Agenda item 5.1
For information

Council

CNL(19)39

Annual Progress Report
on Actions Taken Under the Implementation Plan for the Calendar Year 2018

Norway

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Annual Progress Report on Actions taken under the Implementation Plan for the Calendar Year 2018

The primary purposes of the Annual Progress Reports are to provide details of:

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

These reports will be reviewed by the Council. Please complete this form and return it to the Secretariat **no later than 28 March 2019**.

Party:	**Norway**
Jurisdiction/Region:	

1: Changes to the Implementation Plan

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

None

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

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 after 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 were identified as; escaped farmed salmon, sea lice, hydropower production and other habitat alterations. The risk for worsening 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 are assessed as high.

2: Stock status and catches.

2.1 Provide a description of any new factors which may significantly affect the abundance of salmon stocks and, if there has been any significant change in stock status since the

development of the Implementation Plan, provide a brief (200 word max) summary of these changes.

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

	In-river	Estuarine	Coastal	Total
(a) provisional nominal catch (which may be subject to revision) for 2018 (tonnes)	272		323	
(b) confirmed nominal catch of salmon for 2017 (tonnes)	377		290	
(c) estimated unreported catch for 2018 (tonnes)	66		197	
(d) number and percentage of salmon caught and released in recreational fisheries in 2018	96 (tonnes), 26%			

3: Implementation Plan Actions.

3.1 Provide an update on progress against actions relating to the Management of Salmon Fisheries (Section 2.8 of the Implementation Plan).
Note: *The reports under 'Progress on Action to Date' should provide a brief overview with a quantitative measure of progress made. While referring to additional material (e.g. via links to websites) may assist those seeking more detailed information, this will not be evaluated by the Review Group.*

Action F1:	Description of Action (*as submitted in the IP*)	Annual assessments of the management target achievement for the previous 4-5 year period are made by The Norwegian Scientific Committee for Atlantic Salmon Management (SACAS). In response to advice from the committee regulatory measures will be introduced normally every four or five years or if necessary annually or within season, as described in section 2.2. Special caution is exercised when regulating the fishery in areas with the risk of impacts from aquaculture. Fishing season, in sea and river fisheries will be used as a primary means to reach the management targets. Pre-agreed regulatory measures are implemented in rivers if there is a risk that spawning targets are not met.
	Expected Outcome (*as submitted in the IP*)	Increase in number of stocks reaching management targets.
	Progress on Action to Date *(Provide a brief overview with a quantitative measure of progress. Other material (e.g.*	Regulatory measures in sea and river fisheries were introduced in 2016. In 2018, SACAS assessed that out of 195 salmon stocks with enough information, managing targets were achieved for more than 91% of them. Due to

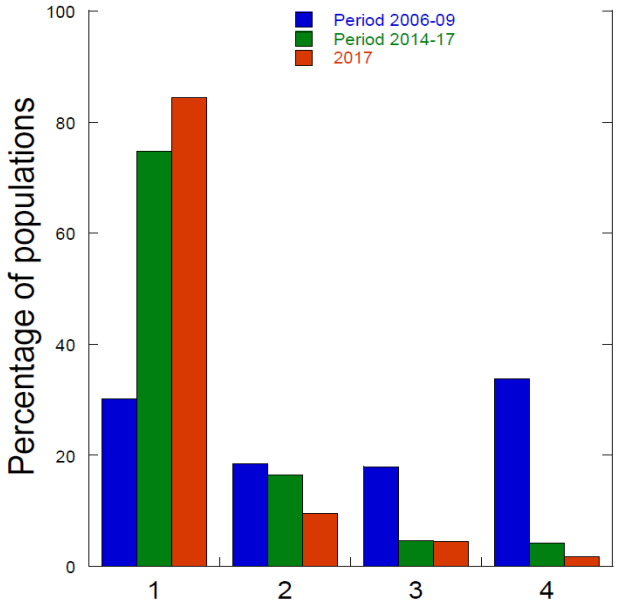
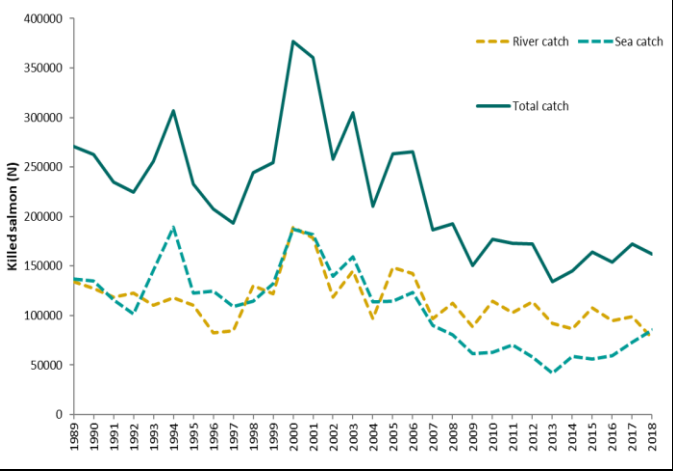
	website links) will not be evaluated.)	delay in reporting procedures, SACAS's reports assessments for 2017 fishing season.  Fig 1. *Proportion (%) of the evaluated salmon rivers in category 1: the management target is attained, category 2: there is a risk that the management target is not attained, category 3: the management target is likely not attained, and category 4: the management target is far from being attained. Data are given for the periods 2006-2009 and 2014-2017, as well as for 2017 only.* 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 killed salmon (N) in river fisheries compared to 2017, while the numbers of killed salmon increased in the sea fisheries. No regulatory adjustments within fishing season were necessary in 2018. 

		Fig. 1: *Annual killed salmon in sea- and river fisheries*
	Current Status of Action	Ongoing
	If 'Completed', has the Action achieved its objective?	
Action F2:	Description of Action (*as submitted in the IP*)	Introduction of mandatory mid-season assessment of the fishery and salmon run and pre-agreed measures in more rivers. Consider the introduction of similar requirements for sea-fisheries. Further develop the specific toolkit, consisting of a procedural memo and specially adapted spread sheets for each individual river.
	Expected Outcome (*as submitted in the IP*)	Increase in number of stocks reaching management targets.
	Progress on Action to Date *(Provide a brief overview with a quantitative measure of progress. Other material (e.g. website links) will not be evaluated.)*	Regional authorities continue to keep close contact to local managers to make sure pre-agreed measures are set into force in accordance with the outcome of mid-season assessments. Digital catch reporting for sea-fisheries was introduced in 2017. It is now available for all users, but paper reports seems preferred by most sea-fisheries. Along with digital reporting, legislation is now in place to implement mid-season reporting for sea-fisheries. However, it has not been considered necessary.
	Current Status of Action	Completed
	If 'Completed', has the Action achieved its objective?	
Action F3:	Description of Action (*as submitted in the IP*)	Introduction of "second" generation spawning targets.
	Expected Outcome (*as submitted in the IP*)	More precise spawning targets and better stock management.
	Progress on Action to Date *(Provide a brief overview with a quantitative measure of progress. Other material (e.g. website links) will not be evaluated.)*	For several years, Norwegian researchers have been working on new methodology to calculate more precise spawning targets. A Report should have been received by the end of 2016, but the development has been more time consuming than anticipated, and the report is considerably delayed. Unfortunately, we still don't have an estimated date for delivery of the report, and therefore are we not able to give a schedule for the revision of spawning targets. However, preliminary studies have not revealed major discrepancy between existing targets and targets calculated with new methodology.
	Current Status of Action	Ongoing
	If 'Completed', has the Action achieved its objective?	
	Description of Action	Negotiate a new regulatory regime for the river Tana

Action F4:	(*as submitted in the IP*)	with Finland, and introduce a stock rebuilding program in collaboration with Finland.
	Expected Outcome (*as submitted in the IP*)	A new agreement in 2016, followed by stock-rebuilding up to spawning target achievement in the river Tana.
	Progress on Action to Date *(Provide a brief overview with a quantitative measure of progress. Other material (e.g. website links) will not be evaluated.)*	A new regulatory regime was introduced in river Tana in 2017, aiming for an overall reduction of mortality with c. 30%. Based on monitoring of salmon stocks in 2017 and 2018, the mortality these two years was estimated to be reduced as intended in c. 80% of the stocks. This implies that the stock rebuilding follows the intended course, so the stocks are recovered within two generations (c. 15 years). A formalized stock rebuilding program is still underway, as part of a comprehensive management plan. However, the actions to reach the targets are mostly set into force.
	Current Status of Action	Ongoing
	If 'Completed', has the Action achieved its objective?	The results indicate that the stock rebuilding follow the intended course, so the stocks are recovered within two generations (c. 15 years).

3.2 Provide an update on progress against actions relating to Habitat Protection and Restoration (Section 3.4 of the Implementation Plan). ***Note:*** *The reports under 'Progress on Action to Date' should provide a brief overview with a quantitative measure of progress made. While referring to additional material (e.g. via links to websites) may assist those seeking more detailed information, this will not be evaluated by the Review Group.*		
Action H1:	Description of Action (*as submitted in the IP*)	Liming of 22 acidified salmon rivers and if feasible include five additional rivers in the long-term liming program.
	Expected Outcome (*as submitted in the IP*)	Restored salmon stocks and fishing possibilities.
	Progress on Action to Date *(Provide a brief overview with a quantitative measure of progress. Other material (e.g. website links) will not be evaluated.)*	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 are re-established. Salmon catches in limed rivers have increased from about 10 tons in the 1980s to 40 - 60 tons today, and at present this makes up for 10-14 % of total salmon catches in Norwegian rivers. The funding comes from by the Norwegian Government, and in 2018, the cost was about 50 mill NOK (≈ 4.6 mill GBP).
	Current Status of Action	Ongoing
	If Completed, has the Action achieved its objective?	
Action H2:	Description of Action (*as submitted in the IP*)	All rules of operations for the largest and oldest hydropower plants are subject to revision within 2022. A major challenge is how the water needed for

		reintroduction of Atlantic salmon and other environmental improvements shall be weighed in relation to the goals for producing renewable energy (the RES Directive). Measures in National Salmon Rivers will be given high priority. Positive and negative effects will be evaluated. If the positive values turns up to exceed the negative values new conditions will be set. Other actions are habitat improvements, fish-ladders, adjustment in the manoeuvring regimes etc.
	Expected Outcome (*as submitted in the IP*)	In general, an increase in water discharge in dewatered areas, no ramping, less fluctuations in water levels, and more environmentally friendly allocation of water and habitat improvements in critical periods of the salmon life cycle will be evaluated in each specific river.
	Progress on Action to Date *(Provide a brief overview with a quantitative measure of progress. Other material (e.g. website links) will not be evaluated.)*	Revision of licence conditions and rules of operations has been addressed by NVE in 8 river systems in 2018. NVEs recommendations has been forwarded to the Ministry for final decision. Of these, Atlantic salmon have been of great interest in the river Surna that also is among the national salmon rivers. The process to revise conditions and rules of operation is time consuming due to the fact that several considerations are addressed and involvement of stakeholders with different agenda. In total, 45 different revisions are now ongoing in watercourses with anadromous fish or resident fish species.
	Current Status of Action	Ongoing
	If Completed, has the Action achieved its objective?	
Action H3:	Description of Action (*as submitted in the IP*)	Removal or reconstruction of artificial migration obstacles such as pipes and culverts through roads.
	Expected Outcome (*as submitted in the IP*)	Effective fish passages increase available nursery habitats in upper reaches of salmon rivers - removal of migration obstacles increases available habitat in tributaries of larger salmon rivers and in smaller coastal streams.
	Progress on Action to Date *(Provide a brief overview with a quantitative measure of progress. Other material (e.g. website links) will not be evaluated.)*	The road authorities have removed 6 migration obstacles for salmon and sea trout in 2018. Measures to mitigate barriers caused by roads are planned in prioritized rivers by the road authorities.
	Current Status of Action	Ongoing
	If Completed, has the Action achieved its objective?	
Action H4:	Description of Action (*as submitted in the IP*)	a) Increased focus on enforcing the current legislation against habitat deterioration, to avoid further

		negative impact on salmon nursery habitat. Special focus will be on National Salmon Rivers, in which there are particular restrictions against most types of habitat encroachment. An important part of this initiative is to bring updated information on the new regime to important stakeholders such as landowners and road constructors. b) Habitat restoration and biotope adjustments. A lot of weirs have been constructed throughout the country. In later years several of these have been reconstructed to improve the passage of migrating anadromous salmonids. In Northern Norway in particular several actions have taken place to improve the salmon habitat. Several rivers that were channelized in the 1990'ies have achieved improvements by opening of river reaches to be active during floods, placement of large stones to increase habitat heterogeneity, rebuilding of flood protection works, including jacks and other constructions to increase hydraulic heterogeneity.
	Expected Outcome (*as submitted in the IP*)	Increased productivity in nursery habitats for Atlantic salmon due to decreased habitat degradation and increased connectivity in salmon river systems.
	Progress on Action to Date *(Provide a brief overview with a quantitative measure of progress. Other material (e.g. website links) will not be evaluated.)*	Due to delay in reporting procedures, the present status report actions carried out 2017. Measurements to improve the ecological conditions for anadromous salmonids have been carried out in the river Jøstra. An old flood channel was revitalized and thereby increasing the rearing habitat for juvenile salmon and trout.
	Current Status of Action	Ongoing
	If Completed, has the Action achieved its objective?	

3.3 Provide an update on progress against actions relating to Aquaculture, Introductions and Transfers and Transgenics (Section 4.8 of the Implementation Plan). ***Note:*** *The reports under 'Progress on Action to Date' should provide a brief overview with a quantitative measure of progress made. While referring to additional material (e.g. via links to websites) may assist those seeking more detailed information, this will not be evaluated by the Review Group.*		
Action A1:	Description of Action (*as submitted in the IP*)	A regional carrying capacity model for sea lice is now being developed.
	Expected Outcome (*as submitted in the IP*)	Based on farmed salmon biomass and other parameters in a region, the numbers of sea lice copepodites in the area can be estimated. Taking into account the dispersion patterns for selected times the copepodite transmission within the region can be determined. Adaptive management in response to monitoring results will then be possible.
	Progress on Action to Date *(Provide a brief overview with a quantitative measure of progress. Other material (e.g. website links) will not be evaluated.)*	Through our work with the "EU Water Framework Directive", we ordered a detailed characterization from both Marine Research Institute and Norwegian Veterinary Institute. They both characterized sea lice induced mortality on wild fish from 400 watercourses. The results will influence on our further legal actions to the sea farms. We have gained more experience on using the production regulation (cf. the 2017 report).
	Current Status of Action	Ongoing
	If Completed, has the Action achieved its objective?	
Action A2:	Description of Action (*as submitted in the IP*)	1. Further improvement of precautionary measures e.g : - Site based technical certificate for every fish farm in sea. - Stricter requirements concerning mesh size and number of fish held in one cage. - A public consultation on amendments of the The Norwegian Aquaculture Act to improve legal base for environmental measures has been undertaken. 2. Research on sterile farmed salmon to reduce genetic and ecological threats to wild salmon populations. 3. Additional long-term monitoring programs and studies of ecological processes and the environmental impacts of fish farming. 4.Test of resistance board weirs etc. to monitor and remove escaped salmon from Norwegian rivers. 5. Search for better methods and technical solutions

		tracing the origin of farmed Atlantic salmon escapees. (This can be done by using DNA Parentage Assignment (industry based project) or other suitable methods.
	Expected Outcome (*as submitted in the IP*)	1. Reduced genetic interaction between farmed and wild Atlantic salmon. 2. Reduced spawning activity of farmed salmon in rivers. 3. -4. Get better knowledge and measures to cope with escaped Atlantic salmon. 5. Methods for immediate identification of escaped Atlantic salmon and basis for action against leaking sites. Secure identification of the guilty polluter.
	Progress on Action to Date *(Provide a brief overview with a quantitative measure of progress. Other material (e.g. website links) will not be evaluated.)*	1. New regulations regarding landbased aquaculture installation were introduced in 2018 2. Research are still ongoing to evaluate animal welfare considerations as well as performance in relation to various environmental factors. Research regarding several ways of sterilising salmon is underway including triploid fish and other methods of gene modifications. Also several commercial salmon-farmers are using triploid fish as in "green" salmon farm licenses. 3. The national program for monitoring escaped salmon will finish its fifth year report in april 2018. This will be continued on a yearly basis, with addition of new river-systems as high quality assessments are available. To ensure reliable results from the monitoring program, there has been developed a Field "handbook", attempting to standardize the various method used in the programme. As a part of this standardizing, there has been conducted several field experiments to compare different methods, thus aiming to optimize the choice of method(s) in the individual river systems. The Field "Hand-book" will be updated continuously when new knowledge are available. The project group are also conducting several field experiments aiming to evaluate various methods for monitoring escaped fish in the rivers. In 2016, The Directorate of Fisheries did a pilot-project with funding available for immediate removal of escaped fish in the monitoring period. This project was evaluated

		in 2017, and are now organised as a permanent action. Based on a «polluter pay» perspective, the Directorate of Fisheries has implemented a practice were salmon farmers have been given an extended responsibility concerning funding and organizing monitoring and recapture in salt- and freshwater after escape incidents. 4. At the present time, the institute of Marine Research are continuing, and funding the works on two traps in Hardanger for research purposes as well as testing traps as a method for removal of escaped salmon entering the rivers. Several projects are working on identifying escaped salmon back to escape site. There is one project testing use of rare earth elements in tracing salmon back to its origin. This project is now presented in combination with tracking by use of DNA methods.
	Current Status of Action	Ongoing
	If Completed, has the Action achieved its objective?	
Action A3:	Description of Action (*as submitted in the IP*)	Proposal for a new action plan for the control of *Gyrodactylus salaris* is being developed.
	Expected Outcome (*as submitted in the IP*)	To combat the parasite in two regions, Rauma region consisting of 5 infected rivers, and Skibotn region consisting of two infected rivers. In addition, there are plans to build a long-term fish barrier in the River Driva.
	Progress on Action to Date *(Provide a brief overview with a quantitative measure of progress. Other material (e.g. website links) will not be evaluated.)*	Infected rivers in the Rauma region were treated chemically in 2013 and 2014 to eradicate *G. salaris*. After four years of surveillance, the parasite is still not found in this region. The chemical treatment in the Skibotn region was carried out in 2015 and 2016. No parasites were detected in this region in 2018. 5 years of monitoring after completion of chemical treatment is required before rivers can be declared free of *Gyrodactylus salaris*. A long-term fish barrier in the River Driva was completed in winter/spring 2017. This fish barrier must be in operation for 6 years before chemical treatment downstream the barrier can be conducted. All measures described in Action A3 have now been completed.

		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 made a new and updated contingency plan for G.salaris, using the contingency tool MatCIM. The plan was presented in WG meeting in Edinburgh in April 2018. Posters and brochures about how to prevent spread of G.salaris were updated and translated into different languages. The posters have been distributed all over the country and added online at NFSA's website. NFSA have written chronicles about G.s. in several different newspapers, and give presentations about G.s. at the international Barentsvet conference in Murmansk. A committee has made a report on how to treat rivers in the Drammen region.
	Current Status of Action	Ongoing
	If Completed, has the Action achieved its objective?	
Action A4:	Description of Action (*as submitted in the IP*)	It is prepared an action plan to reduce the impact of pink salmon in the rivers in the county of Finnmark, the northernmost county in Norway. The plan includes monitoring and removal of pink salmon in rivers. There is also a plan to reduce minnow impact on native fish populations in the river Namsen in the middle part of Norway. Currently, minnow are not spread to the Atlantic salmon distribution area. Monitoring is therefore the most important action so far.
	Expected Outcome (*as submitted in the IP*)	The aim is to reduce the breeding population of pink salmon to a minimum.
	Progress on Action to Date *(Provide a brief overview with a quantitative measure of progress. Other material (e.g. website links) will not be evaluated.)*	As a consequence of the large increase of pink salmon in rivers along the entire Norwegian coast in 2017, a risk assessment is in preparation. Important points to be considered are the probability for pink salmon to regularly spread to Norwegian waters, establish self-sustaining populations in Norway, introduce pathogenic agents to wild and farmed fish in Norway, and other negative impacts on biodiversity in Norway. An assessment of various mitigation measures to prevent spread and establishment of pink salmon in Norway, including the risk of negative impacts on native species associated with these measures will also be implemented.
	Current Status of Action	Ongoing
	If Completed, has the Action achieved its objective?	

4: Additional information required under the Convention
4.1 Details of any laws, regulations and programmes that have been adopted or repealed since the last notification.
None
4.2 Details of any new commitments concerning the adoption or maintenance in force for specified periods of time of conservation, restoration and other management measures.
None
4.3 Details of any new actions to prohibit fishing for salmon beyond 12 nautical miles.
None
4.4 Details of any new actions to invite the attention of States not Party to the Convention to matters relating to the activities of its vessels which could adversely affect salmon stocks subject to the Convention.
None
4.5 Details of any actions taken to implement regulatory measures under Article 13 of the Convention including imposition of adequate penalties for violations.
None