

Council

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***Information for the
Compilation of a NASCO Implementation Plan
and NASCO Focus Area Reports For Spain 2010***

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NASCO Focus Area Reports for Spain 2010*

1. SALMON MANAGEMENT

1.1. Describe the objectives of the salmon management strategy for the Region and summarise the roles of the management entities involved in implementing it:

⊕ **GALICIA:**

The Dirección Xeral de Conservación da Natureza (General Direction of Environment Conservation) is the entity responsible for salmon management in Galicia. The general objective is to promote and protect the diversity and abundance of salmon stocks, maintaining where it is possible an angling exploitation with sustainable guidelines.

⊕ **ASTURIAS:**

As main management objectives the document includes:

1. Encouraging the sustainable management of stocks, ensuring enough natural reproduction capacity of the species and, where necessary, reinforcing it with potential repopulation and proper management of competing species.
2. Preserving and improving the habitat, especially regarding water quality, and maintenance of river courses, banks and vegetation.
3. Establishing a responsible management and recreational fishing model, to support the sustainable management of the species.
4. Establishing programs to monitor the fish populations and fishing pressure.
5. Keeping on the research on habitats and populations in areas of their population dynamics, captures, as well as the ecological, genetics and pathology studies.
6. Increasing social awareness to the river habitats, species and its sustainable use

⊕ **PAIS VASCO:**

Guipuzkoa:

The main objective is to go on with and develop the Atlantic salmon reintroduction plan in the Urumea and Oria River basins, initiated at the 80s of the past century by the local administration (Diputación Foral de Gipuzkoa/Gipuzkoako Foru Aldundia), responsible for the entire plan and its monitoring.

⊕ **NAVARRA:**

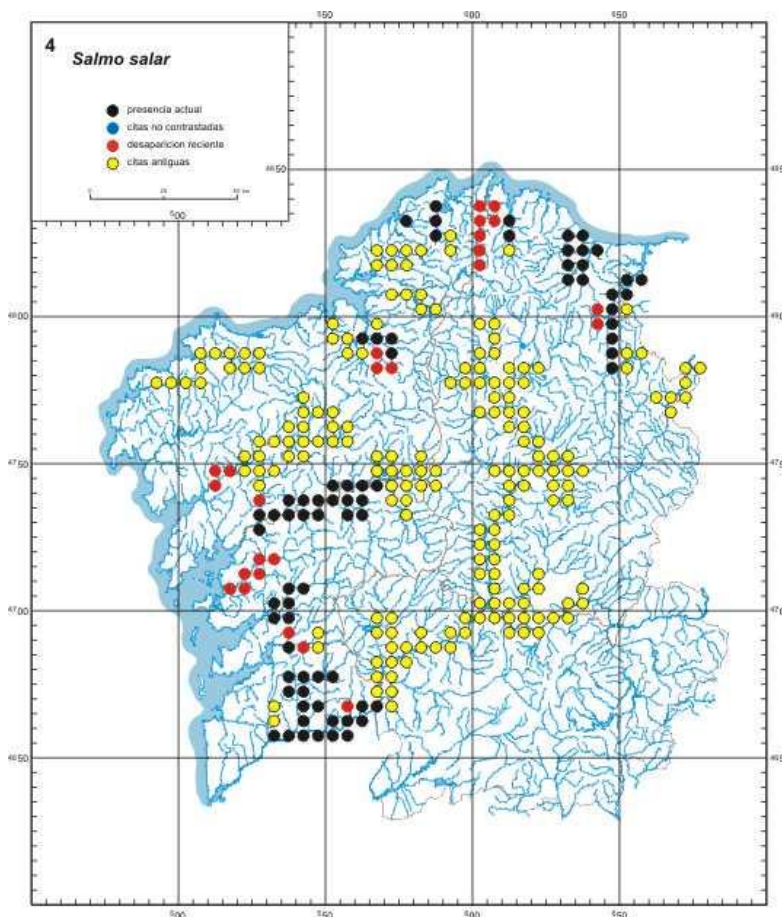
In the autonomous region of Navarra, the entity involved in salmon management is the Department of Rural Development and the Environment of the Government of Navarra, and the main objectives of its salmon management strategy are:

1. The conservation of the species.
2. The enhancement and increase of the salmon population stock.
3. Habitat improvement and the increase of the area occupied by salmon.
4. Sustainable use of the resource by the recreational fishery.

1.2. Describe the nature and extent of the salmon resource in the Region (e.g. number and size of stocks, special designations, etc) with a map, and the status of the salmon stocks:

⊕ GALICIA

Salmon is present in 8 rivers (Eo, Masma, Ouro, Landro, Mero, Mandeo, Ulla, Lézrez and Miño). The more stable stocks can be found in 3 rivers (Eo, Ulla and Miño), 3 other rivers have medium level (Masma, Mandeo and Lézrez) and 3 others have a low level (Ouro, Landro and Mero).



⊕ ASTURIAS

Rivers:

The asturian hydrographic network is very extensive. It is estimated that the stretches of permanent running waters, colonized by salmonids, are more than 2.500 linear km. Of

these, less than 400 km would be accessible stretches for salmon and its habitat, and about a thousand kilometres would be inhabited by other migrating species, the eel.

Hydrographic Basin:

The Atlantic salmon (*Salmo Salar*) breeds populations in the following rivers basins: Deva, Sella, Narcea (up to dam Calabazos) Nalón (up to Las Caldas, and Cubia and Trubia rivers), Navia (up to prey Arbón), Eo, Esva, Porcía, Bedon, and occasionally, in Purón, Esqueiro and Negro.

Salmon Zone:

All of these rivers have regulated their use regime, and a geographical classification has been made, which involves possible changes in fishing periods, fishing equipment and carvings, depending on whether fishing takes place or not in the salmon zone, where there are time and fish species constraints.

The rivers in which the salmon fishing has been allowed under these rules are Deva and Cares, Sella, Narcea, Nalón, Eo, Navia, Esva y Porcía, although the 2010 legislation has limited it to Deva, Cares, Sella, Narcea - Nalón, and Eo.

Status of salmon stock

The catches, indication of the state of the stocks, show some recovery in recent years, far from the average annual catches of about 4,000 salmons in the early fifties.

Distribution of catches, 2001-2010.

RIO	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Deva-Cares	551	320	331	366	410	393	345	369	105	59
Narcea-Nalón	1159	604	273	459	910	826	656	467	122	74
Sella	753	563	628	628	1100	455	610	528	85	86
Esva	198	115	31	31	75	172	115	68	12	4
Navia	10	5	1	1	7	11	16	5	1	Banned
Porcía	0	0	0	4	10	13	13	96	27	Banned
Eo	135	129	62	62	236	234	194	369	105	24

SALMON CATCHES STATISTICS IN SPAIN (ASTURIAS). INCIDENCE (%) OF SALMON OF DIFFERENT SEA AGE IN ASTURIAN CATCHES

Year	2006	2007	2008	2009	2010
Total Catch Asturias	2214	1949	1533	462	371
Total weigth Asturias	10074	8507	7006	1488	1060
Asturias 1SW-number	335	520	166	106	81
Asturias 1SW-weight	879	1365	1367	278	212
% 1SW	15,8	26,7	10,8	29,8	32,7

⊕ PAIS VASCO:

Guipuzkoa:

Urumea River basin: Medium adult population size (1994-2010): 72 adult salmon, 88% grilse and 12% MWS.

Stock origin (1994-2010): 81 % of returning adult population from wild origin and 19% of returning adult from hatchery origin.

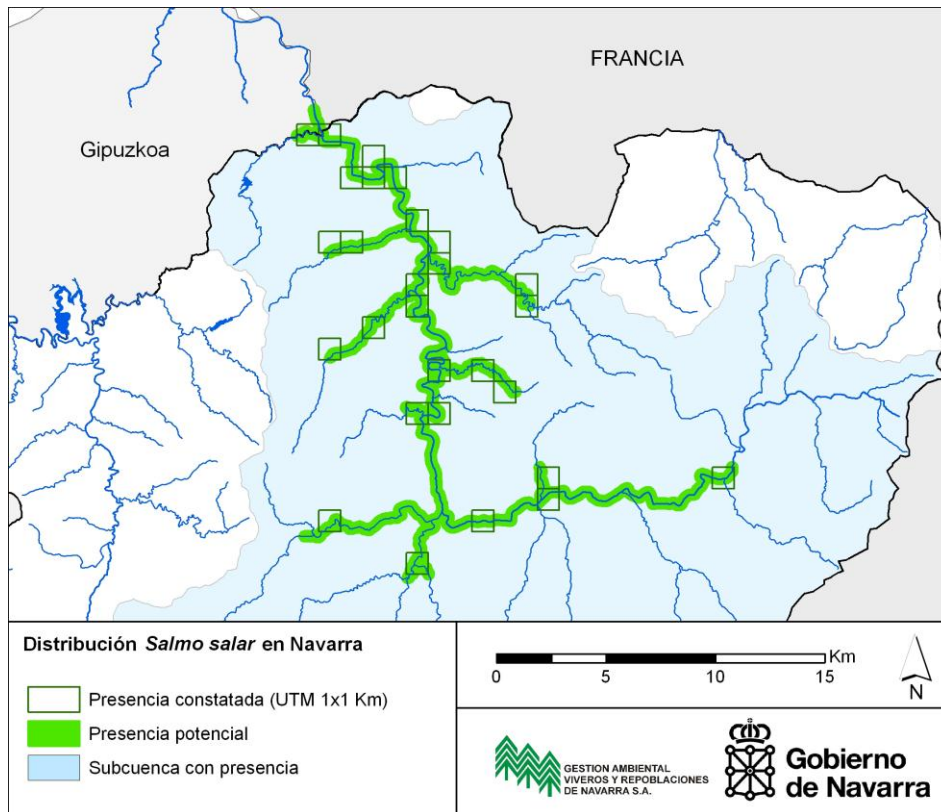
Oria River basin: Medium adult population size (1998-2010): 26 adult salmon, 61% grilse and 39% MWS.

Stock origin (1998-2010): 79% of returning adult population from wild origin and 21% of returning adult from hatchery origin.

⊕ NAVARRA:

The main salmon stock within Navarra is located in the Bidasoa River (see map), where the adult salmon population size vary between 250 and 500 returning adults. The decrease in salmon returns observed in during from the 70s to the 90s has been stopped and stabilized since the middle 90s.

The returning adults are nearly 80% grilse (1SW) and the remaining 20% MSW. Recently the proportion is MSW in slowly growing. Anecdotal numbers of previous spawners and 3SW are being reported again in the recent years. The sex ratio within 1SW is nearly 1.5 M: 1 F, and within MSW is 0.6 M: 1 F.



2. SALMON FISHERIES MANAGEMENT

2.1. Describe the salmon fisheries in the Region (i.e. methods, locations, etc):

⊕ GALICIA

Only angling is allowed in restricted areas (named “cotos”) where fishing effort is regulated, a conservative quota is annually design, fishing season starts in May and finishes in July, and it is allowed to fish salmon only in 4 Galician rivers (Masma, Mandeo, Ulla, Lézé and Miño), in 2011 we allow to fish 68 salmons in these rivers. The Eo River is border with Asturias and the regulation is like for the other asturian rivers (no quota and no restricted fishing areas). The Miño River is international border with Portugal and has its own and special regulation including the presence of nets to fish salmon.

⊕ ASTURIAS

The fishing presents from the forties, singular and even modern aspects of management in Asturias: the prohibition of fishing salmon in river mouth and adjacent coast, as well as the use of nets, the obligation to register the catches, the non-privatization of the fishing rights and the existence of drawings to accede to the fishing preserves.

The abundance of the stock is being assessed by the catches rate, since it is required to be registered. The catch effort has not changed significantly.

In the last years, the fishing season has been kept constant between late March and early July, and there have not been important changes in the allowed quotas or in the baits.

The number of licenses of fishing preserves is stabilized around 8.000, being favoured the fishermen who practices catch and release fishing.

⊕ PAIS VASCO:

Guipuzkoa:

There is no Atlantic salmon catch or fishery in Gipuzkoa.

⊕ NAVARRA:

The only salmon fishing method in Navarre is recreational rod and line in the river from traditional angling spots located along the river banks. The yearly Total Authorized Catch (TAC) is between 50 to 60 returning salmon adults, which in turn results in a nearly 15% of exploitation rate. The fishing season usually starts the first of April to end the 15th of July, or when the TAC is reached.

There is no commercial or industrial exploitation of the stock in the river, the estuary or the sea in the area.

2.2. Provide a summary of the regulations used to control salmon fishing in the Region:

⊕ ASTURIAS

Asturian Government Law 6/2002, June 18th 2002, on protection of aquatic ecosystems and regulation of continental water fishing.

a) Ban the marketing of salmonids and ban salmon fishing in the inner marine waters.

b) Adaptation of the annual fishing regulations:

- Total allowable catches: set in 3 salmons for fisher/year
- Reduction of the fishing season: fishing season with death was reduced in 2/3 regarding 2009: in 2011 from May 1st to 15th June (except 1SW fishing that continues until July 15th)
- Reduction of working days: two days a week without removal
- Fishing methods: promotion of catch and release fly fishing and limitation of natural baits, etc.

⊕ PAIS VASCO:

Guipuzkoa:

There is no Atlantic salmon catch or fishery in Gipuzkoa.

⊕ NAVARRA:

Each fisherman is allowed to catch only one salmon per day, using a single rod. Every catch have to be immediately declared to the Rangers and a certificate is given.

2.3. What future actions are planned to control salmon fishing in order to restore stocks?

⊕ ASTURIAS

- Establishment of permanent preserves in every basin (fishing refuge) and increased surveillance. Permanent closed of certain fishing preserves for use as a refuge for breeding.
- Fishing methods: Promotion of catch and release fishing and limitation of natural baits.
- To promote the collection of information and control over the impact of predatory species, especially the great cormorant, on salmonid populations.
- To control the exotic species of fishes, and Environmental education program about exotic species.
- Total allowable catches will be established considering the status of the salmon stock and studies.
- Total allowable catches will be established for river basins, zones or management units.
- To promote the use of fishing methods, baits, etc., which generate the least possible damage to the released specimens.
- In salmon areas, the use of harmful baits for fry will be restricted.

⊕ PAIS VASCO:

Guipuzkoa:

There is no Atlantic salmon catch or fishery in Gipuzkoa.

⊕ NAVARRA:

To reinforce measures in order to protect the MSW fraction of the stock
Establishment of the yearly TAC in relation to reproduction and escapement objectives
To promote salmon catch and release fishing

3. HABITAT RESTORATION, PROTECTION AND ENHANCEMENT

3.1. Do you have a plan for the protection, restoration, and enhancement of salmon habitat? If so provide an outline:

⊕ **GALICIA**

An enhancement of accessibility in salmon rivers is being applied since 10 years ago

⊕ **ASTURIAS**

The Government of the Principality of Asturias has developed a populations management plan in the terms commented in the question 1.1.

The plan encourages the water quality restoration according with Water Framework Directive, removing obstacles in the rivers, improves river banks and spawn areas.

⊕ **PAIS VASCO:**

Guipuzkoa:

There is not a specific plan for salmon, however there are many actions taken like fish pass building, dam demolition, water quality improvement, etc. that benefits salmon populations. Diputacion Foral de Gipuzkoa goes on with a permeability plan for all basins of Gipuzkoa, based on dam removal or fish pass building every year. In 2010 a 4m high dam was demolished in the upstream are of the Urumea River.

⊕ **NAVARRA:**

There is a plan currently underway to make more permeable the existing barriers to migration in order to favour fluvial continuity.

3.2. Provide a summary of the status of salmon habitat in the rivers in the Region:

⊕ **GALICIA**

After a serious decline in the 90s, since the year 2000, a recovery of the Galician salmon population has been detected but not enough to achieve the 80s levels.

⊕ **PAIS VASCO:**

Guipuzkoa:

Urumea River basin:

In the past water quality was one of the most limiting factors. Nowadays accessibility problems (dams) and hydroelectric uses are the main limiting factors. A telemetry study developed in 2010 shows that nearly 82% of adult population in 2010 (n=223) cannot go further than 20 km from sea, approximately till the middle point of the main course, due to the cumulative effect of dams on the low course, 4 dams in 5 km long (0,8 dam/km).

Oria river basin:

Water and habitat quality is still a problem and a limiting factor for salmon survival. As a result, adults controlled in the trap of the Oria low course are transported to Leitzaran River, main tributary of good habitat quality. However, hydroelectric impact is heavy in this area.

Oiartzun river basin:

Habitat quality in the middle-upstream region can support salmon survival, low course in an estuary is in a worse situation.

⊕ NAVARRA:

During the last decade, the efforts to reduce the upstream migration barriers have significantly improved the salmon accessibility of the Bidasoa River basin upstream reaches. Briefly, in 2001 the Bidasoa main course river length in Navarra that was accessible for salmon was 2.4 km (4%) whilst additional 68 km (17%) were accessible with difficulties. By the end of 2010, 43.7 km (71.9%) were accessible. Similarly, from only 4.7 km (1.5%) of tributaries accessible in 2001, nearly 210.1 km (61.5%) were accessible and additional 23.4 km (6.8%) were accessible with difficulties by the end of 2010.

3.3. What co-ordination is there between relevant bodies to exchange information on habitat issues and share best management practice?

⊕ ASTURIAS

The coordination with river basin organizations (Cantabrico Hydrographic Confederation) for performances in the river environment and defending the public domain is clear and real.

Will promote the inclusion of corrective measures to establish in operations or projects subject to environmental impact assessment or draft environmental impact assessment for the improvement the quality of river habitat. Compensatory measures or environmental monitoring plans for monitoring environmental evolution and population after the end of the project may be established.

⊕ PAIS VASCO:

Guipuzkoa:

Diputacion Foral de Gipuzkoa-Gipuzkoako Foru Aldundia, responsible for the salmon reintroduction and monitoring program, is in coordination with CHC (Confederación Hidrográfica del Cantábrico) and URA (Agencia Vasca del Agua-Ur Agentzia) in many items as river permeability.

⊕ NAVARRA:

The Government of Navarra works closely in coordination with Confederación Hidrográfica del Cantábrico – Spanish Government Agency for water management in the area – in the plan to reduce the upstream migration barriers for salmon.

3.4. What activities are underway or planned to improve salmon habitat?

⊕ ASTURIAS

The recovery of water quality is being promoted, an aspect that is into relation with the objectives of the Water Framework Directive, to achieve a good ecological water status and the creation of a Monitoring Network quality by biological parameters as the fish. To achieve this objective of good ecological status, sanitation programs in river basins exists as well as actions to prevent diffuse pollution by agricultural and livestock or industrial waste.

The removal of those obstacles which involve a river impact by population distribution is being promoted too.

Asturian Government Law 6/2002, June 18th 2002, on protection of aquatic ecosystems and regulation of continental water fishing, specifies the actions to facilitate the transit of this specie:

Article 12 – Fish ladder, ways and grids:

1. Owners or concessionaire of harnessing water resources, under the conditions established by regulation, are required to equip their facilities with fish ladders and ways to ensure upward and downward migration of species.

There is an inventory of those barriers that block migration of species.

⊕ NAVARRA:

As mentioned in the points 3.1 to 3.3, there is a plan currently underway to make more permeable the existing barriers to migration in order to favour fluvial continuity.

4. AQUACULTURE AND MOVEMENTS OF FISH

4.1. Provide a summary of aquaculture, introductions and transfers (including stocking) activities in your Region:

⊕ GALICIA

Salmon aquaculture in Galicia disappeared 15 years ago, but a Norwegian project has restart in the Arosa Ría recently; this year this project has been carried to the Muros Ría. Salmon stocking is done annually in several rivers in order to enhance populations.

⊕ ASTURIAS

There is no commercial salmon aquaculture. Fish farming is done only for restocking, in address to offset the decrease of salmon stocks.

⊕ PAIS VASCO:

Guipuzkoa:

Hatchery origin fry, parr and smolt stocking every year. Adult captured in traps in Oria and Urumea Rivers are the breeder stock for hatchery. Production is about 20.000-50.000 eggs.

Smolt stocking in Urumea and Oria Rivers, about 1.000-2000 smolt each. Fry and parr stocking in Urumea River, about 10.000-15.000 in number.

⊕ NAVARRA:

There is only one fish hatchery owned and managed by the Government of Navarra within the Bidasoa River Basin producing native brown trout and salmon for stocking of the Bidasoa River. Both brown trout and salmon stocks are of native, wild origin. Every winter season a proportion of returning adults are captured from the Bidasoa River to use as parental stock in this hatchery. Additionally, efforts for the survival of previous spawners are made in order to use them in successive reproductions. The annual production is nearly 150,000 eggs that finally result in 70,000-90,000 parrs to stock. There is only one commercial aquaculture facility in the Bidasoa River basin that produces rainbow trout.

4.2. Describe measures taken to limit the impact of freshwater aquaculture on rivers and wild fish stocks:

⊕ ASTURIAS

For limiting impacts, the Administration of the Principality of Asturias, only restocks the waters with healthy fishes and native varieties.

⊕ NAVARRA:

There is no commercial freshwater salmon aquaculture in the Bidasoa River basin.

4.3. Describe the procedures used to regulate or manage stocking of salmonids or other species

⊕ ASTURIAS

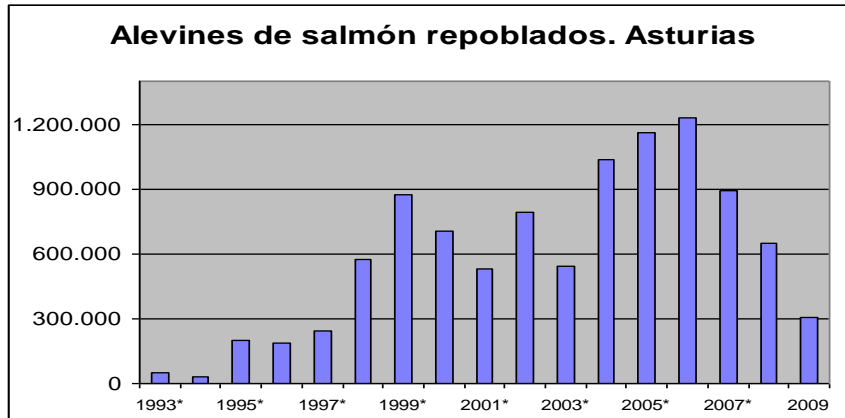
Fish monitoring is carried out in fish farms for restocking, with health and genetic analytical.

In this respect all I+D+i institution have sampling and analytical plans for disease control according to Directive 2006/88/EC, Council of 24 October 2006 on animal

health requirements for animals and aquaculture products, and the prevention and control of certain diseases transposed by Royal Decree 1614/2008.

There is an identification program that focuses specifically on the notifiable viral diseases, VHS and IHN as well as IPN and Gyrodactylus without eliminating the most common and harmful bacteria.

Stocking effort in Asturian Rivers (1993-2009)



⊕ PAIS VASCO:

Guipuzkoa:

All management actions including artificial reproduction, rearing and stocking of salmon are developed by Diputación Foral de Gipuzkoa.

⊕ NAVARRA:

All management actions including artificial reproduction, rearing and stocking of salmon (and brown trout) in Navarra are made by the Department of Rural Development and the Environment of the Government of Navarra.

4.4. What future actions are planned to limit adverse effects of aquaculture or stocking activities?

⊕ PAIS VASCO:

Guipuzkoa:

Stocking effort is quite low, so at short term it will continue in the future.

⊕ NAVARRA:

As the area occupied by the salmon and its wild production has improved within the Bidasoa River basin, the stocking efforts are planned to decrease accordingly.

5. MONITORING

5.1. Provide a summary of activities to monitor the status of stocks and the effectiveness of management measures.

⊕ GALICIA

Galician Salmon populations are monitored through the study of the fishery statistical records obtained since 1950, the fish traps situated in several salmon rivers and electrofishing surveys done on each salmon river in September.

⊕ ASTURIAS

Besides fishing data, salmon management is based on data obtained from fish counters or capture stations. There is a plan to increase the number of capture stations and to obtain data from fish counters, being the current situation and objectives as follows:

1 Caño Station (Sella):

Remodeled between 1997-2000, with fish counter installed since 2003 to 2005. In 2010, it is installed again. Count of breedings in capture station 1998-2010.

2 Cares Capture Station Cares in Niserias:

Remodeled in 1997, fish counter is installed in 2010. Count of breedings in capture station 2005-2010

3 Eo Station, Viña Pé -bordering Galicia-

Its renovation was completed in 2001. Spawning management in this river is shared with Galicia. Fish counter.

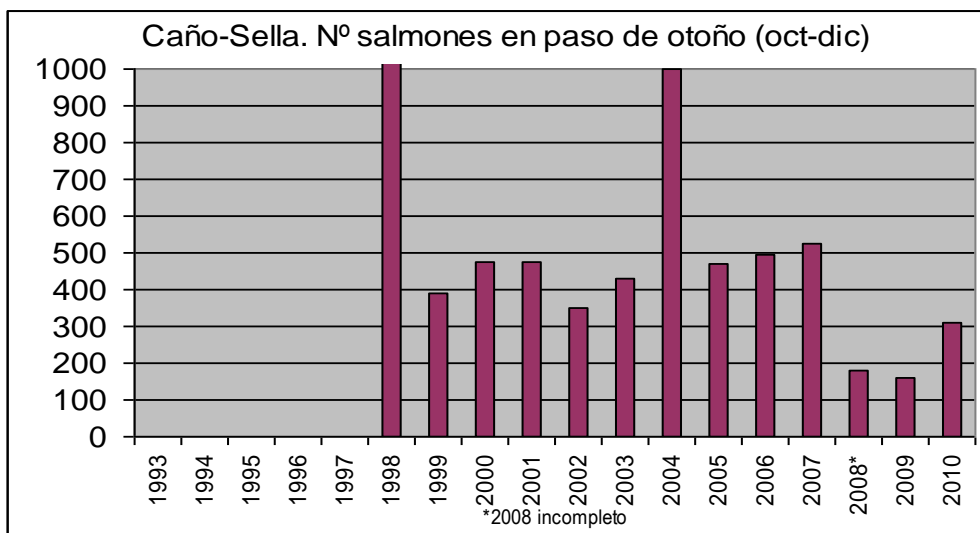
4. Esva Station on Casielles

Count of breedings in capture station.

5 Nalón Valduno capture Stations:

Capture stations should be installed.

Data provided by the Sella capture station:



Monitoring the effectiveness of restocking: Percentage of restocking returns: Since 1993 to 2008 about 1.250.000 fish were tagged, 650 adult fish tagged returns are obtained. That means that the rate is 0,52 per thousand recovered specimens from caught or autumn fishes. This rate could be multiplied at least per 3, if we estimate that caught fish rate for total. If we apply this in Sella River, the rate is estimated at 0,54 per thousand..

Other research activities:

The research applied to conservation of trout stock and its habitat is being promoted, and in particular by advancing in the general study on the species, and issues related to their stock dynamics and ecology.

It's necessary to encourage coordination among researchers, developing protocols and encouraging research projects under collaboration agreements with Oviedo University and other research centers.

⊕ PAIS VASCO:

Guipuzkoa

- Adult monitoring by traps.
- Spawning activity, redd counting.
- Salmon hatchery with Urumea and Oria stock.
- Salmon fry, parr and smolt stocking with Urumea and Oria stock.
- Juvenil monitoring by electrofishing
- Adult radiotracking (2010-2011), fish pass testing and habitat use in Urumea river.
- Screwtrap installation for smolt migration monitoring in Urumea River (it began in 2010).

⊕ NAVARRA:

1. Control of the catches in the recreational fishery;
2. Monitoring of the returning adults in the upriver migration trap;

3. Monitoring of juvenile production by means of semi-quantitative electrofishing surveys;
4. Reed count surveys;
5. It is planned the installation of a rotary screw trap to monitor the downstream migration of smolts;
6. It is planned the acquisition and installation of a Vaki RiverWatcher to non-intrusively monitor the adult returns.