



Agenda item 5.1  
For information

**Council**

**CNL(19)33**

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

***EU – Sweden***



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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**.

<b>Party:</b>	<b>European Union</b>
<b>Jurisdiction/Region:</b>	<b>Sweden</b>

<b>1: Changes to the Implementation Plan</b>	
<b>1.1 Describe any proposed revisions to the Implementation Plan</b> <i>(Where changes are proposed, the revised Implementation Plans should be submitted to the Secretariat by 1 December).</i>	
No revisions, as a new implementation plan will be presented for 2019-2023.	
<b>1.2 Describe any major new initiatives or achievements for salmon conservation and management that you wish to highlight.</b>	
Coastal catch of salmon has been insignificant in 2015-2018 due to new fishing rules and a restricted licensing system. Hence, mixed-stock fishery on the coast is not a problem anymore. Restrictions on landing of large salmon in rivers below full reproductive capacity will be enforced in 2020.	

<b>2: Stock status and catches.</b>	
<b>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.</b>	
The commercial coastal fishery for salmon is insignificant since 2015, with only two traps operating and no reported catches of salmon as they are focusing on other species (garfish, brown trout). The development is due to a ban on gill-net fishing in deeper coastal waters as well as restrictive issuing of new licenses to operate fixed engines/traps. Also, there is a bag-limit on the coast for non-commercial fishermen using rod and line.	

<b>2.2 Provide the following information on catches:</b> <i>(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').</i>				
	In-river	Estuarine	Coastal	Total
(a) provisional nominal catch (which may be subject to revision) for 2018 (tonnes)	16.5* * 46 % of the catches is fin-clippt reared smolt-origination compensatory releases, water power stations	0	0	16.5
(b) confirmed nominal catch of salmon for 2017 (tonnes)	18.1* * 46 % of the catches is fin-clippt reared smolt-origination compensatory releases, water power stations			18.1
(c) estimated unreported catch for 2018 (tonnes)	1.65			1.65
(d) number and percentage of salmon caught and released in recreational fisheries in 2018.	806 salmon, 19,4%			

### 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	Description of Action <i>(as submitted in the IP)</i>	
<b>F1:</b>	Expected Outcome <i>(as submitted in the IP)</i>	Implementing new fishing rules to lessen exploitation of wild salmon in rivers with low status.
	Progress on Action to Date <i>(Provide a brief overview with a quantitative measure of progress. Other material (e.g. website links) will not be evaluated.)</i>	Increased stocks through lessened exploitation.
		In the majority of rivers fishing pressure has decreased due to voluntary fishing restrictions implemented by river associations, e.g. restricted fishing period, bag limits, ban on fishing at high water temperatures. However, a management evaluation in 2018 revealed a need for further restrictions in some rivers.

		Consequently, restrictions on landing large salmon in rivers below full reproductive capacity will be enforced in 2020.
	Current Status of Action	Ongoing
	If 'Completed', has the Action achieved its objective?	
<b>Action F2:</b>	Description of Action (as submitted in the IP)	Phasing out mixed-stock fisheries on wild salmon in reared rivers, and mixed-stock fisheries on the coast.
	Expected Outcome (as submitted in the IP)	Increased stocks through lessened exploitation.
	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.)	See 2.1, commercial coastal mixed-stock fisheries does not exist anymore. A few salmon may be caught in gill nets and with rod and line by non-commercial anglers, but the magnitude is insignificant.  Further, due to the poor stock status of eel, all coastal fyke-net fishing aimed at eel is prohibited, preventing by-catches of brown trout and potentially salmon in this fishery.  However, there is still a mixed-stock fishery in the two major rivers, River Lagan and Göta älv, due to annual release of reared salmon in the main river stems in combination with natural smolt production in the tributaries. As stocked salmon are fin-clipped, and thus easily identified, river managers and national authorities have a possibility to ban landing of wild salmon in the main channel of these rivers, and a ban on landing wild salmon will be imposed in 2020 (perhaps already 2019). The proportion of wild salmon caught as by-catch is approximately 2% in River Lagan and 15-25% in River Göta älv.
	Current Status of Action	Ongoing
	If 'Completed', has the Action achieved its objective?	
<b>Action F3:</b>	Description of Action (as submitted in the IP)	Fin-clipping of reared salmon and trout, annually ca 180,000.
	Expected Outcome (as submitted in the IP)	Allows for reared and wild salmon to be distinguished.
	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.)	Successfully implemented since 2005. During 2005-2018, the average number of reared salmon smolts released has been approximately 170,000 per year.
	Current Status of Action	Completed
	If 'Completed', has the Action achieved its objective?	Yes. The fin clipping allows for different fishing rules on reared and wild salmon in stocked rivers with mixed stock fishing (n=2, see F2). In wild salmon rivers where wild salmon is not harvested, i.e. C&R

		only, occasionally occurring reared salmon may be landed to minimize the effect of genetic disturbance on the natural wild population.
<b>Action F4:</b>	Description of Action <i>(as submitted in the IP)</i>	Genetic base line of salmon stocks.
	Expected Outcome <i>(as submitted in the IP)</i>	Stocks in mixed-stock fisheries identified. International exchange of data possible.
	Progress on Action to Date <i>(Provide a brief overview with a quantitative measure of progress. Other material (e.g. website links) will not be evaluated.)</i>	A genetic base-line screening was carried out in 2015-2017 and reported in December 2017. The results showed that the 18 studied salmon rivers could be divided into two larger stock complexes, one northern (archipelago area) and one southern (open coast).  The genetic variation of individual stocks was significantly correlated to the available rearing areas in their respective rivers, stressing the need to further restore habitat and increase connectivity. The study continues in 2019-2023 to increase the possibilities of detecting of pen-reared escapees in Swedish rivers (see action A2).
	Current Status of Action	Ongoing
	If 'Completed', has the Action achieved its objective?	
<b>Action F5:</b>	Description of Action <i>(as submitted in the IP)</i>	Running monitoring in index river (smolt & spawner census, tagging of smolt, electrofishing).
	Expected Outcome <i>(as submitted in the IP)</i>	Stock-recruitment data, sea survival, run-timing, diversity of stock, age at smolting, age in the sea.
	Progress on Action to Date <i>(Provide a brief overview with a quantitative measure of progress. Other material (e.g. website links) will not be evaluated.)</i>	The salmon traps at the old mill Nydala, in index river Högvadsån, have been operating since 1954. The efficiency of the traps have been evaluated and the results have been used to establish Biological reference points as requested by NASCO.  Pittags for tagging of smolts were used for the first time in 2018. Previous to 2018 Carlin-tags were used.  Improvements of the fish passages at the mill will be planned during 2019-2020, to modernize both traps and fish handling routines.
	Current Status of Action	Ongoing
	If 'Completed', has the Action achieved its objective?	
<b>Action F6:</b>	Description of Action <i>(as submitted in the IP)</i>	Establishing Conservation Limits & Management Targets from index river data and habitat surveys.
	Expected Outcome <i>(as submitted in the IP)</i>	Individual river assessment facilitates management and advice.
	Progress on Action to Date <i>(Provide a brief overview with a quantitative measure of progress. Other material (e.g.</i>	At the WGNAS 2017 Sweden presented the Conservation Limit and Management Target suggested for the index river and how these values are

	<i>website links) will not be evaluated.)</i>	transported to other rivers. The CL is 4.2 eggs per m <sup>2</sup> of <u>suitable habitat</u> and the spawning target 9.6 eggs.  A habitat assessment method has been developed and will be further improved in 2019-2020 (see Action H2).
	Current Status of Action	Completed
	If 'Completed', has the Action achieved its objective?	Although the goal is achieved, further work will be carried out in the years to come, e.g. incorporating habitat quality in assessment and setting Biological reference points.
<b>Action F7:</b>	Description of Action <i>(as submitted in the IP)</i>	Establishing in-river exploitation levels, through tagging/returns & catch and effort statistics in two rivers.
	Expected Outcome <i>(as submitted in the IP)</i>	Aiding MTs, and also required for International assessment through ICES
	Progress on Action to Date <i>(Provide a brief overview with a quantitative measure of progress. Other material (e.g. website links) will not be evaluated.)</i>	To date, this has been carried out by tagging fish (Carlin tags) in the index river (River Högvadsån and the main stem River Ätran). The catches of tagged fish (n=500 annually) were too few to draw reliable conclusions.  Additionally, sport fishing catches downstream R. Högvadsån in the main river have been compared to data from a video counter at Herting, River Ätran. The preliminary results indicates an exploitation level of 15 %. However, data from the video counter needs quality controlling. At the salmon trap at Nydala, tributary Högvadsån, the upstream sport fishing catches were compared with the number of ascending spawners upstream the river, indicating an exploitation of 5%.  As for fishing effort, it is difficult to obtain high quality data. Effort reporting and catch reporting by anglers are not compulsory according to Swedish legislation. The catch statistics in River Ätran is satisfactory (see Action F8).
	Current Status of Action	Ongoing
	If 'Completed', has the Action achieved its objective?	
<b>Action F8:</b>	Description of Action <i>(as submitted in the IP)</i>	Improving catch statistics (C&R, effort)
	Expected Outcome <i>(as submitted in the IP)</i>	Aiding MTs, and also required for International assessment through ICES.
	Progress on Action to Date <i>(Provide a brief overview with a quantitative measure of progress. Other material (e.g.</i>	The catch statistics in rivers is satisfactory, but not data on effort. According to Swedish law the national authorities cannot force non-commercial fishermen to report catches (or effort). However, there is ongoing work to increase incentives by informing non-

	<i>website links) will not be evaluated.)</i>	<p>commercial anglers about the benefits to all of providing catch statistics of good quality.</p> <p>In 2015, the Swedish Government ordered an investigation from the responsible national authority (The Swedish Agency for Marine and Water Management; SwAM) on the need for a national plan for the future conservation and management of salmon and sea-running brown trout stocks in the Baltic Sea and Atlantic ocean. The plan was delivered in late 2015 and focussed, among other things, on obtaining high quality catch data from the non-commercial fishery; which would require a change of the existing fishing law. It was also suggested use of salmon-tags, as has been successfully implemented in Ireland. Since the previous report in 2015, SWAM reported during 2018 an investigation partly follow-up the previous report focusing on, among other things, the above questions with proposals of new legislation and consequences. The Swedish government has not yet decided on this.</p>
	Current Status of Action	Ongoing
	If 'Completed', has the Action achieved its objective?	
<b>Action F9:</b>	Description of Action (as submitted in the IP)	Reducing over-exploitation of MSW in rivers through restrictions on landing large fish. (Compare F1.)
	Expected Outcome (as submitted in the IP)	Increased egg deposition. <u>Action aimed at weak stocks or where catches are unreported/uncertain.</u>
	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.)	<p>The responsible authority (SwAM) has decided to impose new general fishing rules to address this problem in rivers with reduced production potential (see Action F1).</p> <p>Eight rivers were classified as having reduced reproductive capacity in 2018. In Rivers Bäveån, Enningdalsälven and Vegeå no fishing was carried out. In Rivers Rolfsån, Suseån and Fylleån fishing is very restricted. In River Nissan enhancement stocking is carried out, but fishing pressure has remained as before.</p> <p>SwAM will impose a ban on landing wild, large salmon (MSW) in rivers with reduced reproductive capacity.</p>
	Current Status of Action	Ongoing
	If 'Completed', has the Action achieved its objective?	
<b>Action F10:</b>	Description of Action (as submitted in the IP)	Coordinating and securing monitoring of recruitment (parr) in rivers.



	Expected Outcome <i>(as submitted in the IP)</i>	Securing monitoring in at least 17 of 23 rivers, preferably all rivers if feasible.
	Progress on Action to Date <i>(Provide a brief overview with a quantitative measure of progress. Other material (e.g. website links) will not be evaluated.)</i>	Successively some old monitoring sites are abandoned by local and regional authorities. These sites were usually included in follow-up studies of liming. In 2017 the national monitoring of salmon stocks was increased with 20 sites to compensate for this, and in 2018 another 20 sites was be added. These extra sites will be surveyed at least the coming four years (EU-map funding).  Coordination of sites to be sampled each year are performed annually in cooperation between SLU (Swedish University of Agricultural Sciences) and the responsible Country boards (n=3).
	Current Status of Action	Ongoing
	If 'Completed', has the Action achieved its objective?	
<b>Action F11:</b>	Description of Action <i>(as submitted in the IP)</i>	Initiate and support formation of fish management units in salmon rivers
	Expected Outcome <i>(as submitted in the IP)</i>	A more effective decision process involving fishing rights owner regarding decision on CL, regulation of fisheries, data collection, habitat restoration.
	Progress on Action to Date <i>(Provide a brief overview with a quantitative measure of progress. Other material (e.g. website links) will not be evaluated.)</i>	Fish management units (fmu) are already formed in the majority of the rivers. An inventory on the need to form additional fish management units was made in 2015. The inventory showed that there was a need for management units in a few smaller rivers and in some parts of the larger rivers (Ätran, Rolfsån).  In rivers where the fishing right owners are not united in river management units it is more laborious to come into and keep contact with the fishing right owners and decide on voluntary regulation of the fisheries. However, the catch of salmon is generally very low in rivers where management units are missing, except for River Ätran and R. Rolfsån.  In the former river, two existing fmus will be joined together during 2019, further facilitating information exchange between responsible authorities and the sport fishery.  In 2018, a new project was launched to increase information exchange and discussions with the different river managers and land owners (fishing right owners) in rivers or river section without fmus.
	Current Status of Action	Ongoing
	If 'Completed', has the Action achieved its objective?	

<b>3.2 Provide an update on progress against actions relating to Habitat Protection and Restoration</b> (Section 3.4 of the Implementation Plan). <i>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.</i>		
<b>Action H1:</b>	Description of Action <i>(as submitted in the IP)</i>	Continued liming of acidified salmon rivers and tributaries
	Expected Outcome <i>(as submitted in the IP)</i>	Increased pH, lowered toxic aluminium. Increased juvenile survival, increased biodiversity.
	Progress on Action to Date <i>(Provide a brief overview with a quantitative measure of progress. Other material (e.g. website links) will not be evaluated.)</i>	<p>All salmon rivers, including tributaries with salmon, requiring liming are presently included in a liming program. Twenty of the 23 salmon rivers (91%) are limed, although some only in tributaries above the salmon habitat. Previous to liming operations salmon production was also reduced. It has been estimated that the total smolt production would decrease with 50% without liming.</p> <p>The effect of liming is monitored with electrofishing, sampling of water chemistry and benthic invertebrates. The results are evaluated annually by the County boards and reported to SwAM. Generally the goals of keeping pH above 6 and labile aluminium at non-toxic levels are reached.</p> <p>A recent (2016) internationally published evaluation showed that the frequency of acid episodes has declined exponentially in limed rivers, due to successive adjustments of lime doses and liming strategies. Consequently, the ecological status of the fish fauna in limed rivers has reached that of fish in neutral reference rivers (Holmgren, K., E. Degerman, E. Petersson &amp; B. Bergquist. 2016. Long term trends of fish after liming of Swedish streams and lakes. Atmospheric Environment 146: 245-251)</p>
	Current Status of Action	Ongoing
	If Completed, has the Action achieved its objective?	
<b>Action H2:</b>	Description of Action <i>(as submitted in the IP)</i>	Habitat surveys compiled, quality assured and new data added if required.
	Expected Outcome <i>(as submitted in the IP)</i>	Quality controlled data on salmon habitat and quality compiled in a database.
	Progress on Action to Date <i>(Provide a brief overview with a quantitative measure of progress. Other material (e.g. website links) will not be evaluated.)</i>	A report was compiled in 2016. The available habitat has increased since 1999 due to new fishways, liming operations and habitat improvement.

		<p>This work is planned to continue as old habitat surveys need updating. Also, a new method of habitat quality assessment is available but still under development.</p> <p>The habitat mapping is needed for establishing biological reference values (CL and spawning target) as we focus only on salmon habitat, not the whole wetted area of the rivers. This provides more precise estimates.</p>
	Current Status of Action	Ongoing
	If Completed, has the Action achieved its objective?	
<b>Action H3:</b>	Description of Action <i>(as submitted in the IP)</i>	Plan for continued habitat restoration in salmon rivers. (Also including H2 & H4)
	Expected Outcome <i>(as submitted in the IP)</i>	Plan in 2015, with the cooperation of the County Administrative Boards. Different plans exist.
	Progress on Action to Date <i>(Provide a brief overview with a quantitative measure of progress. Other material (e.g. website links) will not be evaluated.)</i>	<p>This work is carried out by the three responsible County boards and restoration plans are submitted annually to SwAM.</p> <p>An EU Life application has been approved, aiming at further river restorations (focussing on River Rönneå) and the design of a common tool-box for future restoration work and prioritizations of these efforts.</p>
	Current Status of Action	Ongoing
	If Completed, has the Action achieved its objective?	
<b>Action H4:</b>	Description of Action <i>(as submitted in the IP)</i>	Establishing criteria for BAT (best available technology) for hydropower generation.
	Expected Outcome <i>(as submitted in the IP)</i>	Plan in 2015. Implemented in all Counties.
	Progress on Action to Date <i>(Provide a brief overview with a quantitative measure of progress. Other material (e.g. website links) will not be evaluated.)</i>	Establishing BAT is a joint project of SwAM and the hydropower industry. The final report has not yet been published due to objections from the hydropower industry to a previous version. SwAM decided to redo the work again in closer cooperation with the industry. The result is scheduled to be finalized in 2020.
	Current Status of Action	Ongoing
	If Completed, has the Action achieved its objective?	
<b>Action H5:</b>	Description of Action <i>(as submitted in the IP)</i>	Establishing criteria and workflow for surveillance of hydropower plants according to Environmental Law & BAT.
	Expected Outcome <i>(as submitted in the IP)</i>	Plan in 2015. Implemented in all Counties.
	Progress on Action to Date <i>(Provide a brief overview with a quantitative measure of progress. Other material (e.g.</i>	See above, this action is also delayed due to the delay in action H4. Expected report in 2020.

	<i>website links) will not be evaluated.)</i>	
	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.*

<b>Action A1:</b>	Description of Action (as submitted in the IP)	Monitoring of <i>Gyrodactylus salaris</i>
	Expected Outcome (as submitted in the IP)	Updated information on <i>G. salaris</i> distribution and infection.
	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.)	<p>The monitoring programme continues as planned, and the distribution of <i>Gyrodactylus salaris</i> is annually reported to WGNAS (in the national report) and to NASCO's working group on <i>Gyrodactylus</i>. Newly infected rivers are reported to EU according to regulation.</p> <p>The Swedish authorities consider <i>G. salaris</i> to be a great threat to remaining uninfected stocks. Protective measures have been undertaken to avoid spreading the parasite, e.g. ban on stocking salmonid fish in the whole catchment of non-infected rivers.</p> <p>A report on the current situation was compiled in February of 2017 and submitted to the NASCO secretariat (Degerman, E. &amp; H. Carlstrand, 2017. <i>Gyrodactylus salaris</i> in Sweden; management and monitoring). At the NASCO-meeting in Norway 2019 the use of eDNA to detect the parasite will be presented by Norwegian scientists in cooperation with Sweden and Russia.</p> <p>In April 2018 Sweden participated in NASCO's working group on <i>Gyrodactylus</i>.</p>
	Current Status of Action	Ongoing
	If Completed, has the Action achieved its objective?	
<b>Action A2:</b>	Description of Action (as submitted in the IP)	Genetic screening of alien (escaped) salmon. (Compare action F4).
	Expected Outcome (as submitted in the IP)	Determination of origin of alien salmon. Based on established base line (action F4).

	<p>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.)</p>	<p>Since the completion of the genetic baseline (action F4) identification of alien salmon has intensified. Alien salmon normally enters the larger rivers, and to a lesser extent smaller rivers. Focus has been put on the largest river, R. Göta älv, where studies have shown different proportion of alien salmon different years. It has been shown that alien salmon are not from the Swedish west coast or the Baltic sea. Comparisons with Norwegian data on net-pen reared (farmed) salmon was commenced in late 2018 through cooperation with Norwegian scientists.</p>
	<p>Current Status of Action</p>	<p>Ongoing</p>
	<p>If Completed, has the Action achieved its objective?</p>	<p></p>

<p><b>4: Additional information required under the Convention</b></p>	
<p>4.1</p>	<p>Details of any laws, regulations and programmes that have been adopted or repealed since the last notification.</p>
<p>4.2</p>	<p>Details of any new commitments concerning the adoption or maintenance in force for specified periods of time of conservation, restoration and other management measures.</p>
<p>4.3</p>	<p>Details of any new actions to prohibit fishing for salmon beyond 12 nautical miles.</p>
<p>4.4</p>	<p>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.</p>
<p>4.5</p>	<p>Details of any actions taken to implement regulatory measures under Article 13 of the Convention including imposition of adequate penalties for violations.</p>