NASCO	**Council** ***Annual Progress Report on Actions taken under the Implementation Plan for the Calendar Year 2021*** ***EU – Ireland***	**CNL(22)39**

Annual Progress Report on Actions taken under the Implementation Plan for the Calendar Year 2021

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 2022**.

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 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 2021 fishery was that 48 rivers had an advised harvestable surplus as they were exceeding their conservation limits (CL). A further 32 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. 64 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, 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 2022 fishery which is based on stock status in the preceding five-year period including 2021 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.

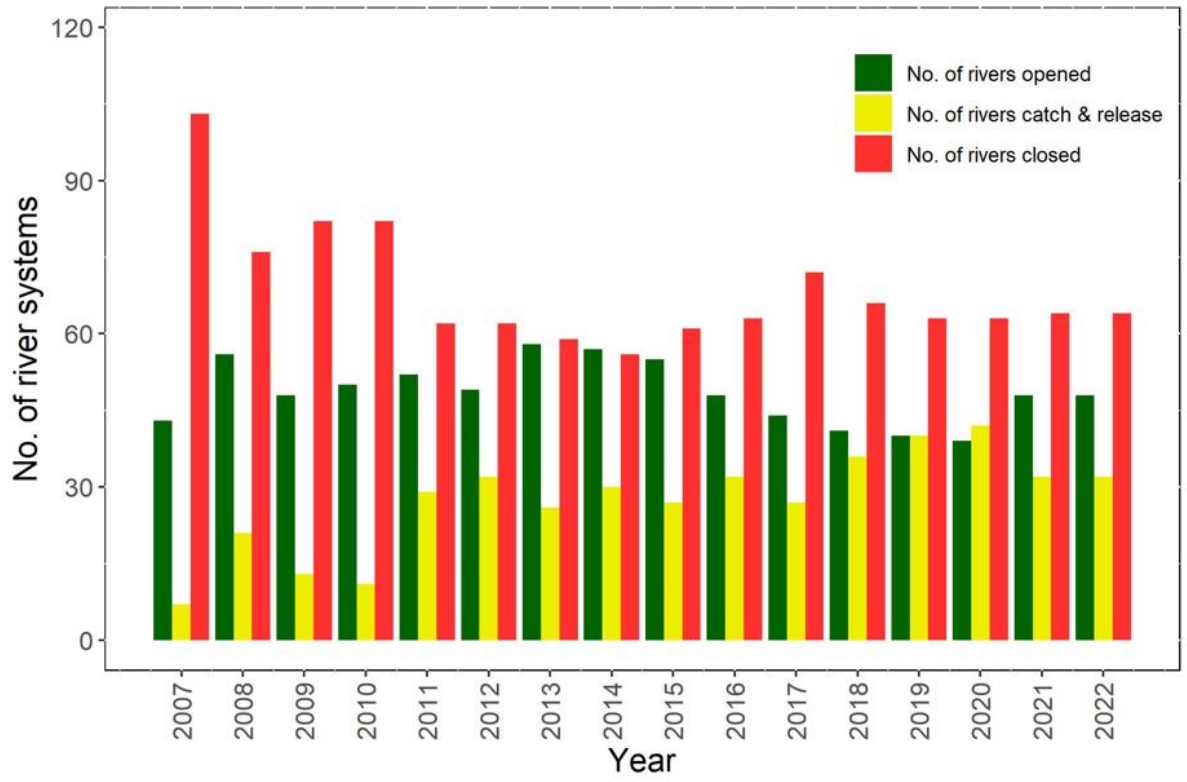


Figure 1. Scientific stock assessments for catch advice in Irish salmon fisheries (2007 to 2022)

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 2021 (tonnes)	In-river	Estuarine	Coastal	Total
	34.2	17.5	0	51.7
(b) confirmed nominal catch of salmon for 2020 (tonnes)	29.2	16.7	0	45.9
(c) estimated unreported catch for 2021 (tonnes)			0	5.17
(d) number and percentage of salmon caught and released in recreational fisheries in 2021	11,141 (46.7%)			

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 F1:	Description of action (*as submitted in the IP*):	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). 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. The following recent investment by IFI will greatly assist in achieving SMART actions regarding curtailment of illegal fishing: 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; 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. 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. 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. Specific, measurable and timely actions on fishery protection in 2019 are as follows; • 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 This level of activity in fishery protection is expected in each year of the five years over the 2019-2024 period.
	Expected outcome (*as submitted in the IP*):	Increased protection of the salmon resource and a reduction in illegal fishing activities leading to stabilisation and/or increases of salmon stocks nationally.
	Progress on action to date *(Provide a brief overview with a quantitative measure, or other justified*	167,416 fishery staff hours were spent on protecting Ireland's fishing resource in 2021 as follows: • 7,483 staff hours on fishery protection sea patrols

	evaluation, of progress. Other material (e.g. website links) will not be evaluated):	• 34,523 staff hours on fishery protection coastal/estuary patrols • 77,407 staff hours on fishery protection river patrols • 797 boat patrols on fishery protection • 33,409 vehicle patrols on fishery protection • 161 kayak patrols and 406 drone patrols • 807 inspections of commercial salmon licence holders • 15,722 inspections of recreational angler licence holders This protection work was largely related to Atlantic salmon but fishery patrols were also targeted at other fish species. In 2021, a total of 275 nets were seized measuring a cumulative 13,855 metres in length; 296 Fixed Charge Notices were issued for Fishery Offences; and there were 128 fisheries-related prosecutions. 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.
	Current status of action:	Ongoing
	If 'Completed', has the action achieved its objective?	
Action F2:	Description of action (*as submitted in the IP*):	IFI is actively promoting the returns of accurate catch information from anglers and commercial fishers through the national carcass tagging and logbook scheme. This scheme facilitates the collection of catch data for subsequent scientific stock assessment purposes and informs associated management decisions on the fisheries status of individual fisheries such as the setting of TACs for fisheries where harvest is permitted. IFI intends to deliver electronic licences and logbooks by the end of 2021 specifically to encourage a greater uptake of licences and improve reporting rates from angling catches.
	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):*	The online electronic system to purchase a salmon licence is operational (https://store.fishinginireland.info). Return of catch information from commercial licence holders was 100% for 2021, the same level as recent preceding years. The return of logbooks by anglers is not yet available but is estimated at 60% in 2021. In 2020 it was 56.4% which was comparable to 2019 (57.8%) but

		lower than average logbook returns of 66% in the preceding ten-year period (2011-2020).
	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.
	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):*	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: • 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). • 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. 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) and also reported in more detail in the 2020 APR submission.
	Current status of action:	Completed
	If 'Completed', has the action achieved its objective?	Yes.
Action F4:	Description of action (*as submitted in the IP*):	Permit the operation of mixed-stock commercial fisheries only in estuaries where the stocks of contributing rivers simultaneously exceed the conservation limit (CL) set. As

		of 2020, only two such fisheries are in operation (Killary Harbour and Castlemaine Harbour) with a third, Tullaghan Bay not operating since 2013. Closely monitor catches in-season as required to minimise over-exploitation and illegal fishing and ensure the return of 100% of commercial fisheries logbooks from such fisheries.
	Expected outcome (*as submitted in the IP*):	Sustainable exploitation in a very limited number of mixed-stock estuarine fisheries where the CL of constituent river stocks is simultaneously exceeded. Cessation of exploitation where stocks fail to meet CL to facilitate natural stock recovery.
	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):*	Four mixed-stock commercial fisheries were permitted to operate in 2021 (Castlemaine Harbour, Killary and Owenmore Estuary and Tullaghan Ferry) as their respective contributing river-stocks were all deemed to be simultaneously exceeding their conservation limit. As such, a sustainable surplus was available for exploitation which, if fished, would not affect the conservation status of individual stocks of contributary rivers. All four fisheries were commercially fished in 2021 and none exceeded the total allowable catch set. Catches at all four fisheries were monitored by IFI in-season via the Carcass Tagging and Logbook Scheme and 100% of logbooks recording catches from these fisheries in 2021 were submitted to the fisheries authorities.
	Current status of action:	Ongoing
	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 H1:	Description of action (*as submitted in the IP*):	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. **Action 1. Agricultural Pollution** 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. **Action 2 Domestic Waste Water Pollution** 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. 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.
	Expected outcome (*as submitted in the IP*):	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.
	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):*	Action 1. Agricultural Pollution Ireland continues to face major challenges to achieve water quality targets set for 2027 as required by the Water Framework Directive (WFD). In 2021, the most recent report on national water quality, Water Quality in 2020 An Indicators Report (https://tinyurl.com/mvpedbwe) was published. Elevated nutrient concentrations (nitrogen and phosphorus), largely attributed to diffuse inputs, continue to be the most widespread problem impacting water quality in Ireland. The main findings reported are: • 57% (1,336) of the river water bodies assessed over the period 2017-2020 were in high or good quality. 43% (1,019) were in moderate, poor or bad quality, a decline in 230 rivers but an improvement in 115 rivers.

		• an increase in the number of river sites classified as high quality with an additional 21 sites in the highest quality category. • there has been a net improvement of 57 waterbodies in Prioritised Areas for Action. • 47% of river sites have unsatisfactory nitrate levels and 38% of sites have rising levels. 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. A draft Nitrates Action Programme plan for the period 2022-2024 has been issued. 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/2zkbrtsf) is for year 2020: In this period: • 809 inspections were made. • 54% of systems failed. • 76% of systems that failed during 2013–2020 have been fixed (2,972). • legal actions in 34 cases for compliance failures. The most recent report available on the status of urban wastewater in Ireland, Urban Waste Water Treatment in 2020 (https://tinyurl.com/h78b49bc) was published in 2021. The key findings are as follows: • based on current investment levels and Irish Water's current rate of delivery of infrastructure it will take at least two decades to bring Ireland's waste-water infrastructure up to the necessary standards. • reduction from 19 to 12 in no. of large towns failing to comply with EU treatment standards. • raw sewage is released from 34 towns and villages daily. Irish water invested €846 million in capital expenditure in 2020 (most recent year available) in the areas of water quality, conservation and future proofing.

	Current status of action:	Ongoing
	If 'Completed', has the action achieved its objective?	
Action H2:	Description of action (*as submitted in the IP*):	**Hydromorphological threats.** **Action 1. Barriers** 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. **Action 2. Rehabilitation of Drained Rivers** 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.
	Expected outcome (*as submitted in the IP*):	Improvement in salmon habitat quality and fish passage.
	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):*	Action 1 Barriers The National Barrier Programme (NBP) has received funding from the Irish government to operate up to 2027. It will continue to build on the national geo-database of potential barriers to fish passage (73,117 structures). These structures are being assessed using a barrier assessment application. The NBP has also identified 30 priority structures for removal or mitigation. By January 2022, IFI has surveyed 25,868 instream structures, of which 6,321 have been identified as barriers to fish passage. The NBP has assessed 207 significant barriers to fish passage and published corresponding reports to inform remedial actions. Between 2010 and 2021, barrier remediation works undertaken by IFI in Irish main stem rivers are as follows:

		Barrier Remedial Works 2010 - 2021 / **Number** Works completed 32 In construction 1 Design stage 7 Planning stage 13 Delayed 2 Barrier collapsed 3 Total number 58 Action 2. Rehabilitation of Drained Rivers The Environmental River Enhancement Programme (EREP) Annual Report 2020 provides the most recent information on this action as follows: • Five-year agreement (2018-2022) made between Office of Public Works and IFI to continue the EREP work, share information on issues within drained catchments pertinent to the Water Framework Directive such as fish passage barriers, hydromorphology and fish ecological status in order to inform mitigation measures. • Detailed catchment-scale survey of the Glyde comprising surveys of fish populations (25 sites); river hydromorphology assessments (19 sites); and potential barrier assessments (665 locations examined). • Passive restoration at a site in the River Boyne catchment following the removal of channel dredging and grazing pressures by livestock.
	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	IFI established a research programme in 2019 to ascertain the impacts of climate change on Irish fish stocks

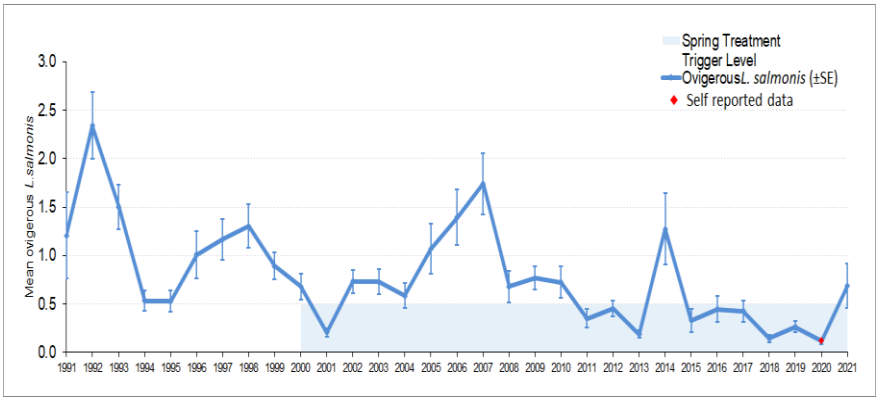
	(Provide a brief overview with a quantitative measure, or other justified evaluation, of progress. Other material (e.g. website links) will not be evaluated):	including salmonids. In late 2020 funding was received from the Office of Public Works to examine climate resilience of fisheries in drained catchments. To date the two programmes have initiated a novel nationwide long-term environmental monitoring network in 12 catchments including one state of the art lake monitoring platform between 2019 and 2021. The programme has now installed 429 in situ data loggers measuring a range of parameters including water temperature, dissolved oxygen and meteorological data in rivers and lakes within these catchments. The data collection via remote sensing is being undertaken in parallel to gathering of fish data and other environmental data (e.g. flow measurement and habitat mapping) in the 12 catchments. 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. Data from the first year of data collection has been compiled and is currently being analysed. Three scenario risk maps will be available by mid-2022 for the Erriff (National Salmonid Index Catchment), Gweebarra and Dargle via the IFI Geoportal. A climate change vulnerability assessment for Ireland's fish species has also been completed. Atlantic salmon were assigned the rank of "High" vulnerability to climate change. The findings will be published later in 2022.
	Current status of action:	Ongoing
	If 'Completed', has the action achieved its objective?	
Action H4:	Description of action (*as submitted in the IP*):	**Invasive Species** Action 1. The EU Regulation (1143/2014) on "the prevention and management of the introduction and spread of invasive alien species" will be implemented. Action 2. Development and evaluation of survey techniques to assess the extent of infestation of Curly-leaved waterweed in Lough Corrib and monitor the efficacy of control measures undertaken there.
	Expected outcome (*as submitted in the IP*):	Action 1: Development of a more coherent and co-ordinated national approach to IAS management that will

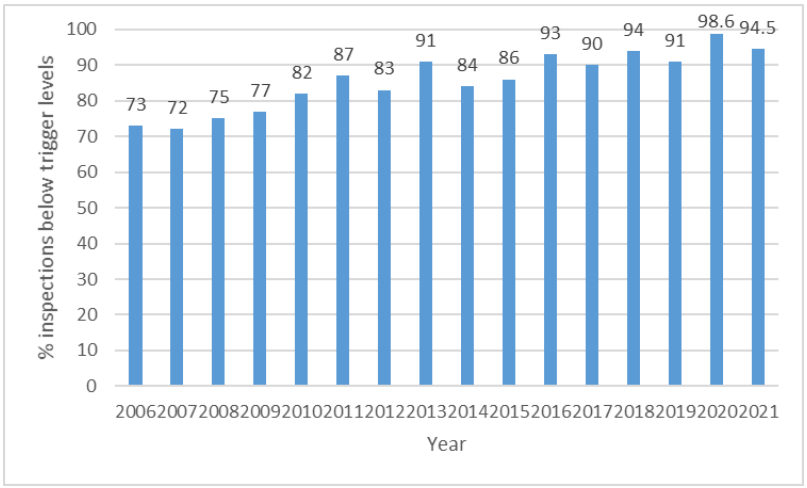
		facilitate better communication and collaboration between relevant authorities. Action 2: Survey techniques will be developed and evaluated to assess the extent of infestation of Curly-leaved waterweed in Lough Corrib and monitor the efficacy of control measures undertaken there.
	Progress on action 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):*	Action 1 The core provisions of the EU Regulation (1143/2014) are in effect in Ireland. As part of its implementation, in December 2021, the National Parks and Wildlife Service of the Department of Housing, Local Government and Heritage has published two draft Priority Pathway Action Plans on invasive alien species for public consultation. Action 2: A range of new approaches to surveying curly-leaved waterweed were trialled and evaluated between 2018 and 2020 as follows: • Low-cost sonar with simultaneous ground truth sampling and recorded using ArcGIS survey tools was identified as the most reliable and efficient survey method. • underwater imagery generated using a high-definition camera with live feed and geo-referencing ability was superior to grapnel sampling for ground truthing weed distribution. • UAVs proved useful for mapping when the weed was at the surface in locations unsuitable for the sonar boat, i.e. rocky and shallow areas. • Sentinel 2 satellite data has potential for mapping the weed at the lake-wide scale.
	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	Salmon lice infestation: aspire to 100% of inspections below mandatory trigger levels. The Department of Agriculture, Fisheries

	(*as submitted in the IP*):	and Food "Strategy for Improved Pest Control in Irish salmon farms, 2008", aims to enhance the control of salmon 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 strategy and the accompanying *Monitoring Protocol No. 3 Sea Lice Monitoring & Control* will be revised resulting in consistent and vigorous control of salmon lice infestations on marine farms.
	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):*	The current inspection regime, performed by the Marine Institute on behalf of the State, 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 general downward trend since the introduction of the pest management strategy in 2008.  Figure 1. Average national May-mean adult female egg bearing salmon lice per fish, 1991 - 2021. 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). Following Covid-19 measures introduced by the Irish Government, the sea lice monitoring programme was temporarily suspended from 1st January until 31st April 2021. 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 May 2021 and continued to inspect all active sites for the remainder of 2021.  Figure 2. The % of inspections below trigger levels for all active marine Atlantic salmon farms per year, 2006 - 2021.
	Current status of action:	Ongoing
	If 'Completed', has the action achieved its objective?	
Action A2:	Description of action (*as submitted in the IP*):	In April 2016, DAFM brought in a *Protocol for Structural Design of Marine Finfish Farms* to standardise an improved structural design process for marine finfish farm installations in Ireland to apply to all new or renewal licence applications. A new *Protocol* for reporting and investigating farmed escape incidences is planned. This *Protocol* will apply to all facilities, both marine and freshwater.
	Expected outcome (*as submitted in the IP*):	Increased awareness of the impact of escapes and improved reporting in line with new protocol.
	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)*	The Department of Agriculture, Food and the Marine received no reports of escapes of farmed salmon from operators in Ireland in 2021.

	will not be evaluated):	
	Current status of action:	Ongoing
	If 'Completed', has the action achieved its objective?	
Action A3:	Description of action (*as submitted in the IP*):	Regulation (EU) 2016/429 ("Animal Health Law") is the statutory framework within which aquatic diseases are regulated in Europe. Under Implementing Regulation (EU) 2021/620 Ireland is declared free from all listed salmonid diseases. This includes ISA, VHS, IHN. Ireland undertakes an active monitoring programme for these diseases in farmed salmon. Ireland has also applied additional national measures for BKD and *G. salaris* and is declared free from these diseases in Regulation (EU) 2021/260. An active monitoring programme for the presence of *G. salaris* in wild salmonids is undertaken annually. In addition to the regulatory controls to prevent the introduction of these diseases, 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. In recent years, since the principles of the Handbook have been implemented, the incidence of diseases such as Pancreas Disease and IPN have declined. However, gill related disorders continue to be a significant issue on salmon farms. These disorders are believed to be impacted to some degree by water temperatures and significant phyto and zooplankton blooms. Amoebic Gill Disease (AGD) caused by infection with the protozoan parasite *Neoparamoeba.perurans* 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. 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 10^{o}C are thought to trigger the disease, but Scottish outbreaks have occurred at temperatures from 7.5^{o}C. 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.

	Expected outcome (*as submitted in the IP*):	Maintenance of disease free status for major diseases of salmonids listed in Regulation 2016/429 and for which Ireland is declared disease free under national Measures (BKD and *G. salaris*). Reduced incidence of disease outbreaks in aquaculture facilities.
	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):*	Ireland has maintained disease freedom for major diseases of salmonids listed in Regulation 2016/429 and for which Ireland is declared disease free under national Measures (BKD and G. salaris). Incidence of disease outbreaks (other than listed diseases) in aquaculture facilities is monitored through a voluntary industry reporting scheme. Available evidence suggests that incidence of non-listed disease in aquaculture establishments remains at a consistent level.
	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 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.