



**Council**

**CNL(20)42rev**

***Annual Progress Report  
on Actions Taken Under the Implementation Plan for the Calendar Year 2019  
EU – UK (Scotland)  
(Revised version received 22 July 2020)***



***Annual Progress Report on Actions taken under the Implementation Plan for the Calendar Year 2019***

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 2020.**

<b>Party:</b>	<b>European Union</b>
<b>Jurisdiction / Region:</b>	<b>UK (Scotland)</b>

**(Please note that within this response, where references are made to timescales on work that is on-going, that the effects of Covid-19 pressures should be taken into account.)**

<b>1: Changes to the Implementation Plan</b>
<b>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).</b>
<b>1.2 Describe any major new initiatives or achievements for salmon conservation and management that you wish to highlight.</b>
The Scottish Government Programme for Government 2019/2020 includes a commitment to develop a Wild Salmon Strategy by September 2020.
The Salmon Conservation Regulations for 2020 were laid in the Scottish Parliament in December 2019. First introduced in 2016, we believe this approach strikes the right balance between conservation of the species for future generations and those fishing for salmon today.

In October 2019 Marine Scotland Science published an information leaflet<sup>1</sup> illustrating river temperatures in Scotland during the hottest and driest June-July period on record (2018). Such conditions are expected to become more common under climate change, unless mitigations can be put in place, and the implications for salmonid populations are serious. This is the first time we have made Scotland-wide predictions of river temperature and related these to potential impacts on fish. Marine Scotland has developed this new tool to help fisheries managers target priority areas for riparian tree planting.

A Salmon Interactions Workstream has been launched to look, in part, at the reasons behind the decline in Scottish Atlantic salmon. The first stage of the Workstream is the creation of an initial Working Group (established June 2018), independently chaired by John Goodlad and comprises of representatives from both the farmed and wild salmon sectors, Scottish Government and its agencies, and eNGOs.

The Group will provide advice on how we move forward the dialogue on the interaction between wild and farmed salmon, its conclusions will help inform our Wild Salmon Strategy.

The Group also works in parallel with a regulator's (SNH, SEPA, Marine Scotland and Local Authority representation) Technical Working Group which has been established to develop a practical framework for assessing the level of risk posed to wild salmonids (from sea lice). The framework will take account of the best available science, and is intended to underpin future planning advice.

In the interim<sup>2</sup> as part of any request for planning advice Marine Scotland will expect a condition requiring an Environmental Management Plan (EMP) to be delivered for any consents for marine aquaculture planning applications (when there is/or there is potential for wild fish/farmed fish interaction). An EMP will initiate collection of environmental data which can be useful for monitoring sea lice levels in the areas around farms. The information can be used to highlight where impacts may be occurring and where there may be a need for remedial action.

Marine Scotland provided advice in July 2019, with regards to the minimum criteria it expects within an interim EMP.

Scotland's Farmed Fish Health Framework commits industry, government, professional vets, trade associations and Scotland's Aquaculture Innovation Centre to work together to provide a strategic approach to improving farmed fish health in Scotland. We strengthened Scotland's farmed fish sea lice compliance regime by reducing the reporting and intervention thresholds and in June 2019 announced the introduction of sea lice reporting legislation in 2020, which will support a transparent and responsible farming industry. The introduction of legislation in 2020 will require all marine farms to report the weekly sea lice infestation levels to Scottish Government, one week in arrears. To accept and handle such information we are developing a fit-for-purpose IT system that will be available in sufficient time to support the upcoming legislation. We are working on the basis that reporting legislation will be introduced in Q4 2020. Intervention thresholds will be further reduced in 2021, unless there is compelling evidence to the contrary.

A draft Sectoral Marine Plan was issued by Scottish Government for consultation in December 2019<sup>3</sup>. This suggested potential new areas for marine renewables development, mainly further offshore, and flagged up any potential interactions with receptors, including migrating salmon, and provided an opportunity for all stakeholders to provide comment.

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<sup>1</sup> <https://www.gov.scot/binaries/content/documents/govscot/publications/factsheet/2019/11/marine-scotland-topic-sheets-freshwater/documents/summer-2018-river-temperatures-october-2019/summer-2018-river-temperatures-october-2019/govscot%3Adocument/summer-2018-river-tempratures.pdf>

<sup>2</sup> Scottish Government's response to the (see page 22) Rural Economy and Connectivity report on Salmon Farming in Scotland- 29 January 2019 [https://www.parliament.scot/S5\\_Rural/20190129\\_Cab\\_Sec\\_RE\\_-\\_SG\\_response\\_to\\_Cttee\\_report\\_on\\_salmon\\_farming\\_in\\_Scotland.pdf](https://www.parliament.scot/S5_Rural/20190129_Cab_Sec_RE_-_SG_response_to_Cttee_report_on_salmon_farming_in_Scotland.pdf)

<sup>3</sup> <https://consult.gov.scot/marine-scotland/draft-sectoral-marine-plan-for-offshore-wind/>

<b>2: Stock status and catches.</b>				
<b>2.1 Provide a description of any new factors that may significantly affect the abundance of salmon stocks 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.</b>				
<p>In common with salmon throughout their range there has been a long term reduction in the number of salmon returning to Scotland's coastal waters. Previously managers could counteract these declines by reducing the number of net fisheries operating on the coast. For example, in 2016 in response to concerns about the state of stocks, Scottish Government introduced a prohibition on the retention of salmon in coastalwaters and allowed salmon to be removed by fishermen only in rivers where stocks had been shown to be meeting conservation targets. However, with cessation of coastal netting this buffering capacity has now been fully used. Furthermore, additional protection for stocks through release of salmon caught in the rod fishery is now at 93% with little further scope to compensate for the decline in numbers of returning fish by restricting retention</p> <p>Currently Scottish Government is examining a number of high level pressures <sup>4</sup> impacting on salmon to identify the potential for further management actions.</p>				
<b>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').</b>				
(a) provisional nominal catch (which may be subject to revision) for 2019 (tonnes)	In-river	Estuarine	Coastal	Total
	10.9	1.8	0	12.7
(b) confirmed nominal catch of salmon for 2018 (tonnes)	7.1	12.1	0	19.2
(c) estimated unreported catch for 2019 (tonnes)	1.09	0.18	0	1.27
(d) number and percentage of salmon caught and released in recreational fisheries in 2019	43,729 salmon were caught and released in 2019 (92% of rod-caught salmon)			

Salmon Fishery Catch Statistics 2019: [Salmon fishery statistics: 2019 - gov.scot \(www.gov.scot\)](http://www.gov.scot/Topics/marine/Salmon-Trout-Coarse/fishreform/licence/status/Pressures)

<sup>4</sup> <https://www2.gov.scot/Topics/marine/Salmon-Trout-Coarse/fishreform/licence/status/Pressures>

### 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.*

<b>Action F1:</b>	Description of action (as submitted in the IP):	Continued annual assessment of Scotland's stocks using an adult based assessment method based on rod catch information and additional ancillary data.
	Expected outcome (as submitted in the IP):	Various aspects of the process are published in peer reviewed journals in advance of the 2022 fishing season, recognising the robustness of Scotland's assessment.
	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):	<p>The status of the stocks in assessable areas is estimated annually and expressed as the average probability that the potential egg deposition exceeded the egg requirement over the previous 5 years. Stocks are allocated to one of three categories; 1 (greater than 80% chance of meeting CL), 2 (between 60% and 80%), and 3 (less than 60%).</p> <p>The conservation status of stocks (for 2019) was assessed using data for the return years 2014 to 2018, and was used to inform management measures for these stocks that will apply for the 2020 season.</p> <p>Of the areas assessed, 37 (21%) were categorised as grade 1; 33 (19%) as grade 2 and the remaining 103 (60%) as grade 3. Weighting these data by the most recent estimated stock size in the areas assessed, 86% of the Scottish salmon stock was associated with grade 1 areas, 9% with grade 2 areas and 5% with areas categorised as grade 3.</p> <p>The Salmon Conservation Regulations for 2020 were laid in the Scottish Parliament in December 2019.</p> <p><i>Publications:</i></p> <p>Hanson N, Ounsley J, Burton T, Auer S, Hunt JH, Shaw B, Henderson J, Middlemas SJ. Hierarchical analysis of wild Atlantic salmon (<i>Salmo salar</i>) fecundity in relation to body size and developmental traits. <i>Journal of fish biology</i>. 2019 Oct 24.</p> <p>Hanson NN, Smith GW, Middlemas SJ, Todd CD. Precision and accuracy of Dahl-Lea back-calculated smolt lengths from adult scales of Atlantic salmon <i>Salmo salar</i>. <i>Journal of fish biology</i>. 2019 Jan;94(1):183-6.</p>
	Current status of action:	Ongoing
	If 'Completed', has the action achieved its objective?	

<b>Action F1 (cont.):</b>	Description of action (as submitted in the IP):	<b>Development of a complementary juvenile assessment tool</b> based on a strategically designed programme of electrofishing ( <a href="#">National Electrofishing Programme for Scotland: NEPS</a> ) delivered through local fisheries management organisations.
	Expected outcome (as submitted in the IP):	An adult based assessment method, based on rod catch information and additional ancillary data, combined with a juvenile assessment tool, based on electrofishing data collected at a local level, deliver a greater level of confidence in the status of Scotland's wild Atlantic salmon stocks and a better measure of the potential impact of our measures to mitigate the pressures on the stocks.
	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):	<p>During 2018 Marine Scotland designed and managed the first ever strategic National Electrofishing Programme for Scotland (<sup>5</sup>NEPS). The monitoring programme was designed using a Generalised Random Tessellation Stratified (GRTS) sample design with regional strata. Sampling was delivered through local fisheries management organisations following methods specified by Marine Scotland.</p> <p>The design included 30 regions, with 10 three-pass and 20 one-pass electrofishing sites per region. Capture probability was estimated from historical and contemporary multi-pass data and used to obtain estimates of fish density from both the single and multi-pass data. Site-wise observations of abundance were scaled-up to regional estimates of mean abundance and compared against the benchmark to assess fish status.</p> <p>The 2018 juvenile assessment was published in spring 2019<sup>6</sup> and included a 3-way classification of stock status that could be used to compliment adult assessment methods. Summary outputs are also available via an R Shiny Application.<sup>7</sup> The NEPS survey was repeated in 2019 and analysis of these data is complete and will now be written up. Consideration will now be given as to the best approach for combining information from adult and juvenile assessments.</p>
	Current status of action:	Ongoing
	If 'Completed', has the action achieved its objective?	
<b>Action F1 (cont.):</b>	Description of action (as submitted in the IP):	A small research study conducted over three-years with three main goals: 1) to assess immediate effects of catch-and-release angling on the physiology and behaviour of adult Atlantic salmon; 2) to study, for the first time in the context of catch-and-release angling, transgenerational effects of maternal stress on offspring physiology and behaviour; and 3) potentially to provide new understanding of the impacts of catch-and-release

<sup>5</sup> <https://www2.gov.scot/Topics/marine/Salmon-Trout-Coarse/Freshwater/Monitoring/ElectrofishingProgramme>

<sup>6</sup> <https://data.marine.gov.scot/sites/default/files//SMFS%201002.pdf>

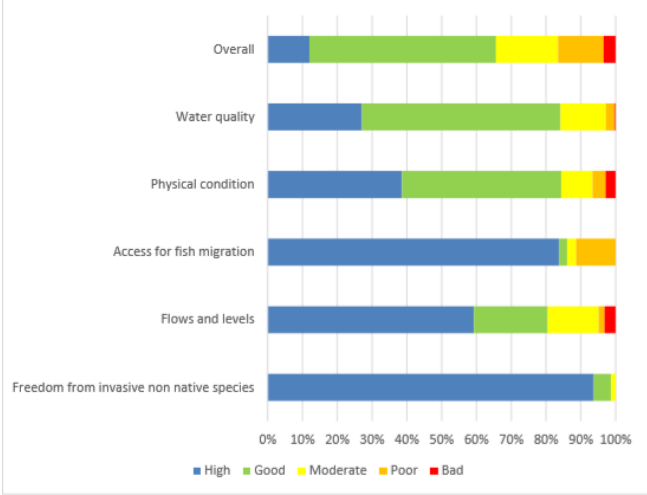
<sup>7</sup> <https://scotland.shinyapps.io/sg-national-electrofishing-programme-scotland/>

		angling for consideration in guidelines for anglers and models underpinning national fishery regulations.
	Expected outcome (as submitted in the IP):	This project will provide the first scientific evidence for incorporating lethal and sub-lethal effects of catch-and-release into MSS's estimates of spawning escapement and conservation limits. The information will be important for devising catch-and-release protocols and setting angling seasons if effects of catch-and-release are sensitive to time from spawning. Findings will be disseminated by MSS through FMS, the IFM and the International Council for Exploration of the Seas working groups to NASCO.
	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 first part of the project was delayed due to loss of a key collaborator and may now not be possible due to decrease in stocks of salmon. The second part is progressing well with results collected and being prepared for publication. The third part will be completed in due course.
	Current status of action:	Ongoing
	If 'Completed', has the action achieved its objective?	
<b>Action F2:</b>	Description of action (as submitted in the IP):	Review of Scotland's inshore marine gill net legislation.  Illegal gill netting, very close to the shore, remains a recurrent issue, because the existing regulation allows illegal operators to claim that they are targeting species other than Atlantic salmon and sea trout. Our aspiration is to introduce legislation to prohibit the deployment of gill nets where this could result in a high risk of a salmon and/or sea trout bycatch.
	Expected outcome (as submitted in the IP):	Reduced illegal wild Atlantic salmon catches by the end of the five-year NASCO plan period.
	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):	While early assessment of the current position has been carried out, proposals to consult on amendments to existing gill netting legislation have not been finalised or approved to date.  This will be taken forward as other priorities allow, with a view to amending The Inshore Fishing (Salmon and Migratory Trout) (Prohibition of Gill Nets) (Scotland) Order 1986 in order to prohibit the use of gill nets within 0.5 miles of the Scottish coast, subject to a limited number of derogations. The aim is to provide better protection to salmon and sea trout, particularly from poachers using gill nets.
	Current status of action:	Ongoing
	If 'Completed', has the action achieved its objective?	



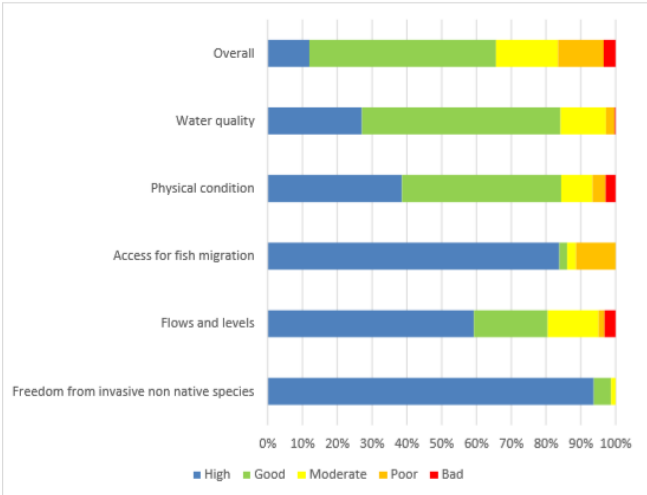
**3.2 Provide an update on progress on actions relating to Habitat Protection and Restoration** (section 3.5 of the Implementation Plan). *Note: the reports under 'Progress on action to date' should provide a brief overview of each action. For all actions, provide clear and concise quantitative information 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.*

<b>Action H1:</b>	Description of action (as submitted in the IP):	<p>Reductions in point source and diffuse pollution will be achieved through River Basin Management Planning (RBMP) and associated Regulations including “General Binding Rules” (GBRs). Adherence to other guidelines, such as Managing forest operations to protect the water environment, will also contribute to the reduction of diffuse pollution. GBRs include a range of land use requirements to reduce diffuse pollution through measures such as buffer strips to reduce fine sediment and nutrient delivery and encourage the growth of riparian vegetation.</p> <p>In RBMP cycle 1 there were 14 Priority Catchments selected where SEPA worked with farmers to reduced diffuse pollution. In RBMP cycle 2 from 2015 to 2021 all other predominantly agricultural catchments (57 in total) have been selected with audits of all farms to reduce diffuse pollution. To date SEPA has visited 5277 farming units in 43 of the 57 Priority catchments.</p> <p>Through RBMP the Diffuse Pollution Management Advisory Group (DPMAG) was set up as partnership that focuses on protecting and improving Scotland's water environment by reducing rural diffuse pollution. DPMAG have developed a two tiered strategy approach to reduce diffuse pollution in Scotland: a national campaign to prevent water bodies from deteriorating in status and make improvement where they are not far from a status boundary; and a targeted approach in priority catchments. The Rural Diffuse Pollution Plan for Scotland aims to ensure that the key stakeholders in Scotland work in a co-ordinated way to reduce diffuse pollution from rural sources.</p>
	Expected outcome (as submitted in the IP):	<p>RBMPs utilise SEPA classification results to set objectives for improving the water environment over a six year cycle, the current being from 2015 to 2021. The third RBMPs will build on the work completed under RBMP2 up to 2021 to reduce point source and diffuse pollution pressures and will prioritise future targets up to 2027.</p> <p>Once the new online, GIS pressures mapping tool is delivered, our target will be for it to show a reduction, by the end of the five-year NASCO plan period, in the river length affected by acidification; point-source pollution; diffuse pollution; other pollution; changing rainfall patterns; eutrophication; and/or oligotrophication.</p>
	Progress on action to date	SEPA published a summary of Scotland’s water environment along with progress to date on 19 December 2019 showing the

	<p>(Provide a brief overview with a quantitative measure, or other justified evaluation, of progress. Other material (e.g. website links) will not be evaluated):</p>	<p>condition of the water environment in Scotland in Figure 1, below.</p>  <p>Figure 1. Current condition of the water environment in Scotland in 2018</p> <p>The water quality column above indicates that over 80% of water bodies are classified as good or high status. The primary impacts on water bodies below good status are point source and diffuse pollution. The second River Basin Management Plan cycle is from 2015 to 2021 and so far improvement measures for waste water discharges have been completed for 40 water bodies with another 1 being on track to be completed for 2021.</p> <p>The Rural Diffuse Pollution Plan for Scotland identified 57 priority catchments for focused effort to reduce diffuse pollution impacts. Farm visits have started in 44 priority catchments with work due to begin in the remaining 13 before the end of the second RBMP cycle. This equates to actions being complete in 58 water bodies with another 229 being on track to be complete by 2021. For example, in the Tay and South Esk catchments compliance with diffuse pollution relating to cultivation has increased from 62% to 94%.</p> <p>The Forestry Know the Rules<sup>8</sup> booklet, will also contribute to the reduction of diffuse pollution.</p>
	<p>Current status of action:</p>	<p>Ongoing</p>
	<p>If 'Completed', has the action achieved its objective?</p>	
<p><b>Action H1 (cont.):</b></p>	<p>Description of action (as submitted in the IP):</p>	<p>Explore the benefit and feasibility of nutrient enrichment in upland oligotrophic parts of river systems.</p>
	<p>Expected outcome (as submitted in the IP):</p>	<p>Our aspiration is that nutrient enrichment in upland oligotrophic parts of river systems improves the size, condition and therefore marine survival of smolts. Next stages of work are expected to provide knowledge on how to add nutrients</p>

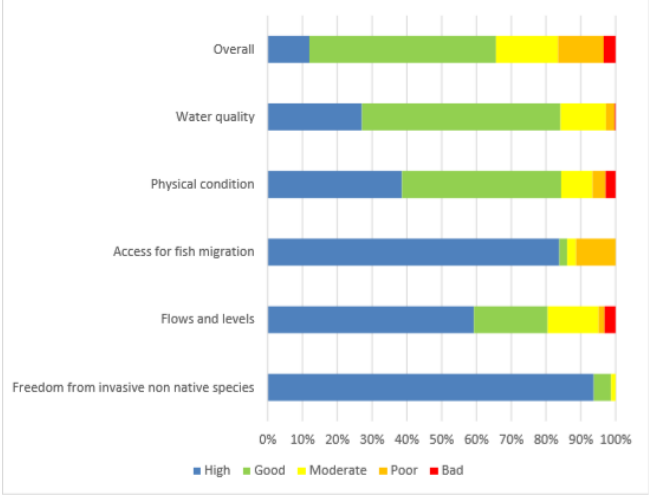
<sup>8</sup> <https://www.confor.org.uk/media/246355/know-the-rules-booklet-2nd-edition.pdf>

		effectively on large scale and across a range of river types.
	<p>Progress on action to date <i>(Provide a brief overview with a quantitative measure, or other justified evaluation, of progress. Other material (e.g. website links) will not be evaluated):</i></p>	<p>A series of workshops was held. The first of these brought together scientists who have worked on nutrient enrichment in Scotland to review information and identify priorities for next stages of work. The Group included representatives from UK, Norway and USA (2) and provided a steer for Fionn Benthall, who is commencing a PhD project on the issue.</p> <p>The second workshop brought together the regulators (SEPA, SNH, Marine Scotland) to compare views, consider issues with existing nutrient enrichment initiatives and discuss potential for facilitating future work.</p> <p>The third workshop brought the scientists, regulators and local biologists/river managers together to scope out potential for a coordinated large-scale adaptive management programme to commence nutrient enrichment across a network of rivers.</p> <p>The fourth workshop set out a series of actions now required to achieve the goal.</p>
	Current status of action:	Ongoing
	If 'Completed', has the action achieved its objective?	
<b>Action H2:</b>	Description of action <i>(as submitted in the IP):</i>	<p>River Basin Management Plans (RBMP) have identified that the main pressures on flows and levels in Scotland are from water abstractions or reservoirs used for hydroelectricity generation, the irrigation of crops and the manufacture of food and drink along with public water supplies to a lesser extent. This assessment includes consideration of salmon flow requirements.</p> <p>SEPA will work with hydroelectricity producers, farmers and other businesses abstracting water or storing it in reservoirs, to ensure that they take the actions necessary to improve water flows and levels during the current RBMP cycle and beyond.</p> <p>Scottish Water is investing, in the current investment programme 2015-21, to improve abstraction regimes in nine water resource zones to ensure that there is sufficient water remaining in the water bodies during periods of low rainfall.</p> <p>SEPA assesses any new abstraction proposal against standards in the current regulatory framework to prevent deterioration of good ecological status/ potential of the water environment and protect wild salmon.</p>
	Expected outcome <i>(as submitted in the IP):</i>	<p>River Basin Management Plans (RBMPs) utilise SEPA classification results to set objectives for improving the water environment over a six year cycle, the current RBMP2 being from 2015 to 2021. The third RBMPs will build on the work completed under RBMP2 up to 2021 to reduce abstraction and flow regulation pressures and will prioritise future targets up to 2027.</p> <p>Once the new online, GIS pressures mapping tool has been delivered, our target will be for it to show a reduction, by the</p>

		end of the five-year NASCO plan period, in the river length affected by abstraction; flow regulation; upland/agriculture land-use and drainage; and/or forestry drainage.															
	<p>Progress on action to date  <i>(Provide a brief overview with a quantitative measure, or other justified evaluation, of progress. Other material (e.g. website links) will not be evaluated):</i></p>	<p>SEPA published a summary of Scotland’s water environment along with progress to date on 19 December 2019 showing the condition of the water environment in Scotland in Figure 1, below.</p>  <p>Figure 1. Current condition of the water environment in Scotland in 2018</p> <p>The flows and levels column above indicates that just over 80% of water bodies are classified as good or high status. Water bodies below good status will be primarily impacted by abstractions from the following sectors hydropower, agricultural irrigation, public water supply and other industry. The second River Basin Management Plan runs from 2015 to 2021 and the table below shows progress to date.</p> <table border="1" data-bbox="678 1303 1428 1680"> <thead> <tr> <th>Sector</th> <th>Objectives complete by number of water bodies</th> <th>Objectives on track to be completed by 2021 by number of water bodies</th> </tr> </thead> <tbody> <tr> <td>Hydropower</td> <td>20</td> <td>22</td> </tr> <tr> <td>Agricultural irrigation</td> <td>10</td> <td>66</td> </tr> <tr> <td>Public water supply</td> <td>27</td> <td>13</td> </tr> <tr> <td>Industry other</td> <td>18</td> <td>21</td> </tr> </tbody> </table> <p>Source: Scotland’s water environment 2019: A summary and progress report interactive tool, SEPA 2019.</p>	Sector	Objectives complete by number of water bodies	Objectives on track to be completed by 2021 by number of water bodies	Hydropower	20	22	Agricultural irrigation	10	66	Public water supply	27	13	Industry other	18	21
Sector	Objectives complete by number of water bodies	Objectives on track to be completed by 2021 by number of water bodies															
Hydropower	20	22															
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Public water supply	27	13															
Industry other	18	21															
	Current status of action:	Ongoing															
	If ‘Completed’, has the action achieved its objective?																
<b>Action H3:</b>	Description of action (as submitted in the IP):	Implement Scotland’s Second Climate Change Adaptation Programme (SCCAP2). This will highlight Scotland’s adaptation priorities going forward.															

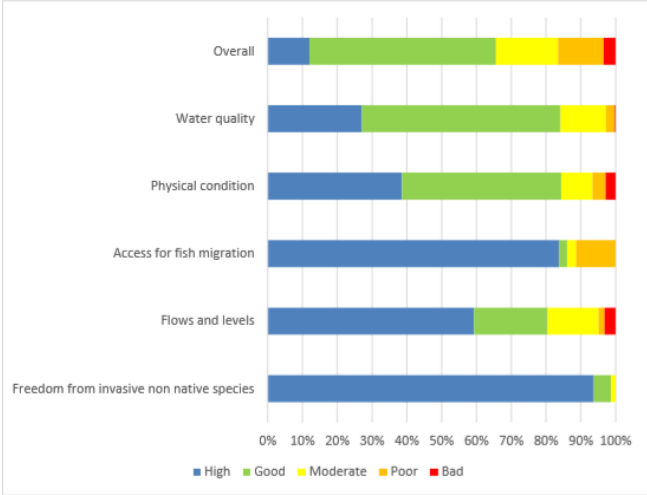
	Expected outcome (as submitted in the IP):	Riparian shade to be increased in sensitive and appropriate water bodies, through collaborative projects undertaken by DSFBs and/or Fisheries Trusts.
	Progress on action to date (Provide a brief overview with a quantitative measure, or other justified evaluation, of progress. Other material (e.g. website links) will not be evaluated):	<p>SCCAP2 includes the Scottish Natural Heritage (SNH) Biodiversity Challenge Fund (BCF), River Basin Management Planning, Scotland’s Forest Strategy and river temperature research. One of the challenges identified in the report is the need to mitigate increasing river temperatures, with it recognising that “sustaining cool river temperatures in Scotland is essential for salmonid habitat and health.”<sup>9</sup></p> <p>One of the few practical management strategies for reducing river temperature involves planting the right trees in the right places.</p> <p>Fisheries managers have been able to apply to the SNH BCF fund for money to increase riparian tree planting in climate sensitive rivers.</p> <p>General binding rules continue to protect riparian trees under Water Framework Directive and through River Basin Planning.</p> <p>Scotland’s Forest strategy aims to increase woodland cover across Scotland, while the Climate Change Programme (2013) commits to use riparian woodland to “...reduce thermal stress on the flora and fauna living in the water.” Progress is underway to match these objectives for the benefit of salmon through projects such as the Scotland River Temperature Monitoring Network (SRTMN) that identify which rivers are hottest, will respond most to climate change and are susceptible to benefits from shading.</p> <p>Management tools generated by SRTMN have been made available online to allow fisheries managers to apply for funding (e.g. through BCF) to reduce river temperatures in sensitive rivers.</p>
	Current status of action:	Ongoing
	If ‘Completed’, has the action achieved its objective?	
<b>Action H4:</b>	Description of action (as submitted in the IP):	Prevention of morphological impacts and passive recovery of watercourses will be achieved through the controlled activity regulations (CAR) and associated “General Binding Rules” and adherence to other guidelines such as the forest and water guidelines. GBRs include requirements for buffer strips to

<sup>9</sup> <https://www.gov.scot/binaries/content/documents/govscot/publications/strategy-plan/2019/09/climate-ready-scotland-second-scottish-climate-change-adaptation-programme-2019-2024/documents/climate-ready-scotland-second-scottish-climate-change-adaptation-programme-2019-2024/climate-ready-scotland-second-scottish-climate-change-adaptation-programme-2019-2024/govscot%3Adocument/climate-ready-scotland-second-scottish-climate-change-adaptation-programme-2019-2024.pdf>

		reduce fine sediment and nutrient delivery and encourage the growth of riparian vegetation.																																										
	Expected outcome (as submitted in the IP):	<p>River Basin Management Plans (RBMPs) utilise SEPA classification results to set objectives for improving the water environment over a six year cycle, the current RBMP2 being from 2015 to 2021. The third RBMPs will build on the work completed under RBMP2 up to 2021 to reduce morphology pressures and will prioritise future targets up to 2027.</p> <p>Once the new online, GIS pressures mapping tool is delivered, our target will be for it to show a reduction, by the end of the five-year NASCO plan period, in the river length affected by sedimentation; loss of sediment transfer; lack of, or excessive, large woody debris; canalisation/dredging/boulder removal.</p>																																										
	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):	<p>SEPA published a summary of Scotland’s water environment along with progress to date on 19 December 2019 showing the condition of the water environment in Scotland in Figure 1, below.</p>  <table border="1"> <caption>Data for Figure 1: Current condition of the water environment in Scotland in 2018</caption> <thead> <tr> <th>Category</th> <th>High</th> <th>Good</th> <th>Moderate</th> <th>Poor</th> <th>Bad</th> </tr> </thead> <tbody> <tr> <td>Overall</td> <td>10%</td> <td>55%</td> <td>20%</td> <td>10%</td> <td>5%</td> </tr> <tr> <td>Water quality</td> <td>25%</td> <td>55%</td> <td>15%</td> <td>5%</td> <td>2%</td> </tr> <tr> <td>Physical condition</td> <td>35%</td> <td>45%</td> <td>15%</td> <td>5%</td> <td>2%</td> </tr> <tr> <td>Access for fish migration</td> <td>85%</td> <td>10%</td> <td>5%</td> <td>2%</td> <td>2%</td> </tr> <tr> <td>Flows and levels</td> <td>55%</td> <td>15%</td> <td>15%</td> <td>10%</td> <td>5%</td> </tr> <tr> <td>Freedom from invasive non native species</td> <td>95%</td> <td>5%</td> <td>0%</td> <td>0%</td> <td>0%</td> </tr> </tbody> </table> <p>Figure 1. Current condition of the water environment in Scotland in 2018</p> <p>The physical condition column above indicates that over 80% of water bodies are classified as good or high status. SEPA will continue to monitor the progressive natural recovery of water bodies due to the protection afforded by CAR.</p>	Category	High	Good	Moderate	Poor	Bad	Overall	10%	55%	20%	10%	5%	Water quality	25%	55%	15%	5%	2%	Physical condition	35%	45%	15%	5%	2%	Access for fish migration	85%	10%	5%	2%	2%	Flows and levels	55%	15%	15%	10%	5%	Freedom from invasive non native species	95%	5%	0%	0%	0%
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<b>Action H5:</b>	Description of action (as submitted in the IP):	The UK Forestry Standard (UKFS) and its supporting Forests and Water Guidelines require that: ‘Where new planting or restocking is proposed within the catchments of water bodies at risk of acidification, an assessment of the contribution of forestry to acidification and the recovery process should be carried out; details of the assessment procedure should be agreed with the water regulatory authority’. This guidance, agreed by the relevant forestry, water and nature conservation authorities in the UK, describes how to meet this requirement,																																										

		<p>including the need to undertake a critical load assessment where new planting or restocking is proposed within the catchments of water bodies that are failing or at risk of failing Good Ecological Status due to acidification, and a site impact assessment where felling is planned.</p> <p>The benefits of riparian native woodland will be reinstated on water courses as part of the initiative to moderate river temperatures outlined in H3.</p>
	Expected outcome (as submitted in the IP):	Once the new online, GIS pressures mapping tool is delivered, our target will be for it to show a reduction, by the end of the five-year NASCO plan period, in the river length affected by loss of natural riparian vegetation and/or conifer afforestation.
	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 Practice Guide: Managing forests in acid sensitive water catchments <sup>10</sup> , agreed by the relevant forestry, water and nature conservation authorities in the UK, describes how to meet this requirement, including the need to undertake a critical load assessment where new planting or restocking is proposed within the catchments of water bodies that are failing or at risk of failing Good Ecological Status due to acidification, and a site impact assessment where felling is planned.
	Current status of action:	Ongoing
	If 'Completed', has the action achieved its objective?	
<b>Action H6:</b>	Description of action (as submitted in the IP):	<p>Scotland's River Basin Management Plans (RBMPs), published in 2015, set objectives for the protection and improvement of our water environment, with the aim of 87% of water bodies achieving a classification of 'Good Ecological Status' by 2027. Fish passage is recognised as one of the three main priorities of RBMP2 (2015 – 2021), including the challenges faced by Atlantic salmon smolts in their downstream migration, particularly in relation to hydro schemes. The second RBMPs identified fish migration pressures in 392 water bodies across Scotland.</p> <p>SEPA is leading on work to remove or ease redundant barriers in rivers, utilising ca. £5m annual funding from the Scottish Government. Through SEPA regulatory action and the Water Environment Fund more than 1000 kilometres of good-quality salmon habitat has been opened-up by the removal of barriers to fish migration.</p>
	Expected outcome (as submitted in the IP):	<p>River Basin Management Plans (RBMPs) utilise SEPA's classification results to set objectives for improving the water environment over a six year cycle, the current RBMP2 being from 2015 to 2021. The third RBMPs will build on the work completed under RBMP2 up to 2021 to reduce fish barrier pressures and will prioritise future targets up to 2027.</p> <p>Once the new online, GIS pressures mapping tool is delivered, our target will be for it to show a reduction, by the end of the five-year NASCO plan period, in the river length affected by</p>

<sup>10</sup> <https://www.forestresearch.gov.uk/research/managing-forests-in-acid-sensitive-water-catchments/>

		upstream passage (consider cumulative impacts); downstream passage; dams/weirs/large water bodies; and/or other.
	<p>Progress on action to date <i>(Provide a brief overview with a quantitative measure, or other justified evaluation, of progress. Other material (e.g. website links) will not be evaluated):</i></p>	<p>SEPA published a summary of Scotland’s water environment along with progress to date on 19 December 2019 showing the condition of the water environment in Scotland in Figure 1, below.</p>  <p>Figure 1. Current condition of the water environment in Scotland in 2018</p> <p>The access for fish migration column above indicates that over 80% of water bodies are classified as high status. The second River Basin Management Plan cycle is from 2015 to 2021 and so far improvement measures to manmade barriers to fish migration have been completed for 79 water bodies with another 173 being on track to be completed for 2021. NB multiple water bodies may be improved by easement of one barrier to fish migration.</p>
	Current status of action:	Ongoing
	If ‘Completed’, has the action achieved its objective?	
<p><b>Action H7:</b></p>	<p>Description of action <i>(as submitted in the IP):</i></p>	Continued implementation of monitoring/research strategy for potential marine renewable and salmonid interactions.
	<p>Expected outcome <i>(as submitted in the IP):</i></p>	<p>Improved understanding of the potential impacts of marine renewable energy generation on Atlantic salmon.</p> <p>Continued monitoring of the effectiveness, enforcement and development of appropriate renewable energy industry mitigation for identified effects on salmonids.</p>
	<p>Progress on action to date <i>(Provide a brief overview with a quantitative measure, or other justified evaluation, of progress. Other material (e.g. website links) will not be evaluated):</i></p>	<p>The Scottish Marine Energy Research (ScotMER) strategic research initiative Diadromous Fish Specialist Receptor Group published an Evidence Map in 2019 which prioritised research needs and facilitated the recording of progress.</p> <p>Research advanced in 2019 included two large collaborative acoustic tracking projects to provide more detailed information on the paths taken by smolts from various Moray Firth rivers across the Moray Firth and out from the Aberdeenshire Rivers</p>



		Dee and Don, and further surface trawling of smolts combined with genetic stock identification to extend the range of previous studies further out into the North Sea.
	Current status of action:	Ongoing
	If 'Completed', has the action achieved its objective?	
<b>Action H8:</b>	Description of action (as submitted in the IP):	Research, review and experimentation to better understand and address, as appropriate, the impact of piscivorous birds on Atlantic salmon.
	Expected outcome (as submitted in the IP):	Increase the scientific information available to underpin the management of piscivorous birds.
	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):	<p>CEH (Centre for Ecology &amp; Hydrology) is currently undertaking work on behalf of Marine Scotland to assess diets of goosanders and cormorants from residual hard parts of fish for comparison with research undertaken in Scottish freshwaters around 20 years ago.</p> <p>In the meantime, stocks of salmon and some other fish species eaten by these birds (e.g. European eel) have declined. Hence, there are likely to have been changes in the structures of fish communities in Scottish rivers in recent years, and so it is timely to collect new comparative dietary information regarding the diets of two of the most abundant and widespread avian predators in these habitats.</p> <p>The present research does not set out to quantify the impact of these birds, but to document the diet of Goosanders and Cormorants, and make comparisons with previous work.</p> <p>Initial findings of the project are expected during 2020.</p> <p>Planning has been commenced for developing suitable methods to measure losses of salmon smolts to predators during their down-river migration.</p>
	Current status of action:	Ongoing
	If 'Completed', has the action achieved its objective?	
<b>Action H8 (cont.):</b>	Description of action (as submitted in the IP):	Pilot study to identify the degree of interaction and potential scale of impact of dolphins on returning adult Atlantic salmon in the Moray Firth.
	Expected outcome (as submitted in the IP):	Improved understanding of the predation interactions between dolphins and salmon.
	Progress on action to date (Provide a brief overview with a quantitative measure, or other justified evaluation, of progress. Other material (e.g.	In 2018, a sample of returning adult salmon fitted with temperature sensitive transmitters was released in the Moray Firth, Scotland and monitored by arrays of acoustic receivers. Data collected are being analysed in relation to information on presence of dolphins as part of a PhD project due to conclude in 2020.

	<i>website links) will not be evaluated):</i>	
	Current status of action:	Ongoing
	If 'Completed', has the action achieved its objective?	
<b>Action H8 (cont.):</b>	Description of action (as submitted in the IP):	The Seals and Salmon Interactions (SSI) work to identify the impact of seal predation on wild Atlantic salmon.
	Expected outcome (as submitted in the IP):	Provision of estimates of potential Atlantic salmon removals from the River Dee by seals.
	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):	A draft manuscript which is being prepared for peer reviewed journal submission will be ready for review by Scottish Government in Spring 2020. The paper will describe the ecology of seals in the River Dee with respect to potential impact on salmonid fisheries, and will provide an estimate of salmonid consumption by seals in the observed area of Aberdeen harbour over a twelve month period.
	Current status of action:	Ongoing
	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.**

<b>Action A1:</b>	Description of action (as submitted in the IP):	Marine Scotland has reviewed the policy permitting salmon introductions (stocking), and will also revisit options for a new licensing regime under that policy.
	Expected outcome (as submitted in the IP):	A licensing regime aiming at improving the conservation status of local wild Atlantic salmon 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):	Changes to the policy on stocking Atlantic salmon were introduced in spring 2019. Marine Scotland plans to assess the impact of these changes and consult widely in a further review during 2020.
	Current status of action:	Ongoing

	If 'Completed', has the action achieved its objective?	
<b>Action A2:</b>	Description of action (as submitted in the IP):	Marine Scotland has initiated a national introgression project in July 2018 that seeks to quantify levels of introgression of genetic material from farm escapees into wild Scottish Atlantic salmon populations.
	Expected outcome (as submitted in the IP):	It will measure how much introgression there has been of genomic material of Norwegian origin, completing by the end of March 2021.
	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):	<p>Material as part of NEPS has been collected from across Scotland and analysis started. A SNP panel to distinguish between wild and farmed has been developed for Scotland.</p> <p>The Scottish Technical Standard for Finfish Aquaculture (published 2015) determines technical requirements for fish farm equipment in Scotland and applies to all species of finfish. It should be used alongside operational procedures and training of staff to ensure equipment is used and maintained appropriately. The purpose of the Standard is to help prevent escapes of finfish as a result of technical failure and related issues at Scottish finfish farms.</p> <p>The Improved Containment Working Group (Scottish Technical Standards) has reconvened with a view to updating the Scottish Technical Standard for Finfish Aquaculture in order that it remains fit for purpose and exploring options for implementation in 2020. Meetings have covered escapes, training issues, the review and update process, timescales, validation, compliance and enforcement.</p>
	Current status of action:	Ongoing
	If 'Completed', has the action achieved its objective?	
<b>Action A3:</b>	Description of action (as submitted in the IP):	Post-smolt, west coast sweep netting and a continued work programme at the Shieldaig site to provide data to investigate potential links between sea lice, farms and sea trout.
	Expected outcome (as submitted in the IP):	Recommendations for a future interactions approach.
	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):	Migrating salmon and sea trout smolts have been tracked around the Torridon Loch system using acoustic tags and an array of 80 receivers. River use has also been examined. Analysis of 20 years of trap data is almost complete.
	Current status of action:	Ongoing

	If 'Completed', has the action achieved its objective?	
<b>Action A2 &amp; A3:</b>	Description of action (as submitted in the IP):	A new Salmon Interactions Workstream will provide advice on existing and potential future arrangements to mitigate the 12 high level pressures on wild salmon. As an initial task, a new, independently chaired Working Group was established in October 2018, to examine and provide advice on the interactions between wild and farmed Atlantic salmon.
	Expected outcome (as submitted in the IP):	An approach to managing interactions which enables the protection and enhancement of Scotland's wild Atlantic salmon stocks alongside the sustainable development of aquaculture, maintaining the right balance across our economic, environmental and social responsibilities – in line with Scotland's National Marine Plan.
	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):	<p>A Salmon Interactions Workstream has been launched to look, in part, at the reasons behind the decline in Scottish Atlantic salmon. The first stage of the Workstream is the creation of an initial Working Group (established June 2018), independently chaired by John Goodlad and comprises of representatives from both the farmed and wild salmon sectors, Scottish Government and its agencies, and eNGOs.</p> <p>The Group will provide advice on how we move forward the dialogue on the interaction between wild and farmed salmon, its conclusions will help inform our Wild Salmon Strategy.</p> <p>Outputs of the Group are expected in 2020.</p> <p>The Group also works in parallel with a regulator's (SNH, SEPA, Marine Scotland and Local Authority representation) Technical Working Group which has been established to develop a practical framework for assessing the level of risk posed to wild salmonids (from sea lice). The framework will take account of the best available science, and is intended to underpin future planning advice.</p> <p>Consultation with stakeholders on early proposals on a longer-term spatial framework (which has included Fisheries Management Scotland) began during 2019 and continues, with a formal public consultation to follow.</p> <p>In the interim<sup>11</sup> as part of any request for planning advice Marine Scotland will expect a condition requiring an Environmental Management Plan (EMP) to be delivered for any consents for marine aquaculture planning applications (when there is/ or there is potential for wild fish/farmed fish interaction). An EMP will initiate collection of environmental data which can be useful to monitor sea lice levels in the areas around a farm. The information can be used to highlight where</p>

<sup>11</sup> Scottish Government's response to the (see page 22) Rural Economy and Connectivity report on Salmon Farming in Scotland- 29 January 2019 [https://www.parliament.scot/S5\\_Rural/20190129\\_Cab\\_Sec\\_RE\\_-\\_SG\\_response\\_to\\_Cttee\\_report\\_on\\_salmon\\_farming\\_in\\_Scotland.pdf](https://www.parliament.scot/S5_Rural/20190129_Cab_Sec_RE_-_SG_response_to_Cttee_report_on_salmon_farming_in_Scotland.pdf)

		<p>impacts may be occurring and where there is a need for remedial action.</p> <p>Marine Scotland provided advice in July 2019, with regards to the minimum criteria it expects within an interim EMP. The minimum criteria is highlighted to operators by Marine Scotland during the screening and scoping process and during the consultation stage, Marine Scotland will confirm whether the minimum criteria are included in EMPs.</p> <p>Current and developing advice is relevant to the Marine Planning Policy, ‘Aquaculture 7’ – within the National Marine Plan: <i>Operators and regulators should continue to utilise a risk based approach to the location of fish farms and potential impacts on wild fish.</i></p>
	Current status of action:	Ongoing
	If ‘Completed’, has the action achieved its objective?	

<b>4: Additional information required under the Convention</b>
4.1 Details of any laws, regulations and programmes that have been adopted or repealed since the last notification.
The Conservation of Salmon (Scotland) Regulations 2016 were amended with effect from 1 April 2019. The regulations set out, amongst other things, those inland waters where mandatory catch and release arrangements were to apply in the 2019 season.
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.
The Conservation of Salmon (Scotland) Regulations 2016 introduced a prohibition on taking Atlantic salmon in coastal fisheries. This prohibition continues in force.
4.3 Details of any new actions to prohibit fishing for salmon beyond 12 nautical miles.
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.
4.5 Details of any actions taken to implement regulatory measures under Article 13 of the Convention including imposition of adequate penalties for violations.
<b>North American Commission Members only:</b>

4.6 Details of any new measures to minimise by-catches of salmon originating in the rivers of the other member.

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.