Agenda Item 5.1
For Information

Council

CNL(15)18

Written responses from the Parties/jurisdictions to the questions raised by the Implementation Plan/Annual Progress Report Review Group

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Canada

1. *Given the very poor returns of large salmon in 2014 what actions are planned to implement measures to further protect these stock components in the Maritime provinces and Quebec (Action F1)?*

   The Ministerial Advisory Committee on Atlantic Salmon (MAC) has made a number of interim recommendations some of which have already been implemented such as no retention and fishing with single barbless hooks for all recreational fisheries in the Maritime Provinces (NB, NS, PEI).

   Maritimes Region: in 2014 only three rivers were open to catch and release angling during cold water periods with barbless flies. In 2015 the intent is to open those same 3 rivers to catch and release angling with single hook barbless flies. However, if counts at index rivers suggest returns similar to or fewer than those of 2014, additional in-season measures on these three rivers will be considered.

   Quebec's salmon fishery is managed by the Province. Quebec has a system of river by river management where closures are instituted when returns are low and this system will continue

2. *In what way does the Policy for the Conservation of Wild Atlantic Salmon guide Canada's actions in relation to regulatory responsibilities for fisheries, habitat and aquaculture (Actions F1 and H3)? How is progress under the Policy reviewed?*

   The Wild Atlantic Salmon Conservation Policy was developed as part of the response to address the decline in salmon populations. Strategies and action plans were developed under the Policy to address: the need for monitoring and assessment of population status; the conservation and protection of Atlantic salmon habitat; the integrated fisheries management planning process; a collaborative approach to conservation; and, a post-season review process.

   Wild salmon continue to be conserved by managing populations in "Salmon Management Areas" (SMAs). The status of SMAs are evaluated through monitoring programs in index rivers and assessed against selected benchmarks, and reported publicly.

   The goal, principles, and objectives of the Wild Atlantic Salmon Conservation Policy guide the regulatory actions of the Department in aquaculture.

3. *When will the guidelines on pipeline watercourse crossings, transportation watercourse crossings, large and medium water intakes and marine and coastal infrastructure be delivered and what processes are being applied to manage these areas in the meantime (Action H2).*

   The guidelines will be completed over the next couple of years. In the interim, existing Fisheries Protection Program guidance for "Projects Near Water" will be followed (http://www.dfo-mpo.gc.ca/pnw-ppe/index-eng.html).

4. *The Review Group considers that all Parties and jurisdictions with salmon farming should have presented quantitative data in a transparent manner in their Implementation Plans to provide a baseline for demonstrating progress towards the international goals for sea lice and containment in the NASCO Guidance on Best Management Practices to Address Impacts of Sea Lice and Escaped Farmed Salmon on Wild Salmon Stocks. Canada has not provided these data. Can the results of monitoring and enforcement for sea lice and escaped farmed salmon be provided? (Actions A1 and A2)*

   Canada provides annual containment data in its report to the North American Commission which is publicly available on NASCO's website (http://www.nasco.int/2013commissiondocs.html).

   Canada remains committed to the objectives of SLG(09)5 (Guidelines on Best Management Practices to address impacts of sea lice and escaped farmed salmon on wild salmon stocks). Sea lice monitoring is conducted and results are reported to the responsible authority in each salmon producing province. Sea lice monitoring results form the basis for management action by regulators as well as operators. Management actions involving treatments by farms are also reported to the regulator in all the salmon producing provinces. In determining thresholds for action, possible impacts to both wild and farmed populations are considered. Provinces have developed management regimes that are appropriate to these two objectives and manage accordingly. Based on the regimes in place, Canada is confident that sea lice levels are being managed at levels that do not pose a risk to wild Atlantic salmonid populations.

Denmark (in respect of the Faroe Islands):

1. *The Review Group considers that all Parties and jurisdictions with salmon farming should have presented quantitative data in their Implementation Plans to provide a baseline for demonstrating progress towards the international goals for sea lice and containment in the NASCO Guidance on Best Management Practices to Address Impacts of Sea Lice and Escaped Farmed Salmon on Wild Salmon Stocks. The Faroe Islands have not provided these data. Can the results of monitoring and enforcement for sea lice and escaped farmed salmon be provided (Action A1)?*

2. *What are the regulatory measures in place in the Faroes to combat potential sea lice in salmon farms (e.g. treatment threshold levels, fallowing, single year class stocking, etc (Action A1))?*

Comprehensive measures have been taken to improve the methods for treatment of sea lice in the Faroese aquaculture industry. Executive Order no. 163 from 2009 on monitoring of sea lice requires counting every other week in the summer and once a month in the winter. The purpose of these regulations is to reduce the occurrence of sea lice in farmed fish and to impair resistance to preventative treatment. The Executive Order requires regular sampling for, and reporting of, sea lice in farmed fish and sets out the required procedures for treatment, which can also require coordinated efforts between different fish farming facilities.

All fish farms must have a contingency plan which describes potential risks and preparedness e.g. escapes and outbreak of diseases. The contingency plans must be approved by the Food and Veterinary Agency (Executive Order no. 134 from 2009). The contingency plan shall describe procedures regarding sea lice counting and treatment and must document that the farm is capable of following the procedures defined in the Executive Order. The executive order states that the FVA can demand prompt treatment. If the treatment fails, the companies are required to report to the FVA. The FVA can demand simultaneous treatment in all farms situated in the same fjord or in several fjords if necessary.

Since 2009, the Aquaculture Research Station (*P/F Fiskaaling*) has, in close cooperation with the aquaculture industry and the Food and Veterinary Agency, initiated several research projects regarding the challenges with sea lice e.g. refractoriness, genes and countings. In order to develop natural methods to combat sea lice, the Research Station has initiated research on the lumpfish, *Cyclopterus lumpus,* as a cleaner-fish.

There are thus strict regulatory measures in place in the Faroes to combat sea lice in salmon farms based on treatment threshold levels, fallowing, single year class stocking. As well as this a database is kept of sea lice level in all aquaculture plants, and in case levels sea lice would exceed threshold level swift and decisive measures would immediately been taken. For reasons of confidentiality and competition the information in the database classed as confidential.

Denmark (in respect of Greenland):

1. *Based on the initial results from the phone survey is it possible to provide an indication of the accuracy of reported and unreported catches?*

   In order to obtain better knowledge about the fisheries and non reported catches, a phone interview was conducted among the licensed fishermen, asking questions about catches, effort, by-catches biological observations and opinion. In total 321 professional fishermen had obtained a license in 2014, but only 98 had reported catches by February 2015. The interviewers managed to get in touch with 207 people including at least 11 nonprofessional fishermen. In 119 cases, licensed fishermen informed that they had had catches but seemingly without reporting by the end of the season. The total underreporting by these 119 people amounted to 12.2 tons in the 2014 season. After the interview had been conducted, 98 of the 321 license holders, where still unaccounted for. About 2/3 of the unreported catch was provided by the 8 highest observations of non-reported catches and the majority of the 119 people that that had failed to report catches had taken minor amounts. There are several ways to estimate the catches of the remaining 98 license holders, (mean, weighted mean, mean (Log x) or weighted mean(log x), leading to different estimates of unreported catches for the unaccounted 98. The different methods gives different estimates

but it seems likely that the unreported catches is something around 8-16 t. Several other conclusions that can be drawn from phone survey; Those who did report by the end of the season report fairly accurately. All factory landings had been registered and that factory landings are accurate. That 4/5 licensed fishermen fish to some extent every year, but that 2/3 catch about 100 kg or less per year and that many license holders just fish for their own consumption. That is that there is a general perception of increasing amounts of salmon in Greenlandic waters and strong wishes for increased landing opportunities, extension of the season and that fishermen in only need to use a few gillnets to obtain their catches.

It was not possible to do a similar survey among non-licensed non-professional fishermen since no license is required for this segment. Therefore, a phone survey on this segment would involve a random survey of all citizens of which only a fractions would ever have caught a salmon.

European Union - Denmark

1. *What action has been taken to regulate recruitment of cormorants on salmon rivers in Denmark in 2014 (Action F1)?*

   Overall, the management plan shall ensure that cormorants can survive and are continuously protected as a Danish breeding bird and simultaneously ensuring that the number of cormorants will not be an unacceptable nuisance neither to fish stocks nor to fishery. According to the plan, plot owners and can seek permission through the Danish Nature Agency to shoot away a limited number of cormorants except in a three months period from 1 May to 31 July. By means of noise it is permitted to frightening away cormorants seeking feed in rivers. The Danish Nature Agency is in the process of revising the current management plan.

2. *When is the research project on by-catch of salmon and sea trout in the Ringkøbing Fjord expected to report (Action F2)?*

   Ongoing

3. *What was the result of the assessment under the new management plan 2013/2014 regarding whether reliable reference points can be established for Danish salmon rivers (Action F3)?*

   No results provided at this stage. A revision of the plan is awaited.

4. *What progress has been made with removing the ~1,500 migratory obstructions referred to in the IP, and what benefits have been recorded to salmon and sea trout populations (Action H1)?*

   Ongoing. At this stage, monitoring covers two rivers/streams – Villestrup Å and Gudenå. So far information is only provided with respect to sea trout and does not include information on salmon. It seems that the information obtained is very valuable.

5. *What progress has been made with restoring about 1,000 km of river, mostly smaller streams, from earlier canalisation, pipe-laying and dredging (Action H2)?*

   Ongoing

6. *What progress has been made with identifying and quantifying spawning and nursery habitat that will be opened up (Action H3)?*

   Spawning and nursery habitats have been quantified with respect to Ribe Å, while similar exercise has not yet taken place with respect to Varde Å and Store Å.

7. *What measures are planned to achieve the 25% increase in salmon production in Danish rivers by 2020 (Section 4.2)?*

   Unfortunately, this information should not have been included in this context. The 25 % increase in production refers to the expected results from future aquaculture production outside rivers and will mainly consist of production of rainbow trout.

European Union – Finland

1. *The Review Group notes with concern that the timescale for the development of a new agreement for the River Teno appears to be delayed, possibly by at least two years. What measures will be put in place to protect the stocks that are below their Conservation Limits until a new agreement is adopted (Action F4)?*

   The primary goal for Finland is to conclude a new fisheries agreement between Finland and Norway for the River Teno. Finland considers that a new agreement will be the most effective way to enhance the status of salmon stocks not reaching the conservation limits and to adjust the management measures in a way that is compatible with the NASCO Agreements and Guidelines and also to target these measures more precisely to weak sub stocks. Issues that have prolonged the negotiation process are related to the diverging interests and fishing rights of the local population, which have led to different ways of utilising the fishing rights in the neighbouring countries.

   If a new agreement were not finalized for the year 2017, Finland is prepared to implement the national management regime to reduce fishing pressure in line with the NASCO Guidelines. The new Fishing Act adopted in May 2015 will enter into force 2016, providing a good toolbox for the management decisions. The new Fishing Act also calls for actions to ensure the sustainable use and management of fish resources with the aim to preserve biological diversity.

   Finland will seek opportunities to undertake management actions that will reduce the fishing pressure targeting the weak stocks before 2017. For example, the local fishing right owners have placed some tributaries under protection for this purpose. Previously, there have been suggestions for temporary management actions from both countries, but because of diverging interests of the local population in the neighbouring countries the suggestions have not lead to common decisions.

2. *When will complete river specific Conservation Limits be established for all the River Teno salmon stocks and when will these be made available to ICES for use in developing advice to NASCO (Action F2)?*

   A complete river specific list of Conservation Limits has recently been established and published (Falkegård et al. 2014). However, attainment has been assessed only for nine individual populations and for the entire system. Increasing the number of assessed populations depends on the availability of relevant monitoring data. For instance, fishing effort in many of the individual tributaries is very low and thus no reliable catch information is or will be available. In the absence of other means of abundance assessment, e.g. spawner counts or juvenile assessments, there are no realistic possibilities for assessing the CL attainment in many tributaries. Nonetheless, possibilities to include new populations in the annual assessment procedure for CL attainment of the Teno system will be considered.

   The Teno river system is the only single river case where the ICES procedure for estimating ('national') PFAs, spawners and CLs have been applied. Within this framework, assessments of CL attainments in individual populations of the River Teno will not contribute much to the advice to NASCO, which is based on stock status assessments on the levels of stock complex, country or region. One possible development in the future could be the use of combined CL for the Teno system, based on the recently established river specific CLs (Falkegård et al 2014, see above), instead of the CL based on the 'hockey stick' model constructed within the ICES assessment.

   Falkegård, M., Hindar, K., Fiske, P., Erkinaro, J., Orell, P., Niemelä, E., Kuusela, J., Finstad, A.G. & Foldvik, A. 2014. Revised first generation spawning targets for the Tana/Teno river system. – NINA Report, 1087, 68 p.

3. *Given that recommendations have been given to road constructors, what monitoring has been undertaken on the use of these recommendations and compliance of construction work with them (Action H1)?*

   The area concerned is extremely sparsely populated and the road network there is also very thin, mainly composed of very few main roads. Thus in practice we know in full detail that that no harmful road construction works have been done without a specific monitoring scheme.

4. *What measures are taken to remove escaped farmed salmon from the River Teno when they are discovered in the monitoring programme (Action A2)?*

   Based on the annual monitoring the numbers of escaped salmon have been very small and so far no specific action has been considered necessary.

   In a very large river system like the River Teno the removal of escaped farmed salmon is virtually impossible, especially as their numbers in salmon catches are very low. In the current monitoring programme, adult fish counts are carried out by snorkelling or video surveillance, and there are no activities where adult salmon would be handled. Therefore, escaped farmed salmon cannot be removed in connection with monitoring activities.

European Union - Germany

1. *Reference is made to cormorant predation on downstream migrating smolts in the Rhine. Have any mitigation measures been considered (Section 2.2)?*

   Mitigation measures according to the locally and temporally high impacts of cormorants on fish stocks vary from one German federal state to the next. Most federal states have special cormorant regulations which comprise derogations to scaring cormorants away from vulnerable fish stocks and fish farms. The aim of the most of these regulations is to reduce overall cormorant numbers, by killing cormorants locally to reinforce scaring at specific sites or prevent the settlement of new breeding colonies.

2. *What caused the slower than expected progress in implementing measures to improve fish passage in Actions H1 and H3?*

   There are a number of constraints and uncertain factors that result in delays according to implementing measures to improve fish passage. For example, long planning processes, the unexpectedly long time to negotiate with the different stakeholders at each individual site, financing constraints, the lack of human resources, and the time required to implement findings and promising new approaches into operation.

European Union - Ireland

1. *To what extent was annual fallowing of sites, use of single generation sites, avoidance of partial lice treatments and harvesting remote from grower sites used in 2014 to reduce the potential impact of sea lice infestation at salmon farms (Action H4)?*

   The sea lice control and management strategy in Ireland has five principal components:

   - Separation of generations.
   - Annual fallowing of sites.
   - Early harvest of two-sea-winter fish.
   - Targeted treatment regimes, including synchronous treatments.
   - Agreed husbandry practises.

   Therefore annual fallowing of sites, use of single generation sites and avoidance of partial lice treatments were carried out at all aquaculture sites in 2014, as in other years, to reduce the potential impact of sea lice infestation at salmon farms.

2. *How quickly were escape events reported by the farmers in 2014, how promptly were measures put in place to recapture a significant proportion of the stock and were these considered to have been successful (Action A1)?*
   Arising from events in Bantry Bay in early 2014 there is no evidence of a large-scale fish escape - but the possibility that fish escaped and survived cannot be ruled out. There have been no reported occurrences of escapees being detected in neighbouring rivers. Two putative escapees were determined, by both scale analysis and DNA profile, to be of wild origin.

3. *How many times were lice thresholds exceeded and were any orders made to require early harvesting (Action A2)?*

As has been the case in previous years, sea lice levels on smolts in 2014 were low. Ninety four percent of sea lice inspections on smolts were below the Treatment Trigger Levels (TTL), this compares with 100 % in 2013 and 98% in 2012. Sea lice levels on one-sea-winter salmon rose in 2014 compared to 2013 which were the lowest on record. In 2014 71% of inspections were below TTL compared to 82% in 2013 and 74% in 2012. During the spring period in the Northwest 61% of inspections were below the TTL compared to 95% in 2013. In the West, for the same period, 61% were below TTL compared to 78% in 2013. The Southwest continued to have no breaches of protocol levels in 2014.

The sea lice levels for one-sea-winter salmon outside the spring period show that 48% of inspections were below TTL in the Northwest, 62% were below in the West and 100% in the Southwest. These compare to 67% in the Northwest, 53% below in the West, and 100% in the Southwest during 2013.

Sea lice levels in excess of 10 L. salmonis mobiles per fish on one-sea-winter salmon nationally were recorded on 23 occasions compared to 13 occasions in 2013 and 17 in 2012, 11 of these inspections had means of greater than 20 mobile L. salmonis per fish which was greater than 2013, when 8 inspection recorded sea lice levels in excess of 20 mobile L. salmonis per fish. Four of these inspections had levels greater than 40 L. salmonis per fish, compared to 5 in 2013. The highest mean sea lice level recorded for one-seawinter salmon was 137.67 mobile L. salmonis per fish, this compares to 84.02 mobile L. salmonis per fish in 2013 and 71.72 mobile L. salmonis per fish in 2012. There were no unusually high numbers of Caligus elongatus recorded in 2014.

Average sea lice levels in the first half of 2014 were higher than the same periods in both 2013 and 2012. This increase was primarily as a result of infestation levels at three bays. Many factors have contributed to these increases including challenges to fish health, husbandry practices and treatment efficacy. A further factor is undoubtedly regression towards the mean, following 3 years of very low sea lice infections. The sea lice levels recorded in 2014 underline the requirement to optimise sea lice control by; ensuring the early implementation of strategic winter treatments; optimising treatment efficacy, including treatment rotation; and the implementation of SBM practices

[NOTE – Q3. This information is extracted directly from the 2014 Annual Sea Lice Report - O'Donohoe P., Kane F., Kelly S., McDermott T., Drumm, A. and Jackson, D. (2015) National Survey of Sea Lice (Lepeophtheirus salmonis Kroyer and Caligus elongatus Nordmann) on Fish Farms in Ireland– 2014. Irish Fisheries Bulletin No. 45, Marine Institute.]

European Union – Spain (Asturias)

1. *What progress has been made with increasing surveillance in order to reduce poaching (Action F1)?*

   Maintenance of monitoring programmes.

2. *What new measures have been introduced to regulate river catches in order to avoid overfishing (Action F2)?*

   There are no new measures, but regulation has been maintained including quotas per person and the catch and release periods have been increased.

3. *What actions have been taken to clean and maintain fish ladders and remove obstacles impeding the upstream movement of salmon (Action H1)?*

   An annual cleaning of fish ladders is performed in order to assure that it is works properly.

4. *What action has been taken to increase public awareness of the risks of climate change to salmon stocks in Asturias (Action H2)?*

   This matter is outside the scope of regional authority competences that manages salmon stocks and conservation.

5. *How many obstacles to migration were identified in the inventory and what measures are planned to improve fish passage at these obstacles (Action H3)?*

   Medium and small dams have installed fish passage in those areas considered of interest for the specie.

   In big dams, due to difficulty to install fish passage, it is not recommended the installation.

European Union – Spain (Cantabria)

1. *The Review Group notes that all the actions in the IP were scheduled to commence in 2014. Progress was reported on four actions last year compared to only two in the 2015 APR. When will work commence on the majority of the planned actions?*

2. *What plans are there to initiate the collection of data from the index river on sea survival, run-timing, stock diversity and smolt and sea age (Action F5)?*

3. *When will results be available from the studies of fish screens at 10 hydroelectric developments on the rivers Saja-Besaya and Asón (Action H2)?*

   Answers pending.

European Union – Spain (Galicia)

1. *When will Conservation Limits be established for the rivers Eo and Ulla, Masma, Mandeo and Lérez (Action F1)?*

   Our hope is to develop CLs for rivers Eo and Ulla in the period and to derive proper curves and limits for rivers Mandeo, Masma and Lérez. (Action F1).

2. *What progress has been made in cooperating with the central government of Spain in order to develop fishing rules and research on the salmon population of the River Miño?*

   Research and assessment of salmon-parr densities in Spanish tributaries of the river Miño is ongoing, as cooperation with the Government of Spain in the development of annual fishing rules is in progress. But there is still a great deal to be done.

3. *When will criteria for management of riparian vegetation be developed (Action H1)?*

   The general guidelines for the management of riparian vegetation in Natura 2000 rivers were established and approved during 2014 (*DECRETO 37/2014, do 27 de marzo, polo que se declaran zonas especiais de conservación os lugares de importancia comunitaria de Galicia e se aproba o Plan director da Rede Natura 2000*). Nearly 80% of main salmon rearing areas are included in SACs. But there is still a need of a practical document for the application of this guidelines on salmon areas (Action H1).

4. *What action has been taken to implement compensation flows under the guidelines of River Basin Management Plans (Action H3)?*

   Some of the new River Basin Management Plans for the period 2015-2021 which affect salmon basins in Galicia are still in the public-stakeholders participation phase, prior to submission to Parliament during this year. All of these Plans include Compensation Flows guidelines (Action H3) that are expected to be better than those applied to the date.

5. *What action was taken in 2014 to remove obstacles, construct fishways and improve accessibility (Action H4)?*

   During 2014 there was no improvement in this action (H4). A tendering procedure for the remotion of some dams in the Ulla basin was recently initiated (*RESOLUCIÓN de 9 de abril de 2015, de la Secretaría General Técnica de la Consellería de Medio Ambiente, Territorio e Infraestructuras, por la que se anuncia la licitación por el procedimiento abierto no sujeto a regulación armonizada, para la contratación de la obra para la demolición/modificación de los obstáculos en la cuenca del río Ulla, dentro del proyecto Life+ Margal Ulla (LIFE NAT/ES/000514), cofinanciado por la Unión Europea en un 49,39 %, a través del programa Life+).*

European Union – Spain (Navarra)

1. *When are Conservation Limits expected to be developed for salmon stocks in Navarra and, given that the stock status is considered unfavourable, on what basis is the TAC set (Action F1)?*
   It is not scheduled a date to establish conservation limits due to lack of funds. The TAC is set based on the 15 percent of the average of returning salmon over the past 5 years.

2. *When are the salmonid mesohabitat maps expected to be updated and how are assessments of the potential impacts of construction work undertaken without these data (Actions H2)?*

   Currently there is not scheduled a date to establish conservation limits due to lack of funds. So far, the impact of the works has been assessed based on existing maps, dates back to 2008.

3. *Has the Life project been funded and if not what plans are there to evaluate the fishways and improve connectivity (Action H3)?*

   Life project is still being evaluated. There are no alternative plans.

European Union – Sweden

1. *How many MSW fish are expected to be saved by the introduction of the two fish per day bag limit (Action F1)?*

   Sport fishing in the sea is mainly targeting sea trout. The fishing mortality for salmon was estimated to be very low in this fishery even before the bag limit was introduced. It is estimated that the bag limit will result in nearly none fishing mortality for salmon in sport fishing in the sea.

2. *What is the timescale for the lawsuit intended to address the increase in illegal fishing referred to in Action F2?*

   The timescale in the court is not known. It depends on how the court gives priority to the lawsuit and if the court decision will be appealed.

3. *Is new legislation planned to facilitate the formation of fish management units and in what timescale. If not, how will progress be made on Action F11?*

   Fish management units are already formed in many of the rivers. An inventory will be made in 2015 by the need to form additional fish management units. Based on the assessed need measures will be proposed for formation of fish management units.

4. *How many rivers were subject to liming in 2014, how effective was it and how many rivers still remain untreated (Action H1)?*

   All salmon rivers and their tributaries with salmon that require liming are present included in a liming program. Of the 23 rivers 20 (91%) are limed, some only in tributaries above the salmon habitat. The effect is monitored with samples of water chemistry, benthic invertebrates and electrofishing. The results are evaluated annually by the County boards and reported to the Swedish Agency for Marine and Water Management. Generally the goal of keeping pH above 6 and the levels of labile aluminum at non-toxic levels are reached. Certain years a few of the salmon reaches may face short periods during spring thaw with lowered pH (5.5-6).The exact extent of such periods is not summarized but it is insignificant for the salmon production in every river, and the liming program are successively adapted. A recent (2015) evaluation showed that the frequency of acid episodes has declined exponentially in limed rivers, as a consequence of successive adjusted of lime doses and strategies. As a consequence the ecological status of the fish fauna has reached that of fish in neutral reference rivers.

5. *What type of measures are planned for the restoration of habitat in salmon rivers (other than continuation of liming and application of best practice at hydroelectric facilities) and in how many rivers will these be implemented (Action H3)?*

   The restoration work is planned by the County boards using national and international (EU) funding. Of the 23 rivers restoration work is in progress in 8; Rivers Enningdslälven (habitat restoration), Örekilsälven (improved fishway, habitat restoration), Bratteforsån (habitat), Säveån (fishway, habitat), Rolfsån (fishways, habitat), Nissan (improved fishways planned), Fylleån (improved fishway planned) and Rönne å (fishways, habitat). In most rivers more activities are planned according to the EU Water framework directive. A list of measures required for achieving good ecological status or good ecological potential will be established in 2017.

European Union – UK (England and Wales)

1. *What levels of compliance have been achieved in the carcass tagging programme (Action F5)?*

   All the evidence from our enforcement officers indicates very high compliance (>95%) with the carcass tagging programme in England and Wales. Through actively promoting the programme since its introduction in 2009 and having conducted intelligence-led targeted buyer beware campaigns and dealer checks across the country, there is high awareness of the programme by restaurants and fishmongers and very few cases of illegal practice have been detected.

   Alongside the requirement to tag net caught salmon, nets men are also required to keep a logbook. This is used to record the carcass tag number, date of capture etc., which we use to monitor catches and helps underpin compliance. To ensure no ambiguity, alongside the requirement for netted salmon to be carcass tagged before sale, a ban on the sale of rod caught salmon was introduced in 2009.

2. *When is it expected that the new fish passage regulations will be implemented (Action H2)?*

   Work is continuing on the proposed new fish passage regulations. We aim to publicly consult on proposals later this year and to introduce the new legislation in 2016.

3. *Is any work in Wales being conducted to eradicate non-native fish at high risk sites (Action A2)?*

   The only high-risk non-native species found is Wales is Top Mouth Gudgeon (Pseudorasbora parva). This species has been recorded at three sites in Wales, and an eradication programme has been underway since 2012. Two sites remain to be treated, and work will begin on these as soon as resources become available. In the meantime Natural Resources Wales will continue working closely with site owners and others to ensure Top Mouth Gudgeon are contained within these sites.

4. *Why does the Import of Live Fish Act now only apply to the ornamental fish sector and does this increase the risks of importing non-native fish or diseases and parasites (Action A2)?*

   In January 2015 Defra and Welsh Government introduced new legislation regulating the introduction of fish into inland waters in England, Wales and the Border River Esk catchment area in Scotland, and the keeping of fish in those waters

   The new 'Live fish Movements' legislation has introduced a permitting scheme which minimises the risk posed to the environment by inappropriate and illegal fish movements into our lakes, rivers and waterways and provides more effective enforcement powers to remove illegal non-native fish from these inland waters where these are found. As a result of this new legislation, it was necessary to amend the relevant ILFA Orders in England and Wales to prevent duplication of legislation in relation to live fish movements in inland waters.

   The current ILFA Orders continue to apply to all water bodies that do not meet the definition of an inland water such as aquaria, research and conservation facilities (zoos, laboratories etc.) and ponds that are below 0.4 hectares in size. Therefore, the current ILFA Orders now mainly apply to the trade in ornamental fish. The Live Fish Movement legislation and the ILFA Orders therefore complement each other to maintain the scope and protective measures as set out in the previous regulatory regime.

European Union – UK (Northern Ireland)

1. *Please provide clarification regarding the current management of mixed-stock fisheries and the extent of closures in the Loughs Agency area and the DCAL areas?*

   DCAL AREA

   Management Objectives for DCAL area Mixed Stock Fisheries.
   The DCAL area commercial salmon fishery represents a Mixed Stock Fishery (MSF) with a number of contributory stocks. NASCO guidelines indicate that management of homewater MSFs should be based on the status of individual river stocks and knowledge of

the stocks that contribute to the fishery with conservation best achieved if the fishery targets stocks at full reproductive capacity. Salmon harvest from DCAL area MSFs requires that the collective of stocks exploited reaches a threshold level equivalent to the "management target" of 125% of the conservation limit (CL). Importantly in accordance with NASCO guidelines for MSFs, this must be attained in all the individual contributing rivers or other stock units potentially exploited. Additionally, this precautionary reference point should be met or exceeded consistently over a number of years (≥3/5 most recent years) before commercial exploitation can be permitted, a stipulation which gives some confidence that targets will continue to be met given unpredictable inter-annual variation in stock levels

Salmon exploitation by a MSF necessitates a management threshold set at a level above the CL to ensure there is a high probability of stocks exceeding their CL, in line with NASCO guidelines. A management target (MT) of 125% of CL for all the contributing rivers/stock units exploited by the DCAL area commercial MSF has been adopted as a precautionary reference point. The Management Objective for the DCAL area MSF is that before commercial harvest can be considered, all the contributory stocks must consistently exceed their individual MTs (≥3/5 most recent years).

Currently the management objective has not been met and the DCAL area commercial fishery is completely closed. This is reviewed annually by an independent SSC on salmon that provide scientific advice to DCAL on the management of the stocks.

2. *Was the new catch and release legislation in place for 2014 and if so was it effective? What information is available on catch and release in the Loughs Agency area?*

Catch and release legislation was in place for the 2014 fishery (DCAL area). Catch returns and enforcement patrols indicate that the measure was generally well adhered to. Restrictions on tackle (barbless hooks) and advice on best practice have enhanced the efficacy of the measure.

In the Loughs Agency area, the Agency introduced compulsory catch and release on the River Finn and the River Foyle which was strictly enforced and generally accepted by anglers.

3. *What progress has been made with regard to the imposition of mandatory catch and release of all rod caught salmon before 1st June in the DCAL area (Action F3)?*

The legislation has been in place for the DCAL area since 2003 and enforcement patrols would confirm that anglers have been compliant with this.

4. *Please provide details on the number of net seizures, prosecutions, or other measurable progress in Action F4?*

In the DCAL area 3763 land and water based patrols carried out. 1 angler detected with unlawfully caught salmon and 2 illegal nets were seized.

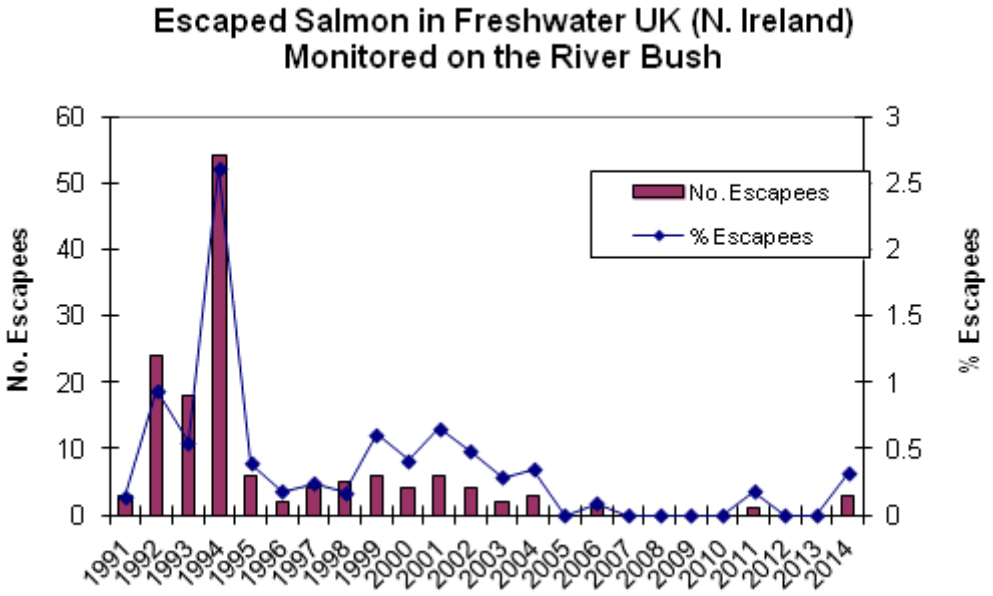
The table below shows the relevant seizures in the Loughs Agency area related to illegal salmon fishing, the court cases are currently going through the court process.

Seizures 2014	
Boat	**8**
Car	**1**
Net	**94**
Rod	**54**
Fish	**136**
Other items	**23**
Total	**184**

5. *What monitoring data can be presented to demonstrate progress in terms of levels of sea lice on farmed fish and numbers of escaped farmed salmon (Action A1)?*

   Sea lice on Farmed fish = DARD

   Long term monitoring data on farmed salmon escapees is available from the River Bush. The time series extends for 24 years and indicates an overall decline in the number of farmed salmon detected at the Bush trap (Figure 1). In the first 10 years from 1991 – 2000 an average of 12.6 farmed salmon/year were detected representing 0.62% of the wild salmon run. In the most recent 10 year period from 2005 – 2014 an average of 0.5 farmed salmon/year were detected representing 0.06% of the wild salmon run.



Summary of Northern Salmon harvest reposts showing prevalence of *Lepeophtheirus salmonis* observed.

				Number of Lice/Fish		
Date	No. Of fish Checked	No. Of positives (total lice seen)	Percentage fish infected	1	2	3
15/04/2015	345	10	2.8%	Max		
18/02/2015	425	1	0.2%	Max		
21/01/2015	302	1	0.3%	Max		
03/12/2014	259	4	1.5%	Max		
12/11/2014	199	4	2.0%	Max		
08/10/2014	364	3	0.8%	Max		
03/09/2014	471	7	1.5%	Max		
09/07/2014	287	0	0.0%			
25/06/2014	333	1	0.3%	Max		
21/05/2014	410	0	0.0%			
30/04/2014	674	14	2.1%	Max		
19/02/2014	435	20	4.6%	Max		
15/01/2014	424	22	5.2%	Max		

6. *Are the results of the genetic analysis described in Action A1 available?*

   The full Report will be available next year

European Union – UK (Scotland)

1. *What progress has been made with developing the Scottish salmon counter network, what is the timeframe for completing this work, and could details of the peer reviewed genetic study be provided (Action F2b, F3a and F3b)?*

   As indicated in the Implementation Plan, project funding was secured in 2014 to investigate the engineering requirements, technology options and costs of deploying and running counters in different environmental settings around Scotland. This project commenced in July 2014 and is scheduled to conclude by the end of 2015. The results of the project will be considered and the timescale for development of the counter network will be determined by available resources.

Report entitled "Accuracy of assignment of Atlantic salmon (*salmo salar*) to rivers and regions of Scotland and north east England based on single nucleotide polymorphism markers" has completed the internal review system within Marine Scotland and will be submitted in due course.

2. *In the absence of meaningful Conservation Limits and assessment of spawning escapement through the counter network, how will harvest levels be established under the present management regime and if licensing is introduced in future following the consultation process (Action F1 and F2)?*

   The public consultation inviting views on conservation measures which would seek to ban the killing of wild salmon except under license along with an accompanying carcass tagging scheme closed on 30 April 2015. As the results of this exercise are currently being considered by Scottish ministers, it would be inappropriate to comment in detail on possible future assessment or management regimes. In line with assessment programmes elsewhere, however, it is expected that where counter data does not currently exist, stock abundance will be estimated from reported fishery data and biological reference points will be transported from stocks where such parameters may be estimated to those where data is currently insufficient.

3a. *What progress has been made with developing and implementing the monitoring/research strategy for potential marine renewables and salmonid interactions and what is the timeframe for completing this work (Action F5a)?*

   A National Research and Monitoring Strategy for Diadromous Fish National Research and Monitoring Strategy for Diadromous Fish (NRMSD): to investigate the potential for interactions between diadromous fish and wind, wave and tidal renewable energy developments (was published in 2014. The critical areas of interest can be considered under two main themes:

   - **Theme 1**: current and priority research actions specific to offshore and marine renewable energy development
   - **Theme 2**: current and near-term research actions to implement a better understanding of Atlantic salmon populations to support the knowledge-base underlying risk assessments for offshore marine renewables energy developments.

   To ensure that the themes and research objective questions are aligned with the prevailing and emerging research demands for offshore and marine renewable energy development, a programme of engagement has been designed which includes a management steering group and on-going direct stakeholder consultations. Additionally advice and evidence from Scottish National Heritage, Crown Estate, Joint Nature Conservation Committee and other academic research organisations will be established.

   Work is in hand on several areas, including improvements to fish counters in rivers, design of a national counter network, the distribution and tracking of smolts at sea, timing of smolt runs, and depth utilization of returning adults at sea. Recently completed work on AC electromagnetic fields (emf) concluded that adult and post-smolt salmon were insensitive to fields of the strength likely to be generated by power transmission cables at sea.

3b. *What progress has been made with the planned enhanced industry-led voluntary sea lice reporting over 30 river catchment areas and what information was reported in 2014 (Action F5d)?*

The Scottish Salmon Producers Organisation (SSPO) produces quarterly reports on fish health management which provide information for 30 regions of the north-west coast, western and northern isles of Scotland. They are based on information supplied by farms during the relevant period. The reports include information on Farm Management Areas, stocking, fallowing, strategic treatments and average sea lice counts.

The reporting regions broadly mirror those for the wild salmon and sea trout fisheries. The sea lice numbers reported are average adult female lice count per fish for each reporting region.

4 reports were published during 2014 and they can be accessed on the SSPO website. An annual summary report for 2014 is also available on the website.

3c. *What is the expected timeframe for the DEPOMOD modelling tool to enhance SEPA discharge consents (Action F5f)?*

The recoded AUTODEPOMOD modelling tool is expected to be completed by the end of May 2015.

4. *What progress has been made with the implementation of a national river temperature monitoring strategy for salmon rivers and what is the expected timeframe for identifying sensitive areas and taking appropriate management action (Action H1b)? In what ways is climate change considered within strategic environmental frameworks (Action H1e)?*

Full details of the river Scotland River Temperature Monitoring Network are available on the Marine Scotland website.

In 2013 Marine Scotland Science (MSS) and the University of Birmingham received NERC CASE PhD funding to help take assist with the development of a national temperature network. A novel method was developed for designing the composition of the new network in 2014 and presented to the British Hydrological Society national conference. A paper has subsequently been submitted on this network design approach. During 2013 and 2014 MSS also developed infrastructure to manage data collection and store data (FL Environmental Observation Database – FLEObs) and calibration procedures and statistical approaches for correcting for logger bias. Standard Operating Procedures have been developed for all aspects of the work and the project has been brought under the Joint Code of Practice ensuring appropriate quality control (JCoP). Logger deployment is progressing in collaboration with local fisheries managers. Most of the loggers should be deployed by the end of May 2015. The anticipated timeline for deliverables is as follows:

- May 2015 - Complete deployment
- Autumn 2015 – Data download and storage, data exploration and model development
- Spring 2016 – Understand and model spatial variability in thermal regimes
- Summer 2016 – Identify areas sensitive to high temperatures and climate change

- Autumn 2016 – Assess potential of riparian land use to mitigate high temperature
- Winter 2016/2017 - Construct models to predict future water temperature changes
- Summer 2017 – Routine data download and storage, repeat model fitting, annual reporting

In addition to the SRTMN, MSS has been developing a program of complementary process based research to further understand the influence of riparian shading on river temperature, the potential for climate change mitigation and the optimal locations for riparian planting. Recent examples of this work include:

Garner, G., I. Malcolm, J. Sadler, and D. Hannah (2014), What causes cooling water temperature gradients in forested stream reaches?, *Hydrology and Earth System Sciences Discussions, 11*(6), 6441-6472.

Garner, G., I. A. Malcolm, J. P. Sadler, C. P. Millar, and D. M. Hannah (2014), Inter-annual variability in the effects of riparian woodland on micro-climate, energy exchanges and water temperature of an upland Scottish stream, *Hydrological Processes*.

Finally, MSS has been working with local fisheries trusts to monitor and predict the effects of current large scale riparian planting projects on river temperature and fish productivity

5. *How many high priority barriers were removed from salmon rivers in 2014 (Action H2)?*

6. *What level of stocking was consented, was it consistent with NASCO guidelines and what were the offences for? What penalties were applied when offences were committed (e.g. would there be fines for an offence) (Action A1)?*

   Details were included within the APR - The ASFB Annual Report suggests that they granted 33 consents and reported 38 offences in 2014 whilst MSS granted 2 equivalent consents. We do not have details relating to any action taken as a result of the offences being reported.

7. *What progress has been made with the implementation of the EU Regulation on the Use of Alien and Locally Absent Species in Aquaculture (Action A2)?*

   The Alien and Locally Absent Species in Aquaculture (Scotland) Regulation 2015 was laid before the Scottish Parliament on 5th March 2015 and came into force on 3rd April 2015. The 2015 Regulations will provide a safeguard against the potential for adverse environmental effects associated with the use of alien and locally absent species in aquaculture, while also providing a Scottish focus. A guidance document to accompany the 2015 Regulation is currently being produced and will be published on the Scottish Government's web-pages.

8. *How was the Scottish Aquaculture Innovation Centre designed to be responsive to Actions F5a - i?*

   The Scottish Aquaculture Innovation Centre (SAIC) is one of eight Innovation Centres established by the Scottish Government in 2013-2014. Its aim is to transform the relationship between the aquaculture industry and research community and generate closer

connections between both to foster innovative industry-relevant collaboration. The SAIC Board is industry-led. It comprises a Chair, four members from the aquaculture industry, one from the University of Stirling (recognising its role as the administrative hub) and one from the academic community. The Board is supported by SAIC's Independent Scientific Panel - comprising eight highly regarded researchers. It provides expert and independent opinion to the SAIC Board on the scientific quality of proposals for SAIC funding. The Panel also supports SAIC with insights into relevant developments in related scientific fields or other parts of the world. This will help the Innovation Centre to identify possible synergies and avoid duplication in its project funding decisions.

The Four Priority Innovation Actions identified by SAIC are: Improved sea lice control; Alternative sustainable feeds for fin fish; Rapid detection methods for viral pathogens and disease; and Development of secure, health certified Scottish mollusc spat production systems. On 27 March 2015 SAIC announced £3.4 million funding for two projects on the use of cleaner fish for biological control of sea lice to enhance the environmental sustainability of the industry. The projects aim to build numbers and quality of farmed cleaner fish available; and identify a vaccine to improve their health, welfare and performance when deployed to sea.

9. *The Review Group considers that all Parties and jurisdictions with salmon farming should have presented quantitative data in their Implementation Plans to provide a baseline for demonstrating progress towards the international goals for sea lice and containment in the NASCO Guidance on Best Management Practices to Address Impacts of Sea Lice and Escaped Farmed Salmon on Wild Salmon Stocks. Scotland has not provided these data. Can the results of monitoring and enforcement for sea lice and escaped farmed salmon be provided (Action A3?*

Data requested below:

Sea Lice: Of a total 267 active seawater fish farm sites during 2014, sea lice inspections were conducted at 86 (32.2%) and enhanced sea lice inspections were conducted at a further 29 (10.9%). All farms inspected were found to have effective sea lice management in place for the aquaculture animals under their care, which met the requirements of the regulatory regime under the Aquaculture and Fisheries (Scotland) Act 2007. No reports of increased sea lice loads or lice-induced mortality of wild salmonids attributable to the farms was reported to the Marine Scotland's Fish Health Inspectorate during 2014.

Containment: Of a total 416 active fish farm sites during 2014, containment inspections were conducted at 144 (34.6%) and enhanced containment inspections were conducted at a further 30 (7.2%). 2 incidents resulting in escaped fish were reported from freshwater fish farms in 2014 which resulted in the loss of 5 fish. Assuming an estimate of 80 million fish held in freshwater fish farms at any point during 2014 this shows that 99.999994% of fish were contained. Ten incidents resulting in escaped fish were reported from seawater fish farms in 2014 which resulted in the loss of 184,613 fish. Assuming an estimate of 72 million fish held in seawater fish farms at any point during 2014 this shows that 99.74% of fish were contained.

Information relating to the inspection and operational activities of Marine Scotland's Fish Health Inspectorate is published on a regular basis. For each yearly quarter, a summary of case inspections and outcomes is published per region, along with summary information relevant to enhanced inspections conducted under the Aquaculture and Fisheries (Scotland) Act 2007.

Norway

1. *The Review Group notes with concern that the timescale for development of a new agreement for the Tana River appears to be delayed. What measures will be put in place to protect the stocks that are below their Conservation Limits until a new agreement is adopted (Action F4)?*

   At a meeting on ministerial level in late 2011 it was agreed to introduce temporary measures to reduce fishing mortality in the Tana river before a new agreement is adopted. Consequently, the local fisheries management in Norway introduced substantive regulatory measures aimed at reducing the fishing pressure from 2012 on. However, as this was met with what the local management considered to be only minor actions from Finland, the regulatory measures were suspended in 2013. Furthermore, in annual negotiations regarding the tourist fisheries, Finland has since 2012 rejected all proposals to reduce fishing mortality.

   For 2015 the local fisheries management has established zones where fishing is forbidden in the uppermost tributaries Karasjohka and Iesjokha. The MSW salmon stocks in these tributaries are considered to be some of the most threatened in the Tana River system. In addition, the local management has forbidden the seine fishery in the Norwegian part of the watercourse.
   For 2016 the local management is prepared to introduce substantive measures to reduce fishing mortality in all fisheries if this is met with comparable actions from Finland. Furthermore, Norway will propose a substantial reduction in fishing mortality caused by tourist anglers in regional negotiations concerning 2016.

2. *What progress has been made with the development of a regional carrying capacity model for sea lice; and what results have emerged from the monitoring programme of sensitivity of drugs against sea lice (Action A1)?*

   This topic is now under debate on basis of a White Paper on sustainable and predictable growth in the aquaculture industry. The Parliament will debate and draw conclusions in June 2015. One of the proposals is to establish sea lice as a factor/indicator for regulation of the production capacity of salmon aquaculture in production areas (regional approach).
   Results obtained in the surveillance program for resistance to chemotherapeutants against sea lice show a pronounced increase in prescribed medicines used as delousing agents.

   Furthermore, reduced sensitivity and resistance to the medicines tested in bioassays are generally widespread along the coast, but seem less prominent in the far north and far south. Compared to the surveillance in 2013, however, there seems to be a loss of sensitivity to deltamethrin and azamethiphos in Finnmark. The results for hydrogen peroxide were

generally better than for other medicines, but loss of sensitivity was indicated in areas in Hordaland and Trøndelag.

3. *What proportion of farms have exceeded the sea lice limit and on how many has action been taken to require slaughtering and/or reduction of site maximum allowed biomass (Action A1)?*

   It is not possible to answer the question directly, as sea-lice counts are reported weekly provided the sea-temperature is above 4 degrees Celcius. The total number of reports are approximately 500 per week. However, the statistics show that at any time, 60 percent of all sites have less than 0,1 adult females, while 30 percent is in the range between 0,1 and 0,49. The regulations set out that the sea-lice count should not exceed 0,5 adult females.

   A total of 7 sites were given resolution on compulsory slaughtering in 2014, (2 in the North and 5 in the South-West part of Norway). The corresponding number for 2013 was 8, (6 in the North and 2 in the South-West). Furthermore 7 sites (3 in Western Norway, 3 in Mid N. and 1 in North N.) have been given notice that the NFSA is considering a reduction in site MAB in 2014. These cases are in process.

4. *What actions have been taken to remove pink salmon and have any self-reproducing populations been established? Does the monitoring indicate that minnow populations are expanding their range towards salmon areas (Action A4)?*

   Pink salmon have been caught in the county of Finnmark since the late 50s. This was caused by massive releases of smolts in rivers linked to the White Sea. Previously catches were depending on regular releases of smolts in north-west Russia. Stocking of pink salmon ceased more than ten years ago, and there are now clear signs that the species has established self-reproducing populations in the Barents Region – including rivers in Finnmark. The pink salmon has a two-year cycle and we expect a major new incursion in 2015.

   Two actions will be implemented:

   - Following up the monitoring efforts. A Norwegian - Russian environmental cooperation project has been prepared
   - Measures to catch pink salmon in the most vulnerable rivers in Finnmark using traditional fishing methods

   The results from the monitoring of minnows indicate that the species is expanding its range towards salmon areas. An example is the river Namsen in mid-Norway, which is one of the country's best salmon rivers. In this river, minnow was registered in the upper parts about 10 years ago. The species spread downstream and is now found in salmon areas. The consequences for the production of salmon in the river Namsen is not known, but there are plans to investigate the issue.

Russian Federation

1. *What progress has been made in developing and implementing a procedure for voluntary reporting of catch and release? What are the reasons why such reporting cannot be made mandatory?*

   In accordance with current legislation the recreational Atlantic salmon fisheries in Russia are allowed at fishing sites only. Each salmon fishery is licensed by a Territorial Directorate of the Federal Agency for Fisheries. Since 2009 the Territorial Directorates issued licences for users of the fishing sites in compliance with the quota allocation made by the Regional Commissions on Regulation of Harvesting the Anadromous Fish. The licence gives a legal right to the user of the fishing site to organize salmon fisheries. The user of the fishing site is obliged to report catches to the Territorial Directorates of the Federal Agency for Fisheries twice a month. Once the allocated quota is fished the fishery must be closed. A quota is set for catch-and-retain fisheries only. There is no quota or catch/bag limits for catch-and-release. Therefore there were no obligations to report caught-and-released fish since 2009. However, some users of fishing sites with most developed catch-and-release fisheries in the Kola Peninsula have been collecting catch statistics on catch-and-release fishing on a voluntary basis since yearly 1990s. This catch statistics are available for fisheries research institutions. No information can be provided in this response on why such reporting cannot be made mandatory.

2. *Given the very high level of unreported catch estimated on the Tuloma River, what measures are planned to address this and what measures are planned in other rivers (Action F1)?*

   Stricter enforcement of existing laws to reduce the high level of unreported catch was implemented in 2014 on a number of rivers and planned for 2015.

3. *In the light of the findings of the Kolarctic Salmon Project, what is the expected timescale for implementing management measures in the coastal fisheries so as to ensure the protection of the weakest contributing stocks (Action F2)?*

   The findings of the Kolarctic Salmon Project were used for developing recommendations for the Regional Commission on Regulation of Harvesting the Anadromous Fish in Murmansk region in 2015. The quota allocation for coastal salmon fisheries in the White Sea has been made on the basis of data on salmon stock contributions to the fisheries. No Atlantic salmon fisheries are allowed in the Russian Federation in the Barents Sea by law.

4. *When will detailed plans be developed for habitat protection and restoration on specific rivers (Action H2)?*

   The inventory of the Barents Sea rivers has been established and the work on developing the inventory of salmon rivers of the White sea basin of Murmansk and Archangelsk regions is under way. General recommendations on habitat restoration were prepared for a number of salmon rivers in the Murmansk region. No detailed plans have been developed for specific rivers yet.

5. *In answer to a question on A1 in last year's report, the Russian Federation indicated that it would provide more information on how sea lice are managed under the new Federal Law on aquaculture. This information is not contained in this year's APR, and the Review Group requests that it be provided.*

   No new information is available.

6. *The Review Group considers that all Parties and jurisdictions with salmon farming should have presented quantitative data in their Implementation Plans to provide a baseline for demonstrating progress towards the international goals for sea lice and containment in the NASCO Guidance on Best Management Practices to Address Impacts of Sea Lice and Escaped Farmed Salmon on Wild Salmon Stocks. The Russian Federation has not provided these data. Can the results of monitoring and enforcement for sea lice and escaped farmed salmon be provided? (Action A1)*

   No information on monitoring and enforcement for sea lice and escaped farmed salmon can be provided.

United States

1. *What were the results of the surveillance conducted in rivers in 2014 to identify any poaching activity for Atlantic salmon (Action F2)?*

   The National Marine Fisheries Service's Office of Law Enforcement, the Maine Department of Marine Resource's Marine Patrol, and the Maine Department of Inland Fisheries and Wildlife's Warden Service have the responsibility, among others, of enforcing federal and state laws pertaining to the protection of Atlantic salmon. These enforcement agencies cooperate with all levels of overt enforcement, this being the best deterrent to thwart illegal activity. These agencies also engage in covert operations that have resulted in several high profile cases in recent years (though none were made public in calendar year 2014). Both Federal and State agencies investigate and prosecute vigorously all violations. The Maine Warden Service produces an annual report on its activities. The most recent available is a summary of activities in calendar year 2013 (http://www.maine.gov/ifw/warden_service/pdfs/_2013MWS%20Annual%20Report.pdf). It reveals that roughly 20% of the Maine Warden Service's activities are directed at compliance with fishing regulations (including, but not limited to, Atlantic salmon surveillance activities). In Connecticut, the state environmental police closely monitor activities in salmon streams. In 2014, one officer observed an adult salmon holding in a popular trout fishing pool and reported this to the Inland Fisheries Division, which also investigated. The officer advised anglers to stop fishing and monitored the site until the salmon moved upstream.

2. *By what date will the comprehensive conservation plan for Atlantic salmon in Maine, referred to in Action F2, be implemented)?*

   There is currently no specific date set for the Maine Department of Inland Fisheries and Wildlife to conduct a comprehensive conservation plan as described in section F2 (and A4). There is, however, progress in curtailing stocking of non- native salmonids in salmon rivers.

For example, within the freshwater range of the endangered salmon in Maine only one salmon river (the Sandy River, a tributary to the Kennebec) still has an active brown trout stocking program. The Maine Department of Inland Fisheries and Wildlife and the Maine Department of Marine Resources have agreed that the stocking locations of non-native salmonids will be spatially segregated from Atlantic salmon.

3. *How many rivers were monitored for escaped farmed salmon in 2014 and was monitoring only implemented when an escape event was notified (Action A1)?*

   Maine Department of Marine Resources staff conduct routine monitoring of the abundance and status of adult Atlantic salmon (and other fish species) at permanent fishways to monitor fish returns to the Penobscot, Kennebec, Androscoggin, Narraguagus, and Pleasant Rivers. Various dam owners also conduct similar routine monitoring on the Union River and the Saco River. The St. Croix Waterway Commission also operates a trap at the Milltown Dam on the St. Croix River and monitors for escaped farmed salmon. The placement of a temporary barrier weir on the Dennys River was not necessary since there were no reported escapes from U.S. farms in 2014. These fish counting facilities are typically operated from May through early November each year. Staff update the statewide trap catch summary (http://www.maine.gov/dmr/searunfish/trapcounts.shtml) weekly or more often during the peak of the fish migrations.

   All fishways on salmon rivers in southern New England have traps that retain salmon and are regularly staffed and monitored. This monitoring is done at all times, not just in relation to escape events. No escaped farmed salmon were observed in 2014.

4. *The US indicated in a response to a question raised by the Review Group in 2014 that in order to gain a better understanding of the temporal and spatial distribution of sea lice throughout the Gulf of Maine, NOAA National Marine Fisheries Service (NMFS) had funded studies to investigate the presence and abundance of sea lice on wild fish communities in embayments with salmon farms (Cobscook Bay) and areas without (Penobscot Bay). Can the results of these studies be provided?*

   Both studies referenced in the previous annual report from last year are still in progress. Data are being analyzed, and one study is still underway with data still being collected. As such, preliminary results are not yet available.