



Agenda Item 5.1
For decision

Council

CNL(19)12

***Report of the Meeting of the Implementation Plan / Annual Progress Report
Review Group for the Review of Annual Progress Reports under the Second
Cycle of Reporting (2013 – 2018)***

CNL(19)12

Report of the Meeting of the Implementation Plan / Annual Progress Report Review Group for the Review of Annual Progress Reports under the Second Cycle of Reporting (2013 – 2018)

Hotel London Kensington, London, UK

10 – 11 April 2019

1. Opening of the Meeting

- 1.1 The Chair, Mr Rory Saunders (United States), opened the meeting and welcomed members of the Review Group to London. He noted that the main task before the Review Group was to evaluate the 2019 Annual Progress Reports (APRs) under the 2013 – 2018 Implementation Plans (IPs), which would be the last APRs under the second reporting cycle. APRs detail the measures to be taken by Parties / jurisdictions to implement NASCO's agreements. The evaluation is intended to ensure that Parties / jurisdictions have provided a clear account of progress in implementing and evaluating the actions detailed in their IPs and the other information requested in the APRs.
- 1.2 Cathal Gallagher, Paddy Gargan, Paul Knight, Rory Saunders (Chair), Steve Sutton and Lawrence Talks participated in the meeting. The NASCO Secretary co-ordinated the work of the Group and the NASCO Assistant Secretary assisted.
- 1.3 The Chair noted that it had not been possible for Denmark (in respect of the Faroe Islands and Greenland) to provide a member to the Review Group. The Secretary explained that Denmark (in respect of the Faroe Islands and Greenland) had identified a salmon specialist to participate in the Review Group but that person was unable to attend the meeting due to extenuating circumstances. The Secretary further explained that the representative of Denmark (in respect of the Faroe Islands and Greenland) wished to reiterate their commitment to the Implementation Plan and Annual Progress Report review process.

2. Adoption of the Agenda

- 2.1 The Review Group adopted its Agenda, IP(19)31 (Annex 1).

3. Review of the Terms of Reference and Consideration of Working Methods

- 3.1 The primary purpose of APRs is to provide details of:
 - any changes to the management regime for salmon and consequent changes to the IP;
 - actions that have been taken under the IP 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.
- 3.2 The Council had agreed (see CNL(12)44) that the purpose of the evaluation of the APRs is to ensure that Parties / jurisdictions have provided a clear account of progress in implementing and evaluating the actions detailed in their IPs and have provided the

information required under the Convention. As requested by the Council, in its 2018 report the Review Group provided details of its evaluation of progress on each action in a table at the end of its review, highlighting shortcomings. The Parties / jurisdictions were asked to address these shortcomings in their 2019 APRs.

Working Methods

- 3.3 As this was the final APR in the second reporting cycle, the Review Group adopted the same working methods as it had used at its previous meetings during this cycle. In summary, the Review Group continued to adopt the following ‘ground rules’ in undertaking its 2019 evaluations:
- (a) initial reviewers from the different Parties / jurisdictions were appointed for each APR (mainly the same reviewers as for the IPs and previous APR evaluations) and asked to lead the discussion within the Group and to produce an initial evaluation of each APR. This included an assessment of progress against each of the actions in the IP and the reporting on: new initiatives or achievements for salmon conservation and management; stock status and new factors affecting salmon abundance; catch statistics; and the additional information required under the Convention. The NGO representatives did not act as initial reviewers on any of the APRs;
 - (b) in reporting the evaluations, the initial reviewers remained anonymous but in the event that one or more members of the Review Group did not agree with a particular aspect or aspects of the evaluation, the report would indicate that there were dissenting views without disclosing which members of the Group expressed the dissenting views unless they wished to be identified;
 - (c) while the Group drew on information in the IPs, it only commented on the information presented in the APRs;
 - (d) because not all Parties / jurisdictions were represented on the Group, it was agreed that a member of the Review Group from a Party / jurisdiction whose APR was being reviewed would not be present during the initial review of that report. However, the NGO representatives were present for all reviews. The members of the Group were appointed by the Council to represent NASCO, not their Party / Organization.]
- 3.4 For each APR, the Review Group assessed whether satisfactory responses had been provided on:
- any changes to the IP, new initiatives and significant changes in stock status;
 - the provision of complete catch data;
 - progress made on each action; and
 - other returns required under the Convention.
- 3.5 Additionally, the Review Group evaluated whether the shortcomings identified by the review process in 2018 were addressed in the 2019 APRs.
- 3.6 When all evaluations were complete, a consistency check was undertaken of all the assessments.

4. Evaluation of the 2019 Annual Progress Reports and Development of Feedback to the Parties / jurisdictions

Overview of the Annual Progress Report Evaluations

- 4.1 In 2019, the Review Group welcomed the submission of 18 of the 19 expected APRs either by, or just after the deadline. The Review Group noted progress in the submission timing and quality of reporting. At the end of the second reporting cycle the Review Group noted the considerable progress made by Parties / jurisdictions in many areas covered under NASCO's theme areas, especially in 'Management of salmon fisheries' and in 'Protection and restoration of Atlantic salmon habitat'. It considered that the APRs have been the primary vehicle for demonstrating progress towards the achievement of NASCO's goals for the conservation, restoration and enhancement of wild Atlantic salmon. They have provided a vehicle for the sharing of good practice among the Parties / jurisdictions and steered the direction for NASCO's Theme-based Special Sessions.
- 4.2 However, the Review Group considered that much work is still required under NASCO's third theme area 'Management of aquaculture, introductions and transfers and transgenics', particularly in the attainment of the international NASCO / ISFA goals for sea lice and containment. The Review Group looks forward to working over the third reporting cycle in assessing further progress towards the achievement of NASCO's goals under each of the three theme areas.
- 4.3 With regard to the content of the APRs, the Review Group noted that shortcomings included:
- several of the 2019 APRs had provided similar information to that provided in their reports from 2014 to 2018, even when the Group had previously sought clarification or further detail in its feedback to the Parties / jurisdictions;
 - the Review Group had again noted that evaluating the progress reported on actions in the APRs was very difficult when the descriptions of the planned actions in the IP were vague or imprecise;
 - the Review Group had further noted that the APRs for several Parties / jurisdictions continued to lack a clear account of progress in implementing and evaluating some, or all, of the actions detailed in their IPs, despite the further guidance provided on completing the template, the provision of examples of good practice, and the Review Group's feedback on identified shortcomings in 2018;
 - the Review Group again expressed concern that, for some Parties / jurisdictions where actions were ongoing, there was either no report of progress or the reporting was unclear;
 - overall, the Review Group had again considered that the most common fault with the information provided continues to be a lack of quantitative evidence on the extent of the progress made and / or what the results have been. All Parties / jurisdictions are urged to address this in the third reporting cycle.

2018 Annual Progress Report Evaluations

- 4.4 The 2019 APR template was issued on 11 January 2019 and Parties / jurisdictions had been asked to complete and return their APRs to the Secretariat by 28 March 2019. All but three Parties / jurisdictions submitted their reports by this date. The other two submitted were received on 1 and 2 April. As requested by the Council, the Secretariat had completed the 'Description of Actions' and 'Expected Outcomes' fields in the APR template for each Party / jurisdiction using the text from the most recent versions of the

IPs. Parties / jurisdictions were reminded of the shortcomings in the 2018 APRs that the Review Group had highlighted in its 2018 report and were advised that the Review Group would be paying close attention to how these were addressed in the 2019 APRs.

- 4.5 Eighteen APRs were submitted to the Review Group prior to its 2019 meeting and reviewed by them. In addition, a report was submitted by EU – Portugal on salmon management in Portugal. The Review Group noted that EU – Portugal did not submit a 2013 – 2018 Implementation Plan. This report was therefore not an Annual Progress Report under an Implementation Plan and consequently would not be reviewed. However, the Review Group thanked EU – Portugal for providing the information contained in the report and welcomed the increased participation of EU – Portugal in the Implementation Plan process.

Party / jurisdiction	Document No.	Date APR received by Secretariat
Canada	CNL(19)25	28 March 2019
Denmark (in respect of the Faroe Islands and Greenland) – Faroe Islands	CNL(19)40	2 April 2019
Denmark (in respect of the Faroe Islands and Greenland) – Greenland	CNL(19)35	28 March 2019
EU – Denmark	CNL(19)26	28 March 2019
EU – Finland	CNL(19)32	28 March 2019
EU – France	CNL(19)30	28 March 2019
EU – Germany	CNL(19)28	28 March 2019
EU – Ireland	CNL(19)31	28 March 2019
EU – Spain (Asturias)	CNL(19)34	28 March 2019
EU – Spain (Cantabria)	CNL(19)27	28 March 2019
EU – Spain (Galicia)	CNL(19)29	28 March 2019
EU – Spain (Navarra)	CNL(19)22	12 March 2019
EU – Sweden	CNL(19)33	28 March 2019
EU – UK (England and Wales)	CNL(19)36	28 March 2019
EU – UK (Northern Ireland)	CNL(19)37	28 March 2019
EU – UK (Scotland)	No document received	
Norway	CNL(19)39	1 April 2019
Russian Federation	CNL(19)24	26 March 2019
United States	CNL(19)23	22 March 2019

- 4.6 The Review Group’s evaluations of the 2019 APRs are contained in document IP(19)32 (Annex 2). All the evaluations were agreed unanimously by the Review Group. The Review Group used the following format in presenting its evaluations:

- a paragraph (shown in bold italics) summarising its overall assessment of the APR in terms of whether it provided a clear account of progress and noting any shortcomings;
- a paragraph highlighting interesting developments or challenges related to implementation of NASCO’s agreements and guidelines;
- paragraphs summarising the actions taken in relation to management of fisheries, habitat protection and restoration and aquaculture and related activities; and
- a table providing details of the Review Group’s evaluation of progress on each action, highlighting any shortcomings and adding comments or recommendations where it was considered to be helpful to inform future reporting.

4.7 For consistency of review, the Review Group adopted the same standard text for use in the review tables as in 2018, as follows:

- the ‘status of action’ used to report progress in the overview of progress table in previous evaluation reports would be used to ensure consistency with categories with which Parties and jurisdictions are familiar, with the extra category (OG-UD) and the modified category (OG-NP). The ‘status of action’ categories are:
 - NS = Not Started;
 - OG = Ongoing - clear progress;
 - OG-NP = Ongoing – no progress;
 - OG-UD = Ongoing – unable to determine progress;
 - CD = Completed - clear progress;
 - CD-NP = Completed - without clear progress;
- progress on each action would be evaluated and categorised according to the list above;
- where progress on a particular action is deemed to be of special note, the Review Group would highlight in the table why the progress is well reported;
- where progress is deemed to be ongoing but the Review Group considered that improvements could be made to future reporting, these improvements would be suggested in a comments / recommendations column in the table;
- for actions where progress is not able to be determined, standard descriptors, giving an explanation of the shortcomings, would be used, with further explanations (in italics) as to why these descriptors were used in each case. The agreed standard descriptors are:
 - action not yet started;
 - lack of quantitative data to demonstrate progress;
 - reliance on references to websites or publications;
 - reporting timeframe not clearly specified;
 - no progress has been made in the reporting year;
 - progress report is unclear.

4.8 At the APR Special Session during the 2018 Annual Meeting of the Council, suggestions were made to make the table at the end of each review more ‘user-friendly’. The Review Group considered this feedback and made the following changes in response:

- a short description of each action has been added to avoid the need to read the table in conjunction with the IP; and
- a new column has been added to highlight whether the Review Group felt progress with an action was clear or not.

The table that was used in 2019 is as follows:

Action No.	Description	Status of Action	Clear Progress / No Clear Progress	Explanation of Shortcoming	Comments / Recommendations
<i>Management of Salmon Fisheries</i>					
F1					
F2					
<i>Habitat Protection and Restoration</i>					
H1					
H2					
<i>Aquaculture and Related Activities</i>					
A1					
A2					

- 4.9 The Review Group noted that, in general, the Parties / jurisdictions had incorporated the comments on shortcomings given in 2018 and incorporated them into their 2019 APRs. The Review Group has commented in each of the review tables as to whether it considered the shortcomings have been addressed.
- 4.10 The Review Group reiterated its hope that the new way of reporting shortcomings in the APRs for several Parties / jurisdictions that continued to provide an unclear account of progress in implementing and evaluating some, or all, of the actions detailed in their IPs, would ensure that the kind of information required to ensure clear reporting on actions would be clearer to all Parties / jurisdictions and would be used for future reporting in the third reporting cycle.
- 4.11 The Review Group is again concerned by the lack of quantitative data supplied in the reporting of progress of actions. This has been a commonly reported fault and continues to be the case; it results in unclear reporting because the evidence to assess the extent of progress is missing. All Parties / jurisdictions are asked to address this in the APRs associated with the third reporting cycle.
- 4.12 These shortcomings are a continuing concern to the Review Group given that improving commitment to NASCO agreements was a key aspect of the ‘Next Steps’ and External Performance reviews. When preparing APRs under the third reporting cycle, Parties / jurisdictions are again reminded to provide evidence of progress made to address the action in the current year or to indicate that no further progress was made. The Review Group considered that the comments on shortcomings given in the current report can be used to provide guidance on the kind of evidence expected.
- 4.13 The Review Group again commented that in many instances acronyms are used throughout the reports with no explanation of their meaning. It would be helpful to the reviewers if all Parties / jurisdictions could take care to ensure that acronyms are clearly explained. Additionally, the Review Group would reiterate the comments in the APR text that a brief overview with a clearly defined quantitative measure of progress is needed for each action. Other material, such as web-links, publications and appended information, will not be evaluated.
- 4.14 In particular, the Review Group wishes to **commend EU – Ireland** for the clarity of its 2019 APR.
- 4.15 The Review Group noted that several Parties / jurisdictions reported some interesting and useful developments and challenges in addressing NASCO’s Resolutions, Agreements and Guidelines, including:

- **EU – Germany:** the International Commission for the Protection of the Rhine (ICPR) ‘Master Plan Migratory Fish Rhine’ was updated in 2018. A number of measures have been added, which include the evaluation and control of fishways, actions to combat illegal fishing, details on stocking strategies, a new chapter on the state of knowledge and protection techniques for downstream fish migration as well as increasing reference to other fish species than salmon and sea trout. The Review Group noted the significant milestone that stocking material is now obtained from within the Rhine catchment and progress is being made towards establishing self-sustaining salmon stocks. In 2018, the severe low water situation from early summer until the autumn, due to drought, resulted in extraordinarily unfavourable conditions for salmon migration on the Rhine, upper Elbe and the Weser. The registered numbers of returning adult salmon on the Rhine was very low compared to the previous years;
- **EU – Ireland:** the establishment of the North-South Standing Scientific Committee for Inland Fisheries in 2018 and the Irish Government-convened steering group to examine fish passage on the lower River Shannon are welcomed and illustrate a very positive and progressive approach to management of salmon in Ireland. In mid-2018, Inland Fisheries Ireland (IFI) announced a €3.3 million investment in 12 new state-of-the-art boats to be delivered on a phased basis for use in fisheries protection and enforcement. By the end of 2018, eight of these boats were delivered to IFI;
- **EU – Spain (Navarra):** the Review Group noted the removal of several barriers on the Bidasoa River and the positive response on migrating returning spawners, which is supported by a salmon radio tracking scheme under the LIFE IREKIBAI Project;
- **EU – UK (England and Wales):** new salmon regulations have been brought into place that significantly reduce exploitation; they close all existing salmon net fisheries in England except the River Severn, which includes the NE mixed-stock coastal fishery and the introduction of compulsory catch and release on At-Risk rivers. As 2018 was particularly dry and warm throughout much of England and Wales, ameliorating the effects of climate change remained a key focus of many habitat-related and outreach actions.

Parties / jurisdictions submitting revised APRs

4.16 On the last day of the Review Group’s meeting, revised APRs were received from:

- EU – Spain (Asturias); and
- EU – Spain (Galicia).

No time was available to the Review Group to review these revised APRs and, consequently, they were not reviewed.

Parties / jurisdictions not submitting APRs

4.17 By the end of the Review Group’s meeting, an APR had still not been received from EU – UK (Scotland), despite each Party’s reporting requirements under the Convention being clarified to them by the Secretary. The lack of reporting of this APR to NASCO is of notable concern to the Review Group.

5. Arrangements for Presenting the Group’s Report to the Council

5.1 The Review Group agreed that the Chair would present its report to the Council during the Special Session at the Thirty-Sixth (2019) Annual Meeting. The Group agreed that this should briefly summarise the Group’s working methods and provide an overview

of the evaluations in terms of completeness and timeliness of reporting and progress at the end of the second reporting cycle. The circulation of the evaluations ahead of the Annual Meeting should facilitate discussion at the meeting involving all Parties and NGOs.

6. Report of the Meeting

6.1 The Review Group agreed a report of its meeting.

7. Other Business

7.1 There was no other business.

8. Close of the Meeting

8.1 The Chair thanked the members of the Review Group for their contribution to the meeting and wished them a safe journey home.

IP(19)31

***Meeting of the Implementation Plan / Annual Progress Report Review Group
for the Review of Annual Progress Reports***

Hotel London Kensington, London, UK

10 – 11 April 2019

Agenda

1. Opening of the Meeting
2. Adoption of the Agenda
3. Review of the Terms of Reference and Consideration of Working Methods
4. Evaluation of the 2019 Annual Progress Reports and Development of Feedback to the Parties / jurisdictions
5. Arrangements for Presenting the Group's Report to the Council
6. Report of the Meeting
7. Other Business
8. Close of the Meeting

Secretary
Edinburgh
10 April 2019

IP(19)32

*Evaluation of Annual Progress Reports
from the Review Group to Parties / jurisdictions*

Canada, CNL(19)25

The Annual Progress Report provides an update on the twelve actions identified in the Implementation Plan; however, the Review Group found it difficult to determine progress on eight of the twelve actions presented. As a general comment, the Review Group considers that some of the updates were verbose and lacked quantitative / measurable information. Given this, however, Action H1 is an example of one which provided a clear update on progress. Eleven of these actions are ongoing and one action (Action A3) has been completed. It is noted that Action F1 was reported as complete in 2017 and has now reverted to ongoing. Action F1 is supported by reports received in relation to two provinces only while reporting is required on a national basis. Under Actions A1 and A2, it is not clear as to whether the international goals for sea lice and containment set out in the NASCO Guidance on Best Management Practices to address Impacts of Sea Lice and Escaped Farmed Salmon on Wild Salmon Stocks, are being achieved and / or whether quantifiable progress is being made.

While the trend of declining returns continued in 2018, the Government of Canada implemented a series of measures to ensure that salmon conservation remains a top priority. The management regime of mandatory catch and release has been implemented in nearly all of the southern ranges of the Atlantic coast. In the northern ranges, a combination of measures was used, including limits to catch, catch and release, and even the closing of rivers where sustainability targets were not being met. To inform decision-making, Canada continued to engage with Indigenous groups, other levels of government, and non-governmental stakeholders, as well as rely on science assessment data. Additionally, the Government of Canada initiated a process to advance the objectives and principles of the Wild Atlantic Salmon Conservation Policy. This included establishing a working group comprised of members of the Atlantic Salmon Conservation Advisory Group to initiate the development of the domestic Salmon Policy Implementation Plan. The Plan was drafted as a consensus based document, and once approved, will serve to guide the collective efforts of all stakeholders to ensure salmon conservation and sustainability.

Actions related to the management of salmon fisheries: in Quebec, since the implementation of its Atlantic Salmon Management Plan 2016-2026, the harvest of large salmon by recreational anglers has reduced by 45% in comparison to the previous 5-year average, salmon returns have stayed relatively stable and anglers' presence on rivers has increased by 4%. In 2018, the annual quota by anglers was reduced from 7 salmon, large or small, to 4 salmon, including a single large salmon, as intended in the management plan. DFO Maritimes Region has adopted 2.4 eggs / m² of accessible fluvial rearing habitat that is of suitable gradient as the lower reference point under the PA. Reports were made for only two regions and

it is not clear what progress has been made in the others. (Action F1). As reported in Canada's 2015 APR, Canada's federal Aquatic Invasive Species Regulations came into force May 29th, 2015. The work relating to the AIS Regulations is therefore complete and has achieved its objectives. Canada reports that potential impacts of Smallmouth Bass have been successfully managed by suppressing their population within Lake Miramichi. However, no quantitative information was provided against which to evaluate progress (Action F2). The West River Acid Rain mitigation project is entering its 14th year overall and its third year of significant expansion. Monitoring for effectiveness includes: operation of an adult salmon counting fence; operation of a smolt assessment facility; ongoing electrofishing; and, water chemistry monitoring. Research is being expanded to examine the interplay between forest resiliency / productivity and catchment liming to integrate salmon and forest economics. Reporting and evaluation would have benefited from the provision of quantitative information (Action F3). The provision of enforcement data is a prime example of the type of quantitative information that the Review Group requires to assess effective progress. Enforcement continues to be actively pursued with 3,786 fishers and 17,220 fishing sites checked and 127 violations detected in 2018 (Action F4). Measures to minimise the bycatch of salmon remain in place. Updates were provided from one region alone (Maritimes Region) thus it is not clear what overall progress on a national level has been made in 2018 (Action F5).

Actions related to habitat protection and restoration: DFO continues to work in collaboration with Parks Canada Agency (PCA) and with its many partners to implement the Recovery Strategy for the Atlantic Salmon, Inner Bay of Fundy (iBoF) population. Amendments to the published Recovery Strategy are underway, which will include the identification of estuarine and marine areas of critical habitat, the addition of the Petitcodiac River as critical habitat, as well as other updates (Action H1). The Fisheries Protection Program initiated a review of its Compliance Protocol and attempts to standardise the wording of management measures (advice) to ensure that they explicitly convey the actions that are needed by proponents; however it is not clear how the expected actions and outcomes relate to the progress report (Action H2). Inter-jurisdictional discussions and collaborative activities are ongoing but no new agreements have been struck. There are no new developments reported for 2018 (Action H3).

Actions related to aquaculture and associated activities: a range of provincial (e.g. the Nova Scotia government's traceability program) and federal (e.g. DFO's review and analysis of federal, provincial and territorial regulations) initiatives are described under Actions A1 and A2. However, a lack of quantitative data has been provided to demonstrate progress. The renewed National Code on Introductions and Transfers of Aquatic Organisms and the National Aquatic Animal Health Program were implemented in 2017; the Review Group notes their completion. (Action A3). In July 2018, a regulatory package was submitted under the *New Substances Notification Regulations (Organisms)* for the manufacture and grow-out of EO-1α Salmon (the AquAdvantage® Salmon) (Action A4).

Action No.	Description	Status of Action	Clear progress / No clear progress	Explanation of shortcoming	Comments / Recommendations
Management of Salmon Fisheries					
F1	Fisheries management measures introduced to	OG-NP	No clear progress	Reports made for only two regions.	It is not clear what progress has been made in the other provinces. Management actions were clear but progress against all these

	compensate for low marine survival				actions is not reported: <ul style="list-style-type: none"> • reduced daily and season bag limits; • mandatory catch and release fishing, especially of large salmon; • salmon fishing closures in areas where the CSRs are not being met; and, • restrictions on commercial pelagic fisheries to stop or minimise salmon bycatch, including moving these fisheries in time and space and modifying the fishing gear to avoid migrating salmon. • a science-led review of reference points for Atlantic salmon which conforms to the Precautionary Approach (PA) for all areas of eastern Canada.
F2	Canadian fisheries scientists and managers are already dealing with aquatic invasive species	OG-UD	No clear progress	Lack of quantitative data to demonstrate progress, regarding Lake Miramichi regarding the spread of smallmouth bass. <i>No update provided on the control of the spread of rainbow trout in Quebec waters.</i>	Federal Aquatic Invasive Species Regulations have been enacted. The shortcoming identified in the 2018 Review Group report has not been addressed.
F3	Reduction and elimination of acid rain-causing emissions	OG-UD	No clear progress	Lack of quantitative data to demonstrate progress.	Programme ongoing and monitored; 14 th year – Canada should be congratulated on their efforts in relation to this action.
F4	Education of the public about the importance of Atlantic salmon conservation	OG	Clear progress		The Review Group welcomes the quantitative data on enforcement efforts and outputs provided. DFO enforcement hours have decreased in 2018. The Review Group notes that statistics for Quebec province are not available.

F5	Current Integrated Fisheries Management Plans (IFMP) for Atlantic salmon and commercial pelagic fisheries provide information on measures that are being taken to reduce salmon bycatch	OG-UD	No clear progress	Progress does not relate directly to the expected outcomes of this action.	Updates provided from one region (Maritimes Region).
<i>Habitat Protection and Restoration</i>					
H1	Focussed Legal Protection	OG	Clear progress		Overall good response on actions. Extensive reporting on legislative habitat protection developments which are supported by funding programmes.
H2	Enforcement and Standards	OG-UD	No clear progress	It is not clear how the expected actions and outcomes relate to the progress reported.	It is not clear how the expected outcomes as defined below are being delivered: <i>Enhanced protection of recreational, commercial and Aboriginal fisheries from works, undertakings and activities that represent the greatest threats.</i>
H3	Enter into agreements with other federal departments, provinces and others for the effective management of fisheries resources, including wild Atlantic salmon habitat.	OG-NP	No clear progress	Action is ongoing but no new agreements have been struck – the expected outcomes have not been delivered	No real clear easily measured goal.
<i>Aquaculture and Related Activities</i>					
A1	Implementation and improvement of current	OG-UD	No clear progress	Lack of quantitative data to demonstrate progress.	Very aspirational action which contains a multiple of smaller actions – smaller actions

	sea lice management tools			<i>It remains unclear whether the international goals for sea lice and containment set out in the NASCO Guidance on Best Management Practices to address Impacts of Sea Lice and Escaped Farmed Salmon on Wild Salmon Stocks, are being achieved and / or whether quantifiable progress is being made.</i>	would be easier to monitor and perhaps to deliver on. Many of the reported actions are ‘considered’ or ‘continues’ with the exceptions of the Aquaculture Activities Regulations (AAR). It is not clear how adoption of new standards, research, improved monitoring and dissemination of info on sea lice management is being achieved particular in reference to the details provided in the description of the action (e.g. Bay Area Management) The shortcoming identified in the 2018 Review Group report has not been addressed.
A2	Implementation and improvement of current management tools	OG-UD	No clear progress	Lack of quantitative data to demonstrate progress. <i>It remains unclear whether the international goals for sea lice and containment set out in the NASCO Guidance on Best Management Practices to address Impacts of Sea Lice and Escaped Farmed Salmon on Wild Salmon Stocks, are being achieved and / or whether quantifiable progress is being made.</i>	Very aspirational action which contains a multiple of smaller actions – smaller actions would be easier to monitor and perhaps to deliver on. While acknowledging recent research on the ingress of farm fish on wild populations and ongoing predictive impact research; it is not clear now the reported progress has improved current management tools or developed new tools to support farmed fish containment. Many of the actions reported are planned or continuing. The shortcoming identified in the 2018 Review Group report has not been addressed.
A3	Renewal of Canada’s National Code on Introductions and Transfers of Aquatic Organisms	CD	Clear progress		Good specific action and deliverable. Action complete with the renewed National Code on Introductions and Transfers of Aquatic Organisms and the National Aquatic Animal Health Program implemented in 2017
A4	Process to Assess	OG	Clear progress		Planned actions delivered.

Potential Commercial Production of Transgenics				Clearly identified legislation delivered. Continued investment in contained, land – based laboratory research of transgenic fish.
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Key: NS = Not Started; OG = Ongoing - clear progress; OG-NP = Ongoing – no progress; OG-UD = Ongoing – unable to determine progress; CD = Completed - clear progress; CD-NP = Completed - without clear progress

Denmark (in respect of the Faroe Islands and Greenland) - Faroe Islands, CNL(19)40

The Faroe Islands Implementation Plan identifies only two proposed actions (there are no self-sustaining salmon populations in the Faroe Islands), and the APR provides a clear report on the progress made to address each action in 2018, one of which (Action F1) was completed for the year and the other (Action A1) is ongoing.

No new factors in Faroese waters which may significantly affect the abundance of salmon stocks were reported. Consistent with the scientific advice no salmon fishery was conducted in the waters around the Faroe Islands in 2018

Actions related to management of salmon fisheries: at the 2018 Annual Meeting of NASCO’s NEAC a new multi annual decision was adopted to also cover 2018 / 2019, 2019 / 2020 and 2020 / 2021 (NEA(18)12). Under this decision Faroese management decisions will be made with due consideration to the advice of ICES concerning the biological situation and the status of the stocks contributing to the salmon fishery. Consistent with the 2017 advice from ICES, no salmon fishery was conducted by the Faroe Islands in 2018 in order to contribute to the conservation and rebuilding of the Atlantic salmon stocks (Action F1).

Actions related to habitat protection and restoration: because of the small size of the Faroese rivers, there is no historic record of any natural wild salmon population in Faroese rivers or fjords. Since there are no self-supporting wild salmon stocks in Faroese rivers, there are no actions in the Implementation Plan relating to habitat protection and restoration.

Actions related to aquaculture and associated activities: a new regulation on sea lice control was adopted in 2016 which sets out strict regulatory control measures in relation to sea lice on salmon farms. Sea lice must be counted every two weeks throughout the year and lice counting must distinguish between different life stages and sizes of lice. The number of mature female lice per fish (threshold) must not exceed 1.5. If exceeded more than three times in a row, all the fish at the farm must be slaughtered within 2 months. The average size of smolts put to sea has increased to 270 gr. in 2018, thus lowering time at sea and hence the lice infestation window below 17 months. In 2018, 64,732 tonnes of farmed salmon were slaughtered, a decrease from 2017 (71,172 tonnes). Relatively reliable estimates of escapees are available and reported on. In 2018 there was 1 suspected escape events; however, no escapees were observed and no fish were reported missing at slaughter (Action A1).

Action No.	Description	Status of Action	Clear progress / No clear progress	Explanation of shortcoming	Comments / Recommendations
Management of Salmon Fisheries					
F1	Continue to manage any salmon fishery through international co-operation	CD	Clear progress		
Habitat Protection and Restoration					
H1					
Aquaculture and Related Activities					
A1	Continue to apply NASCO's 'Williamsburg Resolution' and 'Guidance on Best Management Practices to Address Impacts of Sea Lice and Escaped Farmed Salmon on Wild Salmon Stocks	OG	Clear progress		

Key: NS = Not Started; OG = Ongoing - clear progress; OG-NP = Ongoing – no progress; OG-UD = Ongoing – unable to determine progress; CD = Completed - clear progress; CD-NP = Completed - without clear progress

Denmark (in respect of the Faroe Islands and Greenland) - Greenland, CNL(19)35

The Implementation Plan identifies three proposed actions. The APR provides a clear report on the progress to address two of these actions one of which is ongoing (Action F1), one of which is completed (Action F2). However, Action H1 did not provide clear evidence of progress for 2018.

With the adoption of the new regulatory measure for the fishery at West Greenland in 2018, there are a series of new management and control measures in place for that fishery. For example, licenses are now required for anyone who fishes for Atlantic salmon, including private and commercial fishers alike. Accurate and detailed reports of fishing activities and landings, including no fishing effort and zero landings, are also required prior to receiving a license to fish the following year. These requirements should improve the accuracy of the reported landings and support

more informed fisheries management moving forward. *The Review Group notes that there is no estimate of unreported catch provided in Table 2.2. It is unclear if that is an omission or if it represents an estimate of zero tonnes.*

Actions related to management of salmon fisheries: a new initiative to improve reporting appears to be well underway (Action F1). This involves direct communications with all fishers reminding them of their obligations to report as well as a press release carrying the same message. No landings to factories have occurred since 2017 (Action F2).

Actions related to habitat protection and restoration: development of a protection plan for the Kapisillit River stock and the surrounding watershed has been underway for several years (Action H1). The intention remains that the protection plan will include the entire Kapisillit River watershed, though progress in 2018 is unclear from the information provided.

Actions related to aquaculture and associated activities: there is no aquaculture in Greenland and consequently there are no proposed actions in the Implementation Plan.

Action No.	Description	Status of Action	Clear Progress / No Clear Progress	Explanation of shortcoming	Comments / Recommendations
Management of Salmon Fisheries					
F1	Evaluation of the reporting system implemented in 2012 through the new Government of Greenland Executive Order on Salmon Fisheries	OG	Clear Progress		The report provides a clear summary of progress to date regarding the domestic implementation of the new regulatory measure agreed in 2018.
F2	Review and revise as necessary the quota for landing to fish factories.	CD	Clear Progress		A clear account of progress is provided.
Habitat Protection and Restoration					
H1	A protection plan for the Kapisillit River stock and entire river area is currently	OG-NP	No clear progress	No progress has been made in the reporting year. <i>It would appear that no specific outcomes were</i>	

undergoing a hearing process.

delivered in 2018 based on the information provided.

Aquaculture and Related Activities

Key: NS = Not Started; OG = Ongoing - clear progress; OG-NP = Ongoing – no progress; OG-UD = Ongoing – unable to determine progress; CD = Completed - clear progress; CD-NP = Completed - without clear progress

European Union - Denmark, CNL(19)26

The Annual Progress Report from Denmark provided updates on six actions, three related to the management of salmon fisheries and three to habitat protection and restoration; all actions were categorised as ongoing.

The rebuilt stocks in the four major rivers are now at a level where supportive stocking can be phased out. This has happened in the river Storå where the last salmon were stocked in 2017. If the improvement of numbers continue, stocking will be commenced, whereas sport fishing will continue at the current level.

Actions related to management of salmon fisheries: in Denmark bird predation on juvenile salmon particularly by cormorants (*Phalacrocorax carbo sinensis*) is a considerable and well documented problem. In 2018, it was reported that the large experimental culling and scaring of cormorants during smolt-migration in Skjern River and its estuary failed to reduce predation. More intense national regulating is now being considered, but with-out international co-operation, required due to migratory nature of cormorants, it is not clear how progress can be made (Action F1). The project documented a significant bycatch of trout but very few salmon in the fisheries in the Ringkøbing Fjord; the project is now looking at the same problem in the estuary of river Storå (Action F2). The development of reliable reference points for salmon in the four rivers (1000 + spawners) with wild salmon in Denmark has been delayed and will not be delivered in the life of this plan (Action F3)

Actions related to habitat protection and restoration: it is reported that several significant barriers to salmon passage have been removed in 2018; it is not clear however how many of the 1500 planned barriers have been removed (Action H1). The Danish IP planned for the restoration of damaged salmon channels (100km). In 2018 it is reported that while a number of smaller channels have been restored much of the positive impact on salmon has been mitigated against by intense agricultural activities (Action H2). Quantification of salmon habitat for 4 rivers was reported in 2017, it is not clear that additional quantification occurred in 2018 (Action H3)

Actions related to aquaculture and associated activities: no actions planned in this area.

Action No.	Description	Status of Action	Clear progress / No clear progress	Explanation of shortcoming	Comments / Recommendations
Management of Salmon Fisheries					
F1	Reduce bird predation from especially cormorants	OG-UD	No clear progress	Lack of quantitative data to demonstrate progress.	Action may not be realistic as it is dependent on international co-operation
F2	Research project to evaluate the bycatch of salmon and sea trout	CD	Clear progress		Project reports on limited bycatch of salmon – the Review Group considers this action complete and that the move to a different location, river Storå, should be identified as a new action going forward.
F3	Reliable reference point for salmon in the four rivers with wild salmon	OG-NP	No clear progress	No progress has been made in the reporting year	
Habitat Protection and Restoration					
H1	River restoration projects	OG-UD	No clear progress	Lack of quantitative data to demonstrate progress.	1500 barriers identified with report of several barriers removed. The report did not provide enough information to estimate progress against the goal.
H2	Restoring approx. 1000 km streams	OG-UD	No clear progress	Lack of quantitative data to demonstrate progress.	Net improvement to habitat small – The report did not provide enough information to estimate progress against the goal.
H3	Identify / quantify spawning areas for salmon	OG-UD	No clear progress	Lack of quantitative data to demonstrate progress.	No information provided on the increase in available habitat.
Aquaculture and Related Activities					

Key: NS = Not Started; OG = Ongoing - clear progress; OG-NP = Ongoing – no progress; OG-UD = Ongoing – unable to determine progress; CD = Completed - clear progress; CD-NP = Completed - without clear progress

European Union - Finland, CNL(19)32

The Implementation Plan identifies only five proposed actions. The APR indicates that Action F1 is completed while the other actions are ongoing. Clear progress is evident on Actions F1, F2, H1 and A1. No information is provided on the progress to address Action A2 and it would have been useful if quantitative information derived from the monitoring programme had been presented.

The new agreement between Finland and Norway on the River Teno / Tana salmon fisheries was applied for the second time for the 2018 fishing season. Fishing rules reduce fishing time for all gear types used. The aim is to reduce fishing mortality by 30 %, in order to enable recovery of weak salmon stocks especially in the upper reaches of the Teno system. The new agreement is in line with the NASCO recommendations concerning stock-specific, target-based management of salmon fisheries. Monitoring data from the River Teno indicated that the new regulation has reduced fishing mortality at the expected rate. The observed reduction rate will enable recovery of the weak salmon stocks in the estimated time-frame, two salmon generations, as planned. The APR does not provide any information on catch and release although it has previously been reported to be at a low level. The Review Group had previously noted that it will be important to ensure that reporting procedures are in place if catch and release increases in the future under any new fishing agreement.

Actions related to management of salmon fisheries: the new agreement between Finland and Norway on the River Teno / Tana salmon fisheries was applied for the second time for the 2018 fishing season. Work has been focused on involvement of stakeholder groups in the new regime (new fishing rules for all gear types and a mandatory catch reporting system, for example), and designing a common management plan with Norwegian authorities and the local stakeholders from both countries (Action F1). Spawning target attainments are being assessed annually for 14 tributaries and the River Teno main stem. In 2018, the salmon run in the Teno main stem was monitored by sonar for the first time. Monitoring provided direct estimates of total run size and improved the estimated exploitation rates for both the Teno mainstem and the tributaries. The major result of the monitoring in 2018 was that the exploitation estimates showed decreasing exploitation for all individual salmon stocks in the mixed-stock fishery in the Teno mainstem, following the newly implemented agreement between Norway and Finland (Action F2).

Actions related to habitat protection and restoration: a collaborative project between Finland and Norway for improving road culverts started in 2017. The project has inspected previously restored culverts and estimated the need for restoration or obstacle removal. The APR notes that the area is very remote, mostly wilderness with a very sparse road network (Action H1).

Actions related to aquaculture and associated activities: the new fisheries agreement in Teno is further strengthening the action against the spread of *Gyrodactylus salaris*. Preparations for more active information at Finnish-Russian border station in the River Tuloma watershed was prepared in 2018. The existing network of disinfection stations and information have functioned in a planned manner, with no infected areas found (Action A1). No progress report was provided on the monitoring programme for escaped farm salmon in 2018 (Action A2).

Action No.	Description	Status of Action	Clear progress / No clear progress	Explanation of shortcoming	Comments / Recommendations
<i>Management of Salmon Fisheries</i>					
F1	New fishery agreement between Norway and Finland	CD	Clear progress		

F2	Define spawning targets for more tributaries of the Teno river	OG	Clear progress		
Habitat Protection and Restoration					
H1	Recommendations made to road constructors and regional authorities responsible for road-building to avoid small migration barriers and erosion.	OG	Clear progress		
Aquaculture and Related Activities					
A1	Continue the spread of information on <i>G. salaris</i> . New legislation in Finland 2010.	OG	Clear progress		
A2	Continuation of monitoring	OG-UD	No clear progress	Progress report is unclear	The monitoring programme for escaped farmed salmon has continued but no report on progress was provided

Key: NS = Not Started; OG = Ongoing - clear progress; OG-NP = Ongoing – no progress; OG-UD = Ongoing – unable to determine progress; CD = Completed - clear progress; CD-NP = Completed - without clear progress

European Union - France, CNL(19)30

The Implementation Plan identifies eight proposed actions relating to management of salmon fisheries and habitat protection and restoration. The section of the Implementation Plan relating to aquaculture and associated activities has not been completed and consequently there are no actions on this theme area in the APR. The APR reports that progress is ongoing among all eight actions in 2018. However, the Review Group considers that clear progress was demonstrated in 6 of the 8 actions. No estimate of unreported catch in 2018 has been provided.

The Biodiversity Plan was unveiled in 2018. The plan seeks to strengthen France’s action to preserve biodiversity and restore it when it is degraded. There was considerable progress in developing conservation limits in some rivers in France, notably the rivers of Brittany.

Actions related to management of salmon fisheries: monitoring of professional fishers by observers reveals that salmon are relatively rare bycatch (Action F1). Action F2 describes the regulatory process in place to develop and implement specific fishing rules to eliminate unreported catch, but

there is no information specific to 2018 necessary to assess progress. Recent progress in developing conservation limits in Brittany is summarised in action F3. Action F4 seeks to conduct annual assessments of the status of salmon stocks to determine the need for measures to control exploitation.

Actions related to habitat protection and restoration: the 63 salmon rivers in France were categorised according to the new classification system recently agreed by NASCO (Action H1). Action H2 seeks to restore upstream and downstream river continuity, taking into account the information in H3 it appears that progress has been made on this action. Salmonid mesohabitat maps are to be updated under Action H3, but no progress on this action is presented. Action H4 seeks to increase awareness of climate change. Under this action, the APR provided an update on a new modelling approach that was developed to investigate the drivers of the widespread decline of Atlantic salmon.

Actions related to aquaculture and associated activities: there are no actions relating to aquaculture in the Implementation Plan.

Action No.	Description	Status of Action	Clear Progress / No clear progress	Explanation of shortcoming	Comments / Recommendations
Management of Salmon Fisheries					
F1	Conduct annual assessments to obtain more information on bycatch in other fisheries	OG	Clear progress		
F2	Development and implementation of specific fishing rules to eliminate unreported catches.	OG-NP	No clear progress	No progress has been made in the reporting year	
F3	Setting of CLs should be completed at least for all French salmon rivers	OG	Clear progress		The Review Group welcomes the progress in developing conservation limits in Brittany.
F4	Conduct annual assessments of the status of salmon stocks.	OG	Clear progress		While the Review Group notes that no emergency measures had to be taken, it is unclear if the annual assessment of the status of stocks was conducted in 2018.
Habitat Protection and Restoration					
H1	Update a French rivers classification table and monitoring implementation of	CD	Clear progress		

	the WFD and other ongoing plans				
H2	Restoration of up- and downstream river continuity	OG	Clear progress		It was only possible to assess the status of this action when referring to information provided in the response to H3.
H3	Update of the salmonid mesohabitat maps	OG-UD	No clear progress	Progress report is unclear <i>While the Review Group welcomes the information on the new policy for the restoration of ecological continuity in 2018 and the estimate of the number of habitat improvements made, it is unclear if any progress on the mesohabitat maps was made.</i>	The information provided for H3 appears to be more relevant to action H2.
H4	Increase awareness of the problem of climate-change effects	OG	Clear progress		
<i>Aquaculture and Related Activities</i>					

Key: NS = Not Started; OG = Ongoing - clear progress; OG-NP = Ongoing – no progress; OG-UD = Ongoing – unable to determine progress; CD = Completed - clear progress; CD-NP = Completed - without clear progress

European Union - Germany, CNL(19)28

The Implementation Plan identifies seven actions, one of which is reported as completed and six that were ongoing in 2018. The APR provides clear reports on the progress made in six of the seven actions; however, for Action H3 it was not clear whether progress was made in 2018.

The International Commission for the Protection of the Rhine (ICPR) ‘Master Plan Migratory Fish Rhine’ was updated in 2018. A number of measures have been added, which include the evaluation and control of fishways, actions to combat illegal fishing, details on stocking strategies, a new chapter on the state of knowledge and protection techniques for downstream fish migration as well as increasing reference to other fish species than salmon and sea trout. The Review Group notes the significant milestone that stocking material is now obtained from within the Rhine catchment and progress is being made towards establishing self-sustaining salmon stocks. In 2018, the severe low water situation from early summer until the autumn, due to drought, resulted in extraordinarily unfavourable conditions for salmon migration on the Rhine, upper Elbe and the Weser. The

registered numbers of returning adult salmon on the Rhine was very low compared to the previous years. In total, 223 (preliminary results) salmon were registered in the Rhine catchment in 2018 compared with 541 in 2017.

Actions related to management of salmon fisheries: the updated Master Plan Migratory Fish Rhine makes a number of recommendations to reduce bycatches and illegal catches. In some countries a ban on fishing near barrages applies whereas in others a ban on fisheries in fish passes applies. Dutch professional fishermen may not fish for silver eels and crabs on the sea side within 500 m of the Haringvliet dam. In the freshwater area of the Haringvliet there are no commercial fishing activities up to a distance of 20 km from the dam. (Action F1). Stocking of the River Agger ceased in 2015 with a view to developing a self-sustaining salmon population. A three-year monitoring of downstream migrating smolts started in 2017 and continued in 2018 (Action F2).

Actions related to habitat protection and restoration: in 2018, progress is being made in the planning of 46 measures to improve fish passage. A new fish pass has been successfully constructed on the Müritz-Elde waterway and 24 additional engineer posts have been approved by the German Parliament to re-establish river connectivity (Action H1). Partial opening of the Haringvliet dam in the Netherlands started in November 2018. The fish pass and the respective video monitoring station at the barrage in Iffezheim in the Upper Rhine were optimised in autumn 2018. A new fish pass at the barrage in Gerstheim (including a video monitoring station) will be opened in spring 2019 (Action H2). Though it is reported that the planning and implementation of measures for improving river connectivity moved forward in the Elbe catchment area, it is unclear what progress was made in 2018 (Action H3).

Actions related to aquaculture and associated activities: the Review Group notes the significant milestone that stocking material is now obtained from within the Rhine catchment and progress is being made towards establishing self-sustaining salmon stocks (Action A1). The genetic sampling programme was successfully completed in 2018 (Action A2).

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Action No.	Description	Status of Action	Clear Progress / No clear progress	Explanation of shortcoming	Comments / Recommendations
<i>Management of Salmon Fisheries</i>					
F1	Reduce bycatches and illegal catches of salmon by professional and recreational fishing	OG	Clear progress		The shortcoming identified in the 2018 Review Group report has been addressed.
F2	Developing of a self-sustaining salmon population in the Agger river without stocking	OG	Clear progress		Results from the monitoring would be a welcome addition to this response.
<i>Habitat Protection and Restoration</i>					

H1	Preserve and restore the ecological passability at about 250 barrages in German federal waterways to improve fish migration	OG	Clear progress		Though progress is evident, a graph detailing planned and completed projects would help to illustrate progress.
H2	Restoration of up- and downstream river continuity and development of spawning and juvenile habitats in the entire Rhine catchment	OG	Clear progress		
H3	Re-establishing continuity of the Elbe river and its primary tributaries from estuary to the springs	OG -UD	No clear progress	The progress report is unclear	
<i>Aquaculture and Related Activities</i>					
A1	Obtain ova from returning spawners, from reconditioned kelts and captive breeding in North Rhine Westphalia Rhine tributaries	CD	Clear progress		The Review Group notes the significance of this achievement. The shortcoming identified in the 2018 Review Group report has been addressed.
A2	Genetic monitoring of salmon in the Rhine catchment	OG	Clear progress		

Key: NS = Not Started; OG = Ongoing - clear progress; OG-NP = Ongoing – no progress; OG-UD = Ongoing – unable to determine progress; CD = Completed - clear progress; CD-NP = Completed - without clear progress

European Union - Ireland, CNL(19)31

The Implementation Plan identifies ten proposed actions all of which are ongoing. The APR provides clear and comprehensive reports on all of the actions in 2018. The Review Group notes the progress that has been made on a number of challenging issues / threats, such as improving water quality (H1, H2 & H3), though realising in-river and lake improvements in condition is proving challenging. The reported absence of farmed salmon escapes and a reduction in sea lice levels is noted.

The establishment of the North-South Standing Scientific Committee for Inland Fisheries in 2018 and the Irish Government-convened steering group to examine fish passage on the lower River Shannon are welcomed and illustrate a very positive and progressive approach to management of salmon

in Ireland. In mid-2018, Inland Fisheries Ireland (IFI) announced a €3.3 million investment in 12 new state-of-the-art boats to be delivered on a phased basis for use in fisheries protection and enforcement. By the end of 2018, eight of these boats were delivered to IFI. The reported provisional nominal catch was marginally up in 2018 (46.95t) compared to 2017 (45.56t) and catch and release was recorded at 34% (9,029 fish).

Actions related to management of salmon fisheries: enforcement activities related to illegal fishing are well described including 172,559 hours spent protecting Ireland’s fishing resources, with 266 nets seized, 165 Fixed Charge Notices and 67 prosecutions in 2018. €3.3 million is being invested in 12 new state-of-the-art Rigid Inflatable Boats (Action F1). Catch reporting through the use of national carcass tagging and logbooks is good with 100% of all commercial salmon fishermen making a catch return in 2018, though only 54.5% of recreational anglers returned logbooks in 2017 (the most recent year for which data are available), which is lower than the average 71% (Action F2). A national reporting mechanism for fish counter data and validation has been in place since 2014. Information from 30 counters was used to inform the 2018 assessment and 2019 stock forecast, and a new fish counter at River Lackagh completed its first full year in 2018 (Action F3).

Actions related to habitat protection and restoration: the APR indicates that Ireland faces major challenges to achieve water quality targets set for 2021 and 2027 as required under the Water Framework Directive. A recent publication by the Environmental Protection Agency found that improvements in water quality that were planned under the first river basin management cycle have yet to be realised. Whilst the number of ‘bad’ sites fell, the decline in high-quality sites is continuing with phosphorus concentrations being a notable concern (Action H1). In 2018 the Department of Agriculture, Food and the Marine (DAFM) published the document *Forestry and Water: Achieving the Objectives and Priorities under Ireland’s River Basin Management Plan 2018-2021*, which aims to promote practices that safeguard water during all forestry operations (Action H2). Efforts to improve wastewater treatment are ongoing and since 2014 32 wastewater projects have been completed with 45 projects currently in progress; though the WFD River basin Management Plan for Ireland 2018-2021 published in 2018 notes that urban wastewater and domestic wastewater are significant pressures on the health of the water environment (Action H3). The APR reports on the monitoring of ovigerous lice levels and a reduction in sea lice numbers exceeding trigger levels in 2018, which are less than in 2017 (Action H4).

Actions related to aquaculture and associated activities: in 2018, there were no reported escapes of farmed salmon (Action A1) and as noted above, there was a reduction in sea lice numbers exceeding trigger levels in 2018 (Action A2), which is welcomed. There were no outbreaks of listed diseases in 2018 (Action A3).

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Action No.	Description	Status of Action	Clear progress / No clear progress	Explanation of shortcoming	Comments / Recommendations
<i>Management of Salmon Fisheries</i>					
F1	Protection against illegal fishing	OG	Clear progress		
F2	Promote the returns of accurate information	OG	Clear progress		

	from anglers through the national carcass tagging and logbook scheme				
F3	Develop a National Fish Counter Strategy to maintain, operate and enhance the current counter resources	OG	Clear progress		
<i>Habitat Protection and Restoration</i>					
H1	Improve agricultural practice	OG	Clear progress		
H2	Improve water quality in forests	OG	Clear progress		The shortcoming identified in the 2018 Review Group report has been addressed.
H3	Improve waste water treatment targeting upgrading of the most urgent facilities	OG	Clear progress		
H4	Improved compliance with sea lice protocols	OG	Clear progress		The shortcoming identified in the 2018 Review Group report has been addressed.
<i>Aquaculture and Related Activities</i>					
A1	Escapes of farmed fish	OG	Clear progress		
A2	Reduced sea lice levels on farmed salmon	OG	Clear progress		
A3	Reduce incidence of disease outbreaks in aquaculture facilities.	OG	Clear progress		

Key: NS = Not Started; OG = Ongoing - clear progress; OG-NP = Ongoing – no progress; OG-UD = Ongoing – unable to determine progress; CD = Completed - clear progress; CD-NP = Completed - without clear progress

European Union – Spain (Asturias), CNL(19)34

The APR provided by the deadline provides no information on either on the status of salmon stocks (Stock status and catches, Section 2) or details of any progress being made in delivering the actions outlined in the EU Spain (Asturias)'s Implementation Plan 2015-2019 to protect and restore stocks (Implementation Plan Actions, Section 3). As a consequence, the Review Group was unable to assess progress.

Actions related to the management of salmon fisheries:

Actions related to habitat protection and restoration:

Actions related to aquaculture and associated activities: there are no actions relating to aquaculture in the Implementation Plan.

Action No.	Description	Status of Action	Clear progress / No clear progress	Explanation of shortcoming	Comments / Recommendations
Management of Salmon Fisheries					
F1	Increase surveillance to reduce poaching	OG-NP	No clear progress	No progress has been reported	
F2	Regulate river catches to avoid overfishing	OG-NP	No clear progress	No progress has been reported	
Habitat Protection and Restoration					
H1	Annual programme of cleaning and maintenance of the ladders in mini plants	OG-NP	No clear progress	No progress has been reported	
H2	Increase awareness of the problem that the southern limit of salmon in Europe lies exactly in the Cantabrian-Galacian region	OG-NP	No clear progress	No progress has been reported	
H3	An up-to-date inventory of river obstacles that impede passage in the river network will be carried out	OG-NP	No clear progress	No progress has been reported	
Aquaculture and Related Activities					

Key: NS = Not Started; OG = Ongoing - clear progress; OG-NP = Ongoing – no progress; OG-UD = Ongoing – unable to determine progress; CD = Completed - clear progress; CD-NP = Completed - without clear progress

European Union – Spain (Cantabria), CNL(19)27

The Implementation Plan identifies ten proposed actions and the APR indicates that five of these are ongoing, three of these with no clear progress, and five have not yet started. The Review Group is pleased to see progress on actions to improving fish passage. It remains a concern to the Review Group, however, that five actions have not yet started including the establishment of Conservation Limits (CLs).

The reported in-river catch of salmon in 2018 (0.3269 t) was nearly four times that reported in 2017 (0.0867 t). No salmon fisheries in the sea. Unreported catch is estimated to be zero. Catch and release is reported as 1%.

Actions related to the management of salmon fisheries: to reduce exploitation of MSW salmon (Action F1), a Total Allowable Catch (TAC) is set for each river, though it is not clear on what basis this figure is set as there are no Conservation Limits. Actions to promote catch-and-release (Action F2), establish Conservation Limits and management targets (Action A3) and understand in-river exploitation levels (Action F4) have all not started. However, it is noted that angling is only permitted from April 1 to June 30 and if the salmon quota, which is revised yearly, is fully utilised the fishery is stopped. Parr and juvenile surveys are ongoing but no estimates of marine survival have yet been obtained (Action F5).

Actions related to habitat protection and restoration: three dams were removed on the Rivers Saja, Deva and Asón and a fish pass is in progress on the River Saja, which is really welcome progress to improve fish passage (Action H1). Five behavioural barriers have been installed on the River Besava and one behavioural barrier is in progress at Coterillo on the River Asón, which again is great news (Action H2). Work has not started to provide appropriate river flows by implementing sustainable abstraction programmes (Action H3). It is welcomed that Special Area of Conservation (SAC) Management Plans have been published to promote integrated catchment management (Action H4).

Actions related to aquaculture and associated activities: work has not started on the planned action to regulate salmonid stocking by implementing and enforcing existing and proposed new stocking programmes (Action A1).

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Action No.	Description	Status of Action	Clear progress / No clear progress	Explanation of shortcoming	Comments / Recommendations
Management of Salmon Fisheries					
F1	Reducing over-exploitation of MSW in rivers through restrictions on landing large fish	OG-UD	No clear progress	The progress report is unclear <i>It is unclear if the TACs reduce over-exploitation of MSW fish.</i>	The Review Group welcome the attempt to provide a measure of progress (20%) but it is unclear what this indicates.
F2	Joint promotion, with stakeholders, of catch and release in rod fisheries.	NS	Action not yet started		The Review Group welcomes the intention to introduce catch and release as an important conservation measure but notes, with concern, that the action has not started.

F3	Establishing Conservation Limits and management targets from all salmon stocks.	NS	Action not yet started		The Review Group welcomes the intention to establish CLs as an important conservation measure but notes, with concern, that the action has not started.
F4	Establishing in-river exploitation levels, through tagging / returns & catch and effort statistics.	NS	Action not yet started		The Review Group welcomes the intention to establish in-river exploitation levels as an important conservation measure but notes, with concern, that the action has not started.
F5	Running monitoring in index river (smolt & spawner census, tagging of smolt, electrofishing).	OG-UD	No clear progress		The Review Group welcome the attempt to provide a measure of progress but it is unclear what this indicates.
Habitat Protection and Restoration					
H1	Improve fish passage by removing dams, installing fishways, removing culverts and upgrading road-stream crossings	OG	Clear progress		
H2	Undertaking further research on impacts of hydropower	OG	Clear progress		
H3	Provision of appropriate river flows by implementing sustainable abstraction programmes	NS	Action not yet started		The Review Group welcomes the intention to establish appropriate river flows as an important conservation measure but notes, with concern, that the action has not started.
H4	Taking an integrated catchment management approach to reduce the impact of land use	OG_UD	No clear progress	No progress has been made in the reporting year. <i>The Review Group notes the publication of the SAC Management plans in 2017.</i>	
Aquaculture and Related Activities					

A1	Regulate salmonid stocking in Cantabrian rivers	NS	Action not yet started	The Review Group welcomes the intention to regulate salmonid stocking as an important conservation measure but notes, with concern, that the action has not started.
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Key: NS = Not Started; OG = Ongoing - clear progress; OG-NP = Ongoing – no progress; OG-UD = Ongoing – unable to determine progress; CD = Completed - clear progress; CD-NP = Completed - without clear progress

European Union – Spain (Galicia), CNL(19)29

The Implementation Plan identifies eight proposed actions, and the APR reports that work is completed on five of these, ongoing on one and has not started on the remaining two. The Review Group welcomes the clear progress on Action F2; however, it notes that no clear progress has been made in the other Actions in 2018. The Review Group welcomes that the Spanish-Portuguese Migra Mino-Minho Project 2016-2019 has made progress in agreeing to share some common fishing rules in 2019.

There was a big drought again in Galician rivers during 2018. The provisional nominal catch of salmon is down by 31% from 0.335 t (2017) to 0.291 t (2018). In 2018 68 salmon were retained and minimum of 10 were released in Galician rivers (14.7%).

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Actions related to the management of salmon fisheries: Action F1 to establish Conservation Limits for the Eo, Ulla, Masma, Mandeo and Lérez rivers has not started (Action F1). Under the Spanish-Portuguese Migra Mino-Minho Project 2016-2019 it has been agreed to share some common fishing rules in 2019 (Action F2). A ban on natural baits for trout or sea trout was again rejected by fishermen in waters other than ‘salmon waters’ and no real advance was made, which is at odds with describing the Action as completed. It is recognised that other efforts were made to achieve the intended outcome (Action F3). Electric fishing surveys were carried out and whilst no parr were detected on the River Sor they were found on the River Anllóns, but dams and the lack of connectivity remains a serious problem. It is unclear whether a salmon restoration plan is in place, which is at odds with describing the Action as completed (Action F4).

Actions related to habitat protection and restoration: the implementation of guidelines for the management of riparian vegetation in order to control river temperatures has not yet started (Action H1). Implementation of the WFD requires that all rivers achieve ‘good ecological status’. The APR indicates that the Rivers Anllóns, Xubia and Miño just achieved ‘moderate status’ with some tributaries being in the ‘bad status’ category. There was new reporting in 2018 and it’s unclear why this Action has been reported as completed (Action H2). No information is provided on the implementation of compensation flows and as such it is unclear why this Action is considered as completed (Action H3). No progress on last year’s APR is reported and as such it is unclear why this Action is reported as completed (Action H4).

Actions related to aquaculture and associated activities: there are no actions relating to aquaculture in the Implementation Plan.

Action No.	Description	Status of Action	Clear progress / No clear progress	Explanation of shortcoming	Comments / Recommendations
Management of Salmon Fisheries					
F1	Setting of CLs for rivers Eo and Ulla and for rivers Masma, Mandeo and Lerez,	NS	Action not yet started		The Review Group welcomes the intention to set CLs as an important conservation measure but notes, with concern, that the action has not started.
F2	Development of fishing rules and research on the salmon population of river Miño	OG	Clear progress		
F3	Development and implementation of specific fishing rules, etc. for sea-trout and trout in salmon rivers	OG-NP	No clear progress	Progress report is unclear <i>The Review Group considers that the action has not been completed but recognise the effort made to take this forward.</i>	
F4	Development of a Conservation / Restoration Plan for salmon rivers in the A Coruña province	OG-UD	No clear progress	Progress report is unclear <i>The Review Group considers that the action has not been completed as no Conservation / Restoration Plan is referred to for the rivers in the A Coruña province.</i>	
Habitat Protection and Restoration					
H1	Criteria for management of riparian vegetation outside of RN 2000 will be developed	NS	Action not yet started		The Review Group welcomes the intention to establish these criteria as an important conservation

					measure but notes, with concern, that the action has not started.
H2	Obtain 'good ecological status' through several programmes under the WFD.	OG-UD	No clear progress	No progress has been made in the reporting year. <i>The Review Group considers that the action has not been completed.</i>	
H3	Implementation of compensation flows is ongoing under the guidelines of river basin management plans.	OG-UD	No clear progress	No progress has been made in the reporting year. <i>The Review Group considers that the action has not been completed.</i>	
H4	Removal of obstacles. Construction of fishways. Improvement of accessibility	OG-UD	No clear progress	No progress has been made in the reporting year. <i>The Review Group considers that the action has not been completed.</i>	

Aquaculture and Related Activities

Key: NS = Not Started; OG = Ongoing - clear progress; OG-NP = Ongoing – no progress; OG-UD = Ongoing – unable to determine progress; CD = Completed - clear progress; CD-NP = Completed - without clear progress

European Union – Spain (Navarra), CNL(19)22

The Implementation Plan identifies six proposed actions, and the APR indicates that three are completed, one is ongoing and two are yet to start. The APR provides very helpful and clear quantitative information on the progress made.

The Review Group notes the removal of several barriers on the Bidasoa River and the positive response on migrating returning spawners, which is supported by a salmon radio tracking scheme under the LIFE IREKIBAI Project. In 2018 the provisional nominal catch (0.276 t) was more than

double that reported in 2017 (0.102 t). There are no fisheries in estuaries or the sea, there is said to be no unreported catch and catch and release is considered to be uncommon.

Actions related to the management of salmon fisheries: work has not yet started on the development of conservation limits due to lack of funding (Action F1). Data for stock assessment was collected in 2018 with including biometric data collected from both rod-caught salmon and salmon caught in a trap, monitoring of juveniles and redd counting. Smolt trapping with a rotary screw trap was stopped in 2017 due to encountering many problems. In 2018, the conservation status of the Bidasoa salmon stock remains unfavourable. All spawners transferred to the fish farm were treated with antibiotics and all salmon passing the fish trap were monitored for sea lice and Red Vent Syndrome. The actions remain ongoing (Action F2). The Total Allowable Catch (TAC) for the 2018 season was 66 salmon and the MSW protection measure was 16 fish. When 80% (12 fish) of the MSW TAC had been caught, the fishery was closed for one week. The action is reported as completed (Action F3). Broodstock collection and fry and autumn parr stocking have been undertaken on the Bidasoa river and its tributaries in 2018. All stocked fish are marked (adipose clip) with parr also tagged with coded wire tags that allow the differentiation between the progeny of 1SW and MSW parents. The action is reported as completed (Action F4).

Actions related to habitat protection and restoration: work to update salmonid mesohabitat maps has not started (Action H1). Through the LIFE IREKIBAI project (LIFE14 NAT/ES/000186) during 2018 / 19 six further fishways were evaluated and found to facilitate salmonid migration and six dams have been demolished. The action is reported as completed (Action H2).

Actions related to aquaculture and associated activities: there are no actions relating to aquaculture in the Implementation Plan.

Action No.	Description	Status of Action	Clear progress / No clear progress	Explanation of shortcoming	Comments / Recommendations
<i>Management of Salmon Fisheries</i>					
F1	Data analysis for the establishment of the necessary reference limits	NS	Action not yet started		The Review Group welcomes the intention to establish reference limits as an important conservation measure but notes, with concern, that the action has not started.
F2	To collect biometric and biological data of every salmon captured on recreational fishing (etc)	OG	Clear progress		
F3	Establishment of the annual total authorised catch	CD	Clear progress		

F4	Selection and transfer of wild spawners to the hatchery. Etc.	CD	Clear progress		
Habitat Protection and Restoration					
H1	Update of the salmonid mesohabitat maps	NS	Action not yet started		The Review Group welcomes the intention to update salmonid mesohabitat maps as an important conservation measure but notes, with concern, that the action has not started.
H2	Evaluation of the successfulness of the 10 fish-way projects carried out in the last decade. Etc.	CD	Clear progress		

Key: NS = Not Started; OG = Ongoing - clear progress; OG-NP = Ongoing – no progress; OG-UD = Ongoing – unable to determine progress; CD = Completed - clear progress; CD-NP = Completed - without clear progress

35 European Union - Sweden, CNL(19)33

The Implementation Plan identifies eighteen proposed actions, two of which are complete and sixteen are ongoing. The APR provides clear information on the progress made to address fifteen of the actions in 2018. However, there appears to have been little or no progress on Actions F4 and H2, and H5 in 2018.

Catches of salmon have been insignificant on the Swedish coast over the 2015-2018 period due to a ban on the use of gill nets in deeper coastal waters and a restricted licensing system. Therefore, the extent of mixed-stock fishing on the coast is now insignificant. A bag-limit for non-commercial fishermen using rod and line is also in place. Restrictions on landing of large salmon in rivers below full reproductive capacity will be enforced in 2020.

Actions related to management of salmon fisheries: legal commercial fishing for salmon on the coast has been prohibited since 2014 and catches were insignificant in 2018. There is a ban on gill nets with only occasional catches of salmon in gillnets by non-commercial fishermen. Angling pressure has decreased in rivers due to voluntary restrictions on fishing periods and use of bag limits. A management evaluation in 2018 revealed a need for further restrictions in some rivers. Consequently, restrictions on landing large salmon in rivers below full reproductive capacity will be enforced in 2020 (Action F1). Commercial mixed-stock fishing no longer takes place on the coast. However, very small numbers of salmon may be caught in gill nets and with rod and line by non-commercial anglers. The presence of large fishing protected areas at river mouths and a ban on coastal fyke net fishing for eel has ensured that any bycatch of salmon is negligible. However, there is still a mixed-stock fishery in the two major

36 rivers due to releases of reared salmon in the main watercourse and natural smolt production in tributaries. The proportion of wild salmon caught as bycatch is approximately 2% in River Lagan and 15-25% in River Göta älv. A ban on landing wild salmon in these rivers will be imposed in 2020. (Action F2). Fin clipping of reared salmon and trout has continued in 2018 and allows wild and reared salmon to be distinguished. During the period 2005 - 2018 the average number of marked reared salmon smolts released annually has been approximately 170,000 (Action F3). A report on genetic screening for 18 of 23 salmon stocks in Sweden was published in 2017. The results showed that the 18 salmon rivers studied could be divided into two larger stock complexes, a northern and a southern. The study was reported as completed in the previous two years but will continue in 2019-2023 to increase the possibilities of detecting of pen-reared escapees in Swedish rivers (Action F4). The efficiency of traps on the River Högvadsån have been evaluated and the results have been used to establish Biological Reference Points. PIT tags for tagging of smolts were used for the first time in 2018 (Action F5). Conservation limits and Management Targets have been set for the index river and a process was developed in 2017 for transporting these targets to other rivers. This action is now described as being complete. Although the goal is achieved, further work will be carried out in the coming years to incorporate habitat quality in assessment and setting Biological Reference Points (Actions F6). Establishment of in-river exploitation levels, through tagging / returns & catch and effort statistics has only been carried out in the index river. The preliminary results indicate an exploitation level of 15 % for the River Ätran while at the salmon trap at Nydala, tributary Högvadsån, an exploitation rate of 5% was found (Action F7). Reporting of catch statistics is compulsory only for commercial fishermen. A national plan for the future conservation and management of salmon and sea-running brown trout was developed in 2015 and included the requirement to obtain high quality data from the non-commercial fishery, including use of salmon-tags (Action F8). In order to increase egg deposition of weak salmon stocks, the Swedish Agency for Marine and Water Management will impose a ban on landing wild, large salmon (MSW) in rivers with reduced reproductive capacity (Action F9). The number of sites being monitored for salmon parr recruitment had decreased in recent years but in 2018, the monitoring programme increased with an additional 20 sites added (Action F10). Fish management units have already been formed in many rivers but a need for management units in smaller rivers and in some parts of the larger rivers has been identified. In 2018, a new project was launched to increase information exchange and discussions with the different river managers and land owners (fishing right owners) in rivers or river section without fish management units (Action F11).

Actions related to habitat protection and restoration: all salmon rivers and their tributaries with salmon that require liming are presently included in a liming program. Generally, the goal of keeping pH above 6 and labile aluminium at non-toxic levels has been achieved. A recent study showed that the frequency of acid episodes has declined exponentially in limed rivers and as a consequence, the ecological status of the fish fauna has reached that of fish in neutral reference rivers (Action H1). A report on compiling the findings of habitat surveys was completed in 2016. No report on progress was provided for 2018 (Action H2). A plan for continued habitat restoration in salmon rivers started in 2015. An EU Life application has been approved, aiming at further river restorations (focussing on River Rönneå) and the design of a common tool-box for future restoration work and prioritizations of these efforts. (Action H3). Criteria for best available technology (BAT) for hydropower generation were established in 2015 but a final report has not yet been published due to ongoing discussions with hydropower companies. It has been decided to undertake the work again on BAT in closer co-operation with the hydropower industry (Action H4). There is no clear progress in establishing criteria and a work plan for surveillance of hydropower plants (Action H5).

Actions related to aquaculture and associated activities: annual monitoring of rivers for the presence of *G. salaris* was undertaken as planned. Measures have been undertaken to avoid spreading the parasite, e.g. a ban on stocking salmonid fish in the catchments of uninfected rivers. Sweden participated in NASCO's working group on *Gyrodactylus* in 2018. (Action A1). Since the completion of the genetic baseline (action F4), work has intensified in identifying escaped salmon on the largest river R. Göta älv where studies have shown different proportion of escaped salmon in different years. Preliminary results have shown that escaped salmon are not from the Swedish west coast or the Baltic sea. Comparisons with Norwegian data on net-pen reared (farmed) salmon commenced in late 2018 through co-operation with Norwegian scientists (Action A2).

Action No.	Description	Status of Action	Clear progress / No clear progress	Explanation of shortcoming	Comments / Recommendations
Management of Salmon Fisheries					
F1	Implementing new fishing rules to lessen exploitation of wild salmon in rivers with low status	OG	Clear progress		
F2	Phasing out mixed-stock fisheries on wild salmon in reared rivers, and mixed-stock fisheries on the coast.	OG	Clear progress		
F3	Fin-clipping of reared salmon and trout, annually ca 180,000	CD	Clear progress		
F4	Genetic base line of salmon stocks	OG-UD	No clear progress	No progress has been made in the reporting year. <i>The Review Group notes that a report was produced in 2017 and no progress has been reported for 2018.</i>	It is unclear how the results of the genetic study have been applied. The Review Group notes that this action may be more appropriately identified as completed (as was done last year).
F5	Running monitoring in index river (smolt & spawner census, tagging of smolt, electrofishing).	OG	Clear progress		
F6	Establishing Conservation Limits & Management Targets from	CD	Clear progress		

	index river data and habitat surveys				
F7	Establishing in-river exploitation levels, through tagging / returns & catch and effort statistics in two rivers.	OG	Clear progress		
F8	Improving catch statistics (C&R, effort)	OG	Clear progress		The shortcoming identified in the 2018 review has been addressed.
F9	Reducing over-exploitation of MSW in rivers through restrictions on landing large fish.	OG	Clear progress		The shortcoming identified in the 2018 review has been addressed.
F10	Coordinating and securing monitoring of recruitment (parr) in rivers	OG	Clear progress		The Review Group notes that this Action was identified as completed in the 2018 report.
F11	Initiate and support formation of fish management units in salmon rivers	OG	Clear progress		
<i>Habitat Protection and Restoration</i>					
H1	Continued liming of acidified salmon rivers and tributaries	OG	Clear progress		
H2	Habitat surveys compiled, quality assured and new data added if required	OG-NP	No clear progress	No progress has been made in the reporting year	The Review Group notes that this Action was identified as completed in the 2018 report.
H3	Plan for continued habitat restoration in salmon rivers. (Also including H2 & H4)	OG	Clear progress		The shortcoming identified in the 2018 review has been addressed.
H4	Establishing criteria for BAT (best available technology) for hydropower generation.	OG	Clear progress		The shortcoming identified in the 2018 review has been addressed.
H5	Establishing criteria and workflow for surveillance of hydropower plants according to Environmental Law & BAT.	OG-NP	No clear progress		The Review Group notes that the status of the action is well described.

Aquaculture and Related Activities					
A1	Monitoring of <i>Gyrodactylus salaris</i>	OG	Clear progress		
A2	Genetic screening of alien (escaped) salmon. (Compare action F4)	OG	Clear progress		

Key: NS = Not Started; OG = Ongoing - clear progress; OG-NP = Ongoing – no progress; OG-UD = Ongoing – unable to determine progress; CD = Completed - clear progress; CD-NP = Completed - without clear progress

European Union - UK (England and Wales), CNL(19)36

The Implementation Plan identifies twelve proposed actions. The APR provides a clear report of progress for all of the twelve actions, all of which are ongoing. As a general comment the Review Group considers that some of the updates were verbose making it challenging to assess progress in some instances, especially in those actions with several subsections.

New salmon regulations have been brought into place that significantly reduce exploitation; they close all existing salmon net fisheries in England except the River Severn, which includes the NE mixed-stock coastal fishery and the introduction of compulsory catch and release on At-Risk rivers. As 2018 was particularly dry and warm throughout much of England and Wales, ameliorating the effects of climate change remained a key focus of many habitat-related and outreach actions.

Actions related to management of salmon fisheries: annual assessment of salmon stocks was completed for 2018 (Action F1). An emergency byelaw for the Camel River went into effect in 2018 precluding any net fishing and requiring mandatory catch and release in recreational fisheries (Action F2). The main objectives of Action F3 (Implementing policies on mixed-stock fisheries in the Severn Estuary, Northeast Coastal, Anglian Coastal fisheries) appear to have been fulfilled as there will be ‘no capture of salmon in coastal mixed stock fisheries in England after 2018.’ Mandatory catch and release requirements now apply to the River Eden and Border Esk (Action F4). Enforcement to further reduce illegal fishing remains a priority with clear progress demonstrated in Action F5.

Actions related to habitat protection and restoration: reducing the effects of climate change remained a priority in 2018 with publication of the second national climate change adaptation plan, a further 23km of fencing and tree planting in selected rivers, as well as voluntary closures of recreational fisheries on the Test, Itchen, and Avon Rivers when the temperature thresholds are exceeded (Action H1). In 2018, Action H2 delivered improvements to 152km of river in England. Further attention to provision of appropriate river flows was delivered by Action H3. Reducing the impact of land use remains a priority with the Welsh Government recently hiring new agricultural officers who aim to visit 30% of the 1,700 dairy farms in Wales in 2019 and new rules (applying to all farmers) to protect water quality coming in to force in April 2018 in England (Action H4).

Actions related to aquaculture and associated activities: in England, stocking of salmon is no longer permitted in rivers that are designated as Special Areas of Conservation (SAC) or Sites of Special Scientific Interest (SSSI) where salmon is a ‘qualifying feature’. Since 2015, all salmon

stocking in Wales was replaced by alternative conservation measures (Action A1). Action A2 is a broad suite of activities to reduce the spread of aquatic nuisance species; some recent advancements include eradication efforts of the topmouth gudgeon (*Pseudorasbora parva*) at two sites in 2018. In 2018, roughly 490km of river had been enhanced on England's 42 principal salmon rivers (Action A3).

Action No.	Description	Status of Action	Clear progress / No clear progress	Explanation of shortcoming	Comments / Recommendations
Management of Salmon Fisheries					
F1	Conduct annual assessments of the status of salmon stocks	OG	Clear progress		
F2	Conduct regular reviews of current NET Limitation Orders and Byelaws	OG	Clear progress		
F3	Implement policy on mixed stock fisheries	OG	Clear progress		The Review Group notes that this action may be more appropriately considered 'completed' (with clear progress). This is a considerable achievement, particularly the closure of the North East drift net fishery.
F4	Joint promotion, with stakeholders, of catch and release in rod fisheries	OG	Clear progress		
F5	Ensure effective enforcement of fishery regulations	OG	Clear progress		
Habitat Protection and Restoration					
H1	Implement Climate Change Adaptation Plans	OG	Clear progress		
H2	Improve river connectivity	OG	Clear progress		The Review Group notes that clear progress has been made in sub-action (a). Whilst the Review Group welcomes the intention of DEFRA to develop proposals under sub-action (b) it notes, with concern, that the action has not started.

H3	Provision of appropriate river flows	OG	Clear progress		
H4	Take an integrated catchment management approach to reduce the impact of land use	OG	Clear progress		The Review Group notes that the information provided for this action is extremely long making it challenging to assess progress.
<i>Aquaculture and Related Activities</i>					
A1	Regulate salmonid stocking and review evidence of impacts of stocking	OG	Clear progress		The Review Group notes that this action may also be considered 'to be completed' (with clear progress).
A2	Introductions, transfers and diseases	OG	Clear progress		
A3	Improve water quality and compliance with WFD GES / GEP status.	OG	Clear progress		

Key: NS = Not Started; OG = Ongoing - clear progress; OG-NP = Ongoing – no progress; OG-UD = Ongoing – unable to determine progress; CD = Completed - clear progress; CD-NP = Completed - without clear progress

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European Union - UK (Northern Ireland), CNL(19)37

The APR from EU-UK (Northern Ireland) is a very clear and succinct document overall. There is clear progress demonstrated on twenty of the twenty-one actions. As noted by the Review Group, the revised Implementation Plan is much clearer than the previous version allowing for a very clear and concise APR. The APR from Northern Ireland remains a positive model for clear and concise reporting on progress.

There were no mixed-stock fisheries in Northern Ireland in 2018 and legislation is now in place that restricts recreational harvest to only rivers meeting their management targets. All primary rivers have now been surveyed for current and potential salmon habitat. Monitoring of genetic introgression from aquaculture-origin salmon was again conducted in Northern Ireland in 2018.

Actions related to management of salmon fisheries: as in recent years, no mixed-stock commercial fisheries operated in Northern Ireland in 2018 (Action F1). Recreational fisheries appear to be managed in light of the precautionary approach as only three rivers were opened to recreational harvest in the DAERA area even though five salmon rivers had a harvestable surplus in 2018 (Action F2). Multi-sea winter (MSW) salmon stocks are protected with mandatory catch and release in the River Finn in the Loughs Agency area and mandatory catch and release of salmon in the DAERA area before June 1 (Action F3). All primary salmon rivers in NI have been surveyed with conservation limits established (Action F4). Long-term monitoring of the River Bush continued in 2018 (Action F5). A tagging and marking program (Action F6) identifies hatchery-origin salmon for incorporation into captive breeding programs. Fifty wild smolts from the River Bush and fifty hatchery-origin salmon were acoustically

tagged in 2018 as part of the EU / NASCO SMOLTrack project (Action F7). Advances in recreational catch statistics continued in 2018 (Action F8). Juvenile index monitoring occurred again in 2018 in both the Loughs Agency area and the DAERA area (Action F9). Patrols were conducted regularly in 2018 in both the DAERA and Loughs Agency areas, and details of nets and illegally caught salmon seized are provided (Action F10).

Actions related to habitat protection and restoration: oversight was carried out at hydro-electric dams to ensure compliance with fishery regulation and smolt monitoring is now being carried out to identify particular areas of mortality (Action H1). Fisheries advice was provided to mitigate the impact of drainage schemes on salmon habitat in 2018 in both the DAERA and Loughs Agency areas (Action H2). Over 1,700 investigations into potential water quality violations were carried out in 2018 by the Northern Ireland Environment Agency (Action H3), though direct benefits to wild salmon were not clearly explained. Fish passage improvements were carried out on the Carey River in 2018 (Action H4). Oversight of construction activities and routine surveillance protected salmon habitat from illegal removal of river bed materials (Action H5). All primary salmon rivers in the DAERA and Loughs Agency areas have now been surveyed (Action H6). In-river habitat enhancements were carried out on 16 rivers in both the DAERA area and the Loughs Agency area (Action H7).

Actions related to aquaculture and associated activities: the River Bush was again monitored for sea lice levels in 2018 (Action A1) and potential aquaculture escapees (Action A2). Sea lice levels are also monitored and reported for the one fish farm in Northern Ireland (Action A3). Results from an ongoing assessment of potential genetic introgression from aquaculture escapees were delivered in 2018 (Action A4).

Action No.	Description	Status of Action	Clear progress / No clear progress	Explanation of shortcoming	Comments / Recommendations
Management of Salmon Fisheries					
F1	Management and control of mixed stock commercial fisheries	CD	Clear progress		A clear, succinct, and information-rich account of progress is provided.
F2	Management and control of recreational fisheries	CD	Clear progress		
F3	Management and protection of vulnerable MSW stocks	OG	Clear progress		Reporting timeframe not clearly specified, though it appears mandatory catch and release before June 1 and maximum tag allocations for MSW salmon continued in 2018.
F4	Setting & monitoring conservation limits and	OG	Clear progress		

	management targets for salmon rivers in NI				
F5	Long Term Monitoring of Salmon Stocks in an Index River (R Bush) for NI	OG	Clear progress		
F6	Fin-clipping and coded-wire tagging of reared salmon	OG	Clear progress		
F7	Assessment of riverine and inshore survival of salmon smolts	OG	Clear progress		
F8	Improving recreational catch returns and statistics	OG	Clear progress		
F9	Monitor recruitment of 0+ age class salmon in all primary salmon rivers in NI	OG	Clear progress		
F10	Fishery protection and enforcement activities	OG	Clear progress		
Habitat Protection and Restoration					
H1	Licensing, best practice advice and monitoring of hydro-electric installations	OG	Clear progress		It is unclear how the 125 site inspections carried out in 2018 directly protect upstream and downstream access for Atlantic salmon.
H2	Mitigating the impact of drainage maintenance schemes on salmon habitat	OG - UD	No clear progress	Progress report is unclear. <i>It is unclear if the advice delivered was turned into action.</i>	
H3	Management and control of water quality in salmon producing rivers in NI	OG	Clear progress		
H4	To improve connectivity of salmon rivers in NI	OG	Clear progress		The acronym 'HEP' should be specified in future reporting.

H5	To protect salmonid habitat against illegal impacts	OG	Clear progress		
H6	To produce an overall inventory of current and potential salmon habitat on primary salmon rivers in NI.	CD	Clear progress		This represents a substantial achievement for Northern Ireland.
H7	To enhance degraded habitat on salmon rivers in NI	OG	Clear progress		
<i>Aquaculture and Related Activities</i>					
A1	Monitor sea lice levels in a wild salmon stock in N. Ireland	OG	Clear progress		
A2	Monitor for escapee aquaculture salmon in a wild salmon stock in N. Ireland	OG	Clear progress		
A3	Monitoring sea lice levels in aquaculture salmon in N. Ireland	OG	Clear progress		Some interpretation of the data would be welcome, as was presented in the progress towards action in A4.
A4	Monitoring levels of genetic introgression of aquaculture salmon into wild stocks in NI	OG	Clear progress		

Key: NS = Not Started; OG = Ongoing - clear progress; OG-NP = Ongoing – no progress; OG-UD = Ongoing – unable to determine progress; CD = Completed - clear progress; CD-NP = Completed - without clear progress

Norway, CNL(19)39

The Implementation Plan identifies twelve planned actions and eleven are described as ongoing while one action is completed. The APR provides a clear report on measures to address eleven actions while no clear quantified progress was evident for Action F3.

In 2018, all Norwegian salmon stocks (448) were classified for the period 2010-2014. 188 stocks were classified in accordance to the National Quality Norm for Wild Salmon. 260 stocks with insufficient information were classified using a simplified system developed by the Norwegian Scientific Advisory Committee for Atlantic Salmon (SACAS). 91 stocks were classified as good or very good quality, 158 stocks had moderate quality and 182 stocks were classified as poor or very poor quality. 17 stocks are under re-establishment after eradication of *G. salaris*. The most important impact factors impacting salmon stocks were identified as; escaped farmed salmon, sea lice, hydropower production and other habitat alterations. The risk for further deterioration is assessed as none or low for 35 % of the stocks and moderate for 50 %. For 14 % of the stocks the risk for further deterioration is assessed as high.

Actions related to management of salmon fisheries: regulatory measures in sea and river fisheries were introduced in 2016. In 2018, SACAS assessed that out of 195 salmon stocks with enough information, management targets were achieved for more than 91% of stocks. To offer additional protection to Tana River stocks the agreed restrictions in the Tanafjord came into force in 2018. The 2018 fishing season resulted in a reduction in salmon killed in river fisheries compared to 2017, while the numbers of salmon killed increased in the sea fisheries. No regulatory adjustments within the fishing season were necessary in 2018. (Action F1). Regional authorities keep close contact with local managers to ensure pre-agreed measures are put into force in accordance with the outcome of mid-season assessments of the fishery and salmon run. Legislation is now in place to implement mid-season reporting for sea-fisheries (Action F2). A report describing progress on a new method for calculation of spawning targets is in preparation, but no clear timeframe on delivery of the report is given for 2018 (Action F3). A new bi-lateral agreement on a revised management regime for the River Tana was accepted by the parliaments in Norway and Finland in March 2017. The revised regulatory regime, aiming to reduce exploitation by c. 30% was implemented in 2017. Based on monitoring of salmon stocks in 2017 and 2018, the mortality in these two years was estimated to be reduced in c. 80% of the stocks. (Action F4).

Actions related to habitat protection and restoration: at present, 23 Norwegian salmon rivers are included in the national program for river liming. In 10 rivers where stocks were lost due to acid rain, stocks have been re-established. Salmon catches in limed rivers have increased from about 10 tons in the 1980s to 40 - 60 tons today, making up for 10-14 % of total salmon catches in Norwegian rivers. The funding comes from by the Norwegian Government, the cost was about 50 mill NOK (\approx £4.6 in 2018) (Action H1). Revision of licence conditions in hydropower plants and rules of operations were addressed in 8 river systems in 2018. There are 45 different revisions ongoing in both anadromous and non-anadromous water courses (Action H2). The road authorities removed 6 migration obstacles for salmon and sea trout in 2018. Measures to mitigate barriers caused by roads are planned in prioritised rivers by the road authorities. (Action H3). Measurements to improve the ecological conditions for anadromous salmonids were carried out in the river Jøstra in 2017. An old flood channel was revitalised and thereby increasing the rearing habitat for juvenile salmon and trout (Action H4).

Actions related to aquaculture and associated activities: a regional carrying capacity model for sea lice is now being developed in which salmon farming production in marine salmon farms is regulated based on the effects of sea lice on wild salmon stocks. Monitoring characterised sea lice induced mortality on wild fish from 400 watercourses in 2018 (Action A1). In an effort to reduce genetic and ecological threats to wild salmon populations, research licences are currently using triploid fish and several commercial salmon-farmers have started using triploid fish in “green” salmon farm licenses. The national program for monitoring escaped salmon is ongoing, and a field handbook has been developed to standardise the various methods used. New regulations regarding landbased aquaculture installation were introduced in 2018. In three of the five sub-actions there is a lack of quantitative data to demonstrate progress (Action A2). A new action plan is now being prepared which includes combating *Gyrodactylus salaris* in the last two infected regions (7 infected rivers). The Norwegian Food Safety Authority has prepared a new and updated contingency plan for *G. salaris*, using the contingency tool MatCIM. Posters and brochures about how to prevent spread of *G. salaris* were updated and translated into different languages (Action A3). In 2017, there was a large increase in the incidence of pink salmon recorded in rivers along the entire Norwegian coast and a register was established to document the extent of pink salmon incursion in rivers and a risk assessment began in 2018 (Action A4).

Action No.	Description	Status of Action	Satisfactory / Unsatisfactory	Explanation of shortcoming	Comments / Recommendations
Management of Salmon Fisheries					
F1	Annual assessments of the management target achievement for the previous 4-5 year	OG	Clear progress		
F2	Introduction of mandatory mid-season assessment of the fishery and salmon run	CD	Clear progress		
F3	Introduction of “second” generation spawning targets	OG-NP	No clear progress		The Review Group notes that the status of the action is well described. The shortcoming in the 2018 Review Group report has been addressed.
F4	Negotiate a new regulatory regime for the river Tana with Finland, and introduce a stock rebuilding program in collaboration with Finland.	OG	Clear progress		

<i>Habitat Protection and Restoration</i>					
H1	Liming of 22 acidified salmon rivers and if feasible include five additional rivers in the long-term liming program.	OG	Clear progress		
H2	Revision of rules for hydropower plants by 2022	OG	Clear progress		
H3	Removal or reconstruction of artificial migration obstacles such as pipes and culverts through roads	OG	Clear progress		
H4	Increased focus on enforcing the current legislation against habitat deterioration etc.	OG	Clear progress		
<i>Aquaculture and Related Activities</i>					
A1	A regional carrying capacity model for sea lice is now being developed	OG	Clear progress		
A2	Various actions on salmon farming	OG	Clear progress		While new regulations regarding land-based aquaculture installation were introduced in 2018 and the fifth report on the National programme for monitoring escaped salmon was produced, there is a lack of quantitative data to demonstrate progress in the other sub-actions. Quantitative data in the APR related to escapees would aid a proper assessment of progress on this

					action. The shortcoming in the 2018 Review Group report has not been addressed.
A3	Proposal for a new action plan for the control of <i>Gyrodactylus salaris</i> is being developed.	OG	Clear progress		
A4	Action plan to reduce the impact of pink salmon in the rivers in the county of Finnmark, the northernmost county in Norway.	OG	Clear progress		

Key: NS = Not Started; OG = Ongoing - clear progress; OG-NP = Ongoing – no progress; OG-UD = Ongoing – unable to determine progress; CD = Completed - clear progress; CD-NP = Completed - without clear progress

Russian Federation, CNL(19)24

The Implementation Plan identifies nine actions, seven of which are ongoing and two (Actions F2 and F4) are completed. The APR reports the progress made to address three actions in 2018 (H1, H2 and A3). Little information is provided to demonstrate progress on Actions F1, F3, A1 and A2. In general, there is a lack of adequate quantitative information to demonstrate progress against many of these Actions (F1, F3, A1 and A2). For the evaluation process to work effectively and be fair and equitable, the Review Group will require more detailed, quantitative, reporting on progress against each action in the third cycle of Implementation Plans.

A new Federal Law on Recreational Fishery was adopted in 2018. The Federal Law will come into force in 2020 and will be a basis for regulation of recreational fisheries at fishing sites for valuable fish species such as Atlantic salmon. No new threats to Atlantic salmon stocks were identified in 2018. However, adult Atlantic salmon in the Kola and the Tuloma rivers continued to show signs of ulcerative dermal necrosis (UDN). As in previous years, no estimate of unreported catch has been provided for 2018. 73% of the recreational salmon catch was released in 2018.

Actions related to management of salmon fisheries: since first reporting levels of unreported catch in 2014 for some areas, no further estimates of unreported catches were available for 2018. Protection patrols in rivers, lakes and coastal areas were undertaken to prevent illegal fishing. In 2018, the NGO ‘Murmansk Salmon’ in cooperation with Barents branch of WWF started a salmon protection program aimed at patrolling the Umba and the Varzuga rivers, the White Sea coast by joint groups of fishery inspectors. However, no comprehensive additional information has been provided on progress towards the goal since 2017 (Action F1). A comprehensive genetic baseline for Atlantic salmon populations has been established through the Kolarctic Atlantic Salmon project (2011 - 2013) and has been used in establishing fishing regulations for anadromous fish.

In 2018, quota allocations for coastal salmon fisheries in the White Sea were made on the basis of data on salmon stock contributions to the fisheries. A comprehensive genetic database of Atlantic salmon baseline for management purposes has been established. A stock specific migration model of various salmon stocks migrating along Norwegian and Russian northern coastal areas was developed. Recommendations for management measures for the coastal salmon fishery to minimise mixed-stock harvesting have been developed. This action is now completed (Action F2). Conservation limits have been set for salmon stocks in the Murmansk region and were revised in 2016. In the Arkhangelsk region and the Nenets Autonomous Region, conservation limits have been set for exploited salmon stocks. No conservation limits have been established in the Republic of Karelia. There is no update on this action for 2018 (Action F3). Clearer legislation was introduced in 2013 to manage the fisheries conducted by indigenous small nations of the North. In 2017, catch limits for salmon fisheries were set for Sami communes of the Murmansk region and this continued in 2018. This action is now described as completed (Action F4).

Actions related to habitat protection and restoration: in 2018 a book entitled ‘The inventory of salmon rivers of the Murmansk region the White Sea basin’ was published by PINRO. The book presents data collected during fieldwork conducted on rivers of the White Sea basin in Murmansk region. Atlantic salmon were recorded in the majority of studied rivers. Geographical, hydrological and hydrochemical conditions were identified and river infrastructure was described. The inventory also provides information on historical and current status of salmon stocks, their distribution, spawning and nursery grounds, adult salmon and smolt carrying capacity of rivers and biological features of salmon (run timing, age, length and weight composition, etc.). Salmon habitat was described and discussion of different types of impacts to salmon (physical, chemical, biological) was included. (Action H1). Recommendations on habitat restoration were updated for a number of salmon rivers in the Murmansk region and developed for Archangelsk region and for the Republic of Komi in 2018 (Action H2).

Actions related to aquaculture and associated activities: the Federal Law on aquaculture came into force in 2014 and no new amendments were introduced in 2018 regarding anadromous fishes. No by-law regarding management of sea lice in aquaculture has been developed. However, in accordance with the current rules on veterinary control, the regional veterinary authority inspects salmon farms quarterly to check for diseases and parasites. No clear progress is evident on this action for 2018 (Action A1). In the light of the confirmed introduction of *G. salaris* into two rivers in the Murmansk region in 2017, it is still of concern that no obligatory measures to prevent the introduction or further spread of the parasite through recreational fisheries have been developed. Limited progress is evident on this action in 2018 (Action A2). A comprehensive scientific evaluation is required prior to any introduction of aquatic species and no movements originating from outside the North-East Atlantic Commission area of reproductively viable non-indigenous anadromous salmonids or their gametes has occurred in 2018 (Action A3).

Action No.	Description	Status of Action	Clear progress / No clear progress	Explanation of shortcoming	Comments / Recommendations
<i>Management of Salmon Fisheries</i>					
F1	Take further measures to reduce unreported catches.	OG-NP	No clear progress	No progress has been made in the reporting year	
F2	Develop genetic baseline for Atlantic salmon populations. Characterise the exploited stocks in mixed-stock fisheries. Develop recommendations for management measures for coastal salmon fisheries.	CD	Clear progress		
F3	Develop conservation limits for salmon stocks.	OG-UD	No clear progress	Progress report is unclear. <i>There appears to be no update.</i>	The shortcoming identified in the 2018 Review Group report has not been addressed.
F4	Develop stricter rules to manage the fisheries conducted by indigenous small nations of the North.	CD	Clear progress		
<i>Habitat Protection and Restoration</i>					
H1	Develop inventories of salmon rivers. Estimate salmon habitat and productive capacity	OG	Clear progress		
H2	Develop and implement detailed habitat protection and restoration plans for specific rivers	OG	Clear progress		
<i>Aquaculture and Related Activities</i>					
A1	Develop and bring in to force the Federal Law 'On	OG-UD	No clear progress	No progress has been made in the reporting year.	The Review Group notes that it does not appear that any by-laws have been enacted in 2018.

	aquaculture' and related by-laws				Whilst the action is described as ongoing this action appears to have been completed. The Review Group notes that by-laws came into force in 2015 but none have been enacted since.
A2	Minimise the risk of further spread of <i>Gyrodactylus salaris</i>	OG-UD	No clear progress	Limited progress has been made in the reporting year. <i>The Review Group notes some progress with the recommendations to ban the development of new aquaculture sites in the Lower Tuloma Reservoir.</i>	No clear additional action in 2018 with respect to recreational fisheries.
A3	Control introductions and transfers	OG	Clear progress		

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United States of America, CNL(19)23

The Implementation Plan identifies eleven actions, all of which are described as ongoing. The APR provides a clear and comprehensive report on the progress made to address the planned actions in 2018.

There has been considerable progress with the International Year of the Salmon (IYS) initiative with events in Boston, Massachusetts and Maine. In October of 2018, the Maine Department of Marine Resources, U.S. Army Corps of Engineers, and the U.S. Fish and Wildlife Service announced a new program to help fund Atlantic salmon recovery work and reduce the regulatory burden associated with road and bridge construction projects. The Atlantic Salmon Restoration and Conservation Program provides public and private parties working on road and bridge construction projects, bank stabilisations, dam repairs or other in-water projects the flexibility to pay a fee in lieu of mitigation efforts required by federal law to offset unavoidable environmental impacts of the construction activity. The in-lieu-fee program requires that funds paid are used to support other restoration work that results in, at minimum, no net loss of habitat or habitat function.

Actions related to management of salmon fisheries: in 2018, the United States worked co-operatively with the Parties of the West Greenland Commission to successfully negotiate a new regulatory measure for 2018, 2019, and 2020. The new regulatory measure includes a number of elements that, if well implemented, will significantly improve the management and control of the fishery. In 2018, the USA continued to support efforts to monitor and sample the fishery at St. Pierre and Miquelon and reviewed new information pertaining to the mixed-stock fishery in Labrador. (Action F1). The APR indicates that there are stringent and extensive regulations governing recreational fishing for other species in salmon habitats.

Fishing 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 25 inches in about 40 specific waters to ensure that adult sea-run salmon are not incidentally captured and retained. To further reduce potential bycatch of adult Atlantic salmon in the Penobscot River in 2018, the area within 150 feet of any part of the West Enfield and Milford Dams was closed to fishing at all times (Action F2). Directed fisheries for sea-run salmon remained closed in 2018. Fishery enforcement patrols were conducted in areas with a history of salmon poaching on the Penobscot, Kennebec, and Narraguagus Rivers and no violations were detected. For 2018, query of the dealer purchases database and vessel landings database revealed no record of Atlantic salmon having been caught. For the observer database, bycatch of Atlantic salmon remains a rare event and no Atlantic salmon have been observed since August 2013 (Action F3).

Actions related to habitat protection and restoration: in 2018, 18 aquatic connectivity projects were completed within the range of endangered salmon in Maine with over 174km of stream were made accessible. In southern New England, the Blackledge River Dam (the last major dam in the Salmon River drainage, a tributary of the Connecticut River) was removed (Action H1). A summary of recent enforcement actions in Maine pursuant to the Clean Water Act reveals a total of roughly \$400,000 (USD) in fines over the last seven years. There were no new enforcement actions made public in 2018 (Action H2). Consultations continued in 2018 among federal agencies where their activities occur in or near areas where Atlantic salmon Essential Fish Habitat (EFH) is designated. Ten conservation recommendations were issued which may include measures to avoid, minimise or mitigate or otherwise offset adverse effects on salmon habitat. In many instances, EFH conservation recommendations are not necessary because project proponents are already proposing best management practices to reduce impacts to the maximum extent practicable (Action H3). Under the Endangered Species Act, the United States has designated critical habitat for Atlantic salmon. NOAA and the US Fish and Wildlife Service conduct consultations with other federal agencies that require all federal agencies to ensure that any action they undertake or fund does not prevent the survival and recovery of endangered Atlantic salmon. In 2018, the U.S. Fish and Wildlife Services (USFWS) completed 64 consultations and NOAA completed 31 consultations for projects within designated Critical Habitat and this resulted in changes to actions to reduce incidental mortality of endangered salmon. Many of these projects result in improvements to fish passage and aquatic habitat connectivity within critical habitat for salmon (Action H4).

Actions related to aquaculture and associated activities: monitoring continued regarding compliance with protective measures in place within the US salmon farming industry in 2018. The current status of active farm sites in Maine shows all sites are in full compliance with the required permit conditions. There were no reportable escape events in 2018, and no aquaculture origin salmon were reported captured in any rivers in Maine (Action A1). The Northeast Fish Health Committee annually reviews the fish health status of the Northeast states and have developed regional guidelines that enable state resource agencies to prevent the importation or transfer among member states of fish infected with listed pathogens of concern. In 2015, revisions to the existing fish health guidelines were completed to include fish importation, movement and transfer between all states in the Northeast United States and have been unanimously accepted (Action A2). Broodstock management protocols have been implemented at conservation hatcheries to maintain genetic diversity of the hatchery stock rebuilding program. Estimates of genetic diversity are used to monitor if genetic diversity within seven broodstock populations is being maintained over time. Estimates of heterozygosity 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. Estimates of effective population size also vary between broodstocks from between 50 to 150 for most populations to over 500 for the Penobscot, due to the larger total broodstock number and overall population size of the Penobscot River population (Action A3). Progress in curtailing stocking of non-native salmonids in salmon rivers continued in 2018 with little stocking of non-native salmonids in areas that are actively managed for Atlantic salmon. For example, in 2018 there was no stocking of brown trout near areas that are actively managed for Atlantic salmon in the Penobscot River or its tributaries (Action A4).

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Action No.	Description	Status of Action	Clear progress / No clear progress	Explanation of shortcoming	Comments / Recommendations
<i>Management of Salmon Fisheries</i>					
F1	Continue to remain active in the West Greenland Commission and the North American Commission	OG	Clear progress		
F2	Work with state authorities to ensure that recreational fisheries for other species, such as brook trout, reduce bycatch of salmon to the maximum extent possible	OG	Clear progress		
F3	Maintain closures for all directed fisheries for Atlantic salmon	OG	Clear progress		
<i>Habitat Protection and Restoration</i>					
H1	Improve fish passage	OG	Clear progress		
H2	Continue to implement Clean Water Act and	OG	Clear progress		

	other federal and state laws				
H3	Conduct consultations on all federal actions in areas where Atlantic salmon Essential Fish Habitat is designated and issue conservation recommendations to avoid, minimise or mitigate impacts to salmon habitat	OG	Clear progress		
H4	Issue conservation recommendations to avoid and minimise impacts to salmon habitat on all federal actions in areas where Atlantic salmon are listed as endangered and Critical Habitat is designated	OG	Clear progress		
<i>Aquaculture and Related Activities</i>					
A1	Continue to monitor implementation of protective measures identified in the Biological Opinion from 2003. Continue collaboration with Canadian provincial and federal agencies to inform new regulations	OG	Clear progress		

	for consistency with U.S. federal permit requirements				
A2	Implement specific regulations and guidelines for importation of baitfish described in State laws and a National Aquatic Animal Health Plan (NAAHP).	OG	Clear progress		While this action is ongoing, the Review Group notes there was no further progress for 2018 beyond what was reported for 2017
A3	Implement broodstock management protocols at conservation hatcheries	OG	Clear progress		The shortcoming identified in the 2018 Review Group report has been addressed
A4	Coordination with state programs that stock salmonids to support recreational fisheries	OG	Clear progress		The shortcoming identified in the 2018 Review Group report has been addressed

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IP(19)34

The Status of Actions for each Party / jurisdiction at the End of NASCO's Second Cycle of Reporting (2013 – 2018)¹

Party / jurisdiction	Not started	Ongoing with no or unclear progress	Ongoing with clear progress	Completed	Total no. of actions
Canada		8	3	1	12
Denmark (in respect of the Faroe Islands and Greenland)					
Faroe Islands			1	1	2
Greenland		1	1	1	3
European Union					
Denmark		5		1	6
Finland		1	3	1	5
France		2	5	1	8
Germany		1	5	1	7
Ireland			10		10
Spain (Asturias)		5			5
Spain (Cantabria)	5	3	2		10
Spain (Galicia)	2	5	1		8
Spain (Navarra)	2		1	3	6
Sweden		1	13	4	18
UK (England & Wales)			12		12
UK (Northern Ireland)		1	17	3	21
UK (Scotland) ²		4	8		12
Norway		1	11		12
Russian Federation		3	3	3	9
USA			11		11

¹ based on the Review Group's analysis of actions in the Annual Progress Reports submitted and reviewed in 2019² from the APR submitted in 2018