	Council <i>Annual Progress Report on Actions taken under the Implementation Plan for the Calendar Year 2022 UK – Northern Ireland</i>	CNL(23)43
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Annual Progress Report on Actions taken under the Implementation Plan for the Calendar Year 2022

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 2023**.

Party:	United Kingdom
Jurisdiction / Region:	Northern 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.

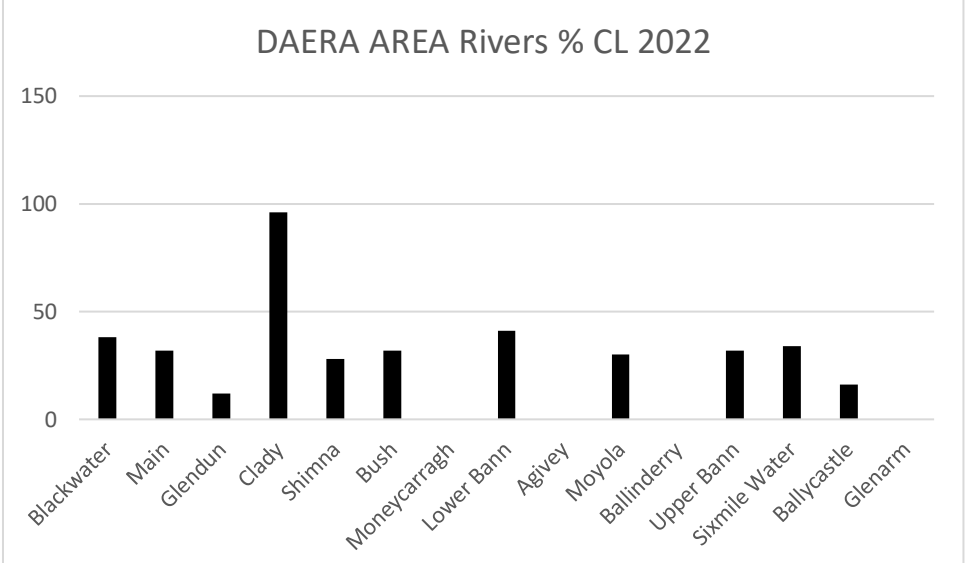
2: Stock status and catches.
2.1 Provide a description of any new factors that may affect the abundance of salmon stocks significantly and, if there has been any significant change in stock status since the development of the Implementation Plan, provide a brief (200 word max) summary of these changes.

2022 saw low returns of 1SW fish to Northern Irish rivers. It is worth highlighting that the return of adults to the river Bush (N. Ireland long term monitoring/index catchment) totalled 525 fish, which represents the lowest return in the 50 year Bush time-series.				
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 2022 (tonnes)	In-river	Estuarine	Coastal	Total
	0.798	0	0	0.798
(b) confirmed nominal catch of salmon for 2021 (tonnes)	[0.917]	[0]	[0]	[0.917]
(c) estimated unreported catch for 2022 (tonnes)	[0.3]	[0]	[0]	[0.3]
(d) number and percentage of salmon caught and released in recreational fisheries in 2022	[DAERA Area 1025 Salmon C&R 92% Loughs Agency 2545 C&R 84%]			

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. Please report in relation to the reporting year only or the most relevant recent year. 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)	The target is to manage the 18 primary rivers affected by both commercial and recreational fisheries to exceed their CLs
	Expected outcome (as submitted in the IP)	More primary salmon rivers increasing their adult returns and exceeding their CLs.
	Approach for monitoring effectiveness & enforcement	Primary salmon rivers are assessed for compliance against CIs annually and this will be reported in the APR. Legislation used to maintain rivers as catch and release only fisheries unless individual river MTs are met on a consistent basis to allow harvest options.

	<p><i>(as submitted in the IP)</i></p> <p>Progress on action to date <i>(Provide a brief overview with a quantitative measure, or other justified evaluation, of progress. If sub-actions are completed during the reporting year, this should be made clear. Other material (e.g. website links) will not be evaluated)</i></p>	<p>The 18 primary rivers in N Ireland (14 in DAERA 4 in LA) were assessed and management recommendations developed for recreational fisheries in 2023.</p> <p>In 2022 in the DAERA area 4 rivers were allocated a harvestable surplus and defined tag allocation, whilst 12 rivers were catch and release only.</p> <p>In 2023 in the DAERA area 3 rivers will be allocated a harvestable surplus and defined tag allocation, whilst 13 rivers will be managed as catch and release only.</p> <p>In 2023 in the LA area 3 rivers are open for controlled harvest and 1 river (Finn) will be managed as catch and release only.</p>  <table border="1"> <caption>DAERA AREA Rivers % CL 2022</caption> <thead> <tr> <th>River</th> <th>% CL 2022</th> </tr> </thead> <tbody> <tr><td>Blackwater</td><td>40</td></tr> <tr><td>Main</td><td>35</td></tr> <tr><td>Glendun</td><td>15</td></tr> <tr><td>Clady</td><td>95</td></tr> <tr><td>Shimna</td><td>30</td></tr> <tr><td>Bush</td><td>35</td></tr> <tr><td>Moneycarragh</td><td>0</td></tr> <tr><td>Lower Bann</td><td>45</td></tr> <tr><td>Agivey</td><td>0</td></tr> <tr><td>Moyola</td><td>35</td></tr> <tr><td>Ballinderry</td><td>0</td></tr> <tr><td>Upper Bann</td><td>35</td></tr> <tr><td>Sixmile Water</td><td>40</td></tr> <tr><td>Ballycastle</td><td>20</td></tr> <tr><td>Glenarm</td><td>0</td></tr> </tbody> </table>	River	% CL 2022	Blackwater	40	Main	35	Glendun	15	Clady	95	Shimna	30	Bush	35	Moneycarragh	0	Lower Bann	45	Agivey	0	Moyola	35	Ballinderry	0	Upper Bann	35	Sixmile Water	40	Ballycastle	20	Glenarm	0
River	% CL 2022																																	
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	<p>If 'Completed',</p>	<p>[</p>																																

	has the action achieved its objective?	
Action F2:	Description of action <i>(as submitted in the IP)</i>	Update Conservation limits and Management targets for 3 primary salmon rivers in Northern Ireland using refreshed habitat data
	Expected outcome <i>(as submitted in the IP)</i>	To update CLs for the 3 rivers identified in Section 1.5
	Approach for monitoring effectiveness & enforcement <i>(as submitted in the IP)</i>	To review CLs once new habitat data is available and to report rivers which have had their CLs updated in the APR report
	Progress on action to date <i>(Provide a brief overview with a quantitative measure, or other justified evaluation, of progress. If sub-actions are completed during the reporting year, this should be made clear. Other material (e.g. website links) will not be evaluated)</i>	Progress on this issue was curtailed in 2020 and 2021 due to covid restrictions. Work was limited in 2022 due to fieldwork backlogs in other work areas. It is hoped to recommence work in 2023.
	Current status of action <i>(Please note: 'Completed' means that the overall</i>	Ongoing

	<p><i>action is complete for the lifetime of the third reporting cycle. If it is an ongoing action that is reported on annually, it should be marked as 'Ongoing'</i></p>	
	<p>If 'Completed', has the action achieved its objective?</p>	
Action F3:	<p>Description of action <i>(as submitted in the IP)</i></p>	<p>Maintain the Long Term Monitoring of Wild Salmon Stock on the R Bush - used as an Index River for NI</p>
	<p>Expected outcome <i>(as submitted in the IP)</i></p>	<p>Maintain and build the long term dataset of adult returns, smolt migration, stock recruitment data, freshwater survival, marine survival, biological characteristics of the R Bush stock over the 5 year period.</p>
	<p>Approach for monitoring effectiveness & enforcement <i>(as submitted in the IP)</i></p>	<p>Full time adult trap in place and smolt trap for smolt run period, an annual programme of juvenile fry surveys of the main spawning areas and an annual assessment of both freshwater and marine survival for R Bush stocks. Data collected provided to the public once completed. This will also be reported as part of the NASCO APR process.</p>
	<p>Progress on action to date <i>(Provide a brief overview with a quantitative measure, or other justified evaluation, of progress. If sub-actions are completed during the reporting</i></p>	<p>All the datasets were updated and completed in 2022 and annual survival metrics determined for the Bush salmon stock. The freshwater survival rate from egg-smolt for the most recent fully recruited ova cohort (2018) was 1.04%. The smolt run in 2022 totalled 20,989 fish, which was higher than the previous 10 year average (18,462), and reflective of good freshwater production.</p> <p>The total adult return of wild salmon to the Bush river in 2022 was 525 fish & marine survival rate of 1SW salmon was 2.86%. This adult return represented the lowest adult salmon return in the 50 year Bush time-series and the 1SW fish exhibited the lowest condition factor recorded to date.</p>

	<p><i>year, this should be made clear. Other material (e.g. website links) will not be evaluated)</i></p>	
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	<p>If 'Completed', has the action achieved its objective?</p>	
Action F4:	<p>Description of action <i>(as submitted in the IP)</i></p>	To assess mortality of wild salmon smolts moving from the freshwater to the marine environment
	<p>Expected outcome <i>(as submitted in the IP)</i></p>	To assess riverine mortality and identify possible areas of losses
	<p>Approach for monitoring effectiveness & enforcement <i>(as submitted in the IP)</i></p>	Acoustic and radio telemetry studies of smolts actively monitored in freshwater and into the marine environment using automatic listening stations. Reports completed on each study carried out and this will be reported as part of the NASCO APR process.

	<p>Progress on action to date <i>(Provide a brief overview with a quantitative measure, or other justified evaluation, of progress. If sub-actions are completed during the reporting year, this should be made clear. Other material (e.g. website links) will not be evaluated)</i></p>	<p>[Under funding from the SeaMonitor project 100 salmon smolts were tagged on the river Bush in Apr-May 2022. In total 92 were detected in the estuary, 80 at the coastal array off the river mouth and 42 at the offshore SeaMonitor array c. 50km off the river mouth. These data are developing an important time-series on early marine smolt migration. Some data from this project were published in late 2022. Kennedy, R. J., Rosell, R., Hunter, E., & del Villar-Guerra, D. (2022). Programmed acoustic tags reveal novel information on late-phase marine life in Atlantic salmon, <i>Salmo salar</i>. Journal of Fish Biology, https://doi.org/10.1111/jfb.15292]</p>
	<p>Current status of action <i>(Please note: 'Completed' means that the overall action is complete for the lifetime of the third reporting cycle. If it is an ongoing action that is reported on annually, it should be marked as 'Ongoing')</i></p>	<p>[Ongoing]</p>
	<p>If 'Completed', has the action achieved its objective?</p>	<p>[]</p>
<p>Action F5:</p>	<p>Description of action</p>	<p>To improve recreational catch returns and statistics from the current baseline of 5 - 10% to 30%</p>

	<i>(as submitted in the IP)</i>	
	Expected outcome <i>(as submitted in the IP)</i>	To increase catch returns / data for recreational caught salmon
	Approach for monitoring effectiveness & enforcement <i>(as submitted in the IP)</i>	Monitoring use of digital licensing system and any trends in the number of catch returns completed by recreational anglers. To encourage anglers to report catches by issuing reminder notices to angling clubs and fishery owners. To obtain catch data from fishery owners and angling clubs for catchments. Data on catch returns to be reported as part of the APR
	Progress on action to date <i>(Provide a brief overview with a quantitative measure, or other justified evaluation, of progress. If sub-actions are completed during the reporting year, this should be made clear. Other material (e.g. website links) will not be evaluated)</i>	<p>Changes to the DAERA LPE online system commenced in 2022 with work expected to be completed in 2023. Catch details have been utilised from angling clubs where possible. Anglers continue to practise a high level of catch and release and as a result are reluctant to report "zero" retained catches.</p> <p>Anglers catch reports in the LA area have been increasing over the past few years and are now over 30%.]</p>
	Current status of action <i>(Please note: 'Completed' means that the overall action is complete for the lifetime of the third reporting cycle. If it is an ongoing</i>	Ongoing

	<i>action that is reported on annually, it should be marked as 'Ongoing'</i>	
	If 'Completed', has the action achieved its objective?	
Action F6:	Description of action (as submitted in the IP)	To protect wild salmon stocks from illegal activity which includes illegal fishing, illegal river works etc.
	Expected outcome (as submitted in the IP)	To protect salmon stocks by detecting, deterring and disrupting any illegal activity directed at damaging or removing salmon stocks subject available resources.
	Approach for monitoring effectiveness & enforcement (as submitted in the IP)	Difficult to put in a smart target here but a qualitative measure is appropriate. Enforcement activities are recorded and the number of patrols / enforcement outcomes are compiled and regularly reported annually. There is a good communication / co-operation system in place between fisheries agencies (Loughs Agency, Inland Fisheries Ireland (IFI) and DAERA) and also with angling clubs / fishery owners which can help identify illegal fishing activity. A 24 hour telephone service is available to report illegal fishing activity and on call staff can respond if required. The number of patrols carried out and detections made will be reported as part of the NASCO APR process.
	Progress on action to date (Provide a brief overview with a quantitative measure, or other justified evaluation, of progress. If sub-actions are completed during the reporting year, this should be made clear. Other material (e.g. website links)	<p>Organised enforcement patrols (on land and water) are carried out in both the DAERA and LA areas to deter, disrupt and detect illegal fishing or other activities. In 2022, 4117 patrols were carried out in the DAERA area and one detections made re the illegal capture of salmon. However a total of 23 illegal nets were seized and any illegal caught salmon were released unharmed. In addition 39 inspections were carried out on commercial premises where salmon can be bought or sold.</p> <p>In the Foyle and Carlingford area, 1109 patrols were carried out on land, with 84 patrols carried out by vessel. Loughs Agency also operated a 24 hour pollution and protection hotline. These patrols have resulted in the following seizures from those fishing illegally - 29 nets, 32 fishing rods and 27 salmonid fish and 3 fish traps.</p>

	<i>will not be evaluated)</i>	
	<p>Current status of action <i>(Please note: 'Completed' means that the overall action is complete for the lifetime of the third reporting cycle. If it is an ongoing action that is reported on annually, it should be marked as 'Ongoing')</i></p>	<p>Ongoing</p>
	<p>If 'Completed', has the action achieved its objective?</p>	<p>I</p>

<p>3.2 Provide an update on progress on actions relating to Habitat Protection and Restoration (section 3.5 of the Implementation Plan).</p> <p><i>Note: the reports under 'Progress on action to date' should provide a brief overview of each action. Please report in relation to the reporting year only or the most relevant recent year. 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.</i></p>		
Action H1:	Description of action (as submitted in the IP)	To assess and provide fishery advice for 100% of River drainage maintenance schemes to protect salmon habitat and to incorporate mitigation / improvement measures where possible.
	Expected outcome (as submitted in the IP)	Ensure sensitive / mitigated engineering solutions to maintain or where possible seek opportunities to restore or enhance salmonid habitat.
	Approach for monitoring effectiveness & enforcement (as submitted in the IP)	Both DAERA and LA are informed in advance of river maintenance works and provide advice to ensure the protection of fish habitat present. There is regular monitoring and inspection of stretches where river drainage maintenance works and or habitat improvements are carried out. Rivers maintenance schemes where advice is provided and improvements carried out will be reported as part of the NASCO APR process.
	Progress on action to date (Provide a brief overview with a quantitative measure, or other justified evaluation, of progress. If sub-actions are completed during the reporting year, this should be made clear. Other material (e.g. website links) will not be evaluated)	Fisheries advice was provided for the 2022 DFI river drainage maintenance works programme in both the DAERA and Loughs Agency areas to ensure protection of fish stocks and habitat at the sites where works were carried out. Quarterly meetings are held with DFI Rivers to discuss the ongoing maintenance programme and to ensure the works planned are not detrimental to fish stocks. Loughs Agency is regularly consulted by River maintenance and planning authorities and has a robust consultation response program
	Current status of action (Please note: 'Completed' means that the overall action is complete for the lifetime of the third reporting cycle. If it is an ongoing action that is reported on annually, it should be marked as 'Ongoing')	Ongoing
	If 'Completed', has the action achieved its objective?	[
Action H2:	Description of action (as submitted in the IP)	Management and control of water quality in salmon producing rivers in NI - the target is to have 70% of rivers at good ecological status by 2021.

	Expected outcome <i>(as submitted in the IP)</i>	Protection against degradation of salmonid habitat through pollution or waste disposals
	Approach for monitoring effectiveness & enforcement <i>(as submitted in the IP)</i>	Water quality is regularly assessed and reported on as part of the EU WFD requirements. All discharges are licensed and conditions of that licence are regularly assessed for compliance. Enforcement action maybe taken for non compliance issues. Pollution incidents are investigated and appropriate enforcement action maybe taken which in some cases may result in a criminal prosecution for offenders. All enforcement activity is regularly reported to the public and will be included in the NASCO APR Process. Status reports on progress on the WFD goals are reported through the WFD process.
	Progress on action to date <i>(Provide a brief overview with a quantitative measure, or other justified evaluation, of progress. If sub-actions are completed during the reporting year, this should be made clear. Other material (e.g. website links) will not be evaluated)</i>	<p>NIEA carried out 1533 water pollution investigations in relation to reports of water pollution in 2022. Further actions were taken as appropriate. There were 12 incidents in 2022 in which fish were killed due to water pollution – 7 were classified as Major and 5 as Moderate.</p> <p>Loughs Agency staff also investigated 576 reports/incidents of water pollution in the Foyle and Carlingford area, 19 of which were classed as high, 47 classed as medium, 88 classed as low. There were 4 separate fish kills in the Loughs Agency linked to pollution. There were also 2 fish kill incidents linked to high temperatures/Climate change.</p>
	Current status of action <i>(Please note: ‘Completed’ means that the overall action is complete for the lifetime of the third reporting cycle. If it is an ongoing action that is reported on annually, it should be marked as ‘Ongoing’)</i>	Ongoing
	If ‘Completed’, has the action achieved its objective?	I

Action H3:	Description of action <i>(as submitted in the IP)</i>	To identify and assess the impact of barriers on 18 primary salmon rivers in NI by 2024.
	Expected outcome <i>(as submitted in the IP)</i>	To carry out surveys to identify all potential barriers to fish passage in primary salmon rivers in NI subject to resources and assess fish passage at them.
	Approach for monitoring effectiveness & enforcement <i>(as submitted in the IP)</i>	Where opportunities are identified and the necessary resources / permissions obtained to mitigate and reduce the number of barriers or improve fish passage at the site where they cannot be removed. Rivers where barrier surveys have carried out and assessed along with any mitigation / removal works to be reported as part of the NASCO APR process.
	Progress on action to date <i>(Provide a brief overview with a quantitative measure, or other justified evaluation, of progress. If sub-actions are completed during the reporting year, this should be made clear. Other material (e.g. website links) will not be evaluated)</i>	[The barriers app has now been finalised for both Apple and Android devices. Data collection devices have provided to DAERA Fisheries staff. Work is 90% complete for the Ballycastle rivers and both the Glendun and R Bush surveys have been started. Significant preliminary work has already been completed for barrier identification for primary salmon rivers in the LA area and these will be reviewed to apply a passability rating.]
	Current status of action <i>(Please note: 'Completed' means that the overall action is complete for the lifetime of the third reporting cycle. If it is an ongoing action that is reported on annually, it should be marked as 'Ongoing')</i>	[Ongoing]
	If 'Completed', has the action achieved its objective?	[]
Action H4:	Description of action <i>(as submitted in the IP)</i>	To update inventory of current and potential salmon habitat on 3 primary salmon rivers in NI.
	Expected outcome <i>(as submitted in the IP)</i>	To update salmon habitat inventory data on a GIS database for the Blackwater, Glendun, Margy /Glenshesk rivers This will help identify and prioritise subsequent habitat enhancement actions. In the Loughs Agency area surveys have been completed and is recorded on GIS layers which are available.
	Approach for monitoring effectiveness & enforcement <i>(as submitted in the IP)</i>	Habitat surveys updates carried out to be reported as part of the NASCO APR process.
	Progress on action to date <i>(Provide a brief overview with a quantitative</i>	[Work has continued on this action on the Glendun and Margy rivers.]

	<i>measure, or other justified evaluation, of progress. If sub-actions are completed during the reporting year, this should be made clear. Other material (e.g. website links) will not be evaluated)</i>	
	Current status of action <i>(Please note: 'Completed' means that the overall action is complete for the lifetime of the third reporting cycle. If it is an ongoing action that is reported on annually, it should be marked as 'Ongoing')</i>	Ongoing
	If 'Completed', has the action achieved its objective?	I
Action H5:	Description of action <i>(as submitted in the IP)</i>	To enhance degraded habitat or improve salmon habitat on 2 primary salmon rivers annually in NI, with rivers below CL being prioritised. This would equate to a minimum of 2km of upgraded river habitat per year
	Expected outcome <i>(as submitted in the IP)</i>	To enhance a minimum of 2km of degraded habitat or salmon habitat on primary salmon rivers in NI including government and stakeholder schemes.
	Approach for monitoring effectiveness & enforcement <i>(as submitted in the IP)</i>	Rivers where degraded habitat is enhanced or habitat is improved carried out to be reported as part of the NASCO APR process and where resources permit both pre and post assessments may also be carried out to consider the effectiveness of the works.
	Progress on action to date <i>(Provide a brief overview with a quantitative measure, or other justified evaluation, of progress. If sub-actions are completed during the reporting year, this should be made clear. Other material (e.g. website links) will not be evaluated)</i>	In the DAERA area the following works were carried out: River Bush 200m restoration of nursery habitat in a degraded channel, with associated bank re-grading. Addition of c. 1000T material. Reconnection of high value spawning habitat with nursery habitat, to reduce local bottleneck on juvenile survival. Restoration of 5 spawning beds, including raking of gravel, removal of weed, and addition of 150T of spawning gravel. Agivey River Restoration of spawning beds, including addition of 80T spawning gravel - 200m

		<p>Margy River</p> <p>Enhancement of 140m of holding habitat in intertidal zone, including addition of 200T material. Reduction of intertidal/inshore predation of adults and smolts.</p> <p>Upper Blackwater – Lungs 1.6km of instream nursery habitat and bankside revetment completed Removal of impassable instream obstruction 1860 tonnes cobble stone</p> <p>Upper Ballycassidy River – O’Neills 500m of instream nursery habitat and bankside revetment completed</p> <p>500m of livestock fencing erected 1025 tonnes cobble stone</p> <p>Upper Ballinamallard River – Kilskeery Reduction in livestock access to watercourse Installation of 3 mains supplied livestock drinkers</p> <p>Loughs Agency has carried out salmonid restoration works on the following rivers:</p> <p>Culdaff River River Roe River Finn Mournebeg River River Reelan Clanrye River Bessbrook River River Derg River Faughan River Dennett Camowen River River Strule Drumragh River Glenelly River</p> <p>Following the river enhancement work, the following outputs were recorded:</p> <p>Riparian fencing – 18.6KM Trees planted – 22,106 Provisions of water for livestock – 73 Spawning beds created – 250m² Spawning gravel regraded – 8942m² Bank revetment to stop erosion – 1062m² Rubble mats – 13 tonnes</p>
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	Current status of action <i>(Please note: 'Completed' means that the overall action is complete for the lifetime of the third reporting cycle. If it is an ongoing action that is reported on annually, it should be marked as 'Ongoing')</i>	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).

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Action A1:	Description of action <i>(as submitted in the IP)</i>	To manage sea lice levels in salmon aquaculture in NI vigilance will remain high through: <ul style="list-style-type: none"> • continued monitoring of farm practices, records and activities by DAERA Inspectors in relation to sea lice counts on fish; • annual health inspection and surveillance sampling by DAERA in compliance with Regulation (EU) 2016/429; • DAERA Inspectors carryout inspections at harvest and count sea lice as outlined in A3 If sea lice levels remained above the farm background levels for a significant period of time, DAERA would meet with the operators to discuss options for reducing the levels.
	Expected outcome <i>(as submitted in the IP)</i>	Sea lice levels on Aquaculture salmon are expected to remain low
	Approach for monitoring effectiveness & enforcement <i>(as submitted in the IP)</i>	Findings/results recorded, analysed and retained. Remedial action taken where deficiencies are found, DAERA would meet with the operators to discuss options for reducing the levels. Outcomes will be reported as part of the APR process
	Progress on action to date	DAERA Fisheries inspectors continued monitoring of farm practices, records and activities in relation to sea lice counts on fish. This included the

	<p><i>(Provide a brief overview with a quantitative measure, or other justified evaluation, of progress. If sub-actions are completed during the reporting year, this should be made clear. Other material (e.g. website links) will not be evaluated)</i></p>	<p>annual health inspection and surveillance sampling by DAERA in compliance with Regulation (EU) 2016/429</p> <p>No treatment for sea lice was required by the operator throughout 2022.</p> <p>Progress For SectionA3:</p> <p>Inspections were carried out during 12 site visits at harvesting to assess sea lice levels on fish and the following results were obtained.</p> <table border="1"> <thead> <tr> <th rowspan="2">Date</th> <th rowspan="2">No of fish harvested</th> <th rowspan="2">No of fish inspected</th> <th rowspan="2">No of positive fish</th> <th rowspan="2">% of sample</th> <th rowspan="2">% infected with Lep salmonis</th> <th colspan="4">No of fish with:</th> </tr> <tr> <th>1 louse</th> <th>2 lice</th> <th>3 lice</th> <th>4 lice</th> </tr> </thead> <tbody> <tr><td>26/01/2022</td><td>1950</td><td>376</td><td>62</td><td>19</td><td>16</td><td>55</td><td>6</td><td>1</td><td>0</td></tr> <tr><td>24/02/2022</td><td>2100</td><td>400</td><td>25</td><td>19</td><td>6.25</td><td>23</td><td>2</td><td>0</td><td>0</td></tr> <tr><td>23/03/2022</td><td>1540</td><td>242</td><td>23</td><td>15.7</td><td>9.5</td><td>22</td><td>2</td><td>0</td><td>0</td></tr> <tr><td>27/04/2022</td><td>1400</td><td>335</td><td>11</td><td>24</td><td>3.28</td><td>10</td><td>1</td><td>0</td><td>0</td></tr> <tr><td>18/05/2022</td><td>1680</td><td>345</td><td>21</td><td>20</td><td>6</td><td>19</td><td>2</td><td>0</td><td>0</td></tr> <tr><td>22/06/2022</td><td>1740</td><td>364</td><td>4</td><td>21</td><td>1.09</td><td>2</td><td>2</td><td>0</td><td>0</td></tr> <tr><td>27/07/2022</td><td>1680</td><td>320</td><td>0</td><td>19</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>31/08/2022</td><td>2700</td><td>400</td><td>2</td><td>14.8</td><td>0.5</td><td>2</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>28/09/2022</td><td>1680</td><td>305</td><td>5</td><td>18</td><td>1.63</td><td>5</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>25/10/2022</td><td>1440</td><td>296</td><td>5</td><td>20</td><td>1.68</td><td>3</td><td>1</td><td>0</td><td>0</td></tr> <tr><td>09/11/2022</td><td>1820</td><td>339</td><td>9</td><td>19</td><td>2.6</td><td>9</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>07/12/2022</td><td>2100</td><td>311</td><td>9</td><td>15</td><td>2.8</td><td>9</td><td>0</td><td>0</td><td>0</td></tr> </tbody> </table>	Date	No of fish harvested	No of fish inspected	No of positive fish	% of sample	% infected with Lep salmonis	No of fish with:				1 louse	2 lice	3 lice	4 lice	26/01/2022	1950	376	62	19	16	55	6	1	0	24/02/2022	2100	400	25	19	6.25	23	2	0	0	23/03/2022	1540	242	23	15.7	9.5	22	2	0	0	27/04/2022	1400	335	11	24	3.28	10	1	0	0	18/05/2022	1680	345	21	20	6	19	2	0	0	22/06/2022	1740	364	4	21	1.09	2	2	0	0	27/07/2022	1680	320	0	19	0	0	0	0	0	31/08/2022	2700	400	2	14.8	0.5	2	0	0	0	28/09/2022	1680	305	5	18	1.63	5	0	0	0	25/10/2022	1440	296	5	20	1.68	3	1	0	0	09/11/2022	1820	339	9	19	2.6	9	0	0	0	07/12/2022	2100	311	9	15	2.8	9	0	0	0
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<p>Action A2:</p>	<p>Description of action <i>(as submitted in the IP)</i></p>	<p>Monitor for Non NI escapee aquaculture salmon in a wild salmon stock in N. Ireland.</p>																																																																																																																																						

	Expected outcome <i>(as submitted in the IP)</i>	Escapee aquaculture salmon not from NI are monitored annually at the River Bush trap.
	Approach for monitoring effectiveness & enforcement <i>(as submitted in the IP)</i>	Full time adult trap in place to monitor all adults returning to the R Bush. All adults are assessed for a range of biological parameters. All escapees are removed from the system and data recorded. The results will be included in the NASCO APR.
	Progress on action to date <i>(Provide a brief overview with a quantitative measure, or other justified evaluation, of progress. If sub-actions are completed during the reporting year, this should be made clear. Other material (e.g. website links) will not be evaluated)</i>	No farm escapees were detected at the river Bush trap in 2022.
	Current status of action <i>(Please note: 'Completed' means that the overall action is complete for the lifetime of the third reporting cycle. If it is an ongoing action that is reported on</i>	Ongoing

	<i>annually, it should be marked as 'Ongoing')</i>	
	If 'Completed', has the action achieved its objective?	I
Action A3:	Description of action <i>(as submitted in the IP)</i>	Monitoring sea lice levels in aquaculture salmon in N. Ireland.
	Expected outcome <i>(as submitted in the IP)</i>	An annual assessment of sea lice levels of sea cage reared salmon in N. Ireland.
	Approach for monitoring effectiveness & enforcement <i>(as submitted in the IP)</i>	There is an overall annual assessment of sea lice based on data on sea lice levels obtained during the inspection of monthly harvesting operations by DAERA staff. The data collected is regularly reviewed by DAERA and will be included in the NASCO APR Process.
	Progress on action to date <i>(Provide a brief overview with a quantitative measure, or other justified evaluation, of progress. If sub-actions are completed during the reporting year, this should be made clear. Other material (e.g. website links) will not be evaluated)</i>	

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Action A4:	<p>Description of action <i>(as submitted in the IP)</i></p>	Monitoring levels of genetic introgression of aquaculture salmon into wild stocks in NI
	<p>Expected outcome <i>(as submitted in the IP)</i></p>	Triennial assessment of levels of genetic introgression of aquaculture salmon into wild stocks adjacent to the sites for salmon aquaculture in NI
	<p>Approach for monitoring effectiveness & enforcement <i>(as submitted in the IP)</i></p>	Every three years samples collected are assessed to monitor levels and trends of introgression in wild stocks of rivers adjacent to the salmon aquaculture site. The results will be included in the NASCO APR.
	<p>Progress on action to date <i>(Provide a brief overview with a quantitative measure, or</i></p>	[The most recent data suggests there has been a decrease in the level of genetic introgression of farmed genetic material into wild stocks in UK NI between 2014 and 2018. In the 2014 study a maximum of 5.9% of juveniles had genomes of part farmed origin, compared to 1.9% in the 2018 study. Genetic samples have been collected and will be analysed in 2023.]

	<i>other justified evaluation, of progress. If sub-actions are completed during the reporting year, this should be made clear. Other material (e.g. website links) will not be evaluated)</i>	
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	If 'Completed', has the action achieved its objective?	I
Action A5:	Description of action <i>(as submitted in the IP)</i>	To assess marine aquaculture sites annually
	Expected outcome <i>(as submitted in the IP)</i>	To assess the potential for escapement of fish from marine aquaculture in NI each year
	Approach for	D sites each year. The results will be included in the NASCO APR. AERA staff will inspect the cages at marine aquaculture

	<p>monitoring effectiveness & enforcement <i>(as submitted in the IP)</i></p>	
	<p>Progress on action to date <i>(Provide a brief overview with a quantitative measure, or other justified evaluation, of progress. If sub-actions are completed during the reporting year, this should be made clear. Other material (e.g. website links) will not be evaluated)</i></p>	<p>[No escapees were reported to DAERA in 2022. Surface inspections of the site by Fisheries Inspectors did not highlight any structural issues with cages]</p>
	<p>Current status of action <i>(Please note: 'Completed' means that the overall action is complete for the lifetime of the third reporting cycle. If it is an ongoing action that is reported on annually, it should be marked as 'Ongoing')</i></p>	<p>[Ongoing]</p>
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	has the action achieved its objective?	
Action A6:	Description of action <i>(as submitted in the IP)</i>	To establish Long term monitoring through the establishment of a sea lice-mortality risk index in wild anadromous salmonids in an area with aquaculture production.
	Expected outcome <i>(as submitted in the IP)</i>	An annual assessment of the risk of sea lice induced mortality in post-smolt salmonids in an area of aquaculture activity.
	Approach for monitoring effectiveness & enforcement <i>(as submitted in the IP)</i>	An annual sampling of wild sea trout post-smolts immediately upon return from the sea in the spring in rivers in the area of aquaculture production. These fish will be assessed for sea lice burden. This data will be used to calculate a salmonid risk index which estimates the increased mortality due to sea lice infestation, based on the assumption (based on peer-reviewed science) that small salmonid post-smolts (<150 g body weight) experience similar sea lice mortality rates. Results will be reported in the APR.
	Progress on action to date <i>(Provide a brief overview with a quantitative measure, or other justified evaluation, of progress. If sub-actions are completed during the reporting year, this should be made clear. Other material (e.g. website links) will not be evaluated)</i>	<p>Sampling of 0+ sea age sea-trout (finnock) was undertaken in the tidal portion of the Glenarm river in May and August 2022. This is the closest geographical riverine habitat to the NI salmon aquaculture facility.</p> <p>No premature returning finnock were found in the May survey.</p> <p>In total 19 sea run (silver) sea trout were sampled in the August survey with direct lice counts ranging from 0-11 per fish with an average lice load of 1.6 lice/fish. It is hoped to repeat this pilot survey in 2023 and develop a timeseries.]</p>
Current status of action <i>(Please note: 'Completed' means that the overall</i>	[Ongoing]	

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	<p>If 'Completed', has the action achieved its objective?</p>	

<p>4: Additional information required under the Convention</p>	
<p>4.1</p>	<p>Details of any laws, regulations and programmes that have been adopted or repealed since the last notification.</p>
<p>4.2</p>	<p>Details of any new commitments concerning the adoption or maintenance in force for specified periods of time of conservation, restoration, and other management measures.</p>
<p>4.3</p>	<p>Details of any new actions to prohibit fishing for salmon beyond 12 nautical miles.</p>
<p>4.4</p>	<p>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.</p>
<p>4.5</p>	<p>Details of any actions taken to implement regulatory measures under Article 13 of the Convention including imposition of adequate penalties for violations.</p>
<p>North American Commission Members only:</p>	
<p>4.6</p>	<p>Details of any new measures to minimise bycatches of salmon originating in the rivers of the other member.</p>
<p>4.7</p>	<p>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.</p>

