



**IP(19)20rev2**

***NASCO Implementation Plan for the period 2019-2024***

***EU – Spain (Asturias)  
(Revised version received 26 October 2020)***



## IP(19)20rev2

### *NASCO Implementation Plan for the period 2019 – 2024*

***The main purpose of this Implementation Plan is to demonstrate what actions are being taken by the Parties / jurisdictions to implement NASCO's Resolutions, Agreements and Guidelines.***

***In completing this Implementation Plan please refer to the Guidelines for the Preparation and Evaluation of NASCO Implementation Plans and for Reporting on Progress, CNL(18)49.***

*Questions in the Implementation Plan are drawn from the following documents:*

- NASCO Guidelines for Management of Salmon Fisheries, CNL(09)43 (referred to as the 'Fisheries Guidelines');*
- Report of the Working Group on Stock Classification, CNL(16)11;*
- Minimum Standard for Catch Statistics, CNL(93)51 (referred to as the 'Minimum Standard');*
- Revised matrix for the application of the six tenets for effective management of an Atlantic salmon fishery, WGCST(16)16<sup>1</sup>;*
- NASCO Plan of Action for the Application of the Precautionary Approach to the Protection and Restoration of Atlantic Salmon Habitat, CNL(01)51;*
- NASCO Guidelines for Protection, Restoration and Enhancement of Atlantic Salmon Habitat, CNL(10)51 (referred to as the 'Habitat Guidelines');*
- Williamsburg Resolution, CNL(06)48;*
- Guidance on Best Management Practices to address impacts of sea lice and escaped farmed salmon on wild salmon stocks (SLG(09)5) (referred to as the 'BMP Guidance');*
- Guidelines for Incorporating Social and Economic Factors in Decisions under the Precautionary Approach (CNL(04)57); and*
- Road Map' to enhance information exchange and co-operation on monitoring, research and measures to prevent the spread of G. salaris and eradicate it if introduced', NEA(18)08.*

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<sup>1</sup>This document can be obtained from the NASCO Secretariat; email [hq@nasco.int](mailto:hq@nasco.int)

Party:	EU
Jurisdiction/Region:	Spain (Asturias)
<b>1. Introduction</b>	
<b>1.1 What are the objectives for the management of wild salmon? (Max 200 words)</b>	
<p>In Asturias, the management of wild salmon is carried out within the framework of the Law of the Principality of Asturias 6/2002, of June 18, on the protection of aquatic ecosystems and the regulation of fishing in inland waters, which as a general principle ( and, consequently, as an objective) for the management of all the resources (including salmon), states that:</p> <p>"The management of continental aquatic resources will be carried out in accordance with the general principles of rational use of natural resources, such as the maintenance of essential ecological processes, the preservation of genetic diversity, the orderly use of resources, the sustainable use of species and ecosystems, and the preservation of the variety and uniqueness of natural ecosystems and landscape, as well as the progressive recovery of continental aquatic ecosystems degraded by anthropic action (article 7) "</p> <p>In short, the objective is to achieve the self-sustainability of the populations and, in this context, a sustainable use for fishing purposes.</p>	
<b>1.2 What reference points (e.g. conservation limits, management targets or other measures of abundance) are used to assess the status of stocks?(Max 200 words)</b> <i>(Reference:Sections 2.4and 2.5 of the Fisheries Guidelines)</i>	
<p>For the evaluation of the state of the populations in Asturias, the following methods are currently being used:</p> <ul style="list-style-type: none"> <li>- Catch index: there are data on catches by fishing in all the Asturian rivers since 1949.</li> <li>- <b>Autumnal censuses of breeders: serve to know the number of eggs available for spawning. They therefore serve to establish conservation limits. Gives an idea of the breeding salmon that may remain after fishing.</b></li> <li>- Salmon counters: electronic and photographic counting devices installed in certain steps of the rivers. At present, it is located on the river Sella (it must be taken into account that it is not located at the mouth but in its upper zone and does not count the salmon present in the whole river).</li> <li>- Direct counting of individuals adults with the help of capture cages in three rivers (Sella, Cares and Nalón) and by diving in September: this type of census has been carried out since 2010, in the Eo, Esva, Narcea, Sella and Deva-Cares rivers.</li> <li>- Electric fishing: to estimate density of juvenil salmon.</li> <li>- Fish tagging and recovery: In the repopulations with juveniles, around 15% of the salmon released are marked.</li> </ul> <p><b>The monitored data is used in management to verify that the fishing capture are in consonance with a sustainable exploitation.</b></p>	
<b>1.3 What is the current status of stocks under the new classification system outlined in CNL(16)11?</b>	

Stock Classification Score	Salmon Classification Category	No. rivers
0	Not at Risk	
1	Low Risk	Eo, Esva, Narcea, Sella, Cares-Deva y Porcía.
2	Moderate Risk	
3	High Risk	Navia river: an insurmountable dam limits salmon access.
N/A	Artificially Sustained	
N/A	Lost	
N/A	Unknown	
Additional comments:		

### Salmon catch in the main rivers

YEAR	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
CARES-DEVA	105	59	206	201	100	157	233	204	55	57	96
NARCEA-NALON	122	74	336	532	323	563	404	362	249	301	387
SELLA	85	86	340	416	248	392	337	484	148	202	319
ESVA	12	4	62	48	29	40	32	17	10	10	3
NAVIA	1	prohibited	prohibited	5	prohibited	prohibited	prohibited	prohibited	prohibited	prohibited	prohibited
EO (incl. Gal)	27	24	101	99	137	58	88	71	36	31	29
PURON-BEDON		prohibited	prohibited	prohibited	prohibited	prohibited	prohibited	prohibited	prohibited	prohibited	prohibited
PORCIA	4	prohibited	prohibited	prohibited	prohibited	prohibited	prohibited	prohibited	prohibited	prohibited	prohibited
<b>TOTAL</b>	<b>356</b>	<b>247</b>	<b>1045</b>	<b>1301</b>	<b>837</b>	<b>1210</b>	<b>1094</b>	<b>1138</b>	<b>498</b>	<b>601</b>	<b>834</b>

### Abundance indicators:

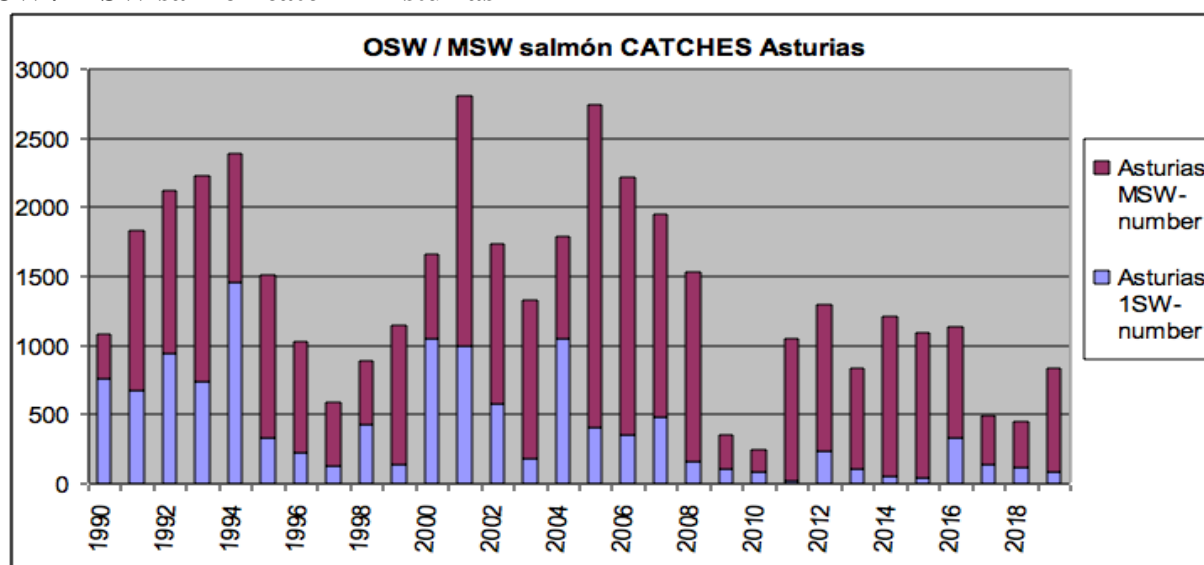
- **Catches by fishing in spring**, of which there is a long statistic very well collected since 1948.

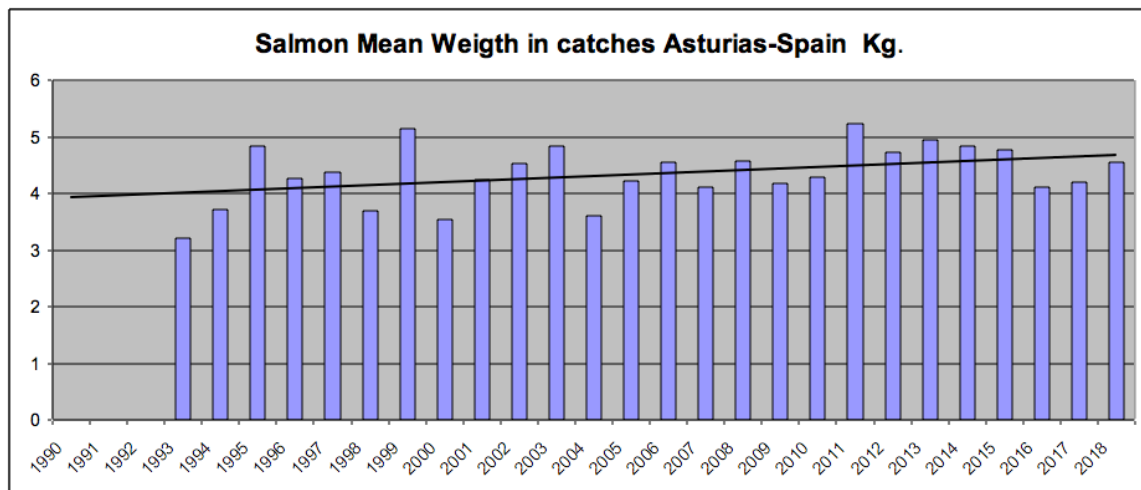
Is a fairly reliable indicator of the long-term population situation, but the salmon that are caught, those that they arrive like reproducers, they do not enter equally to the rivers, after their return of the sea, if the conditions of flows or temperatures undergo important changes, being able to delay the entrance and therefore not be computable many salmon in the fishing campaign in the rivers or produce greater autumnal entrance.

In this respect, large salmon enter first and have been at sea for 2 or 3 years feeding and growing. The year salmon (a year of the sea) usually enter since the end of June and are caught in a few years in large numbers, contributing a lot to the statistics. But in recent years its presence has decreased a lot, which contributes to the total decrease in catches. In addition, as a consequence of the regulations, since the middle of July, their capture is no longer allowed.

In recent years, the MSW multi-winter salmon are the most numerous (up to 85%) in the fishery. The OSW years account for less than 15% of the catches and are mostly males.

### 1SW / MSW salmon catch in Asturias



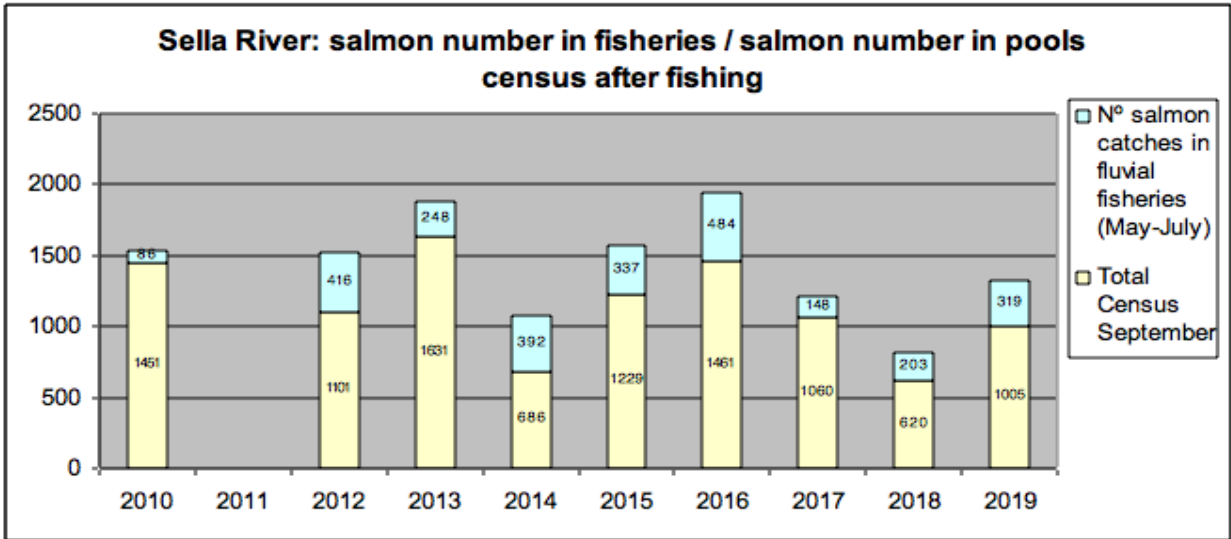


- **Autumnal censuses:** An interesting indicator to evaluate the annual population is the one that results from carrying out censuses of direct count in September in the rivers, which gives an idea of the breeding salmon that may remain after fishing at that moment (independently of the that come from the sea in October). These data show that, on average, fishing affects on average about onñy a quarter of the population that enters into autumn:

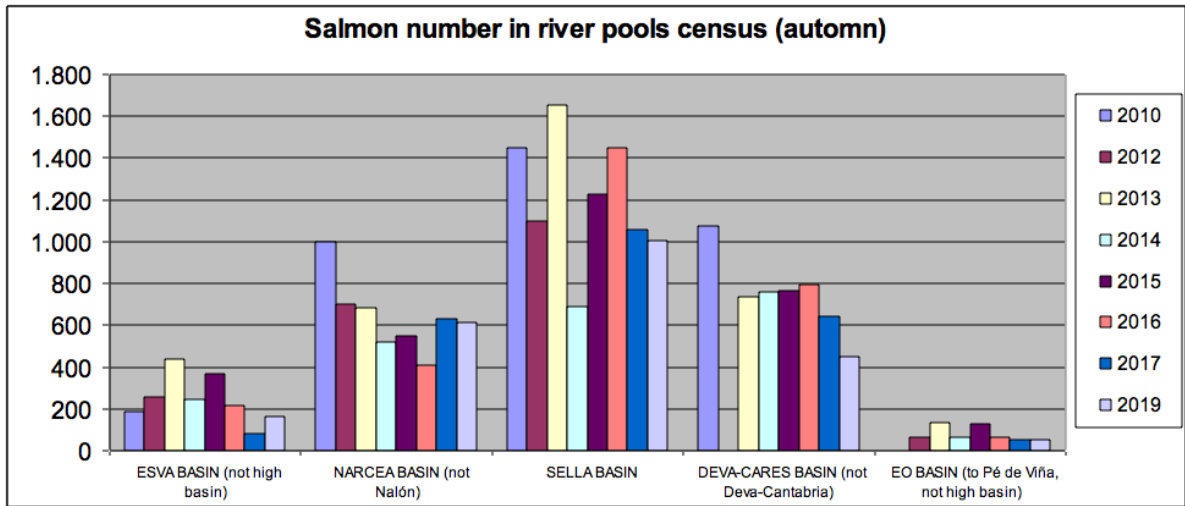
Therefore, it is understood that the number of reproducers shows a sustainable population. Serve to establish conservation limits.

**Results: Autumnal censuses (breeding salmon).**

SALMON NUMBER CENSUS	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
ESVA (partial count)	187		260	437	244	366	217	84	70	166
NARCEA (partial count without Nalón)	1.000		702	685	518	549	411	632	430	612
SELLA	1.451		1.101	1.653	691	1.229	1.451	1.060	620	1005
DEVA-CARES (without Deva-Cantabria)	1.073			736	762	763	795	645	411	450
CUENCA DEL EO (partial count only to Pe de Viña without Eo-Galicia)			65	136	66	131	63	50	29	51
<b>TOTAL NUMBER</b>	<b>3.711</b>		<b>2.128</b>	<b>3.647</b>	<b>2.281</b>	<b>3.038</b>	<b>2.937</b>	<b>2.471</b>	<b>1.560</b>	<b>2.283</b>
YEAR	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
TOTAL SALMON FISHING CATCHES (Eo)	247	1045	1274	701	1201	1065	1109	462	592	834
TOTAL Census+Fishing catches	<b>3.958</b>	<b>No information</b>	<b>3.402</b>	<b>4.348</b>	<b>3.482</b>	<b>4.103</b>	<b>4.046</b>	<b>2.933</b>	<b>2.152</b>	<b>3.117</b>
Ratio fishing catches/total presents to September	6,24%		37,45%	16,12%	34,49%	25,96%	27,41%	15,75%	27,51%	27,51%



[Table: blue represents the number of salmon caught in the in-river sports fishery between May and July; yellow represents the total number of salmon visually counted in September after the fishery]





**1.4 How is stock diversity (e.g. genetics, age composition, run-timing,etc.) taken into account in the management of salmon stocks?(Max 200 words)**

In fisheries or in capture programs for breeding or repopulation activities, population selections that may introduce genetic biases are avoided.

According to the studies carried out, there is a good genetic diversity in the Asturian populations, there being no excessive genetic introgressions caused by repopulations carried out in other eras. Within a single Cantabrian metapopulation, we could distinguish characters from three genetic lineages that would correspond to the western, central and eastern part of the region.

The data on age classes are extractable from the censuses provided in the previous section, although it can be noted that the passage of time has meant a decrease in the larger and more sea years.

**Genetics data are used in management: Avoid mixing subpopulations during restocking**  
**In some rivers with weak stocks the fishing season has been further shortened after discussions with the local fishing associations. There are refuge areas to protect large MSW salmon from fishing**

**1.5 To provide a baseline for future comparison, what is the current and potential quantity of salmon habitat?(Max 200 words)**  
*(Reference: Section 3.1 of the Habitat Guidelines)*

The Asturian hydrographic network colonized by salmon slightly exceeds the 440 linear kilometers only in the main rivers.

Nalón river could see its accessible length increased in an average period of 5 years in favor of the demolition of some central dam.

The Eo River (shared with Galicia) will see its accessibility improved in 2020-24 when an old dam in which there was a scale was demolished.

Salmon presents reproductive populations in these basins:

	Basin surface km2	River Long. principal	Potential river Long.	Long. access 1989	2000	2010	Increase access 1989-2010 (km)	Increase access 1989-2010 tributaries 1989-2010 (km)
Navia	2552	128	70	13	13	13	0	
Porcia	143	31	25	3	12	15	12	
Esva	464	58	48	35	35	35	0	
Narcea	1850	112	85	33	33	33	0	10
Nalon	3043	105	85	35	45	59	24	20+15
Bedón	80	16	9	8	8	8	0	6
Sella	1278	70	68	50	60	60	10	10
Cares	496	59	53	42	42	42	0	8
			373	219	248	265	46	69

At present, around 60% of the potential are is accessible to salmon, and there has been a gradual increase since 1989 thanks to some actions carried out.

**1.6 What is the current extent of freshwater and marine salmonid aquaculture?**

Number of marine farms	There is no marine salmon aquaculture.
Marine production (tonnes)	0 tn

<p>Number of freshwater facilities</p>	<p>Number of freshwater facilities: Salmon farming is carried out only for reforestation purposes.</p> <p>To limit impacts, the Administration only repopulates with native varieties and previous sanitary analysis. In this regard, all ichthyological centers have analytics for the control of diseases. (Directive 2006/88 / CE, of the Council, of October 24, 2006, relative to the zoosanitary requirements of the animals and the products of the aquaculture, and to the prevention and the control of certain diseases (transposition: RD 1614/2008 ). The surveillance program focuses on viral diseases notifiable, IHN and VHS.</p> <p><b>The production of salmon is land-based in an indoor facility, and no fish is kept in cages in freshwater or the sea. No fish can escape from the facility. Circa 80 ascending adult salmon are stripped of eggs and milt annually.</b></p>												
<p>Freshwater production (tonnes)</p>	<p>Freshwater production only for restocking (not commercial).</p> <p>Restocking Number Asturias: It is less than 5 tons Restocking Number Asturias: It is less than 5 tons</p> <table border="1" data-bbox="738 1160 1067 1408"> <tr> <td>529.232</td> <td><b>2014</b></td> </tr> <tr> <td>411.074</td> <td><b>2015</b></td> </tr> <tr> <td>195.608</td> <td><b>2016</b></td> </tr> <tr> <td>358.297</td> <td><b>2017</b></td> </tr> <tr> <td>240.900</td> <td><b>2018</b></td> </tr> <tr> <td>352.700</td> <td><b>2019</b></td> </tr> </table>	529.232	<b>2014</b>	411.074	<b>2015</b>	195.608	<b>2016</b>	358.297	<b>2017</b>	240.900	<b>2018</b>	352.700	<b>2019</b>
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240.900	<b>2018</b>												
352.700	<b>2019</b>												
<p>Location of aquaculture: There are 3 wild salmon farms only for restocking in the middle course of the Esva, Sella and Narcea river basins. All controlled by the administration.</p>													
<p><b>1.7</b> Please describe the process used to consult NGOs and other stakeholders and industries in the development of this Implementation Plan.(<i>Max 200 words</i>)</p>													
<p><b>Salmon regulations and management are subject to consultation in an advisory Council of aquatic ecosystems and fisheries, in which NGOs, fishermen and conservationists participate.</b></p>													

## **2. Management of Salmon Fisheries:**

*In this section please review the management approach to each of the fisheries in your jurisdiction (i.e. commercial, recreational and other fisheries) in line with the relevant NASCO Resolutions, Agreements and Guidelines. For Parties / jurisdictions that prosecute mixed-stock fisheries, there should at least one action related to their management.*

### **2.1 What are the objectives for the management of the fisheries for wild salmon? (Max. 200 words)**

Salmon fisheries occur only in fresh waters, only permitted. There are not nets, seine nets, or other traps permitted. Only rod and line.

Law del Principado de Asturias 6/2002, de 18 de junio, protección de los ecosistemas acuáticos y de regulación de la pesca en aguas continentales (Law of the Principality of Asturias 6/2002, of June 18, on the protection of aquatic ecosystems and the regulation of fishing in inland waters)

In application of this provision, management measures ensure sufficient capacity for reproduction of the species naturally in rivers (seasons, quotas, sizes, baits, ...). Additionally, repopulations with autochthonous genetic material are carried out in the necessary places.

### **2.2 What is the decision-making process for the management of salmon fisheries, including predetermined decisions taken under different stock conditions (e.g. the stock levels at which regulations are triggered)? (Max.200 words) (This can be answered by providing a flow diagram if this is available.) (Reference: Sections 2.1 and 2.7 of the Fisheries Guidelines)**

Management decisions are based on series of information.

- fishing activity records (for example, license numbers).
- catch statistics (number, size, age...)
- Abundance indicators (census) and others data.

Fishing is a public good and not private. The regional administration are the only ones with the capacity to allow, prohibit or regulate fishing (period, gear...)

There are other sources of information (counter and trap data).

In rivers with few populations the fishing has been forbidden (Navia, Porcía). Fishing is only possible in Eo, Esva, Narcea-Nalón, Sella and Cares-Deva rivers.

The days of fishing are reduced to 5/week.

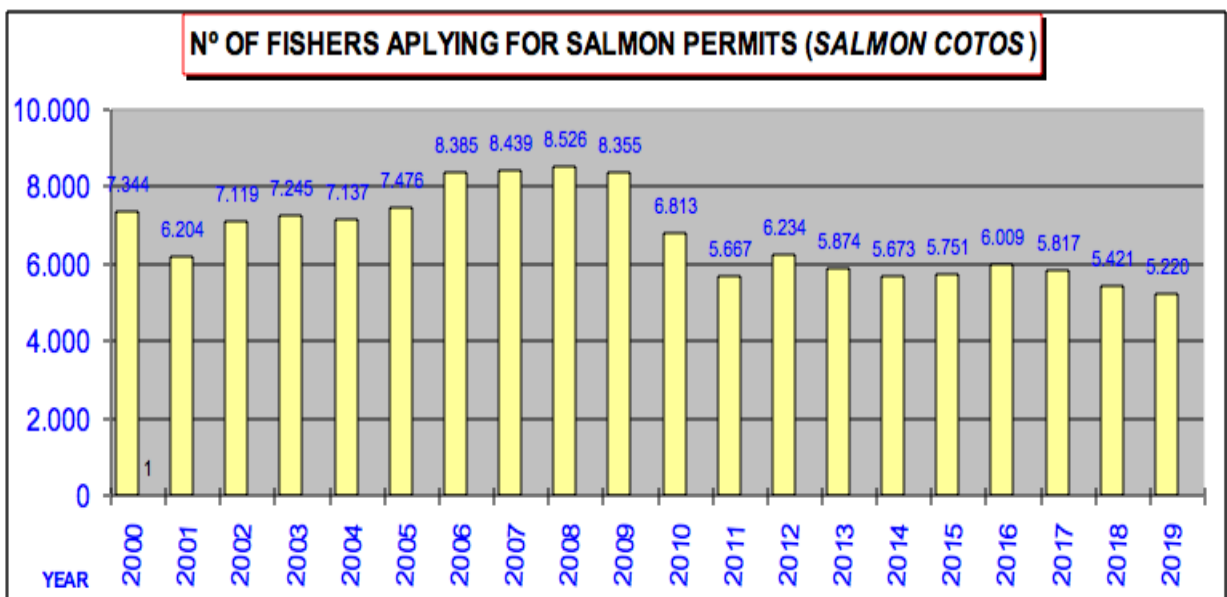
The fishing effort is limited by a Cotos regime (areas with a maximum of 3 fishermen) and reserves (absolute bans and shelters for broodstock).

A quota 1 salmon/day/fisherman and a maximum of salmon per season has been introduced.

In the high areas of each river fishing must be without death from June 16 until July 31.

Based on the censuses of broodstock that remain for spawning and studies of juvenile density, it is understood that there is a sufficient level of recruitment that manifests a sustainable population.

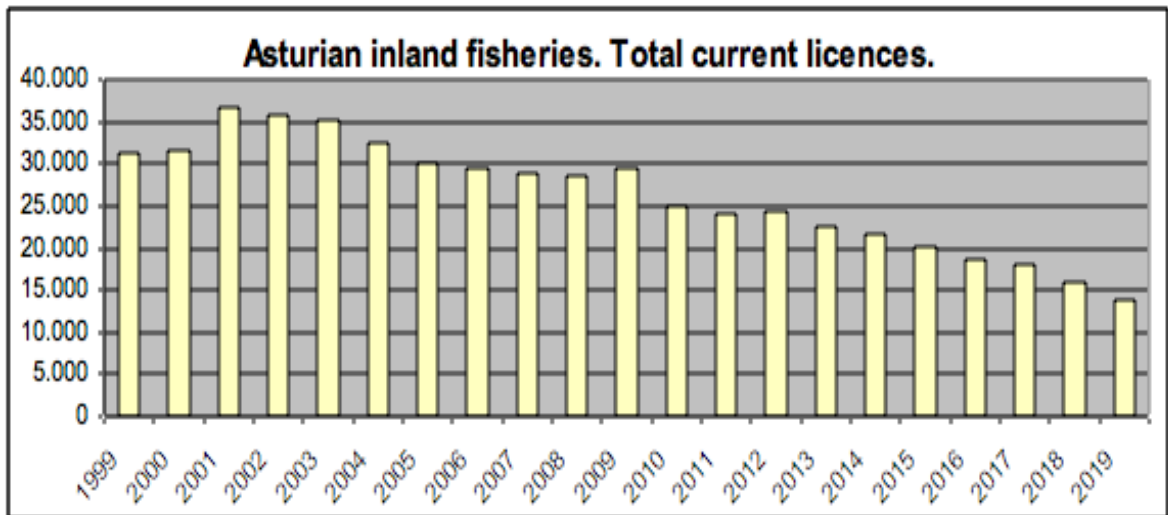
Fishing pressure has been reduced in recent years. To fish in the preserves (coto) a permit is required. Currently the number of permit applicants is decreasing (5,200)



**Licenses for trout / salmon fishing have decreased.** Less than 20,000 fishermen ask for a license to fish in Asturias:

The fishing effort has decreased considerably.

**Asturian Inland Fisheries. Total fishing licences** (as of 1 May each year):



The participation of the interested sectors is carried out through the Fisheries Consultative Council, with annual meetings of fishing societies, conservationists, researchers and administration managers.

All fishing is public.

Additionally, it is taken into account that salmon fishing in rivers is a factor in the development of riverine economies. At the same time, the very existence of the species is a symbol of the quality of rivers and regional fluvial ecosystems.

Therefore, fishing is managed under the principles of sustainability, understanding that it is a good that must survive for the future.

2.3	<p><b>(a) Are any fisheries permitted to operate on salmon stocks that are below their reference point (e.g. Conservation Limits)?If so, (b) how many such fisheries are there and (c) what approach is taken to managing them that still promotes stock rebuilding?</b><i>(Max 200 words)</i>  <i>(Reference: Section 2.7 of the Fisheries Guidelines)</i></p>
	<p>(a) No. In the rivers with few populations, fishing has been forbidden. There is no complete study, but the number of reproducers allows us to state that fishing is sustainable.  In the 3 main rivers (Narcea, Sella and Deva-Cares) the censuses of breeders (september-october) with averages of (600, 1100 and 700 adults respectively in Narcea, Sella and Deva-Cares) indicate that conservation limits are respected.  It is estimated that there are enough breeders in relation to the spawning and fry area available and in relation to the surface of the basin for salmon juveniles.  For example: Estimating 40% of females in the autumn population (breeding salmon stock) would be more than 400 females in the Sella River. Estimating 6,000 eggs per female would be 2,400,000 eggs in Sella river.</p>
	<p>(b) In Navia river with very few populations, fishing has been forbidden.</p>
	<p>(c) There is an experimental program to donate fish salmon for spawn them in the fish farm.</p>
2.4	<p><b>(a) Are there any mixed-stock salmon fisheries?If so (b) how are these defined, (c) what was the mean catch in these fisheries in the last five years and (d) how are they managed to ensure that all the contributing stocks are meeting their conservation objectives?</b> <i>(Max. 300 words in total)</i>  <i>(Reference: Section 2.8 of the Fisheries Guidelines)</i></p>
	<p>(a) There are no fisheries of <i>mixed-stock salmon</i>. Repopulation is done with native fish from each river. Every year ascending adult salmon are stripped of eggs and fertilized. Only wild salmon from each river are being used in the repopulation of each river.</p>
	<p>(b)</p>
	<p>(c)</p>
	<p>(d)</p>
2.5	<p><b>How are socio-economic factors taken into account in making decisions on management of salmon fisheries?</b> <i>(Max. 200 words)</i>  <i>(Reference: Section 2.9 of the Fisheries Guidelines)</i></p>

The participation of the interested sectors is carried out through the Fisheries Consultative Council, with annual meetings of fishing societies, conservationists, researchers and administration managers.

All fishing is public.

Additionally, it is taken into account that salmon fishing in rivers is a factor in the development of riverine economies. At the same time, the very existence of the species is a symbol of the quality of rivers and regional fluvial ecosystems.

Therefore, fishing is managed under the principles of sustainability, understanding that it is a good that must survive for the future.

**2.6 What is the current level of unreported catch and what measures are being taken to reduce this? (Max. 200 words)**  
*(Reference: Section 2.2 of the Fisheries Guidelines and the Minimum Standard)*

There are no quantitative data allowing an estimate of unreported catches but the information available suggests that poaching does not occur frequently.

**The number of sanctions and inspections carried out can be monitored.**

**2.7 Has an assessment under the Six Tenets for Effective Management of an Atlantic Salmon Fishery been conducted? If so, (a) has the assessment been made available to the Secretariat and (b) what actions are planned to improve the monitoring and control of the fishery? (c) If the six tenets have not been applied, what is the timescale for doing so?(Max. 200 words)**  
*(Reference: Six Tenets for Effective Management of an Atlantic Salmon Fishery, WGCST(16)16)*

**(a) Yes.**

**1. There is a secure licensing and permit control system for all fishermen.**

**2. Measures have been taken to limit catches (quotas, effort restrictions ...). Since 2010 the rate allowed per fisherman is to extract a maximum of 1 salmon per day. Certain more harmful arts have been limited**

**The tendency is to increase the catch and release. In addition, since 2002 all sport fishing cannot be commercialized, to avoid illegal fishing.**

**3. All fish salmon must pass through a sealing center that exists in each river, where the salmon are weighed and measured and samples are taken. It is mandatory to give the fisherman's data.**

**Fishermen who exceed 4 catches per year are registered and cannot continue fishing**

**4. There is a Fisheries Council that meets with fishermen's associations. It meets once or twice a year, but there are other meetings with each society as often as they request.**

**5. The guards regularly pass through the fishing cotos and check the permits and catches. There are penalties established in Law 6/2002 for each violation that apply.**

**6. The existence of censuses and scientific sampling has already been commented to provide additional information to the evaluation process.**

(b) Census and scientific sampling will continue to provide additional information to the evaluation process Counts in capture cages and density studies by electric fishing	
(c)	
<b>1. Identify the threats to wild salmon and challenges for management associated with their exploitation in fisheries, including by catch of salmon in fisheries targeting other species.</b>	
Threat / challenge F1	Monitor to avoid illegal captures (furtive fishing)
Threat / challenge F2	The issue of annual quotas per fisherman or river is being studied.
Threat / challenge F3	Excessive exploitation in the fishery should be avoided. To do this, we have to know the number of adults salmon that reach the spawning
Threat / challenge F4	

Copy and paste lines to add further challenges which should be labelled F5, F6, etc.

<b>1. What SMART actions are planned during the period covered by this Implementation Plan (2019 – 2024) to address each of the threats and challenges identified in section 2.8 to implement NASCO’s Resolutions, Agreements and Guidelines and demonstrate progress towards achievement of its goals and objectives for the management of salmon fisheries?</b>		
<b>Action F1:</b>	Description of action:	Although it is estimated that undeclared catches are very low, efforts will continue to maintain this situation. Increase vigilance to evaluate possible illegal fishing.
	Planned timescale(include milestones where appropriate):	2020-24 The efforts must be continuously maintained.
	Expected outcome:	Check that illegal fishing does not increase.
	Approach for monitoring effectiveness & enforcement:	Check that the number of complaints for illegal fishing does not increase. It is necessary to coordinate information to improve surveillance between basins and rivers bordering the Spanish regions.
	Funding secured for both action and monitoring programme?	Based on the General budgets of the regional administration of Asturias.



<b>Action F2:</b>	Description of action:	Regulate river catches avoiding overfishing.
	Planned timescale (include milestones where appropriate):	2020-2024. The current measures of protected areas and closed areas must be maintained for several years.
	Expected outcome:	The objective is that the annual catches in each river are lower (35% limit) of the estimated spawners left for spawning. Decrease fishing pressure if populations .
	Approach for monitoring effectiveness & enforcement:	The creation of breeder reserves in each river will be promoted, especially to protect the large MSW spring females.
	Funding secured for both action and monitoring programme?	Based on the General budgets of the regional administration of Asturias.
<b>Action F3:</b>	Description of action:	Perform annual censuses (counts) broodstock salmon to estimate their number against fishing. This data allows to calculate a conservation limit. An special running monitoring in Sella river.
	Planned timescale (include milestones where appropriate):	2020-24 The underwater census methodology is repeated every year.
	Expected outcome:	Increase knowledge: Get information: Data, diversity of stock, weighth, age.
	Approach for monitoring effectiveness & enforcement:	It will be based on underwater census in all the salmon rivers. Specialty capture traps in the Sella River The fish capture and scale station will be maintained. The efficiency of the trap in the Sella River will be evaluated
	Funding secured for both action and monitoring programme?	Based on the General budgets of the regional administration of Asturias.
<b>Action F4:</b>	Description of action:	
	Planned timescale (include milestones where appropriate):	

	Expected outcome:	
	Approach for monitoring effectiveness & enforcement:	
	Funding secured for both action and monitoring programme?	

*Copy and paste lines to add further actions which should be labelled F5, F6, etc.*

### **3. Protection and Restoration of Salmon Habitat:**

*In this section please review the management approach to the protection and restoration of habitat in your jurisdiction in line with the relevant NASCO Resolutions, Agreements and Guidelines.*

#### **3.1 How are risks to productive capacity identified and options for restoring degraded or lost salmon habitat prioritised, taking into account the principle of 'no net loss' and the need for inventories to provide baseline data? (Max. 200 words)** *(Reference: Section 3 of the Habitat Guidelines)*

Habitat management is framed within the objectives and actions emanating from the Water Framework Directive (WFD), which establishes the main objective of achieving the "good state" of waters. The Cantabrian Hydrological Plan specifies these objectives for Asturias. Treatment plants have been built to improve the quality of the water.

Some threatened for salmon:

- The reduction of access in some rivers.
- Changes in flow regime, with periods of drought and increase in water temperature.
- Predator Increase (p.e. *Dicentrarchus labrax* or *Phalacrocorax carbo*).
- Works in rivers and margins.

All salmon rivers enjoy legal protection within the framework of the Natura-2000 network, as ZEC zones with management instruments (IGIs, 2014).

In Asturias an inventory of obstacles in the rivers has been made and in the last years there have been performances for the construction of fish scales.

Other initiatives related to the restoration of rivers and salmon habitat (cleaning of margins, protection of spawning grounds, etc.), sometimes developed with fishermen's associations, will have an impact on habitat improvement.

Further, salmon habitat is important for overall biodiversity and river health, as well as several ecosystem services. Conservation of the salmon habitat is also essential for protected species (eel, sea lamprey, freshwater mussel, otter or the kingfisher). Salmon habitat conservation and restoration is thus an important societal task

The recent R.D. 630/2013, of August 2, which regulates the Spanish catalog of invasive alien species, will allow the development of actions in the river environment.

#### **3.2 How are socio-economic factors taken into account in making decisions on salmon habitat management? (Max. 200 words)** *(Reference: Section 3.9 of the Habitat Guidelines)*

Socioeconomic factors are taken into account. The measures should be based largely on consent and local support. The participation of the interested sectors is carried out through the Fisheries Consultative Council. **For legal and economic reasons it is not always possible to eliminate some water barriers or concessions.**

**The Asturian fishing federation and fishermen's associations cooperate with the administration and also carry out river cleaning and restocking actions.**

It is taken into account that the fishing of salmon in rivers, and the existence of well-preserved habitats, is a factor in the development of riverine economies. The very existence of salmon is a symbol of the quality of rivers and fluvial ecosystems.

Recreational activities (navigation) have been regulated in order to avoid interference with the species and make it compatible with fishing.

**3.3 What management measures are planned to protect wild Atlantic salmon and its habitats from (a) climate change and (b) invasive aquatic species?**  
(Max. 200 words each)  
(Reference: Section 3.2 of the Habitat Guidelines)

(a) The fact that the southern limit of salmon in Europe lies precisely in the Cantabrian-Galician area implies that it can be affected by climate change, which is difficult to solve.

**In times of low flow, some recreational uses (rafting) are regulated and works are avoided in times of spawning.**

**In cases of urgency, due to the changes accused of flows there is the possibility of closing the fishing in certain sections.**

(b) Expand the collection of information on alien species and their distribution in the fluvial network.

**3.4 Identify the main threats to wild salmon and challenges for management in relation to estuarine and freshwater habitat.**

Threat/ challenge H1	<b>Fish ladders are necessary to enable salmon to migrate upstream. Improve knowledge of the distribution area in the basin. It is necessary to improve the step in descent of smolts.</b>
Threat/ challenge H2	Pressures in estuaries may be linked to natural predation of fish or birds:(p.e. <i>Dicentratus labrax</i> or <i>Phalacrocorax carbo</i> ).
Threat/ challenge H3	
Threat/ challenge H4	

Copy and paste lines to add further threats/challenges which should be labelled H5, H6, etc.

<p><b>1. What SMART actions are planned during the period covered by this Implementation Plan (2019 – 2024) to address each of the threats and challenges identified in section 3.4 to implement NASCO’s Resolutions, Agreements and Guidelines and demonstrate progress towards achievement of its goals and objectives for the Protection, Restoration and Enhancement of Atlantic Salmon Habitat?</b></p>		
<b>Action H1:</b>	Description of action:	Program of cleaning and annual maintenance of the scales (fish steps in hydroelectric plants) and obstacles to the ski lift of the salmon
	Planned timescale (include milestones where appropriate):	2020-2024 To be effective, it is necessary to maintain these cleanings every year.
	Expected outcome:	Increase accessibility and nursery habitats for juveniles.
	Approach for monitoring effectiveness & enforcement:	Check accessibility, especially in the months of raising of breeding salmon.
	Funding secured for both action and monitoring programme?	General budget regional administration.
<b>Action H2:</b>	Description of action:	Controls of <i>Phalacrocorax carbo</i> are performed. Increase knowledge about the problem of predation, which is difficult to solve.
	Planned timescale (include milestones where appropriate):	2020-2024. The measures must be maintained until the circumstances improve.
	Expected outcome:	Obtaining information and decrease the presence of cormoran in salmon rivers.
	Approach for monitoring effectiveness & enforcement:	Information in this regard should be followed up
	Funding secured for both action and monitoring programme?	General budget regional administration.
<b>Action H3:</b>	Description of action:	
	Planned timescale (include milestones where appropriate):	

	Expected outcome:	
	Approach for monitoring effectiveness & enforcement:	
	Funding secured for both action and monitoring programme?	
<b>Action H4:</b>	Description of action:	
	Planned timescale (include milestones where appropriate):	
	Expected outcome:	
	Approach for monitoring effectiveness & enforcement:	
	Funding secured for both action and monitoring programme?	Choose an item.

Copy and paste lines to add further actions which should be labelled H5, H6, etc

**4. Management of Aquaculture, Introductions and Transfers, and Transgenics:**

*Council has requested that for Parties/jurisdictions with salmon farms, there should be a greater focus on actions to minimise impacts of salmon farming on wild salmonid stocks. Each Party/jurisdiction with salmon farming should therefore include at least one action relating to sea lice management and at least one action relating to containment, providing quantitative data in Annual Progress Reports to demonstrate progress towards the international goals agreed by NASCO and the International Salmon Farmers Association (ISFA):*

- 100% of farms to have effective sea lice management such that there is no increase in sea lice loads or lice-induced mortality of wild salmonids attributable to the farms;*
- 100% farmed fish to be retained in all production facilities.*

*In this section please provide information on all types of aquaculture, introductions and transfers, and transgenics (including freshwater hatcheries, smolt-rearing etc.*

<p><b>4.1</b></p>	<p><b>(a) Is the current policy concerning the protection of wild salmonids consistent with the international goals on sea lice and containment agreed by NASCO and ISFA?(b) If the current policy is not consistent with these international goals, when will current policy be adapted to ensure consistency with the international goals and what management measures are planned to ensure achievement of these goals and in what timescale?</b>  <i>(Max. 200 words for each)</i>  <i>(Reference: BMP Guidance)</i></p>
	<p>(a) The current policy on the protection of wild salmonids is compatible with the international objectives on sea lice as there is no marine fish farming of any kind and therefore no problems with sea lice.</p> <p>This does not seem to be an issue for Asturias, where neither fish nor fish eggs have been imported for 20 years.</p> <p>There is also no commercial salmon farming.</p>
<p>(b)</p>	
<p><b>4.2</b></p>	<p><b>(a) What quantifiable progress can be demonstrated towards the achievement of the international goals for 100% of farms to have effective sea lice management such that there is no increase in sea lice loads, or lice-induced mortality of wild salmonids attributable to sea lice?(b) How is this progress monitored, including monitoring of wild fish? (c) If progress cannot be demonstrated, what additional measures are proposed and in what timescale?</b> <i>(Max. 200 words each)</i>  <i>(Reference: BMP Guidance)</i>  <i>The measures by which these goals may be achieved, and against which the Review Group will be measuring the effectiveness of the Implementation Plan, are set out in the BMP Guidance SLG(09)5 (Best management practice; reporting and tracking; factors facilitating implementation) as agreed by NASCO and ISFA.</i></p>
	<p>(a) Not applicable. Asturias has no rearing of salmon in net pens in the sea.</p>
	<p>(b) Not applicable. Asturias has no rearing of salmon in net pens in the sea.</p>
	<p>(c) Not applicable. Asturias has no rearing of salmon in net pens in the sea.</p>
<p><b>4.3</b></p>	<p><b>(a) What quantifiable progress can be demonstrated towards the achievement of the international goals for achieving 100% containment in all (i) freshwater and (ii) marine aquaculture production facilities? (b) How is this progress monitored, including monitoring of wild fish (genetic introgression) and proportion of escaped farmed salmon in the spawning populations? (c) If progress cannot be demonstrated, what additional measures (e.g. use of sterile salmon in fish farming) are proposed and in what timescale?</b> <i>(Max. 200 words each)</i>  <i>(Reference: BMP Guidance)</i>  <i>The measures by which these goals may be achieved, and against which the Review Group will be measuring the effectiveness of the Implementation Plan, are set out in the BMP Guidance SLG(09)5 (Best management practice; reporting and tracking; factors facilitating implementation) as agreed by NASCO and ISFA.</i></p>

<p>(a) There is only repopulation aquaculture of autochthonous salmon from each river. There are only ictiogenic centers destined to the production of fingerlings for repopulation of salmon in rivers, respecting the existing genetic lines.</p> <p>In any case, according to article 6 of the Habitats Directive, all the plans and projects that may have a significant effect on the Natura 2000 network are subject to study of their repercussions taking into account the conservation objectives.</p>
<p>(b) Not applicable.</p>
<p>(c) Not applicable.</p>
<p><b>4.4 What adaptive management and / or scientific research is underway that could facilitate better achievement of NASCO's international goals for sea lice and containment such that the environmental impact on wild salmonids can be minimised? (Max 200 words)</b> <i>(Reference: BMP Guidance and Article 11 of the Williamsburg Resolution)</i></p>
<p>There are not <i>Gyrodactylus salaris</i></p>
<p><b>4.5 What is the approach for determining the location of aquaculture facilities in (a) freshwater and (b) marine environments to minimise the risks to wild salmonid stocks? (Max. 200 words for each)</b></p>
<p>(a) In the main salmon rivers (Sella, Cares, Narcea, Esva there is no more aquaculture). There are only some rainbow farms in small rivers, tributaries and non-salmon farms.</p>
<p>(b) There are not salmonid aquaculture.</p>
<p><b>4.6 What progress has been made to implement NASCO's guidance on introductions, transfers and stocking? (Max. 200 words)</b> <i>(Reference: Articles 5 and 6 and Annex 4 of the Williamsburg Resolution)</i></p>
<p>Efforts are made to increase knowledge and awareness on risks of illegal introductions and transfers of alien fish, diseases and parasites. Fishermen's associations are informed.</p>
<p><b>4.7 Is there (a) a requirement to evaluate thoroughly risks and benefits before undertaking any stocking programme and (b) a presumption against stocking for purely socio-political/economic reasons? (Max. 200 words each)</b> <i>(Reference: Guidelines for incorporating social and economic factors in decisions under the Precautionary Approach and Annex 4 of the Williamsburg Resolution)</i></p>
<p>(a) The decisions are based on international and national guidelines and legislation, addressing potential risk, as for example fish with infectious diseases or non-indigenous species.</p>



(b) No.	
<b>4.8 What is the policy/strategy on use of transgenic salmon?</b> (Max. 200 words) (Reference: Article 7 and Annex 5 of the Williamsburg Resolution)	
There is no and there is no forecast to introduce transgenic fish	
<b>4.9 For Members of the North-East Atlantic Commission only: What measures are in place, or are planned, to implement the eleven recommendations contained in the ‘Road Map’ to enhance information exchange and co-operation on monitoring, research and measures to prevent the spread of <i>Gyrodactylus salaris</i> and eradicate it if introduced, including the development and testing of contingency plans?</b> (Max. 200 words) (Reference ‘Road Map’ to enhance information exchange and co-operation on monitoring, research and measures to prevent the spread of <i>G. salaris</i> and eradicate it if introduced, NEA(18)08)	
There are not <i>Gyrodactylus salaris</i>	
<b>4.10 Identify the main threats to wild salmon and challenges for management in relation to aquaculture, introductions and transfers, and transgenics.</b>	
Threat / Challenge A1	Precautions in restocking actions regarding genetic variability and health surveillance.
Threat / challenge A2	
Threat / challenge A3	
Threat / challenge A4	

Copy and paste lines to add further threats/challenges which should be labelled A5, A6, etc.

<b>4.11 What SMART actions are planned during the period covered by this Implementation Plan (2019 – 2024) to address each of the threats and challenges identified in section 4.10 to implement NASCO’s Resolutions, Agreements and Guidelines and demonstrate progress towards achievement of its goals and objectives for aquaculture, introductions and transfers, and transgenics?</b>
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<b>Action A1:</b>	Description of action:	Reinforce populations with restocking and evaluate the restocking. Continue increasing genetic diversity in spawning and fertilization tasks. The breeders are wild and come from the river environment. With the health surveillance program.
	Planned timescale (include milestones where appropriate):	2020-2024
	Expected outcome:	Continue with fin-clipping (adipose fin) program of smolt to be able to evaluate the restocking fisheries.
	Approach for monitoring effectiveness & enforcement:	Fin-clipping of restocked salmon annually 100,000.
	Funding secured for both action and monitoring programme?	Based on the General budgets of the regional administration of Asturias.
<b>Action A2:</b>	Description of action:	
	Planned timescale (include milestones where appropriate):	
	Expected outcome:	
	Approach for monitoring effectiveness & enforcement:	
	Funding secured for both action and monitoring programme?	
<b>Action A3:</b>	Description of action:	
	Planned timescale (include milestones where appropriate):	
	Expected outcome:	
	Approach for monitoring effectiveness & enforcement:	

	Funding secured for both action and monitoring programme?	Choose an item.
<b>Action A4:</b>	Description of action:	
	Planned timescale (include milestones where appropriate):	
	Expected outcome:	
	Approach for monitoring effectiveness & enforcement:	
	Funding secured for both action and monitoring programme?	Choose an item.

*Copy and paste lines to add further actions which should be labelled A5, A6, etc*