NASCO	**Council** ***Annual Progress Report on Actions taken under the Implementation Plan for the Calendar Year 2020 – United States***	**CNL(21)27**

Annual Progress Report on Actions taken under the Implementation Plan for the Calendar Year 2020

The Annual Progress Reports allow NASCO to evaluate progress on actions taken by Parties / jurisdictions to implement its internationally agreed Resolutions, Agreements and Guidelines and consequently, the achievement of their objectives and actions taken in accordance with the Convention. The following information should be provided through the Annual Progress Reports:

- any changes to the management regime for salmon and consequent changes to the Implementation Plan;
- actions that have been taken under the Implementation Plan in the previous year;
- significant changes to the status of stocks, and a report on catches; and
- actions taken in accordance with the provisions of the Convention.

In completing this Annual Progress Report please refer to the ***Guidelines for the Preparation and Evaluation of NASCO Implementation Plans and for Reporting on Progress****, CNL(18)49*.

These reports will be reviewed by the Council. Please complete this form and return it to the Secretariat **no later than 1 April 2021**.

Party:	**United States**
Jurisdiction / Region:	

1: Changes to the Implementation Plan

1.1 Describe any proposed revisions to the Implementation Plan *(Where changes are proposed, the revised Implementation Plans should be submitted to the Secretariat by 1 November).*

Our February 5, 2021, letter to the NASCO President identified a number of actions we are investigating related to monitoring sea lice on wild Atlantic salmon. Dependent on the outcome of investigations of feasibility and the availability of resources to implement such actions, we may submit a revised implementation plan aimed at addressing the deficiencies identified during the third round of reviews by the review group. We anticipate any such revisions will be limited to the actions described in our response letter (*Response from the United States to 21 December 2020 letter from President*) dated February 5, 2021.

1.2 Describe any major new initiatives or achievements for salmon conservation and management that you wish to highlight.

Major accomplishments and highlights of 2020 include:

1. Three teams covering three geographic areas where wild stocks of Atlantic salmon remain in the U.S. were organized and charged with implementing the United States' 2019 Atlantic Salmon Recovery Plan and coordinating recovery efforts in these respective areas. These teams have

produced reports describing the state of salmon and salmon habitat in their geographic areas and ongoing efforts to further recovery. The teams have also produced preliminary work plans detailing specific goals and actions that they intend to take over the next 5 years to further recovery efforts. Details of this effort are described under H3.

2. We issued regulatory requirements for two hydroelectric dams (Ellsworth and Weldon) and a draft regulatory requirement for a hydroelectric dam on the Kennebec River that will require the construction of new fishways and adherence to strict upstream and downstream fish passage performance standards.

3. We went through contingency planning in response to COVID-19 to ensure the continued safe operations of fishways necessary for passing Atlantic salmon and to ensure safe and effective hatchery practices necessary to prevent the extinction of the Gulf of Maine population.

2: Stock status and catches.

2.1 Provide a description of any new factors that may affect the abundance of salmon stocks significantly and, if there has been any significant change in stock status since the development of the Implementation Plan, provide a brief (200 word max) summary of these changes.

For 2020, no new factors significantly affected the abundance of wild salmon stocks in the United States. Provisionally, there were 1,715 adult returns to U.S. waters in 2020. This count includes 1,705 returns to the GOM DPS; 10 to the Central New England complex; and none to the Long Island Sound complex.

2.2 Provide the following information on catches: ***(nominal catch equals reported quantity of salmon caught and retained in tonnes 'round fresh weight' (i.e. weight of whole, ungutted, unfrozen fish) or 'round fresh weight equivalent').***

	In-river	Estuarine	Coastal	Total
(a) provisional nominal catch (which may be subject to revision) for 2020(tonnes)	0	0	0	0
(b) confirmed nominal catch of salmon for 2019 (tonnes)	0	0	0	0
(c) estimated unreported catch for 2020 (tonnes)	0* - See our response to F3	0	0	0
(d) number and percentage of salmon caught and released in recreational fisheries in 2020	There are no recreational fisheries for sea-run Atlantic salmon in the United States. There are, however, small fisheries for domestic broodstock in the Naugatuck and Shetucket Rivers in Southern New England; these rivers are outside the geographic range of endangered wild Atlantic salmon.			

3: Implementation Plan Actions.

3.1 Provide an update on progress on actions relating to the Management of Salmon Fisheries *(section 2.9 of the Implementation Plan).*
Note: *the reports under 'Progress on action to date' should provide a* ***brief overview*** *of each action. For all actions, provide* ***clear and concise*** *quantitative information to demonstrate progress. In circumstances where quantitative information cannot be provided for a particular*

action because of its nature, a clear rationale must be given for not providing quantitative information and other information should be provided to enable progress with that action to be evaluated. While referring to additional material (e.g. via links to websites) may assist those seeking more detailed information, this will not be evaluated by the Review Group.		
Action F1:	Description of action (*as submitted in the IP*):	Reduce mortality of U.S.-origin salmon in mixed-stock fisheries by remaining active in the West Greenland Commission and the North American Commission.
	Expected outcome (*as submitted in the IP*):	a) Maintenance of existing mortality attributable to the West Greenland fishery as measured by the annual quota currently set at 30 mt through 2020 (note: specific outcomes beyond 2020 cannot be determined at this time as the existing regulatory measure applies only for 2018, 2019, and 2020) b) Agreement on a new regulatory measure in 2021 c) Maintenance of low levels (previously estimated at 30 to 40 U.S.-origin salmon per year) of capture of U.S.-origin salmon in the mixed-stock fishery in Labrador
	Progress on action to date *(Provide a brief overview with a quantitative measure, or other justified evaluation, of progress. Other material (e.g. website links) will not be evaluated):*	In 2020, the United States worked cooperatively with the Parties of the West Greenland Commission to enable the continuation of the 2018-2020 regulatory measure. The regulatory measure contains a number of important elements designed to improve the management of the fishery, including limiting harvests, mandating that any quota overharvests in one year be paid back the next year, and requiring additional strengthened monitoring and control measures. Effective implementation of these requirements is expected to provide conservation benefits to contributing stocks, including critically endangered U.S.-origin salmon. The regulatory measure was in effect through 2020, and it will be necessary to negotiate a new measure in 2021. The United States continues to participate fully in the work of the West Greenland Commission, including the annual evaluation of the effectiveness of the 2018-20 regulatory measure *vis a vis* the results of the 2018-2020 fisheries at West Greenland. In light of the continuing need for strong protection of U.S.-origin salmon, the United States is eager to work with members of the Commission to develop and adopt a new regulatory measure in 2021. In 2020, the United States offered continued support for Canadian efforts to monitor the mixed-stock fishery in Labrador. The United States remains an active participant in the North American Commission (NAC) and continues to encourage Canada to expand sampling of this fishery to ensure broader data collection and improved characterization of the impact of the fishery on U.S.-origin salmon. The United States and Canada collectively identified a number of new analyses and data summaries that could be prepared to better describe the efficacy of the contemporary sampling program at identifying the presence of U.S.-origin salmon with the

		harvest. Canada has agreed to pursue these efforts and report back to the NAC in 2021. We continue to urge Canada to implement fishery management measures that eliminate the catch of U.S.-origin salmon in the Labrador fishery and towards this end, management action has been taken in recent years. Continually increasing the efficacy of the sampling in Labrador, either through increased sampling, targeted sampling or a combination of both would greatly assist in evaluating the effectiveness of these management actions.
	Current status of action:	Ongoing
	If 'Completed', has the action achieved its objective?	
Action F2:	Description of action (*as submitted in the IP*):	Reduce bycatch of Atlantic salmon in recreational fisheries for other species, such as brook trout, to the maximum extent possible.
	Expected outcome (*as submitted in the IP*):	Closures of certain areas of rivers, gear restrictions, bag limit reductions, publication of species identification guides in fishing law books, prosecution of poachers when necessary, among others. Note: this action (and therefore expected outcome) does not lend itself to quantitative measures because specific estimates of bycatch are not available. Thus, developing quantitative targets is not possible. Reporting on progress under this action will therefore focus on qualitative aspects (using specific examples where possible) with the assumption that activities under this action will correlate with reductions in mortality of Atlantic salmon attributable to bycatch.
	Progress on action to date *(Provide a brief overview with a quantitative measure, or other justified evaluation, of progress. Other material (e.g. website links) will not be evaluated):*	The federal Endangered Species Act prohibits any "take" of endangered Atlantic salmon. The State of Maine maintains stringent regulations governing recreational fishing https://www.maine.gov/ifw/docs/19-MDIFW-23-Fishing-Lawbook-2020.pdf) in salmon habitats that remained in place in 2020. These regulations explain that sea-run salmon are federally endangered and cannot be removed from the water. Anglers are also prohibited from retaining landlocked salmon and brown trout above 63 cm to ensure that adult sea-run salmon are not incidentally captured and retained. A minimum length limit of 15 cm on brook trout and brown trout and 35 cm for landlocked salmon ensures that Atlantic salmon parr are not incidentally retained during recreational fisheries. In 2020, new regulations were put in place specifically to protect Atlantic salmon by addressing inconsistencies in the minimum and maximum length limits for angling of all salmonids in estuaries, such that they align with the minimum and maximum length limits in freshwater. The length limits are set specifically to protect Atlantic salmon from accidental harvest.

		In 2020, the State of Maine also initiated an outreach campaign that creates resources to help law enforcement increase public awareness regarding species identification and federally endangered status of sea-run Atlantic salmon.
	Current status of action:	Ongoing
	If 'Completed', has the action achieved its objective?	
Action F3:	Description of action (*as submitted in the IP*):	Reduce poaching of Atlantic salmon to the maximum extent possible.
	Expected outcome (*as submitted in the IP*):	Deterrence of illegal activity and prosecutions of poachers when necessary. Note: this action (and therefore expected outcome) does not lend itself to quantitative measures because specific estimates of mortality attributable to poaching are not available. Thus, developing quantitative targets is not possible. Reporting on progress under this action will therefore focus on qualitative aspects (using specific examples where possible) with the assumption that activities under this action will correlate with reductions in mortality of Atlantic salmon attributable to poaching.
	Progress on action to date *(Provide a brief overview with a quantitative measure, or other justified evaluation, of progress. Other material (e.g. website links) will not be evaluated):*	The federal Endangered Species Act prohibits any "take" of endangered Atlantic salmon. The State of Maine maintains stringent regulations governing recreational fishing https://www.maine.gov/ifw/docs/19-MDIFW-23-Fishing-Lawbook-2020.pdf) in salmon habitats that remained in place in 2020. These regulations explain that sea-run salmon are federally endangered and cannot be removed from the water. Anglers are also prohibited from retaining landlocked salmon and brown trout above 65 cm to ensure that adult sea-run salmon are not incidentally captured and retained. During 2020, state and federal law enforcement officers documented over 43,000 hours of enforcement on fishing related activities, of which roughly 700 hours were targeted Atlantic salmon enforcement. Officers documented 5 salmon violations during 2020 (including one documented incident of a salmon being killed) and worked in conjunction with U.S. Fish and Wildlife Service personnel to take enforcement action.
	Current status of action:	Ongoing
	If 'Completed', has the action achieved its objective?	
Action F4:	Description of action (*as submitted in the IP*):	Reduce mortality of Atlantic salmon by: (1) maintaining closures for all directed fisheries for Atlantic salmon consistent with the existing Fishery Management Plan under the Magnuson-Stevens Fisheries Conservation and Management

		Act; and, (2) reducing bycatch of Atlantic salmon in fisheries for other species to the maximum extent possible.
	Expected outcome (*as submitted in the IP*):	Zero mortality of Atlantic salmon attributable to (1) directed salmon fisheries and (2) bycatch of Atlantic salmon in other commercial fisheries.
	Progress on action to date *(Provide a brief overview with a quantitative measure, or other justified evaluation, of progress. Other material (e.g. website links) will not be evaluated):*	In 2020, there continued to be no directed fisheries for sea-run Atlantic salmon in the United States consistent with the existing Fishery Management Plan issued under the Magnuson-Stevens Fisheries Conservation and Management Act. There are, however, small fisheries for domestic broodstock in the Naugatuck and Shetucket Rivers in Southern New England; these rivers are outside the geographic range of endangered wild Atlantic salmon. We continue to monitor bycatch of Atlantic salmon in commercial fisheries. NOAA maintains a vessel landings database, a dealer purchases database, and an observer database for commercial fisheries subject to federal jurisdiction. To ensure that bycatch of Atlantic salmon in other commercial fisheries remains insignificant, each year, we query these databases. For 2020, our query of the dealer purchases database and vessel landings database revealed no records of Atlantic salmon being caught. For the observer database, bycatch of Atlantic salmon remains a rare event. Interactions have been observed in only 7 of the 30-year time series, and no Atlantic salmon have been observed since August 2013. Reporting is complete through August, 2020.
	Current status of action:	Ongoing
	If 'Completed', has the action achieved its objective?	

3.2 Provide an update on progress on actions relating to Habitat Protection and Restoration *(section 3.5 of the Implementation Plan).* ***Note:*** *the reports under 'Progress on action to date' should provide a* ***brief overview*** *of each action. For all actions, provide* ***clear and concise*** *quantitative information to demonstrate progress. In circumstances where quantitative information cannot be provided for a particular action because of its nature, a clear rationale must be given for not providing quantitative information and other information should be provided to enable progress with that action to be evaluated. While referring to additional material (e.g. via links to websites) may assist those seeking more detailed information, this will not be evaluated by the Review Group.*		
Action H1:	Description of action (*as submitted in the IP*):	Improve fish passage by removing dams, installing fishways, removing culverts, decommissioning roads, and upgrading road stream crossings.
	Expected outcome (*as submitted in the IP*):	By 2024, restore connectivity to 5,000 units of suitable Atlantic salmon habitat (as defined in the 2019 Atlantic salmon Recovery Plan).
	Progress on action to date	Progress was made at improving fish passage at more than 25 culverts and construction of one new fishway at a dam in 2020.

<table>
<tr><td></td><td>(Provide a brief overview with a quantitative measure, or other justified evaluation, of progress. Other material (e.g. website links) will not be evaluated):</td><td>The estimates of habitat gains are preliminary and will be adjusted in future annual reports. Only projects that are accessible from the ocean are considered in this table. For example, a dam removal that occurs upstream of an existing barrier to passage would not be included in the estimate. Habitat gains are reported in habitat units, where 1 habitat unit equals 100m^2.

<table>
<tr><th rowspan="2">Salmon Habitat Recovery Unit</th><th colspan="2"># of Projects</th><th rowspan="2">Habitat units made accessible (no barriers below)</th></tr>
<tr><th>Dams</th><th>Culverts</th></tr>
<tr><td>Downeast Coastal</td><td>0</td><td>1</td><td>0</td></tr>
<tr><td>Penobscot Bay</td><td>0</td><td>21</td><td>152.3</td></tr>
<tr><td>Merrymeeting Bay</td><td>1</td><td>3</td><td>0</td></tr>
<tr><td>Total</td><td>1</td><td>25</td><td>152.3</td></tr>
</table>
</td></tr>
<tr><td></td><td>Current status of action:</td><td>Ongoing</td></tr>
<tr><td></td><td>If ‘Completed’, has the action achieved its objective?</td><td></td></tr>
<tr><td>Action H2:</td><td>Description of action (as submitted in the IP):</td><td>Improve fish passage at hydroelectric dams through dam removal or construction of effective fishways and the implementation of adaptive management strategies to achieve passage efficiency and survival targets for dams that cannot be removed.</td></tr>
<tr><td></td><td>Expected outcome (as submitted in the IP):</td><td>By 2024, restore connectivity to 10,000 units of suitable Atlantic salmon habitat and reduce mortality and injury of smolts and kelts at hydroelectric dams.</td></tr>
<tr><td></td><td>Progress on action to date
(Provide a brief overview with a quantitative measure, or other justified evaluation, of progress. Other material (e.g. website links) will not be evaluated):</td><td>No additional habitat units were made accessible due to improvements in fish passage at hydroelectric dams in calendar year 2020. However, progress has been made towards implementing and verifying effective passage through the relicensing of projects under the U.S. Federal Power Act (FPA), and through consultation requirements of the U.S. Endangered Species Act (ESA). The objective in these proceedings is to implement effective upstream and downstream fish passage and reduce the impact of hydroelectric dams and their operations on Atlantic salmon and the ecosystems on which they depend. Consultations addressing the implementation of effective fish passage are currently ongoing at all mainstem hydro dams within designated critical habitat in the Gulf of Maine population. Brookfield Renewable operates the four lower river dams on the Kennebec River; they constructed a new fishway at the second lower-most dam on the river in 2017. This company has also proposed to install new upstream</td></tr>
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<tr><td></td><td></td><td>fishways at the remaining three dams in order to achieve ESA and FPA regulatory compliance; when complete, this will result in a significant increase in habitat accessibility in the Kennebec River watershed.

<table><tr><th>SHRU</th><th>FPA Relicensing that are ongoing</th><th>ESA Consultations in place or underway</th></tr><tr><td>Merrymeeting Bay</td><td>4</td><td>8</td></tr><tr><td>Penobscot Bay</td><td>3</td><td>4</td></tr><tr><td>Downeast Coastal</td><td>2</td><td>1</td></tr></table></td></tr>
<tr><td></td><td>Current status of action:</td><td>Ongoing</td></tr>
<tr><td></td><td>If ‘Completed’, has the action achieved its objective?</td><td></td></tr>
<tr><td>Action H3:</td><td>Description of action (as submitted in the IP):</td><td>Develop and implement a freshwater protection, restoration, and enhancement strategy by 2024 for each of the three salmon habitat recovery units.</td></tr>
<tr><td></td><td>Expected outcome (as submitted in the IP):</td><td>Geographically explicit freshwater protection, restoration, and enhancement strategy for each of the three recovery units. These strategies will explicitly consider protection of climate-resilient spawning and rearing habitats for each recovery unit in the face of climate change.</td></tr>
<tr><td></td><td>Progress on action to date
(Provide a brief overview with a quantitative measure, or other justified evaluation, of progress. Other material (e.g. website links) will not be evaluated):</td><td>In 2020, three teams of experts began developing five year work plans for three geographic areas where wild salmon remain. These work plans detail conservation goals and priorities within each geographic area and actions necessary to advance these areas towards meeting the delisting criteria identified in the 2019 recovery plan. Upon completion, the work plans will include a stocking plan and a restoration plan. The stocking plan details strategies that reflect the conservation objectives of preventing extinction and advancing recovery and the primary goal of preserving the genome of the wild stocks that remain. The restoration plan focuses on prioritizing and implementing recovery actions that restore access and habitats that increase the number of smolts entering the marine environment in an effort to offset, to the extent possible, low marine survival.

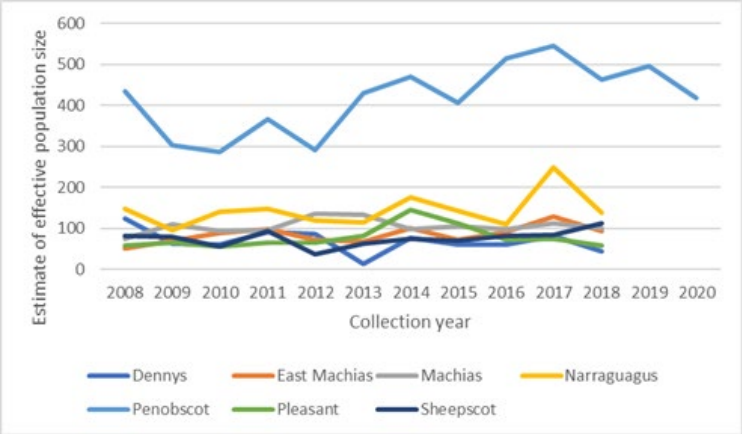
To better understand the impacts of climate change on wild Atlantic salmon, NOAA Fisheries has initiated a project to describe key habitat attributes of the Atlantic salmon’s physical environment (e.g. streamflow, stream temperature, marine temperatures, ocean salinities, currents, etc.) from the headwaters of the Gulf of Maine DPS rivers to the West Coast</td></tr>
</table>

		of Greenland. Contemporary conditions will be described using existing data and future conditions (~75 years into the future) and will be characterized from available climate projections. When available, Atlantic salmon life stage-specific environmental tolerances and preferences will be compared to the projected future conditions to hypothesize on potential future impacts. The project is ongoing, and we anticipate submitting a peer reviewed paper for publication in a scientific journal in 2021. We are also working to identify climate resilient habitats by identifying areas of cold water refugia and projecting climate-related changes to these habitats. Phase I of this study is a statistical analysis aimed at identifying watershed properties that contribute to high base flow (ground water) proportions at streamflow gaging sites. Stream reaches with high proportions of ground water discharge are usually cooler than those dominated by surface water inputs. The regression relationships established for gaged sites enable the identification and mapping of base flow proportions for ungaged reaches. The statistical analyses are complete, and a draft manuscript for journal submission is being reviewed internally. We anticipate submission in spring 2021.
	Current status of action:	Ongoing
	If 'Completed', has the action achieved its objective?	
Action H4:	Description of action (*as submitted in the IP*):	
	Expected outcome (*as submitted in the IP*):	
	Progress on action to date *(Provide a brief overview with a quantitative measure, or other justified evaluation, of progress. Other material (e.g. website links) will not be evaluated):*	
	Current status of action:	Choose an item.
	If 'Completed', has the action achieved its objective?	

3.3 Provide an update on progress on actions relating to Aquaculture, Introductions and Transfers and Transgenics *(section 4.11 of the Implementation Plan).*
***Note**: the reports under 'Progress on action to date' should provide a **brief overview** of each action. For all actions, provide **clear and concise** quantitative information to demonstrate progress. In circumstances where quantitative information cannot be provided for a particular*

	action because of its nature, a clear rationale must be given for not providing quantitative information and other information should be provided to enable progress with that action to be evaluated. While referring to additional material (e.g. via links to websites) may assist those seeking more detailed information, this will not be evaluated by the Review Group.	
Action A1:	Description of action (*as submitted in the IP*):	Sea Lice - Minimize sea lice loads on commercial aquaculture fish being reared in marine net pens to reduce risks to salmon in the wild each year. This will be accomplished by mandatory fallowing, monitoring of lice levels (monthly when temperatures range from 6 – 8°C and bimonthly when temperatures exceed 8°C), and mandatory treatments when thresholds for sea lice counts are exceeded (1 gravid female and 5 pre-adult lice).
	Expected outcome (*as submitted in the IP*):	a) Lice loads in marine net pens maintained at a level below the pre-determined thresholds, and b) Treatment when necessary (monitoring reveals sea lice levels above threshold levels) to ensure that risks to salmon in the wild remain low.
	Progress on action to date *(Provide a brief overview with a quantitative measure, or other justified evaluation, of progress. Other material (e.g. website links) will not be evaluated):*	Progress related to this action was considered unacceptable in our Implementation Plan, and therefore, is not subject to review by the review group. However, our February 5, 2021, letter to the NASCO President states how we intend to demonstrate progress towards achievement of NASCO's goals for sea lice. To the extent that we identify further action to implement, we may update our Implementation Plan in 2021 related to this action.
	Current status of action:	Ongoing
	If 'Completed', has the action achieved its objective?	
Action A2:	Description of action (*as submitted in the IP*):	Containment --- Minimize effects to wild salmon from genetic introgression from escaped aquaculture-origin salmon by ensuring that containment measures are maintained at 100% of all salmon farms each year.
	Expected outcome (*as submitted in the IP*):	No escapees of U.S origin spawning in the rivers containing endangered salmon.
	Progress on action to date *(Provide a brief overview with a quantitative measure, or other justified evaluation, of progress. Other material (e.g. website links) will not be evaluated):*	There are 25 active finfish net pen sites in Maine. Atlantic salmon farming operations are concentrated in large bays and interspersed among the many islands along Maine's coast. The aquaculture industry in Maine is subject to special permit conditions to help ensure the protection of wild Atlantic salmon. These measures include, but are not limited to, implementing a Containment Management System (CMS) plan for each site, site specific marking of all farmed fish, and the inclusion of only North American origin fish with no transgenic fish being used for production. Annual third party audits validate the continent of origin, marking and CMS plans along with annual reviews from the appropriate state and federal agencies to monitor these protective measures in place for compliance with the permit requirements. Additionally,

		the State of Maine Department of Marine Resources has regulatory oversight to ensure good fish husbandry practices specific to Atlantic salmon farming are in place with programs such as Bay Management Plan agreements which include processes for: 1) 3-year rotation and fallowing, 2) fish health and biosecurity, 3) integrated pest management, 4) waste management, and 5) disinfection. These agreements were created by industry in cooperation with state and federal agencies and compliance with these various best management practices are mandated through individual lease site permits issued by the state. The aquaculture industry is required to report any escapes (min. reporting requirement of 50 fish that are 2kg or more for marine pens) as a condition of their federal permits. The industry did not have any reportable escapes from commercial farms in Maine in 2020. Furthermore, staff from the Maine Department of Marine Resources monitor sea run Atlantic salmon returns at many facilities in Maine. In 2020, field biologists reported there were no captures of farmed fish at these facilities.
	Current status of action:	Ongoing
	If 'Completed', has the action achieved its objective?	
Action A3:	Description of action (*as submitted in the IP*):	Implement broodstock management protocols at conservation hatcheries on an annual basis.
	Expected outcome (*as submitted in the IP*):	Reduce or eliminate the loss in diversity from endangered populations.
	Progress on action to date *(Provide a brief overview with a quantitative measure, or other justified evaluation, of progress. Other material (e.g. website links) will not be evaluated):*	In 2020, we continued monitoring genetic diversity within seven river-specific broodstock populations to ensure the goals of the conservation hatcheries are being met. Estimates of genetic diversity were obtained from parr-based broodstock collected in 2018 and the sea-run fish sampled during the return in 2020. Maintenance of genetic diversity remains the primary goal of the conservation hatchery program: to maintain the genetic characteristics of each individual broodstock, to allow for diversity to persist for natural selection and adaptation to occur, and to ensure that genetic diversity is not being lost inadvertently due to management practices. Estimates of heterozygosity (observed and expected) compared over time within a broodstock and between broodstocks indicate that similar levels of diversity are present in each broodstock; however, some broodstocks, particularly the Pleasant River, have decreased estimates of allelic diversity relative to other broodstocks, likely a result of decreased broodstock number and historic genetic bottleneck. Estimates of effective population size (N_e) also vary between broodstocks from 44.6 - 137.6 for most populations, to 417.27 for the Penobscot (an average for 2008 - 2020). The much

		larger N_e for the Penobscot River is due to the larger total broodstock number and overall size of that population. The most recent estimates of effective population size are provided in Table A3 (below) and reflect estimates of the number of breeders for the parr-collected broodstocks primarily from a single cohort. The estimate for the Penobscot River is based on multiple year classes of returning adults sampled at time of spawning. Due to the difference in collection times and year classes, there is a two year lag in the sample year between the two groups (parr and adult).  Figure A3. Estimates of effective population size for the seven Atlantic salmon broodstocks managed through the conservation hatchery program in Maine based on time of sampling: as parr for the parr-based broodstocks reflecting the number of breeders since each collection year is predominately a single cohort, and estimates of effective population size for returning adults for the Penobscot River, comprised of multiple cohorts (data obtained by the U.S. Fish and Wildlife Service).
	Current status of action:	Ongoing
	If 'Completed', has the action achieved its objective?	
Action A4:	Description of action (*as submitted in the IP*):	Reduce stocking of non-native salmonids in the freshwater range of endangered salmon to ensure that predatory and competitive effects are minimized.
	Expected outcome (*as submitted in the IP*):	Minimally, the current locations for stocking non-native salmonids will be maintained where only the Sandy River is routinely stocked with brown trout.
	Progress on action to date *(Provide a brief overview with a quantitative measure, or other justified evaluation, of progress. Other material (e.g.*	In 2020, no stocking of non-native salmonids occurred in rivers that support locally adapted Atlantic salmon. However, brown trout are routinely stocked in a few areas of the Kennebec and Androscoggin River that are actively managed for Atlantic salmon recovery efforts. As a product of decades of stocking, brown trout now spawn successfully and have become well established in these basins. The impact that brown trout are having on the already very low populations of

	website links) will not be evaluated):	Atlantic salmon in these systems is not well known. Non-native brown trout and rainbow trout are also routinely stocked in lakes and ponds throughout the range of the Gulf of Maine population that currently do not support wild sea-run Atlantic salmon.
	Current status of action:	Choose an item.
	If 'Completed', has the action achieved its objective?	

4: Additional information required under the Convention
4.1 Details of any laws, regulations and programmes that have been adopted or repealed since the last notification.
Program: The two federal agencies in charge of Atlantic salmon adopted the Final Recovery Plan for the Gulf of Maine Distinct Population Segment. The plan establishes recovery actions, a recovery strategy, and objective, measurable goals and criteria that define recovery. Program: Renewal of NOAA-Fisheries' Species in the Spotlight initiative that identifies Atlantic salmon as a high priority species in the U.S. for focussed conservation efforts. Program: NOAA-Fisheries announced a 1 million dollar competitive grant program to fund habitat restoration projects for Atlantic salmon.
4.2 Details of any new commitments concerning the adoption or maintenance in force for specified periods of time of conservation, restoration and other management measures.
N/A
4.3 Details of any new actions to prohibit fishing for salmon beyond 12 nautical miles.
N/A
4.4 Details of any new actions to invite the attention of States not party to the Convention to matters relating to the activities of its vessels which could adversely affect salmon stocks subject to the Convention.
N/A
4.5 Details of any actions taken to implement regulatory measures under Article 13 of the Convention including imposition of adequate penalties for violations.
N/A
North American Commission Members only:
4.6 Details of any new measures to minimise bycatches of salmon originating in the rivers of the other member.
N/A
4.7 Details of any alteration to fishing patterns that result in the initiation of fishing or increase in catches of salmon originating in the rivers of another Party except with the consent of the latter.
N/A