



**IP(19)20rev3**

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

***EU – Spain (Asturias)***  
***(Revised March 2021)***



## IP(19)20rev3

### *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.*

<b>Party:</b>	<b>European Union</b>
<b>Jurisdiction/Region:</b>	<b>Spain (Asturias)</b>

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

## 1. Introduction

### 1.1 What are the objectives for the management of wild salmon? (Max 200 words)

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:

"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) ".

In short, the objective is to achieve the self-sustainability of the populations and, in this context, a sustainable use for fishing purposes.

### 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) (Reference: Sections 2.4 and 2.5 of the Fisheries Guidelines)

For the evaluation of the state of the populations in Asturias, the following methods are currently being used:

- Catch index: there are data on catches by fishing since 1949, and since 1993 on Age structure, Sex-ratio, and biometrics.
- Autumnal censuses of breeders: Census by diving has been carried out since 2010, in the Eo, Esva, Narcea, Sella and Deva-Cares rivers. It is verified that the number of breeding salmon that remain for spawning (after fishing) represents at least 70% of the salmon that enter the rivers. This serve to know the number of eggs available for spawning. They therefore serve to establish conservation limits.
- Salmon counters, electronic and photographic: At present, it is located on the river Sella (it is not located at the mouth but in its upper zone and does not count the salmon present in the whole river). It is used to count the number of reproducers that access the upper area of Sella basin.
- Direct counting with the help of capture cages in three rivers (Sella, Cares and Nalón)
- Electric fishing: to estimate density of juvenil salmon.
- Fish tagging and recovery: In the repopulations with juveniles, around 15% of the salmon released are marked.

The monitored data is used in management to verify that the fishing capture are in consonance with a sustainable exploitation:

The entries of salmon in autumn are far exceeding that of the fish (in the autumn underwater censuses they represent, according to rivers and years, between 65 to 85% of those entering) and the inter-annual average data seems sufficient for the spawning of these Females guarantee sustainability, compensating for the fishing that takes place in spring, ensuring an appreciable ratio of reproducers.

The conservation limits are not officially established, but annually it is verified that the number of reproducers is sufficient to guarantee the conservation limits. In practice, the conservation limits are being met with the criterion of verifying that the catch does not exceed 30% of the spawning inputs. In addition, it is under study to establish quantitative limits of conservation. In the three main rivers (Deva-Cares, Nalón-Narcea and Sella), conservation limits can be established for the three conservation states (favorable, unfavorable and critical) for "Salmon race size": Favorable status > 700 salmon <Unfavorable condition <150 salmon> Critical condition (similar to that established in the Bidasoa river, with a similar size of salmon farming basin).

Regarding the density of juveniles, an annual monitoring is carried out, which provides a series. An average of 0+ summer parr density of 0,3 ind/m<sup>2</sup> is considered to be a good one in Asturias.

### 1.3 What is the current status of stocks under the new classification system outlined in CNL(16)11?

Stock Classification Score	Salmon Classification Category	No. rivers
0	Not at Risk	
1	Low Risk	Eo, Esva, Narcea, Sella, Cares-Deva
2	Moderate Risk	Porcía.
3	High Risk	Navia.
N/A	Artificially Sustained	
N/A	Lost	
N/A	Unknown	

#### Additional comments:

The size of the population in the three main rivers (Sella, Narcea, Cares) has been greater than 700 salmon in the last 10 years, so it is considered that, in fact, conservation limits are met.

Navia river: an insurmountable dam limits salmon access, and there are few data on population size.

Porcía is a very small river with an annual entry of reproducers, adequate for its size, but fishing is prohibited.

The Esva is a small river and fishing accounts for less than 5% of the total.

### Salmon catch in the main rivers

YEAR	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
CARES-DEVA	59	206	201	100	157	233	204	55	57	96	147
NARCEA-NALON	74	336	532	323	563	404	362	249	301	387	457
SELLA	86	340	416	248	392	337	484	148	202	319	225
ESVA	4	62	48	29	40	32	17	10	10	3	1
EO (incl. Gal)	24	101	99	137	58	88	71	36	31	29	28
<b>TOTAL</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>	<b>858</b>

### Abundance indicators:

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

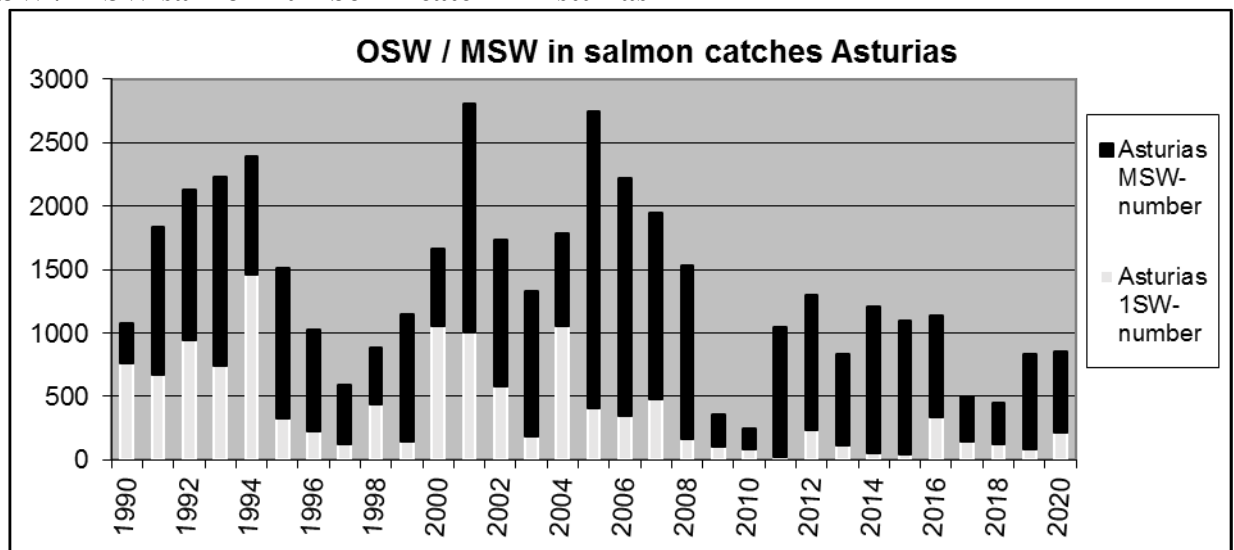
Is a fairly reliable indicator of the long-term population situation, but the salmon that are caught, those that they arrive like reproducers, they do not enter equally to the rivers, after their return of the sea, if the conditions of flows or temperatures undergo important changes, being able to delay 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 (MSW) and have been at sea for 2 or 3 years feeding and growing.

OSW salmon 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 number in 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 only a quarter of the population that enters into autumn:

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

**Results: Autumnal censuses in the same areas of each river. Partial censuses except Sella (breeding salmon).**

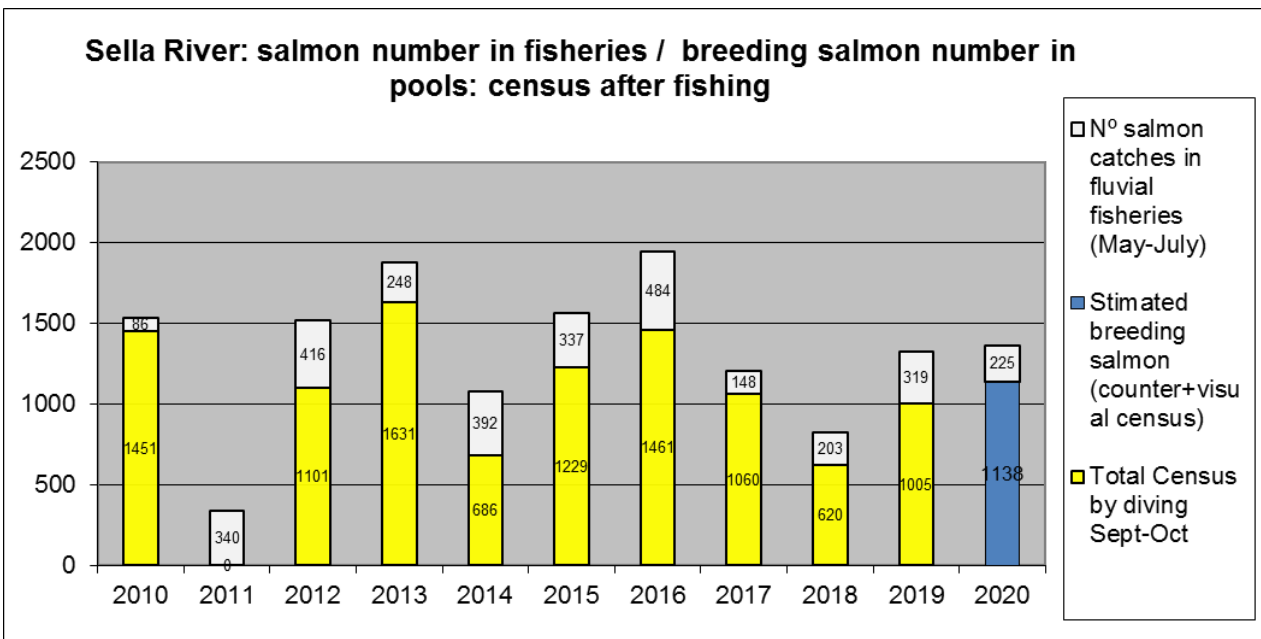
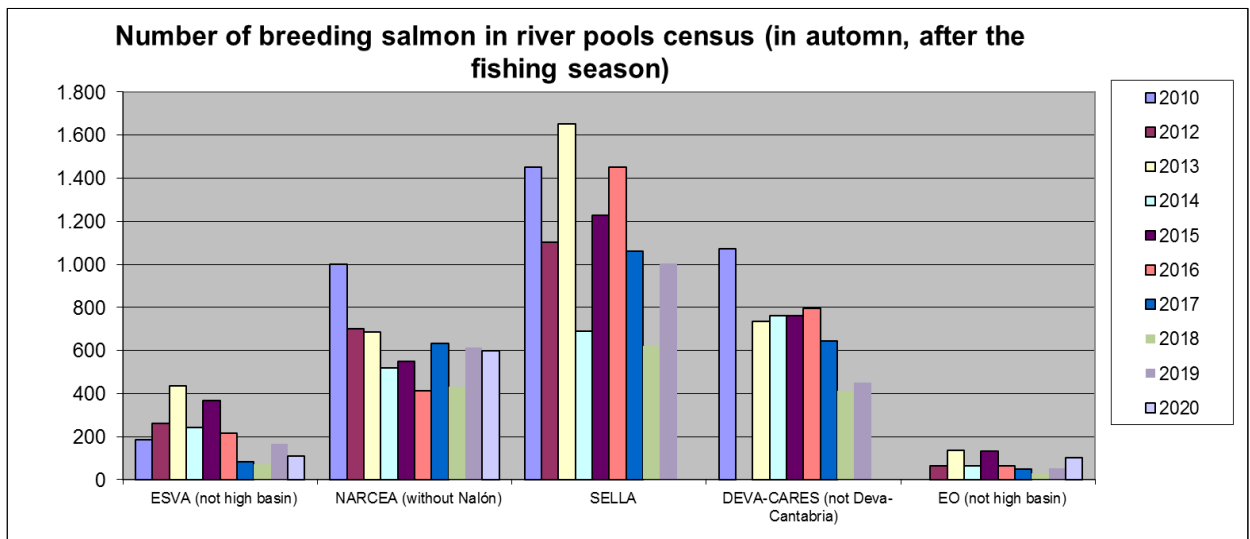


Table: the values above represent the number of salmon caught in Sella in the sports fishery between May and July; and in yellow represents the number of salmon counted (Sept-Oct) after the fishery (excluding its tributaries). The entry of fish continues until November after the census. The number of reproducers is in accordance with the conservation limits.

**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. Water quality is good in the main basins.

The main river is practically accessible in its entirety in the Sella (95%) in Cares (90%) and Esva (90%) rivers; while the Narcea is only accessible in approximately 65% of its length and the Nalón in a 50%. Accessibility is only limited by some large dams in high areas.

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

Navia River, with three large dams, is only accessible for approximately 10% of its length.

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.

At present, around 60% of the potential area is accessible to salmon, and there has been a gradual increase since 1989 thanks to some actions carried out. The actions for the demolition of unused dams and the provision of ladders have been numerous and successful since that date.

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

Number of marine farms

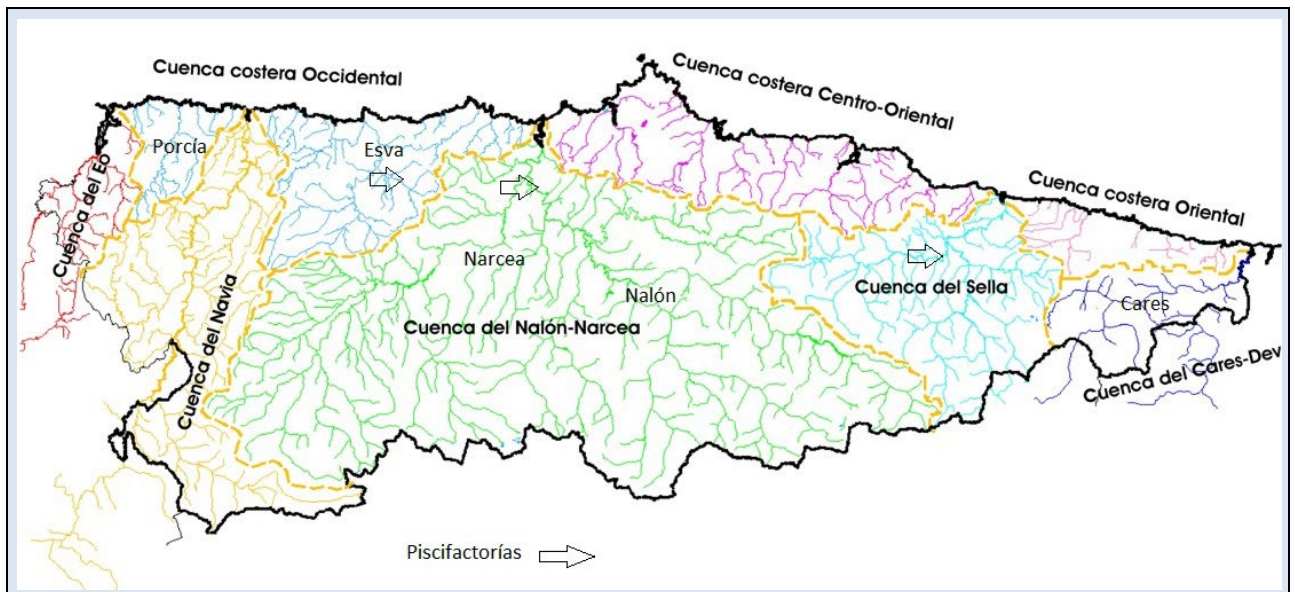
There is no marine salmon aquaculture.

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>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.</p>
<p>Freshwater production (tonnes)</p>	<p>Freshwater production only for restocking (not commercial). <b>Restocking programmes</b> with native fish in Asturias. Parr production in hatchery in 2020 is 455000 parr.</p> <p>Restocking Number Asturias: It is less than 5 tons  358.297 <b>2017</b>  240.900 <b>2018</b>  352.700 <b>2019</b></p>
<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. (figure. Piscifactorias)</p>	



**1.7** Please describe the process used to consult NGOs and other stakeholders and industries in the development of this Implementation Plan. (Max 200 words)

The new regulations and management actions for the salmon populations that are the object of the plans are subject to consultation in an Advisory Council on Aquatic Ecosystems and Fisheries, in which NGOs, fishermen, academics and conservationists participate. The objectives and actions contemplated for salmon management have been commented and discussed in the Council meetings.

## **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.  
Ley 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.

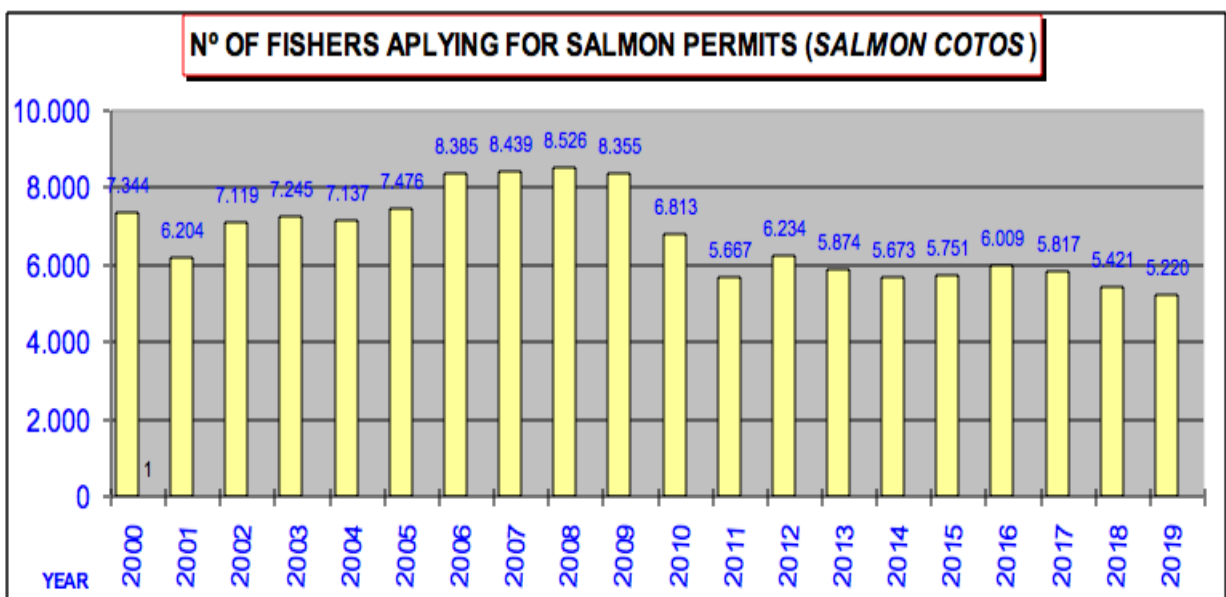
The fishing effort is limited by a Cotos regime (areas with a maximum of 3 fishermen) and reserves (absolute bans and shelters for broodstock).

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.

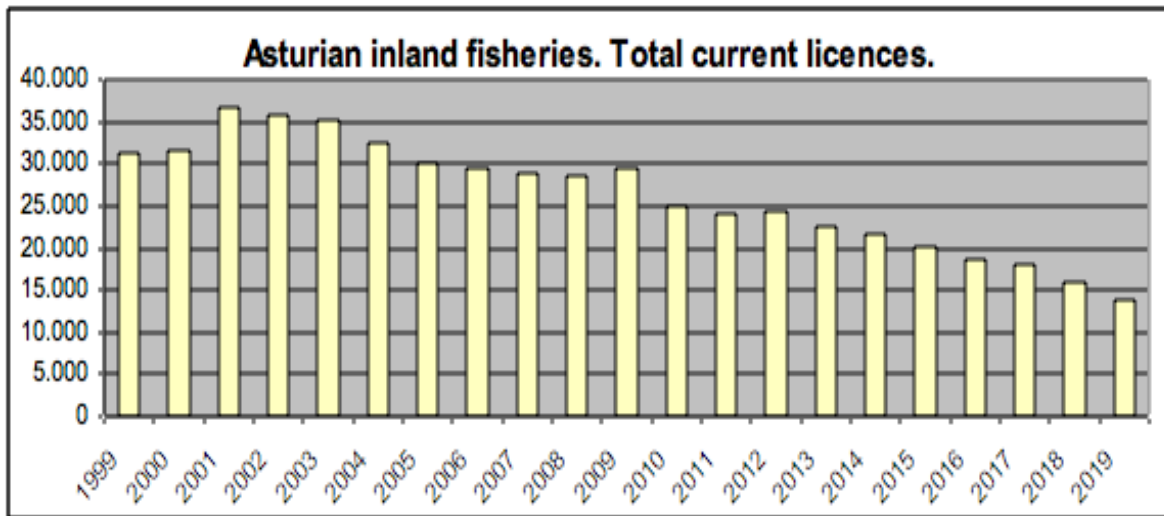
Fishing pressure has been reduced in recent years. To fish in the preserves (coto) a permit is required. Currently the number of permit applicants is decreasing (5,200)



**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):



**2.3 (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? (Max 200 words)**  
*(Reference: Section 2.7 of the Fisheries Guidelines)*

(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.

(b) In Navia river with very few populations, fishing has been forbidden.

(c) There is an experimental program to donate fish salmon for spawn them in the fish farm.

<p><b>2.4 (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? (Max. 300 words in total)</b> (Reference: Section 2.8 of the Fisheries Guidelines)</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>
<p><b>2.5 How are socio-economic factors taken into account in making decisions on management of salmon fisheries? (Max. 200 words)</b> (Reference: Section 2.9 of the Fisheries Guidelines)</p>
<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 involved stakeholders are represented.</p> <p>All fishing is public.</p> <p>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.</p> <p>Therefore, fishing is managed under the principles of sustainability, understanding that it is a good that must survive for the future.</p>
<p><b>2.6 What is the current level of unreported catch and what measures are being taken to reduce this? (Max. 200 words)</b> (Reference: Section 2.2 of the Fisheries Guidelines and the Minimum Standard)</p>
<p>There are no quantitative data allowing an estimate of unreported catches but the information available suggests that poaching does not occur frequently.</p> <p>The number of sanctions and inspections carried out can be monitored.</p>
<p><b>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)</b> (Reference: Six Tenets for Effective Management of an Atlantic Salmon Fishery, WGCST(16)16)</p>

<p>(a) Yes.</p> <ol style="list-style-type: none"> <li>1. There is a secure licensing and permit control system for all fishermen.</li> <li>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</li> </ol> <p>The tendency is to increase the catch and release. In addition, since 2002 all sport fishing cannot be commercialized, to avoid illegal fishing.</p> <ol style="list-style-type: none"> <li>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 obtain the quota of 4 catches per year are registered and cannot continue fishing</li> <li>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.</li> <li>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.</li> <li>6. The existence of censuses and scientific sampling has already been commented to provide additional information to the evaluation process.</li> </ol>	
<p>(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</p>	
<p>(c)</p>	
<p><b>2.8 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></p>	
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>2.9 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:	Increase vigilance to evaluate possible illegal fishing.  Although it is estimated that undeclared catches are very low, efforts will continue to maintain this situation.
	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 by fishing with death be less than a third (limit of 30%) of the total of salmon that enter the rivers annually. In this way, a high percentage of spawning is guaranteed. Fishing pressure will decrease if the spawning numbers decrease.
	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 and counter in capture traps 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 (diving) census. Methodology is repeated every year.
	Expected outcome:	Increase knowledge for data on conservation limit: 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:	Reinforce populations with repopulations of salmon fry.
	Planned timescale (include milestones where appropriate):	2020-24
	Expected outcome:	<b>Restocking programmes</b> with native fish in Asturias: 300,000 restocked parr
	Approach for monitoring effectiveness & enforcement:	Marking allows to distinguish the percentage of farmed salmon (restocking-hatchery) Results suggest that the repopulations have strengthened the populations
	Funding secured for both action and monitoring programme?	Based on the General budgets of the regional administration of Asturias.

*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) ¿Cómo se identifican los riesgos para la capacidad productiva y se priorizan las opciones para restaurar el hábitat del salmón degradado o perdido, teniendo en cuenta el principio de "sin pérdida neta" y la necesidad de inventarios para proporcionar datos de referencia?*

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. *Dicentratus labrax* or *Phalacrocorax carbo*, or *Lutra lutra*).
- Works in rivers and margins.

All salmon rivers enjoy legal protection within the framework of the Natura-2000 network, as ZEC (Zones special conservation) with management instruments (IGIs, 2014) adopted by legal regulation, for the Government of Asturias (Decreto 142/2014, de 17 de diciembre, declares ZECs (ES1200032) and IGIs, BOPA, 26-XII-2014), due to the presence of species (salmon is among them) and habitats of community importance and as a result, salmon habitat conservation and restoration is included as one of the objectives in the IGIs. Asturias legally secures no further deterioration of the salmon habitat in salmon rivers.

In Asturias an inventory of obstacles in the rivers has been made (1989, 2006) 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. Decreto. 630/2013, of August 2, which regulates the Spanish Catalog of invasive exotic 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)*

*El Grupo de Revisión no estaba seguro de cómo las medidas indicadas cumplen con el requisito de la Sección 3.2 de las Directrices de Hábitat (CNL (10) 51).*

(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.. The Cantabrian Hydrological Plan (Real Decreto 1/2016, de 8 de enero, now under review) is monitoring water parameters and demanding higher volume ecological flows. The Spanish Strategy for Climate Change and the Navarra Climate Change Roadmap, are general management tools that need to be adapted at the local scale.

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	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.
Threat/ challenge H2	Pressures in estuaries and river may be linked to natural predation of fish or birds:(p.e. <i>Dicentratus labrax</i> or <i>Phalacrocorax carbo</i> ) or <i>Lutra lutra</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 in dams (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 predators as <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?	

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

<p><b>4. Management of Aquaculture, Introductions and Transfers, and Transgenics:</b></p> <p><i>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):</i></p> <ul style="list-style-type: none"> <li>• <i>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;</i></li> <li>• <i>100% farmed fish to be retained in all production facilities.</i></li> </ul> <p><i>In this section please provide information on all types of aquaculture, introductions and transfers, and transgenics (including freshwater hatcheries, smolt-rearing etc.</i></p>
<p><b>4.1 (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? (Max. 200 words for each)</b> <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) There is no evidence of freshwater gyrodactylus episodes in recent years.</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? (Max. 200 words each)</b>  <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 no evidence of freshwater gyrodactylus episodes in recent years nor in salmon or other salmonid cultures in freshwater and Asturias has no rearing of salmon in net pens in the sea.</p>
	<p>(b) There is no evidence of freshwater gyrodactylus episodes Sea lice was not detected in salmon</p>
	<p>(c) There is no evidence of freshwater gyrodactylus episodes</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? (Max. 200 words each)</b>  <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>All the salmon raised are for restocking and their parents come from the natural environment. There is only repopulation aquaculture of autochthonous salmon from river.</p> <p>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) Therefore there is no danger of introducing outside agents to this medium. In addition, all the hatchery or freshwater fish farm have grids and rearing systems in closed rafts, which prevents leaks.</p>
	<p>(c) 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</p>

<p>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>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 Gyrodactylus salaris In any case the Administration only repopulates with native varieties and previous sanitary analysis.</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 salmonid aquaculture. There are only some rainbow farms in small rivers, tributaries and non-salmon farms.</p>
<p>(b) There are not marine 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 alloctonus 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 none-indigenous species.</p>
<p>(b) No.</p>
<p><b>4.8 What is the policy/strategy on use of transgenic salmon? (Max. 200 words)</b> <i>(Reference: Article 7 and Annex 5 of the Williamsburg Resolution)</i></p>
<p>There are no requests to introduce transgenic fish. In any case, current legislation would be followed.</p>

**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 Gyrodactylus salaris and eradicate it if introduced, including the development and testing of contingency plans?*  
 (Max. 200 words)  
 (Reference ‘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)

In the event of the appearance of gyrodactilus, it would proceed to its control and elimination of the salmon adults or juvenils that would not be repopulated.

**4.10 Identify the main threats to wild salmon and challenges for management in relation to aquaculture, introductions and transfers, and transgenics.**

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.

**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>Action A1:</b>	Description of action:	Aquaculture is not carried out, except for restocking. There are no transgenics. In restocking, genetic diversity is guaranteed in spawning and fertilization tasks. The spawning salmon are wild and come from the river environment.
	Planned timescale (include milestones where appropriate):	2020-2024
	Expected outcome:	Continue with restocking programs and marking.

	Approach for monitoring effectiveness & enforcement:	There is a health surveillance program, Marking allows for reared and wild salmon to be distinguished
	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?	

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