



Council

CNL(20)28

***Annual Progress Report
on Actions Taken Under the Implementation Plan for the Calendar Year 2019***

EU – Ireland

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The Annual Progress Reports allow NASCO to evaluate progress on actions taken by Parties / jurisdictions to implement its internationally agreed Resolutions, Agreements and Guidelines and consequently the achievement of their objectives and actions taken in accordance with the Convention. The following information should be provided through the Annual Progress Reports:

- any changes to the management regime for salmon and consequent changes to the Implementation Plan;
- actions that have been taken under the Implementation Plan in the previous year;
- significant changes to the status of stocks, and a report on catches; and
- actions taken in accordance with the provisions of the Convention.

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

These reports will be reviewed by the Council. Please complete this form and return it to the Secretariat **no later than 1 April 2020.**

Party:	European Union
Jurisdiction / Region:	Ireland

1: Changes to the Implementation Plan
1.1 Describe any proposed revisions to the Implementation Plan (Where changes are proposed, the revised Implementation Plans should be submitted to the Secretariat by 1 November).
1.2 Describe any major new initiatives or achievements for salmon conservation and management that you wish to highlight.

2: Stock status and catches.
2.1 Provide a description of any new factors that may significantly affect the abundance of salmon stocks and, if there has been any significant change in stock status since the development of the Implementation Plan, provide a brief (200 word max) summary of

these changes.

The catch advice for the 2019 fishery was that 40 rivers had an advised harvestable surplus as they were exceeding their conservation limits (CL). A further 40 rivers could open for catch and release-only (C&R-only) fishing based on exceeding a minimum fry threshold (≥ 15 salmon fry/5 minute electro-fishing average) in catchment-wide electrofishing surveys or based on Inland Fisheries Ireland (IFI) management criteria that they met 50% or over of their CL but did not exceed their CL. 63 river systems were advised to be closed for fishing as they did not exceed the management criteria, minimum fry threshold or there was insufficient information for full stock assessment. In recent years, this represents a progressive decline in the number of systems open as a harvest fishery, an increase in fisheries open solely for C&R and a marginal decline in closed fisheries.

A separate assessment was made for 16 rivers with significant multi-sea-winter (MSW) salmon stocks. Of these, 11 had an advised harvestable surplus as they were exceeding their CL and five were advised to open for C&R-only fishing. In addition, four river systems used for hydropower were assessed as being below their CL as in preceding years.

The catch advice for the 2020 fishery which is based on stock status in the preceding five-year period including 2019 is that 39 rivers have a harvestable surplus, 42 rivers should be C&R-only fisheries and 63 rivers should be closed to fishing based on the same criteria outlined above.

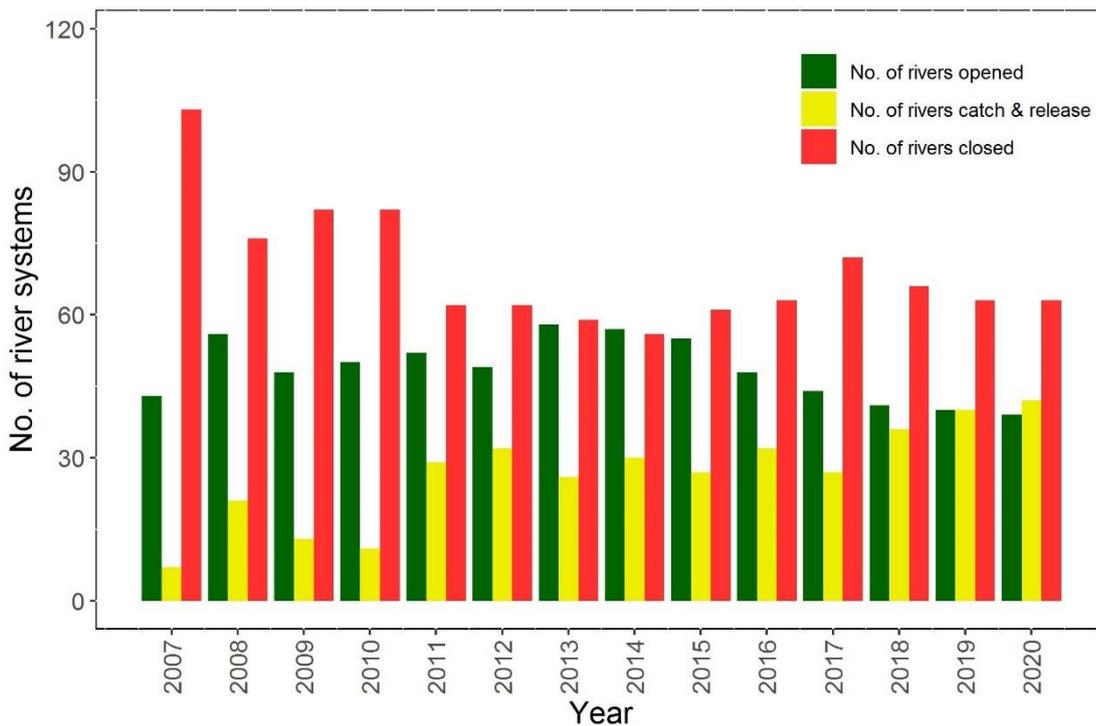


Figure 1. Scientific stock assessments for catch advice in Irish salmon fisheries (2007 to 2020).

2.2 Provide the following information on catches: (nominal catch equals reported quantity of salmon caught and retained in tonnes ‘round fresh weight’ (i.e. weight of whole, ungutted, unfrozen fish) or ‘round fresh weight equivalent’).

(a) provisional nominal catch (which may be subject to revision) for	In-river	Estuarine	Coastal	Total
	26.27	15.45	0	41.72

2019 (tonnes)				
(b) confirmed nominal catch of salmon for 2018 (tonnes)	32.98	15	0	47.98
(c) estimated unreported catch for 2019 (tonnes)				4.172 t
(d) number and percentage of salmon caught and released in recreational fisheries in 2019	9,183 (48.3%)			

3: Implementation Plan Actions.

3.1 Provide an update on progress on actions relating to the Management of Salmon Fisheries (section 2.9 of the Implementation Plan). *Note: the reports under 'Progress on action to date' should provide a brief overview of each action. For all actions, provide clear and concise quantitative information to demonstrate progress. In circumstances where quantitative information cannot be provided for a particular action because of its nature, a clear rationale must be given for not providing quantitative information and other information should be provided to enable progress with that action to be evaluated. While referring to additional material (e.g. via links to websites) may assist those seeking more detailed information, this will not be evaluated by the Review Group.*

Action	Description of action (as submitted in the IP):	
F1:		<p>Protection against illegal fishing is a high priority in Ireland and the state invests a considerable amount of resources on these activities (Fishery Inspectors, Navy, Garda etc).</p> <p>The new RIB fleet and closely working with the Aer Corps and Navy will assist significantly in eradicating any offshore netting – however should significant returns of salmon materialise the probability of some unscrupulous fishermen making efforts to catch fish illegally remains. This is further countered by the careful monitoring of restaurants, smokeries and hotels for the occurrence of wild fish that have not come from a legal source.</p> <p>The following recent investment by IFI will greatly assist in achieving SMART actions regarding curtailment of illegal fishing:</p> <p>New offshore RIB fleet; new technologies including use of drones; Covert cameras; high power telescopes; thermal imaging etc.. Greater concentration on training of staff and facilities to get RIBs closer to launch points. IFI measure many metrics including man hours in fisheries protection; number of patrols; number of nets seized; length of net;</p> <p>number of individuals apprehended; number of fines issued; number of prosecutions undertaken etc. IFI ability to achieve all this has been strengthened by the investment in the new technologies and boats over the last two years.</p>

		<p>IFI produce an annual “Protection Plan” which is strongly focused on salmon protection; the plan for 2019 has increased focus on salmon protection as a support for the “International Year of the Salmon”. IFI also have a very mobile reactionary staff who can respond to threats or reported incidences of illegal activity and a 24 hour hotline operates that can alert staff at any stage to illegal threats.</p> <p>IFI is looking for additional funding in 2019 to expand the drone patrolling programme and get added high resolution thermal cameras to aid identifying targets in undergrowth close to rivers. IFI, subject to funding will secure additional technological equipment in 2019 to further support fisheries protection operations.</p> <p>Specific, measurable and timely actions on fishery protection in 2019 are as follows;</p> <ul style="list-style-type: none"> • 6,584 man hours on fishery protection sea patrols • 24,517 man hours on fishery protection coastal/estuary patrols • 58,613 man hours on fishery protection river patrols • 783 boat patrols on fishery protection • 19,561 vehicle patrols on fishery protection • 135 kayak patrols and 38 drone patrols • 881 inspections of commercial salmon licence holders • 14657 inspections of recreational angler licence holders <p>This level of activity in fishery protection is expected in each year of the five years over the 2019-2024 period.</p>
	<p>Expected outcome <i>(as submitted in the IP):</i></p>	<p>Increased protection of the salmon resource and a reduction in illegal fishing activities leading to stabilisation and/or increases of salmon stocks nationally.</p>
	<p>Progress on action to date <i>(Provide a brief overview with a quantitative measure, or other justified evaluation, of progress. Other material (e.g. website links) will not be evaluated):</i></p>	<p>114,059 fishery staff hours were spent on protecting Ireland’s fishing resource in 2019 as follows:</p> <ul style="list-style-type: none"> • 7,186 staff hours on fishery protection sea patrols • 30,737 staff hours on fishery protection coastal/estuary patrols • 76,136 staff hours on fishery protection river patrols <p>This comprised:</p> <ul style="list-style-type: none"> • 917 boat patrols on fishery protection • 25,748 vehicle patrols on fishery protection • 154 kayak patrols and 56 drone patrols • 881 inspections of commercial salmon licence holders • 15,437 inspections of recreational angler licence holders <p>This protection work was largely related to Atlantic salmon but fishery patrols were also targeted at other fish</p>

		<p>species. In 2019, a total of 192 nets were seized measuring a cumulative 9.5 km in length; 158 Fixed Charge Notices were issued for Fishery Offences; and there were 77 fisheries-related prosecutions.</p> <p>In mid-2018, IFI announced a €3.3. million investment in 12 new state-of-the-art DELTA 780HX RIBs (Rigid Inflatable Boats) to be delivered on a phased basis for use as fisheries protection and enforcement vessels around Ireland's coastal zone and larger inland lakes. All of these RIBs have now been delivered to IFI and are operational.</p>
	Current status of action:	Ongoing
	If 'Completed', has the action achieved its objective?	<input type="checkbox"/>
Action F2:	Description of action (as submitted in the IP):	<p>IFI is actively promoting the returns of accurate information from anglers through the national carcass tagging and logbook scheme. This scheme facilitates the identification of inaccurate information and allows some follow-up to redress the issue.</p> <p>Legal advice awaited re vires under the fisheries and ecommerce acts. IFI also regularly inspect angler and commercial fishermen logbooks to ensure compliance.</p>
	Expected outcome (as submitted in the IP):	On line system in place, facilitating greater returns of logbooks and increase in uptake of licences.
	Progress on action to date (Provide a brief overview with a quantitative measure, or other justified evaluation, of progress. Other material (e.g. website links) will not be evaluated):	<p>The online electronic system to purchase a salmon licence is operational (https://store.fishinginireland.info).</p> <p>Return of catch information from commercial licence holders was 100% for 2019, the same level as recent preceding years. The return of logbooks by anglers in 2019 was 57.8% which was comparable to 2018 (57%) but lower than average logbook returns of 68% in the preceding five-year period (2014-2017). All anglers who do not return logbooks are written to as a means of improving logbook returns and a proportion are taken to court annually and fined for non-return of logbooks.</p>
	Current status of action:	Ongoing
	If 'Completed', has the action achieved its objective?	<input type="checkbox"/>
Action F3:	Description of action (as submitted in the IP):	IFI's International Year of the Salmon Promotional Plan is in place and will be delivered in 2019 and will leave legacies into the future. IFI have an education and outreach programme which will raise awareness of the critical state of salmon stocks.
	Expected outcome (as submitted in the IP):	Raised awareness of the critical state of salmon stocks nationally.

	<p>Progress on action to date <i>(Provide a brief overview with a quantitative measure, or other justified evaluation, of progress. Other material (e.g. website links) will not be evaluated):</i></p>	<p>A range of IYS related initiatives and events were organised for 2019 to raise awareness of the critical state of salmon stocks and highlight their value, notably:</p> <ul style="list-style-type: none"> • Launch of IYS by lead Government Minister and associated national media PR campaign (five pieces of national media coverage and 11 pieces of regional coverage. Total reach = 378,366 people). • Announcement of 2019 angling regulations (emphasis on sustainable salmon angling for IYS. IYS logo placed on all c. 17,5000 salmon and sea trout licences issued). • IYS publicity associated with first salmon caught and released (C&R) in Ireland in 2019 - emphasis on importance of C&R due to the challenges facing salmon populations (6 pieces of national and 7 pieces of regional media coverage (total reach = 378,287). • #CPRsavesfish Pins Programme - anglers who participated in C&R who sent in their catch details received a merit pin. • SMOLTrack meeting hosted by IFI - video produced interviewing the scientists regarding the project, the challenges facing salmon and the related actions which need to be taken. Video was posted on IFI's social media channels and shared by scientific partners. There was an associated press release. • The IFI Citizen Science Salmon Scale Collection Project (https://tinyurl.com/u3v4gse). Sample packs were circulated with c. 17,000 angling licences issued. Initiative resulted in c. 700 scale envelope submissions from 20 rivers with a strong representation of samples from rivers where monitoring is not routine (seven pieces of national and 17 pieces of regional media coverage. Total reach = 429,053). Initiative will continue in 2020. • IFI managed the administration of the international NASCO funding call of €150,000 to promote IYS. • 'The state of wild salmon in Ireland' – video interview with CEO of IFI secured with leading online Irish news site (c. 21,245 views to date). https://tinyurl.com/up5kua6 • Ilen Project - Traditional Irish wooden ship followed the salmon migration route from Ireland to West Greenland and highlighted their decline (5 pieces of national and 3 pieces of regional media coverage (Total reach = 314,922). www.ilen.ie <p>In addition, there were IYS salmon conservation articles published in other stakeholder media (e.g. Sherkin Comment); a children's book ('A Salmon's Tale'); launch of IFI electric vehicles wrapped in a salmon-themed</p>
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		<p>design with IYS logo; IYS events at the Museum of Ireland- Natural History; IYS small grant awards; promotion of IYS at high profile national events (e.g. National Ploughing Championship) and local initiatives (e.g. Young Persons Day on the Blackwater Salmon Fishery); public tours of ESB hatchery facilities; a 'C&R' promotional weekend; and promotion of ongoing salmon research projects (e.g. COMPASS) undertaken in Ireland.</p> <p>Full details on IYS activities undertaken in 2019 were provided in a submission to NASCO in the standard IYS reporting template (Report on Actions and Activities to Deliver the International Year of the Salmon (IYS) Initiative, September 2018 to December 2019 IYS) Also refer to https://www.fisheriesireland.ie/About-us/international-year-of-the-salmon.html for more details.</p>
	Current status of action:	Ongoing
	If 'Completed', has the action achieved its objective?	<input type="checkbox"/>

3.2 Provide an update on progress on actions relating to Habitat Protection and Restoration (section 3.5 of the Implementation Plan). *Note: the reports under 'Progress on action to date' should provide a brief overview of each action. For all actions, provide clear and concise quantitative information to demonstrate progress. In circumstances where quantitative information cannot be provided for a particular action because of its nature, a clear rationale must be given for not providing quantitative information and other information should be provided to enable progress with that action to be evaluated. While referring to additional material (e.g. via links to websites) may assist those seeking more detailed information, this will not be evaluated by the Review Group.*

Action H1:	Description of action (as submitted in the IP):	<p>Ireland's River Basin Management Plan (RBMP) 2018-2021 sets out, on a national level, corresponding actions that will be taken to address identified pressures.</p> <p>Action 1. Agricultural Pollution</p> <p>The integrated Governmental approach to the enforcement of the Nitrates Action Programme (2018–2021) will be implemented with the aim of protecting and improving water quality. There will be increased targeting of inspections by local authorities based on water quality results and the outputs of the RBMP characterisation process. It is envisaged that a Nitrates Action Programme plan for the period 2022-2024 will follow the current plan.</p> <p>Action 2 Domestic Waste Water Pollution</p> <p>The National Inspection Plan for Domestic Waste Water Treatment Systems (2018– 2021) will continue with over 4,000 inspections carried out by local authorities over this period. It is envisaged that a further plan from 2022-2024 will follow.</p> <p>Over the period 2017–2021, Irish Water will invest approximately €1.7 billion in waste-water projects, programmes and asset</p>
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		<p>maintenance. This investment will include €880 million for 255 major waste-water treatment projects, €350 million for capital investment in collection systems in 41 areas and €465 million for capital maintenance and national upgrade programmes. Further investment is envisaged post-2021.</p>
	<p>Expected outcome (as submitted in the IP):</p>	<p>Significant improvement in water quality nationally. The River Basin Management Plan for Ireland 2018-2021 sets out detailed expected outcomes concerning achievement of improved water quality, including upgrade of urban waste water treatment plants and increased investment in Ireland’s waste water infrastructure. These include 726 water bodies to achieve general water quality improvements and 152 water bodies to experience improved water quality status.</p>
	<p>Progress on action to date (Provide a brief overview with a quantitative measure, or other justified evaluation, of progress. Other material (e.g. website links) will not be evaluated):</p>	<p>Action 1. Agricultural Pollution</p> <p>Ireland continues to face major challenges to achieve water quality targets set for 2021 and 2027 as required by the Water Framework Directive (WFD). In 2019, the Environmental Protection Agency (EPA) published the most recent official report on national water quality, Water Quality in Ireland 2013-2018 (https://tinyurl.com/v926chh). Elevated nutrient concentrations (nitrogen and phosphorus), largely attributed to diffuse inputs, continue to be the most widespread problem impacting water quality in Ireland.</p> <p>The main findings of the report are:</p> <ul style="list-style-type: none"> • 52.8% of surface water bodies assessed have satisfactory water quality, being in either good or high ecological status. However, 47.2% of surface water bodies are in moderate, poor, or bad ecological status. This compares with 55.4% at satisfactory status for the last assessment period of 2010-2015, a decrease of 2.6%. • The majority of negative trends in surface water quality are driven by changes in river water quality. Since 2007-2009, there has been a 33% increase in the number of river water bodies designated as poor status. High status sites have declined from 31.6% in 1987-1990 to 17.2%. • 35.8% of monitored river sites did not meet the environmental standard for phosphorus (0.035 mg/l P). • At least a quarter of river sites had increasing nutrient concentrations between 2013 and 2018. • 80% of coastal waters have good or high status, making them some of the best quality coastal waters in Europe. • Overall, the number of fish kills in the past two decades has been decreasing in Irish river systems. There were 40 fish kills in 2018, more than preceding years (14 in 2017 and 31 in 2016). Exceptionally low-flow conditions in summer of 2018 may have contributed to this rise by increasing the vulnerability of fish to pollution events.

The second WFD River Basin Management Plan for Ireland 2018–2021 (RBMP) is now in operation (<http://tinyurl.com/y6yadxel>). This document comprehensively details the approach that Ireland is taking and will take to protect and improve water quality in its rivers, lakes, estuaries and coastal waters. As part of this, the Agricultural Sustainability Support Advisory Programme (ASSAP) has been actively visiting farms since April 2019 and is currently working with farmers in 68 priority areas of action (PAA) completing 1,181 farm assessments. There has been a net improvement of 16.7% in water quality in water bodies that were prioritised under this action.

In addition to the above, the fourth Nitrates Action Programme (NAP) commenced in 2018. NAP is designed to protect surface and ground waters from agricultural pollution and improve water quality under the EU Nitrates Directive. NAP regulations concern fertiliser storage and spreading restrictions, limits on soil nutrient levels, prevention of run-off from farms and the exclusion of farm animals from watercourses as well as setting out the associated inspection (target is 6,000 per annum) and enforcement regimes. In 2019, the Agricultural Catchments Programme (ACP) has been extended until 2023 and is used to evaluate the impact of Ireland’s NAP in partnership with over 300 farmers in six intensively-farmed catchments. Inspection metrics for 2019 are not yet available to report.

Action 2 Domestic Waste Water Pollution

The most recent information on the implementation of National Inspection Plan for Domestic Waste Water Treatment Systems (<https://tinyurl.com/uoercpq>) is for years 2017 and 2018: In this period:

- 2,371 inspections were made
- 48% of systems didn’t meet the necessary standards
- 36% of systems previously failed remain unresolved
- legal proceedings in 12 cases for compliance failures

In 2019, the Government increased the maximum grant aid available for households to address domestic wastewater non-compliance issues.

The most recent report available on the status of urban wastewater in Ireland, Urban Waste Water Treatment in 2018 (<https://tinyurl.com/rbhod8q>) was published by the

		<p>EPA in 2019. The report reviewed the performance of over 500 urban wastewater schemes, assessed compliance status with the requirements of the EU Urban Waste Water Treatment Directive (UWWTD) and identifies the key national priorities that require resolution. The key findings are as follows:</p> <ul style="list-style-type: none"> • 88% of waste water in the 169 large urban areas met EU treatment standards. • 23% of these require an additional more stringent level of treatment to remove nutrients (N and/or P) • No. of priority areas where treatment needs to improve dropped from 132 to 120. • Sewage from the equivalent in 36 towns and villages is released into the environment every day without treatment, a reduction from 38 in the preceding period. • 52% of improvement works for waste water treatment that should have been done between 2009 and the end of 2018 have been completed by Irish Water (IW). Delays mean 13 areas will continue releasing raw sewage after 2021. • IW invested €230 million in waste water infrastructure in 2018, up from €215 million in 2017. • IW plans to provide treatment for 23 areas between 2019 and 2021 and to connect the remaining 13 areas to treatment between 2022 and 2025. • In 2016 IW reported that it would stop discharging untreated waste water from 30 of the 36 areas by the end of 2020. Target has been revised to provide treatment for two of these areas by the end of 2020. • In 2018, IW reported that it would connect 31 of the 36 areas to treatment between 2019 and 2021. Target has been revised to down to 23 areas. • In 2018, IW commissioned 11 wastewater treatment plants, serving a population equivalent of 354,800. • The EPA identified 57 priority areas where waste water is the sole significant pressure on waters at risk of pollution. IW recently improved treatment to help protect local rivers at 14 of the 57 areas. In 2018, IW had improvement works scheduled or ongoing at a further 21 of the 57 areas, with mitigation works yet to be identified at the remaining 22 areas (as of the end of 2018).
	Current status of action:	Ongoing
	If 'Completed', has the action achieved its objective?	
Action	Description of action	Hydromorphological threats.

H2:	<i>(as submitted in the IP):</i>	<p>Action 1. Barriers</p> <p>The IFI Barriers programme (2019 to 2021) will identify, assess and document barriers to fish migration on a national basis. Barriers will be ranked according to the risk they pose to fish migration. The inventory will form the basis of a prioritised restoration programme to be implemented between 2022 and 2027.</p> <p>Action 2. Rehabilitation of Drained Rivers</p> <p>Under the 1945 Arterial Drainage Act, the Office of Public Works is obliged to carry out maintenance work on the network of arterially-drained channels. Annually, the OPW undertakes maintenance on approximately 2,000 km of channels in its network, following the environmental drainage maintenance procedures to minimise environmental impact. The guidance provides potential for significant retention of riparian habitat and also for alteration of instream hydromorphology in appropriate locations. Progress on this action will be reported</p>
	Expected outcome <i>(as submitted in the IP):</i>	Improvement in salmon habitat quality and fish passage.
	Progress on action to date <i>(Provide a brief overview with a quantitative measure, or other justified evaluation, of progress. Other material (e.g. website links) will not be evaluated):</i>	<p>Action 1. Barriers</p> <p>The National Barrier Programme (NBP) is funded by the government's Department of Housing, Planning and Local Government and IFI is tasked with a series of deliverables over the 4-year period 2018 – 2021. The NBP is grounded in the WFD. The aim of the programme is to produce a 'state-of' readiness' in regard to river fragmentation and addressing the hydromorphology pressures that this creates with a view to addressing issues in the 3rd cycle of WFD, going forward from 2022.</p> <p>IFI has performed a desk-based survey to identify potential barrier occurrence on the Irish river network at a national scale, collating significant volumes of geo-spatial data from a number of state bodies and agencies. This has produced a geodatabase of 73,055 "Potential Barriers" on the Irish river network, with each "Potential Barrier" then coded in a WFD/EPA compatible manner. Utilising remote data (on-site pictures/ video) and site visits, a total of 15,058 structures have been examined within the database. Of the 15,058 structures, a large number were discounted as barriers on the basis of access to photo records and other data generated by the OPW in its CEFRAMS studies and by other relevant state agencies. A total of 9,105 were visited in the field by the IFI's NBP team. Of this total 1,974 barriers to fish passage were measured, assessed and recorded (Level I). Furthermore, 124 structures have been subject to more detailed assessment using the Level II SNIFFER protocol.</p>

IFI has two-stage approach to barrier assessment in the Irish river network; screening and initial assessment (Level I) and a more detailed assessment (Level II) using the WFD111 (2a) Coarse resolution rapid-assessment methodology to assess obstacles to fish migration (<https://www.sniffer.org.uk/wfd111-phase-2a-fish-obstacles-manual-pdf>), (SNIFFER). Level I is for initial screening and identifying structures acting as barriers to fish passage and Level II as a more detailed assessment used in the application for funding/planning permission when mitigating/removing the structure.

Between 2010 and 2018, barrier remediation works undertaken by IFI in Irish main stem rivers (order >3) are as follows:

Barrier Remedial Works 2010 - 2018	Number
Works completed	28
In construction	2
Design stage	6
Planning stage	5
Delayed	1
Barrier collapsed	3
Ongoing	1

Action 2. Rehabilitation of Drained Rivers

The most recent information available on this action is published The Environmental River Enhancement Programme (EREP) - Annual Report 2018 (<https://tinyurl.com/wpyn8hk>) and is as follows:

- new five-year agreement (2018-2022) made between Office of Public Works (OPW) and IFI to continue the EREP work, share information on issues within drained catchments pertinent to the Water Framework Directive (WFD) such as fish passage barriers and sediment transport in order to inform mitigation measures and the implementation of Programmes of Measures (POMS) under the WFD.
- Detailed survey of the Upper Inny Catchment comprising surveys of resident fish populations (43 sites); river hydromorphology (25 sites); and potential barriers (756 locations examined).
- Long-term monitoring surveys in three catchments where rehabilitation works were taken.
- Specific post-maintenance habitat survey in a tributary of the R. Boyne (A significant salmon river).

		<ul style="list-style-type: none"> • Thermal studies on surface water temperatures in the Brosna catchment. • Survey of gravel traps in two OPW catchments with significant salmon stocks (Moy and Maigue) where drainage works previously took place.
	Current status of action:	Ongoing
	If 'Completed', has the action achieved its objective?	
Action H3:	Description of action (as submitted in the IP):	IFI have initiated an evidence-based assessment programme to determine the impact of climate change on the Irish fisheries. This programme will establish index catchments for fisheries-related climate change research and associated fisheries policies will be developed.
	Expected outcome (as submitted in the IP):	IFI – Series of vulnerability risk assessment maps for key fish species including salmon and informed targeted measures. Mitigation measures to protect vulnerable fish species such as Atlantic salmon.
	Progress on action to date (Provide a brief overview with a quantitative measure, or other justified evaluation, of progress. Other material (e.g. website links) will not be evaluated):	IFI have established a research programme in 2019 to ascertain the impacts of climate change on Irish fish stocks including salmonids. As part of the first stage of this work, environmental monitoring infrastructure has been installed and is operational at five strategically-selected index catchments (Dargle, Dodder, Erriff, Gweebarra and Vartry) located in the east, west and north of Ireland. This includes the installation of catchment-wide water temperature monitoring networks (99 loggers deployed in total to date) and two meteorological monitoring stations. Risk maps and the development of targeted measures and fisheries policies will be produced at a later stage in this programme of work.
	Current status of action:	Ongoing
	If 'Completed', has the action achieved its objective?	

3.3 Provide an update on progress on actions relating to Aquaculture, Introductions and Transfers and Transgenics (section 4.11 of the Implementation Plan). *Note: the reports under 'Progress on action to date' should provide a brief overview of each action. For all actions, provide clear and concise quantitative information to demonstrate progress. In circumstances where quantitative information cannot be provided for a particular action because of its nature, a clear rationale must be given for not providing quantitative information and other information should be provided to enable progress with that action to be evaluated. While referring to additional material (e.g. via links to websites) may assist those seeking more detailed information, this will not be evaluated by the Review Group.*

Action A1:	Description of action (as submitted in the IP):	Sea Lice Infestation While no progress on achieving NASCO sea lice goal can
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		<p>be demonstrated, the sea lice Protocols below do attempt to reduce lice levels on farms, particularly in spring. No SMART actions other than those set out below are planned.</p> <p>(a) During the spring period, Sea lice protocols are in place which set out ovigerous lice thresholds (0.30.5 ovigerous lice per fish March –May and 2.0 ovigerous lice per fish outside this period). When the threshold is breached a notice to treat is issued to the salmon farm to bring lice levels under control.</p> <p>(b) Under the Department of Agriculture, Fisheries and Food “Strategy for Improved Pest Control in Irish salmon farms, 2008”, a feature of the strategy is to enhance the control of sea lice infestations on Irish salmon farms by the creation of a “real time” management regime. This regime is intended to vigorously deal with failures to control sea lice infestations on a case-by-case basis. The lice management regime is designed to bring progressively tougher actions to bear on the infestation to ensure the highest possible level of compliance. If after a number of attempts satisfactory lice control has not been achieved the cell may move to recommend accelerated harvesting, followed by extended fallowing post-harvesting. In exceptional circumstances the cell may also recommend mandatory restocking arrangements and/or an indefinite prohibition on restocking.</p>
	Expected outcome <i>(as submitted in the IP):</i>	Reduced sea lice levels on farmed salmon
	Progress on action to date <i>(Provide a brief overview with a quantitative measure, or other justified evaluation, of progress. Other material (e.g. website links) will not be evaluated):</i>	<p>There is ongoing monthly monitoring of lice on salmon farms twice in March, April & May and monthly otherwise.</p> <p>The number of one-sea-winter fish with ovigerous lice levels above the 0.5 sea lice threshold increased in spring 2019 over 2018. In 2018, within the critical spring period, lice were in excess of the 0.5 ovigerous female lice per fish threshold on one-sea-winter fish on nine occasions (9%). In 2019, within the critical spring period, lice were in excess of the 0.5 ovigerous female lice per fish threshold on one-sea-winter fish on twelve occasions (13.2%).</p>
	Current status of action:	Ongoing
	If ‘Completed’, has the action achieved its objective?	
Action A2:	Description of action <i>(as submitted in the IP):</i>	<p>Codes of containment and operating protocols are set out in each aquaculture licence and there are specific protocols outlined for containment and legislation in event of large scale escape events. All equipment must comply with international standards as specified in licencing information. Department engineers must agree compliance with regard to structures.</p> <p>No new SMART actions are planned.</p>

		The industry complies with the codes of practice regarding husbandry and good engineering practices. In the event of an escape, the farm operator will make an emergency application to the Department of Agriculture for a special licence under Section 14 of the Fisheries Act 1959 to deploy nets to recapture the escaped fish. Inland Fisheries Ireland may take such action as it considers necessary to recapture stock which has escaped from a facility operated under a licence. Under 77(2), the Minister (DCENR), may authorise a licensee or other person or body to take such action as is specified in the authorisation to recapture stock which has escaped from a facility.
	Expected outcome <i>(as submitted in the IP):</i>	Prevention of escapes generally. In the event of escapes, prompt recapture of a significant proportion of the stock.
	Progress on action to date <i>(Provide a brief overview with a quantitative measure, or other justified evaluation, of progress. Other material (e.g. website links) will not be evaluated):</i>	[There were no reported escapes of farmed salmon in Ireland in 2019.]
	Current status of action:	Ongoing
	If 'Completed', has the action achieved its objective?	
Action A3:	Description of action <i>(as submitted in the IP):</i>	<p>Council Directive 2006/88/EC (on animal health requirements for aquaculture animals and products and on the prevention and control of certain diseases) is the statutory framework within which aquatic diseases are regulated in Europe. This Directive has been transposed into Irish law by S.I. No 261 of 2008. Under this legislation, Ireland has the highest possible rating (Category 1 i.e disease freedom) in relation to the important salmonid diseases ISA, VHS, IHN, BKD and G. salaris. In addition to the statutory framework, a Code of Practice has been agreed between industry and government in relation to general fish health management. A Fish Health Handbook has been devised which provides guidance in relation to the control and management of non-listed diseases on salmonid farms. The proactive disease control and stock management principles outlined in the Handbook have been applied by industry since 2012. The handbook is reviewed annually by an industry/ government working group. No new SMART actions are planned.</p> <p>In recent years, since the principles of the Handbook have been implemented, the incidence of diseases such as Pancreas Disease and IPN have declined. Gill related disorders have however, been on the increase, impacted to some degree by water temperatures and significant phyto and zooplankton</p>

		<p>blooms. Amoebic Gill Disease (AGD) caused by infection with the protozoan parasite <i>Neoparamoeba perurans</i> has been associated with mortality in farmed salmon in recent years, due in large part to the lack of availability of freshwater treatments. Significant resources are however being invested in developing infrastructure to ensure that treatments can be carried out, which will significantly decrease infection pressure. A new pilot project using de-salinated sea water to treat AGD is also underway.</p> <p>A significant investment in research aimed at determining why this disease has recently emerged as an issue, is also being made. An ongoing project aims to generate knowledge for the development of preventative and curative practices for AGD and tools which will be adapted to relevant life stages and husbandry practices for the culture of Atlantic salmon. Amoeba has been occasionally recorded on wild salmon but do not appear to have caused any negative impact. The condition is best treated with freshwater baths so any adult salmon returning to freshwater will be appropriately treated, should they have been infected. Temperatures above 10oC are thought to trigger the disease, but Scottish outbreaks have occurred at temperatures from 7.5oC. This raises the possibility of wild salmon smolts being infected in the vicinity of salmon farms in spring, although there is no evidence to show that this has occurred to date.</p>
	<p>Expected outcome <i>(as submitted in the IP):</i></p>	<p>Reduced incidence of disease outbreaks in aquaculture facilities</p>
	<p>Progress on action to date <i>(Provide a brief overview with a quantitative measure, or other justified evaluation, of progress. Other material (e.g. website links) will not be evaluated):</i></p>	<p>All aquaculture operators in Ireland comply with Council Directive 2006/88/EC on animal health requirements for aquaculture animals and products thereof, and on the prevention and control of certain diseases in aquatic animals. Under this legislation, each farm is required to put in place appropriate biosecurity measures to prevent disease incursion and disease spread. They are also required to investigate all increased mortality with their private veterinarian and to notify the Competent Authority where the presence of a listed disease is suspected or confirmed. Compliance with this legislation is assessed during an annual audit carried out by the official services. In addition to these mandatory measures, all farms in Ireland voluntarily comply with a Fish Health Code of Practice and the Farmed Salmonid Health Handbook, in order to minimise and control the number of outbreaks of non-listed diseases on Irish farms.</p> <p>There were no outbreaks of listed diseases or diseases of national importance in Ireland in 2019. All salmon farms were inspected under Council Directive 2006/88/EC in addition to implementing national measures described in</p>

		<p>2010/221/EU. A combination of good biosecurity measures, vaccination, early veterinary intervention and expedient treatments, ensured that outbreaks of non-listed diseases were kept to a minimum during 2019. Amoebic gill disease (AGD) continued to be recorded at salmon farms in 2019.</p> <p>In 2019, twenty mortality events occurred through the whole year. These were principally attributed to multifactorial causes, with phytoplankton blooms and jellyfish as non-infectious agents co-occurring with AGD and cardiomyopathy syndrome (CMS). Incidences of pancreas disease (salmonid alphavirus), furunculosis caused by <i>Aeromonas salmonicida</i>, and piscirickettsia were also associated with isolated and localised outbreaks.</p>
	Current status of action:	Ongoing
	If 'Completed', has the action achieved its objective?	

4: Additional information required under the Convention	
4.1	Details of any laws, regulations and programmes that have been adopted or repealed since the last notification.
4.2	Details of any new commitments concerning the adoption or maintenance in force for specified periods of time of conservation, restoration and other management measures.
4.3	Details of any new actions to prohibit fishing for salmon beyond 12 nautical miles.
4.4	Details of any new actions to invite the attention of States not party to the Convention to matters relating to the activities of its vessels which could adversely affect salmon stocks subject to the Convention.
4.5	Details of any actions taken to implement regulatory measures under Article 13 of the Convention including imposition of adequate penalties for violations.
North American Commission Members only:	
4.6	Details of any new measures to minimise by-catches of salmon originating in the rivers of the other member.
4.7	Details of any alteration to fishing patterns that result in the initiation of fishing or increase in catches of salmon originating in the rivers of another Party except with the consent of

the latter.