	Council <i>Annual Progress Report on Actions taken under the Implementation Plan for the Calendar Year 2020 – EU-Ireland</i>	CNL(21)38
---	--	------------------

Annual Progress Report on Actions taken under the Implementation Plan for the Calendar Year 2020

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 2021.**

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).
There have been no revisions to the Implementation Plan since submission.
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 affect the abundance of salmon stocks significantly 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 2020 fishery was that 39 rivers had an advised harvestable surplus as they were exceeding their conservation limits (CL). A further 42 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.

A separate assessment was made for 16 rivers with significant multi-sea-winter (MSW) salmon stocks. Of these, 10 had an advised harvestable surplus as they were exceeding their CL and six 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 2021 fishery which is based on stock status in the preceding five-year period including 2020 is that 48 rivers have a harvestable surplus, 32 rivers should be C&R-only fisheries and 64 rivers should be closed to fishing based on the same criteria outlined above.

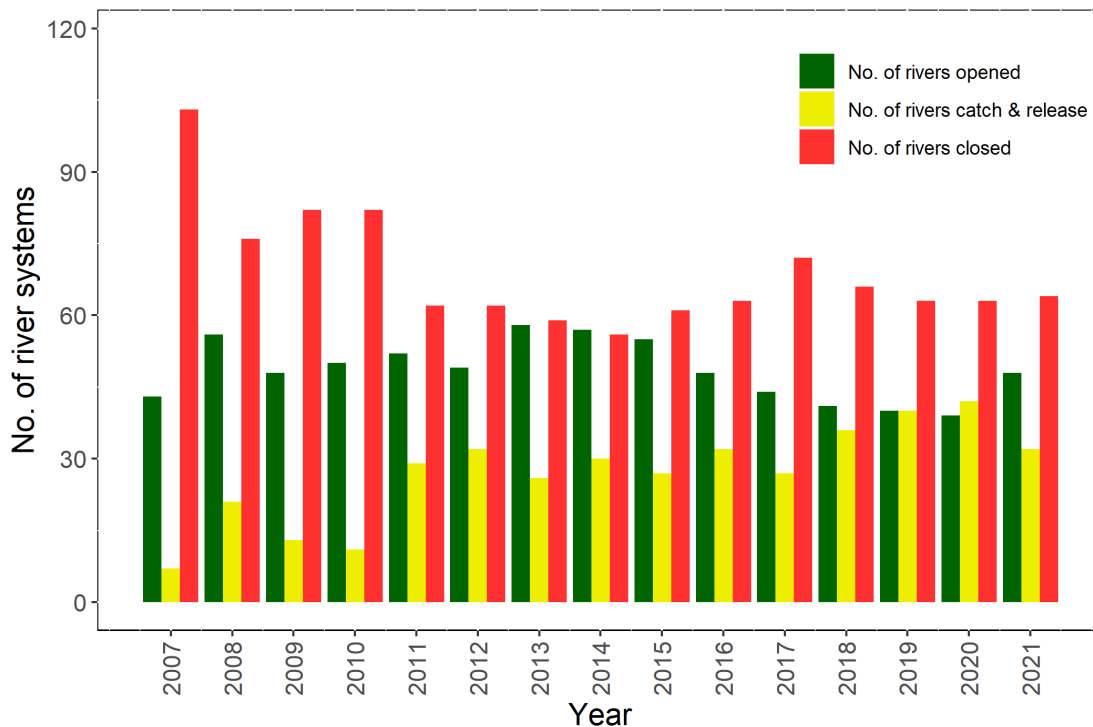


Figure 1. Scientific stock assessments for catch advice in Irish salmon fisheries (2007 to 2021).

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’).

	In-river	Estuarine	Coastal	Total
(a) provisional nominal catch (which may be subject to revision) for 2020 (tonnes)	2020: 45.8 t	2020: 16.7 t	2020: 0 t	2020: 62.5 t
(b) confirmed nominal catch of salmon for 2019 (tonnes)	2019: 29.1 t	2019: 15.5 t	2019: 0 t	2019: 44.6 t

(c) estimated unreported catch for 2020 (tonnes)				2020: 6.25 t
(d) number and percentage of salmon caught and released in recreational fisheries in 2020	2020: 13,240 (43.8%)			

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</p>

		<p>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>142,007 fishery staff hours were spent on protecting Ireland's fishing resource in 2020 as follows:</p> <ul style="list-style-type: none"> • 4,879 staff hours on fishery protection sea patrols • 28,770 staff hours on fishery protection coastal/estuary patrols • 66,951 staff hours on fishery protection river patrols • 28,845 staff hours on fishery protection lake patrols <p>This comprised:</p> <ul style="list-style-type: none"> • 573 boat patrols on fishery protection (*curtailed due to Covid-19) • 30,882 vehicle patrols on fishery protection • 129 kayak patrols and 136 drone patrols • 629 inspections of commercial salmon licence holders • 13,487 inspections of recreational angler permit or licence holders <p>This protection work was largely related to Atlantic salmon but fishery patrols were also targeted at other fish species. In 2020, a total of 250 nets were seized</p>

		<p>measuring a cumulative 13.1 km in length; 240 Fixed Charge Notices were issued for Fishery Offences; and there were 119 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?	
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.fishingireland.info).</p> <p>Return of catch information from commercial licence holders was 100% for 2020, the same level as recent preceding years. The return of logbooks by anglers is not yet available but is estimated at 60% in 2020. In 2019 it 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?	
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>
--	--	--

		<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:	Completed
	If 'Completed', has the action achieved its objective?	
Action F4:	Description of action (as submitted in the IP):	
	Expected outcome (as submitted in the IP):	
	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):	
	Current status of action:	Choose an item.
	If 'Completed', has the action achieved its objective?	

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	Description of action	Ireland's River Basin Management Plan (RBMP) 2018-2021
---------------	-----------------------	--

<p>H1:</p>	<p><i>(as submitted in the IP):</i></p>	<p>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 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 <i>(as submitted in the IP):</i></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 <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>Action 1. Agricultural Pollution</p> <p>Ireland continues to face major challenges to achieve water quality targets set for 2027 as required by the Water Framework Directive (WFD). In 2020, the Environmental Protection Agency (EPA) published the most recent report on national water quality, Water Quality in 2019 An Indicators Report (https://tinyurl.com/9v4t8fsw). 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 reported are:</p> <ul style="list-style-type: none"> • Nearly half (47%) of river sites have unsatisfactory nitrate concentrations. 44% of sites are showing an

	<p>increasing nitrate trend for the period 2013-2019.</p> <ul style="list-style-type: none"> • Over a third (34%) of sites have unsatisfactory phosphate concentrations. One quarter (26%) of sites are showing an increasing phosphate trend for the period 2013-2019. • 57% (1,329) of river water bodies are in high or good biological quality with the remaining 43% (1,002) in moderate or worse quality. • The rivers surveyed in 2019 (856 out of 2331 water bodies) have shown a net improvement in biological quality in 114 water bodies. • Over half (54%) of lakes are in high or good biological quality with the remaining 46% in moderate or worse quality. • Over a quarter of lakes (27%) had unsatisfactory total phosphorus concentrations with 22% showing an increasing trend <p>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 and is currently working with farmers in 68 priority areas of action (PAA) completing 1,168 farm assessments by the end of 2019, which is the most recent information available. There has been a net improvement of 16.7% in water quality in water bodies that were prioritised under this action. The most recent ASSAP report can be viewed here https://tinyurl.com/hfnwefev.</p> <p>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 2019/2020 are</p>
--	---

		<p>not yet available to report.</p> <p>Action 2 Domestic Waste Water Pollution</p> <p>The most recent information on the implementation of National Inspection Plan for Domestic Waste Water Treatment Systems (https://tinyurl.com/57nhkr38) is for year 2019: In this period:</p> <ul style="list-style-type: none"> • 1,160 inspections were made • 51% of systems failed and 26% were a risk to human health or the environment. • 73% of systems that failed during 2013–2019 have been fixed (2,548). • legal actions in 18 cases for compliance failures <p>The most recent report available on the status of urban wastewater in Ireland, Urban Waste Water Treatment in 2019 (https://tinyurl.com/ce6hktas) was published by the EPA in 2020. 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"> • 113 priority areas identified where improvements are needed. • Treatment at 19 of our 172 large urban areas failed the mandatory EU treatment standards. • The number of large urban areas failing to meet EU treatment standards continues to decrease, falling from 28 to 19 in the past two years. • Raw sewage is released from 35 towns and villages daily. • Critical Assessments are being delayed which are needed to inform Irish Water’s investment plans • Almost half of all improvement works required by EPA licences are overdue.
	Current status of action:	Ongoing
	If ‘Completed’, has the action achieved its objective?	
Action H2:	Description of action (as submitted in the IP):	<p>Hydromorphological threats.</p> <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</p>

		<p>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>
	<p>Expected outcome <i>(as submitted in the IP):</i></p>	<p>Improvement in salmon habitat quality and fish passage.</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>Action 1 Barriers</p> <p>The National Barrier Programme (NBP) is funded by the Irish government’s Department of Housing, Local Government and Heritage and has tasked IFI with a series of deliverables over the 4-year period 2018 – 2021. Completed project tasks include the delivery of a national Geo-database of potential barriers to fish passage (73,065 Structures), I-BAST a barrier assessment application, which collects on-site data and immediately ‘up-loads’ to a cloud-based server (eliminating paper recording), initial prioritisation of barriers for management in the 3rd WFD cycle and being a partner with the OPW in the delivery of mitigation guidelines for small barriers to connectivity. The NBP is grounded in the WFD. The aim of the programme is to produce a ‘state-of’ readiness’ regarding river fragmentation and addressing the hydromorphology pressures that this creates to address these issues in the 3rd cycle of WFD, going forward from 2022.</p> <p>The NBP 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 several state bodies and agencies, integrating further barrier data from IFI River Basin District (RBD) colleagues, the AMBER programme and from IFI’s Environmental River Enhancement Programme. During 2020 the NBP project team continued to roll out a programme of training, facilitating the involvement of IFI RBD teams in barrier surveys. These RBD teams have undertaken extensive barrier assessment programmes evaluating 3,752 instream structures. By January 2021,</p>

IFI has surveyed 21,391 instream structures using the I-BAST application and remote surveying, of these 5,482 structures have been identified, assessed and recorded as barriers to fish passage. Furthermore, 148 structures have been subject to more detailed assessment using the Level II SNIFFER protocol.

IFI has two-stage approach to barrier assessment in the Irish river network; screening and initial assessment (I-Bast Protocol) 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 2020, barrier remediation works undertaken by IFI in Irish main stem rivers (order >3) are as follows:

Barrier Remedial Works 2010 - 2020	
	Number
Works completed	32
In construction	1
Design stage	9
Planning stage	5
Delayed	1
Barrier collapsed	3
Ongoing	1
Total number	52

Action 2. Rehabilitation of Drained Rivers

The most recent information available on this action is published in the Environmental River Enhancement Programme (EREP) Annual Report 2019 (available [online](#)) and is summarised as follows:

- 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)

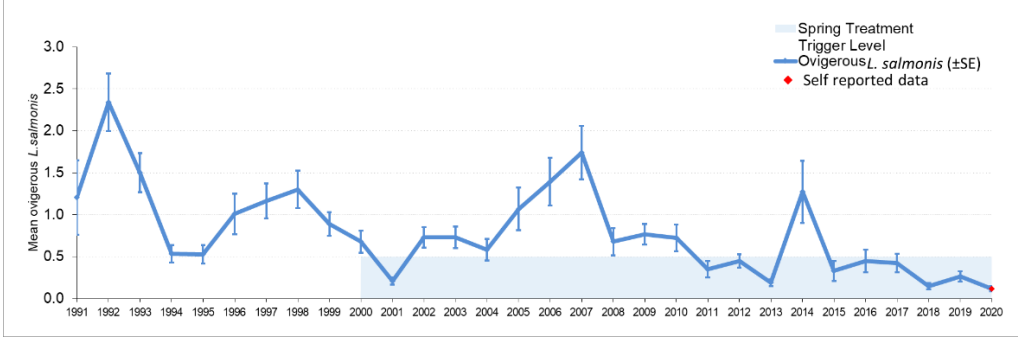
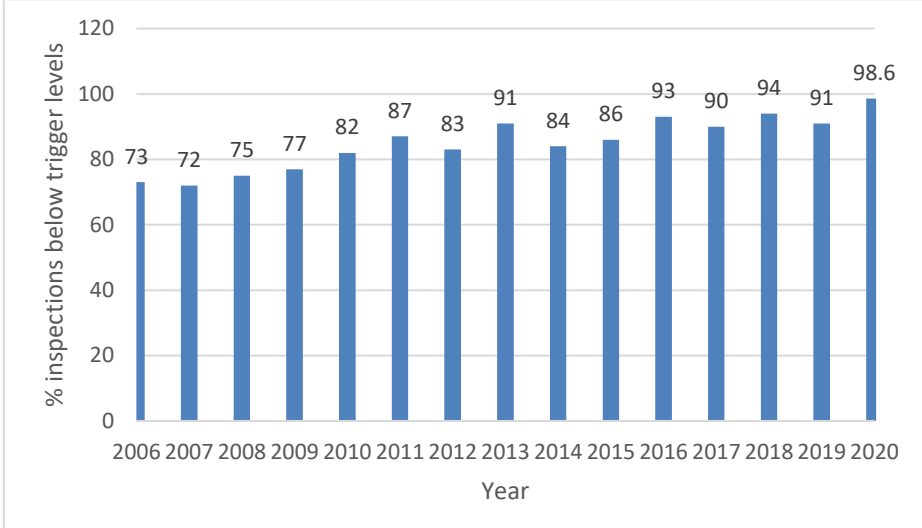
		<p>under the WFD.</p> <ul style="list-style-type: none"> • Detailed catchment-scale survey of the River Deel comprising surveys of resident fish populations (47 sites); river hydromorphology assessments (26 sites); and potential barrier assessments (464 locations examined) • Long-term monitoring surveys in five catchments (Boyne, Moy, Maigue, Inny and Brosna) where rehabilitation works were undertaken by OPW in conjunction with IFI • Experimental management strategies consistent with OPW environmental guidance at two sites on the Moy and Ulster Blackwater • Detailed fish passage surveys using the WFD111 method developed by SNIFFER of gravel traps in various OPW catchments (Brosna, Duff, Mulkear, Maigue, Nenagh) 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 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 nine strategically-selected index catchments (Cummeragh/Currane, Dargle, Dodder, Doonbeg, Erriff (the National salmonid index catchment), Gweebarra, Ilen, Nore and Vartry) located in the east, west, north, southwest and south east of Ireland. This includes the installation of catchment-wide water temperature monitoring networks (total deployed to date - 215 loggers in rivers and 58 loggers in three lakes) and three meteorological monitoring stations. Advanced mapping tools will be used to model stream temperature and other variables to identify waterbodies at risk from climate change impacts. Risk maps and the development of targeted measures and fisheries policies will be produced at a later stage in this programme of work.

		Three additional index catchments will be added in 2021.
	Current status of action:	Ongoing
	If 'Completed', has the action achieved its objective?	
Action H4:	Description of action (as submitted in the IP):	
	Expected outcome (as submitted in the IP):	
	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):	
	Current status of action:	Choose an item.
	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):	<p>Sea Lice Infestation</p> <p>While no progress on achieving NASCO sea lice goal can 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. (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</p>
-------------------	---	--

		restocking.
	Expected outcome (as submitted in the IP):	Reduced sea lice levels on farmed 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):	<p>The current inspection regime, performed by the Marine Institute on behalf of the State, i.e. the Department of Agriculture Food and Marine (the competent authority for licensing and regulation of aquaculture activity), involves the inspection and sampling of each year class of fish at all fish farm sites 14 times per annum - twice per month during March, April and May and monthly for the remainder of the year, except December-January. Only one inspection is carried out during this period. Trends in sea lice infestation on farmed fish (Figure 1) in May, the peak period for wild salmon smolt migration have shown a downward trend since the introduction of the pest management strategy in 2008. The 2008 strategy is currently under revision.</p>  <p>Figure 1. National May Mean adult female egg bearing salmon lice, 1991 - 2020.</p> <p>The Marine Institute issues a monthly report of sea lice levels on all active marine farms in Ireland and publishes an Open Access annual report as part of the Irish Fisheries Bulletin series. Since 2006 there has been a gradual increase in the number of inspections below trigger levels (Figure 2).</p>  <p>Figure 2. The % of inspections below trigger levels for all active marine</p>

		<p>Atlantic salmon farms per year, 2006 - 2020.</p> <p>Following Covid-19 measures introduced by the Irish Government, the sea lice monitoring programme was temporarily suspended from 24th March until 29th June 2020. During this time all active farms in Ireland submitted self-reported sea lice levels to the Marine Institute. The Marine Institute resumed sea lice inspections on 1st July 2020 and continued to inspect all active sites for the remainder of 2020.</p>
	Current status of action:	Ongoing
	If 'Completed', has the action achieved its objective?	
Action A2:	Description of action (as submitted in the IP):	<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> <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.</p>
	Expected outcome (as submitted in the IP):	Prevention of escapes generally. In the event of escapes, prompt recapture of a significant proportion of the stock.
	Progress on action to date (Provide a brief overview with a quantitative measure, or other justified evaluation, of progress. Other	There were no reported escapes of farmed salmon in Ireland in 2020.

	<i>material (e.g. website links) will not be evaluated):</i>	
	Current status of action:	Ongoing
	If 'Completed', has the action achieved its objective?	
Action A3:	Description of action (as submitted in the IP):	<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 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>
	Expected	Reduced incidence of disease outbreaks in aquaculture facilities

	<p>outcome (as submitted in the IP):</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>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 2020. All active salmon farms were inspected under Council Directive 2006/88/EC in addition to implementing national measures described in 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 2020. Amoebic gill disease (AGD) continued to be recorded at most salmon farms in 2020.</p> <p>In 2020, ten mortality events occurred on marine salmon farms during the year. These events ranged from one to 16 weeks in duration. Mortality events were principally attributed to multifactorial causes, most notably involving phytoplankton blooms and jellyfish. On occasion these non-infectious causes co-occurred with Amoebic gill disease and cardiomyopathy syndrome during mortality events. In addition, incidences of furunculosis caused by <i>Aeromonas salmonicida</i>, <i>piscirickettsia</i>, and pancreas disease were associated with disease outbreaks.</p>
	<p>Current status of action:</p>	<p>Ongoing</p>
	<p>If 'Completed', has the action achieved its objective?</p>	
<p>Action A4:</p>	<p>Description of action (as submitted in the IP):</p>	

	Expected outcome <i>(as submitted in the IP):</i>	
	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>	
	Current status of action:	Choose an item.
	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 bycatches 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.