



IP(19)19rev2

NASCO Implementation Plan for the period 2019-2024

EU – Spain (Galicia)
(Revised March 2021)

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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)16¹;
- 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.

Party:	European Union
Jurisdiction / Region:	Spain – Xunta de Galicia

¹ This document can be obtained from the NASCO Secretariat; email hq@nasco.int

1. Introduction		
1.1 What are the objectives for the management of wild salmon? (Max 200 words)		
The general objective is to promote and protect diversity and abundance of wild salmon stocks, maintaining where possible recreational exploitation under sustainable guidelines.		
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)		
None. CLs have not been set for any salmon river in Galicia. From a very preliminary experience in upper river Eo a deposition rate of 8,02 eggs/m ² in optimal areas was estimated as SMAX, while SMSY was determined to be 3,86 eggs/m ² . The last corresponds to a recruitment of 1,2 ind/m ² in terms of summer parr density(0+) related again exclusively to optimal areas. Anyhow it is believed that the reach studied was a very productive one and best parr densities found in other rivers are quite far from this value (though biomass values maybe comparable). A 0+ summer parr density of 0,9 ind/m ² in optimal areas is considered to be a very good one in galician rivers.		
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	
2	Moderate Risk	
3	High Risk	
N/A	Artificially Sustained	3
N/A	Lost	5
N/A	Unknown	14
Additional comments:		
As in riverdatabase.		
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)		
Genetic screening of main stocks was completed in the past decade, as a part of the A.S.A.P. project or in related surveys, revealing a general differentiation between northern (Cantabrian) and southern (Atlantic) stocks, with a greater differentiation among northern stocks than among the southern ones. Stocking is made up exclusively of fish of local origin, trying to avoid translocations from the Cantabrian to the Atlantic basin or even from a river to another. Future restoration programmes may encounter difficulties as availability of fish is limited for some rivers.		
Salmon populations are comprised mainly of 2SW fish as 3SW fish are now very scarce; grilse were never a big part of the population though presently play an important role in spawning grounds. Anyhow 1SW fish are misrepresented in catch data, due to the early closure of the season as flows use to be very low in mid summer. There is no autumn run in Galician rivers.		
A late opening date for fishing to 1st of may intends to protect larger MSW fish, but this is not the rule in Miño river (1st February) or in river Eo (15 th april).		
No special management measures are applied to the only mixed-stock fishery (but see 2.4)		
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)		
Historical habitat comprised more than 5.300 km of salmon rivers and tributaries but today just about 1.100 km of them are available to migrants. The main loss had place in the Miño river system where		

more than 3.000 km have been definitely lost due to hydroelectric development. The current area occupied by salmon is about 410 km, less than 40% of the present potential habitat and about 8% of the historical one.

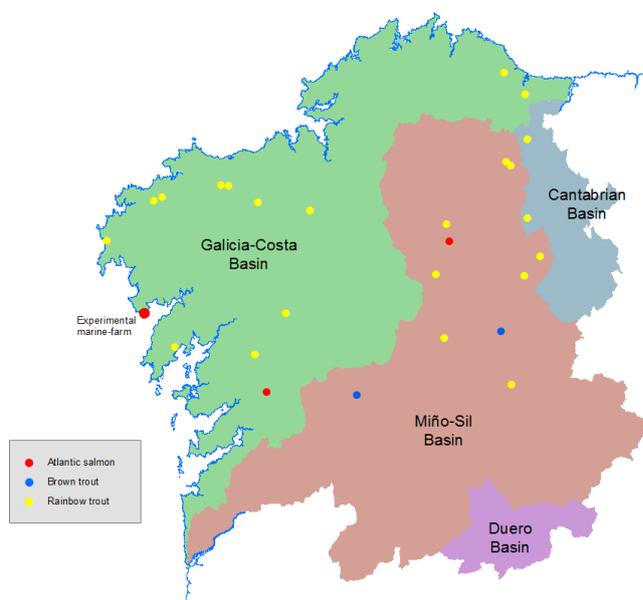
Restriction of populations to the lowermost parts of rivers means that the quality of habitat is not the best for the species in terms of water quality and water temperature.

A rough evaluation of the presently occupied rearing habitat for parr is about 250 has (optimal area), while the potential one is 575 has.

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

Number of marine farms	1 (experimental design)
Marine production (tonnes)	7,7/5,1/24,9/0/12 for the last 5 years (9,9 in average)
Number of freshwater facilities	Presently 26, but at least three are near closure.
Freshwater production (tonnes)	1,638 for 2018 rainbow trout in commercial farms, plus 2,3 for salmon parr and 5,3 for brown trout in regional government facilities.

Append one or more maps showing the location of aquaculture facilities and aquaculture free zones in rivers and the sea.



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)

Not applicable. The IP itself has not been consulted, but any individual measures/actions/projects are consulted as demanded by spanish/galician legislation. See 2.5 for the debate on fishing regulations.

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)
	There are no commercial fisheries for salmon in galician waters -neither in the sea nor in freshwater- but in the Miño estuary, a joint responsibility of the governments of Spain and Portugal. Sport fisheries are severely restricted and the general aim is to preserve them where possible avoiding risks for salmon populations. Presently sport fishing is restricted to 5 rivers.
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)
	A TAC for each river is established prior to fishing season on the basis of the abundance information available of previous years (fish traps, counters, catches, parr densities and stocking). These TACs are rather small: 15 fish for river Masma, 5 for river Mandeo and 40 for river Ulla. The TAC for the latter has been oscillating in the 15-60 fish range in recent years, but the other TACs are quite immovable, as there are no reasons for any increase. River Miño and river Eo have no TACs established, due to implication of other agencies in the management of stocks.
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) As stated in 1.2, Cls have not been set for any river in Galicia. In any case, angling for salmon is allowed just in 5 rivers with small TACs (see 2.2) that are considered not to have a big influence on population stock.
	(b) Not applicable.
	(c) Stocking practices are intense in most of the rivers and, as seen, TACs are really low. Say fishing is allowed in these rivers only for the maintenance of the interest of people in the species and for certain level of protection for its habitat. Banning of salmon fishing has revealed no benefit in the status of the stocks in other rivers, as a complete ban of fishing is difficult to introduce. Salmon fishing has so many restrictions that is preferred than, for instance, the development of any trout or sea-trout fishery instead of it.
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) (Reference: Section 2.8 of the Fisheries Guidelines)
	(a) There are not truly mixed- stock fisheries in Galicia.
	(b) Not applicable.
	(c) Not applicable.
	(d) Not applicable.

<p>2.5 How are socio-economic factors taken into account in making decisions on management of salmon fisheries? (Max. 200 words) (Reference: Section 2.9 of the Fisheries Guidelines)</p>	
<p>Regulation proposals for the next year are discussed in a “General Fishing Committee” meeting (there are four “Province Committees” too, prior to the general one), where fishermen, NGOs and other stakeholders have a strong representation. Any relevant action on fish populations is stated and debated in these committees.</p>	
<p>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)</p>	
<p>The level of unreported catches is unknown. In the Miño fishery declaration of catches is not mandatory and it is believed that the number of unreported salmon fished by nets may exceed largely the declared catch (12 salmon in average for the last 5 years!). In the rest of the rivers the unreported catch consists mainly in a few illegal fish and some by-catches in coastal waters not easy to evaluate as are in theory discarded -retention of salmonid fishes is illegal out of riverine waters- and even those fish may be misclassified as sea-trout or even trout. In relation to running waters poaching is believed to exist in every river in a bigger or smaller extent and with the exception of river Eo -were controls are intensive- or maybe river Ulla, the unreported (illegal) catch may equal the declared one, as the total allowed catch is small in most of the rest of the rivers. Sea-trout fisheries in salmon areas are a permanent source of conflict where/when fishing for salmon is banned. A rough estimate in river Eo gave a 4% estimate for unreported catches. As a compromise value we adopted a 15% for in-river catch and 100% for estuarine catch.</p>	
<p>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)</p>	
<p>(a) Yes</p>	
<p>(b) None but the continuous training of fishing-guards and other riverine workers and improving their working conditions. Also educational policies on river ecosystem and target species, that are believed to have a big role on increasing respect on fish and fishing regulations.</p>	
<p>(c) There is no timescale fixed, but a continuous work on it.</p>	
<p>2.8 Identify the threats to wild salmon and challenges for management associated with their exploitation in fisheries, including bycatch of salmon in fisheries targeting other species.</p>	
Threat / challenge F1	Development of CLs for galician rivers and better management criteria for fisheries.
Threat / challenge F2	Most facts on the salmon population of river Miño -and its relation with those of the tributaries- are still unknown and seems that there is no rationale for the management or control of present estuarine fisheries.
Threat / challenge F3	Sea-trout or even trout fisheries are in continuous conflict with the conservation of salmon specially in rivers where the species is in poorer status.
Threat / challenge F4	Weakening of some populations is leading to the isolation of the southernmost populations (those in the Atlantic basin) from the Cantabrian ones which are into contact with those of asturian rivers.

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

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?		
Action F3:	Description of action:	Progressive limitation of “conflictive” sea-trout fisheries (14 rivers), closing the season together for both species
	Planned timescale (include milestones where appropriate):	2019-2024
	Expected outcome:	Avoiding by-catch of salmon after fishing season, or in restricted areas, improving its survival to spawning time. This will improve in the long term the levels of spawning and recruitment.
	Approach for monitoring effectiveness & enforcement:	Number of fisheries with closed season for both species Recruitment, as reflected by parr densities (electrofishing monitoring)
	Funding secured for both action and monitoring programme?	
Action F4:	Description of action:	Stocking Miño’s tributaries in Portugal and Spain presently not used by salmon with parr of local origin (river Tea).
	Planned timescale (include milestones where appropriate):	2019-2024
	Expected outcome:	Reinforcement and improvement of the Miño river stock will contribute to maintain a better status on the southernmost populations and, on a larger time-scale basis, contribute to the recovery/reconstruction of “bridge” populations between cantabrian and atlantic complexes.
	Approach for monitoring effectiveness & enforcement:	Number of parr stocked in new tributaries. Electrofishing monitoring in tributaries.
	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)
Parr surveys are carried out every summer for the main salmon rivers, showing productivity trends and changes in different reaches. There is as well a “general inventory of (juvenile)salmon habitat” which allows comparisons between reaches but also provides the reference baseline for evaluating the

effects of any potential pressure on salmon habitat. While no net loss has been documented in galician salmon rivers in recent years, degradation of habitat and water quality is believed to be increasing.

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)

See 2.5 but river habitat management and water quality is a responsibility of water authorities, which operate under the guidelines of the WFD. Besides most salmon rivers in Galicia are (or will be) included in Natura 2000 network. All of these facts impose a strong public participation in any decision on salmon habitat management.

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) New RBMP include projections of eventual climatic change effects in water regulation rules, trying to assure the maintenance of good status in every water body. No special actions are foreseen for this objective.

(b) No special actions are foreseen for this objective, other than the current application of laws when required. Capture and sacrifice of minks (*Neovison vison*) is a routine task of the environment agency, though their impact on salmon populations is negligible. Problems with other invasive water species have not been identified.

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

Threat / challenge H1	Temperature can be critical in rivers from this southernmost range for the species and this will be worse in the future as a result of climate change.
Threat / challenge H2	Quality of water is far away from the “good status” in some reaches of salmon rivers in Galicia.
Threat / challenge H3	Water diversion is a critical problem in some rivers reducing availability of habitat as well as bringing out problems of accessibility.
Threat / challenge H4	Populations are usually restricted to the lowermost reaches of rivers because of artificial obstacles, with limited or no access to cooler waters of good quality where the best spawning grounds or rearing habitat are located.

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

3.5 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?

Action H1:	Description of action:	Design and testing of new passage facilities for some tributaries of the Miño river.
	Planned timescale (include milestones where appropriate):	2019-2024
	Expected outcome:	Improvement of connectivity and accessibility in the Miño system, allowing to reach the cooler pristine waters of upper reaches.

	Approach for monitoring effectiveness & enforcement:	Installation of 2 new devices in Galician or Portuguese tributaries.
	Funding secured for both action and monitoring programme?	
Action H2:	Description of action:	Permeabilization or demolition of barriers in the Miño system
	Planned timescale (include milestones where appropriate):	2019-2024
	Expected outcome:	Improvement of connectivity and accessibility in the Miño system, allowing to reach the cooler pristine waters of upper reaches.
	Approach for monitoring effectiveness & enforcement:	Permeabilization or demolition of 8 barriers in Galician or Portuguese tributaries.
	Funding secured for both action and monitoring programme?	

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

<p>4. Management of Aquaculture, Introductions and Transfers, and Transgenics:</p> <p>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):</p> <ul style="list-style-type: none"> • 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. <p>In this section please provide information on all types of aquaculture, introductions and transfers, and transgenics (including freshwater hatcheries, smolt-rearing etc.</p>
<p>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) (Reference: BMP Guidance)</p>
<p>(a) There is only an experimental sea farm in Galicia in the outer mouth of river Tambre, which has no self-sustaining salmon populations (it has just 7 km accessible from the sea) and is far away from other salmon rivers (see map in 1.6). Sea lice problems have no been identified in galician rivers in recent years, neither in salmon populations nor in sea-trout populations</p>
<p>(b) Not applicable.</p>

<p>4.2</p> <p>(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) (Reference: BMP Guidance) 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.</p>
<p>(a) Not applicable. See 4.1.a.</p>
<p>(b) Not applicable.</p>
<p>(c) Not applicable.</p>
<p>4.3</p> <p>(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) (Reference: BMP Guidance) 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.</p>
<p>(a)(i) Regional authorities operate only with fish of local origin for stocking.</p>
<p>(a)(ii) No information available from the only (experimental) salmon farm in Galician waters.</p>
<p>(b) Not applicable. See 4.1.a.</p>
<p>(c) Not applicable. See 4.1.a.</p>
<p>4.4</p> <p>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) (Reference: BMP Guidance and Article 11 of the Williamsburg Resolution)</p>
<p>No information available</p>
<p>4.5</p> <p>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)</p>
<p>(a) There are no general restrictions for this use; each case is evaluated individually. At the moment there are no salmon aquaculture facilities in freshwater in Galicia other than those (two) property of the regional government, devoted to stocking with fish of local origin.</p>
<p>(b) No information available.</p>
<p>4.6</p> <p>What progress has been made to implement NASCO's guidance on introductions, transfers and stocking? (Max. 200 words) (Reference: Articles 5 and 6 and Annex 4 of the Williamsburg Resolution)</p>
<p>Regional authorities operate only with fish of local origin for stocking. No information available from the only (experimental) salmon farm in Galician waters.</p>

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)
(Reference: Guidelines for incorporating social and economic factors in decisions under the Precautionary Approach and Annex 4 of the Williamsburg Resolution)

(a) No.

(b) No.

4.8 What is the policy / strategy on use of transgenic salmon? (Max. 200 words)
(Reference: Article 7 and Annex 5 of the Williamsburg Resolution)

Regional authorities operate only with fish of local origin for stocking.
No information available from the only (experimental) salmon farm in Galician waters.

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)

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	
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?

Action A1:	Description of action:	No information available.
	Planned timescale (include milestones where appropriate):	
	Expected outcome:	
	Approach for monitoring effectiveness & enforcement:	

	Funding secured for both action and monitoring programme?	
Action A2:	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 A3, A4, etc