierre and Miquelon fishery is not sufficient to detect endangered salmon populations adequately, including those of U.S.-origin, that may be taken there. She also noted that ICES has again recommended improved catch statistics and sampling of the St Pierre and Miquelon fishery to improve information on, among other things, stock origin of harvested salmon. With this in mind, the representative of the United States asked a number of questions of France (in respect of St Pierre and Miquelon).
- 7.2 First, the representative of the United States noted that catches in the 2019 St Pierre and Miquelon fishery were very similar to those reported for 2018. Last year, France (in respect of St Pierre and Miquelon) reported this was due to a reduction in effort by commercial fishermen as they were targeting other species and to poor weather affecting recreational catches. The representative of the United States asked if this was the case again this year or whether something else affected catches?
- 7.3 The representative of France (in respect of St Pierre and Miquelon) confirmed that professional fishermen's effort was significantly reduced because at that time of the year, most of them are busy targeting other species (snowcrab and lobster). She reported that weather was average in the 2019 season, with 11 days of strong wind in June (the month with the highest recorded catches).
- 7.4 Second, the representative of the United States asked what management measures were in place for the 2020 St Pierre and Miquelon fishery and whether catch and / or effort limits have been set.
- 7.5 The representative of France (in respect of St Pierre and Miquelon) reported that there should not be substantial changes to management measures in 2020 compared to 2019.

She said that there has been a change of person in the position of Head of Maritime Affairs in the summer of 2019 and that he or the relevant staff from St Pierre and Miquelon would aim to attend the NAC and Council meetings, together with Herlé Goraguer (Ifremer).

- 7.6 Third, in line with ICES advice, the representative of the United States asked what steps were being taken to improve the completeness and timely reporting of detailed catch statistics on the St Pierre and Miquelon fishery to ICES, such as the proportion of large versus small salmon in the total catch and other catch characteristics.
- 7.7 The representative of France (in respect of St Pierre and Miquelon) replied that it would be possible to provide ICES with the catch statistics next March via the French representative to the WGNAS (Mathieu Buoro), and that from 2020 onwards, the proportion of small versus large salmon would be detailed. She reported that the percent of small salmon (<63cm) in the total catch was calculated (66.5%) and included in the St Pierre and Miquelon Annual Report, but too late for the WGNAS meeting because of a few late logbook returns (health-related). She also reported that 66.5% in the total catch is consistent with 70% small in the 63 salmon sample (WGNAS report). She noted that in previous years the percentage in the sample was as much as 92% because there was a gap when Herlé Goraguer was away on the first week of June for the NASCO meeting – a time when more large salmon were present. She added that several volunteers were now contributing.
- 7.8 Fourth, the representative of the United States asked what steps France (in respect of St Pierre and Miquelon) are taking to address the ICES recommendations to provide improved sample characteristics to allow ICES to better characterise the impact of the fishery on contributing stocks and to ensure it is representative of all aspects of the fishery across the fishing season into the future.
- 7.9 The representative of France (in respect of St Pierre and Miquelon) referred to the response above that from 2020 onward, the detailed sampling scheme across the whole fishing season would be available via the French representative to the ICES WGNAS.
- 7.10 Finally, the representative of the United States asked whether France (in respect of St Pierre and Miquelon) has given additional consideration to the question of joining NASCO. The representative of the United States encouraged France (in respect of St Pierre and Miquelon) to do so.
- 7.11 The representative of France (in respect of St Pierre and Miquelon) reported that for now, France wishes to retain its observer status to NASCO and continues, as previously committed, co-operation with NASCO, its members and the scientific community.

## **8. Salmonid Introductions and Transfers**

- 8.1 The representative of the United States noted that in 2019 there was no update included in Canada's report to the NAC on the status of the Greig / Placentia Bay aquaculture project. As discussed in 2019, the United States considers information on this initiative to be relevant to the NAC and the broader work of NASCO under the Williamsburg Resolution. The United States requested that Canada include all relevant information on the project in its report to the NAC or provide an update to the Commission through other written means prior to the 2020 NAC video conference.
- 8.2 The representative of Canada recognised the desire for information on this particular project in Canada. He reported however, that since this project is still under regulatory review by the legislative authority, the Province of Newfoundland & Labrador, it would



not be appropriate for Canada to discuss or share details of an individual project at an international forum. He stated that progress and updates on the Government of Newfoundland and Labrador's aquaculture management under Article 5 of the Williamsburg Resolution to minimize the impacts of aquaculture and introductions and transfers can be found in the 2019 Annual Progress Report. The information that is available on the project in question can be found online at the Government of Newfoundland and Labrador's website.

- 8.3 After review of papers [NAC\(20\)06](#) (Annual Report, tabled by the United States) and [CNL\(20\)27](#) (Annual Progress Report: United States) the representative of Canada asked the representative of the United States a number of questions. The representative of the United States noted that these questions do not reference any particular agenda item and some appear to be outside the context of the NAC (and perhaps NASCO more broadly) or are regarding topics that have been deferred for future discussions. Nevertheless, for the sake of transparency, she provided a response. She stated that given the short time available to develop a response, the answers are brief. The representative stated that the United States looks forward to discussing those issues below that are related to the U.S. APR at the fall inter-sessional meeting or in 2021, as appropriate. She also suggested that a discussion between respective aquaculture experts could be beneficial to provide clarity and co-ordination on aquaculture management in their respective countries.
- 8.4 First, representative of Canada noted that the United States 2019 Annual Progress Report provides information on sea lice and containment for aquaculture operations in Maine. Since the U.S. plan is to expand aquaculture operations as outlined in the Executive Order (from May 2020), the representative of Canada asked what is envisioned for the regulation of sea lice and containment in other states on the East Coast.
- 8.5 The representative of the United States reported that NOAA is committed to fostering responsible aquaculture that provides safe, sustainable seafood; creates employment and business opportunities in coastal communities; and complements NOAA's comprehensive strategy for maintaining healthy and productive marine populations, ecosystems, and vibrant coastal communities. Fish health, including management of disease and parasites, as well as containment, will be important considerations in any permitting of aquaculture facilities along the U.S. East Coast. Any aquaculture facility that requires a Federal authorisation or permit will need to be reviewed under the provisions of section 7 of the U.S. Endangered Species Act which provides a mechanism to minimise any such project's effects on wild Atlantic salmon and other protected species. Sea lice management and containment remain high priorities for the United States. They anticipate that regulations regarding fish health, fish transfers, and monitoring fish culture activities for good husbandry practices to minimise the spread of pathogens and parasites will be an integral part of any expansion of the aquaculture industry in the United States.
- 8.6 Second, the representative of Canada understood that aquaculture is managed at both the state and federal level in the United States. He asked what processes are in place to ensure consistency between management and regulations across the states, between states and the National Oceanic and Atmospheric Administration (NOAA), and across different offices at NOAA.
- 8.7 The representative of the United States replied that NOAA's Office of Aquaculture addresses regulatory and policy issues as they relate to marine aquaculture in the United

States. The purpose of this effort is to enable domestic aquaculture production within the context of NOAA's marine stewardship responsibilities, which include the protection of the marine environment while balancing multiple uses of coastal and ocean waters. NOAA is committed to a number of measures associated with marine aquaculture including: improving regulatory efficiency and certainty through federal co-ordination and facilitating regulatory efficiency and cross-agency reviews and actions for federal permitting of aquaculture while also supporting aquaculture projects that improve water quality, fish production, habitat, and coastal economies. While individual projects may require permits from both State and Federal agencies, these permitting processes are coordinated to the maximum extent practicable to minimise the potential for conflicting requirements. Further, in many cases, the States are implementing permitting programs that have been delegated to a State from a Federal agency (e.g. most states are delegated authority from the U.S. Environmental Protection Agency to implement aspects of the Clean Water Act, including the issuance of permits under the National Pollutant Discharge Elimination System program). The U.S. representative noted that she would be happy to discuss aquaculture permitting with Canada in more detail. She noted that at this time, the U.S. does not anticipate any marine based aquaculture of Atlantic salmon outside of the Gulf of Maine.

- 8.8 Also, for consistency and management of state regulations in regard to fish health, the Northeast Fish Health Committee is charged with co-ordinating fish health management activities amongst Northeast Association of Fish and Wildlife Agencies' member states. The Northeast Association of Fish and Wildlife Agencies' states include the following jurisdictions: Connecticut, Delaware, Pennsylvania, New York, Maine, Maryland, New Hampshire, West Virginia, Virginia, District of Columbia, New Jersey, Rhode Island, Vermont, Massachusetts and federal agencies with natural resource mandates, including National Marine Fisheries Service, and United States Fish and Wildlife Service. The Committee serves under the auspices of the NEAFWA Northeast Fisheries Administrators Association. Co-ordination efforts are primarily through reviewing current issues and providing recommendations. A main focus has been the development of the Northeast Fish Health Guidelines. The Committee's main goals are:
- to assess current issues related to fish health and disease,
  - to encourage information exchange amongst fishery professionals on the importance of fish health, and
  - to recommend relevant, attainable, and practical approaches to fish health management.
- 8.9 Third, the representative of Canada noted that in September 2019, there was an animal welfare incident at a Cooke aquaculture facility in Maine where there appeared to be a mistreatment of salmon with possible fish health issues. He asked the representative of the United States to speak to the sanctions and processes that NOAA followed to manage this incident, and why charges or fines were issued. He also asked whether there are any expected changes to fish health management as a result of this animal welfare incident.
- 8.10 The representative of the United States replied that in June 2019, the State of Maine received hidden camera video from a group called Compassion Over Killing that was reportedly from a Cooke Aquaculture facility in Maine. According to the accompanying complaint, fish were mishandled as culling or euthanasia was attempted. This incident was investigated by the agency with jurisdiction over the matter, the State of

Maine's Department of Agriculture, Conservation and Forestry. A copy of the State's report was provided to Canada via e-mail on May 19, 2020. This report outlines the State's findings and decisions regarding charges and fines. As noted in that report, the State agency made a number of recommendations. It is the understanding of the representative of the United States that, as described in that report, modifications were made at the facility regarding training and procedures for culling fish.

- 8.11 Finally, the representative of Canada asked the United States to share the sequence information of the HPR-deleted strain of ISAv that was detected, as the Canadian Food Inspection Agency is interesting in cross-referencing it with other ISAv sequences in its database.
- 8.12 The representative of the United States replied she has obtained the requested information and will provide the file directly to Canada via a separate email.
- 8.13 The representative of the NGOs thanked Canada for tabling documents NAC(20)07 (Labrador Subsistence Food Fisheries) and NAC(20)08 (Annual Report) and noted that Canada, under item 2 of its Annual Report, reports five incidents of aquaculture rainbow trout escapes in Nova Scotia in 2019. The representative of the NGOs asked Canada to provide further information on the geographic locations of these escape events.
- 8.14 The representative of Canada replied that of the five escape events reported for Nova Scotia in 2019, three were at a location in Cape Breton and two were at a location in Yarmouth County.