



Council

CNL(20)37

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

EU – UK (England and Wales)

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

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

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

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

Party:	European Union
Jurisdiction / Region:	UK (England and Wales)

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.*)

The draft Implementation Plan for England and Wales is being revised according to the findings of the latest Review, but these revisions are deemed minor and therefore not described in further detail here.

1.2 Describe any major new initiatives or achievements for salmon conservation and management that you wish to highlight.

To reduce exploitation of salmon, in 2019, all the major salmon net fisheries around the English coast were closed and mandatory catch and release (C&R) was introduced on rod fisheries exploiting those river-stocks of salmon most at risk. In 2019, no salmon were reported taken by the remaining net fisheries in England, which principally target sea trout (in 2018, 10,328 salmon were caught by net fisheries in England). In 2019, 189 salmon were caught by net fisheries in Wales (in 2018, 317 salmon were caught by net fisheries in Wales). In response to the poor status of individual river stocks of salmon in Wales, from 1 January 2020, new measures were brought in requiring mandatory C&R of salmon on all rod fisheries, along with additional method controls to help maximise the survival of released fish.

These measures included the cross-border rivers Dee and Wye. Mandatory C&R of salmon was also introduced on all net fisheries in Wales, with arrangements for the last very small fishery under negotiation. The River Severn emergency byelaws (England) were introduced in 2019 requiring compulsory rod and line C&R and no netting of salmon. Concomitant emergency byelaws were introduced in Wales in September 2019.

Alongside the new fishery byelaws introduced in Wales in 2020, Welsh Government have asked Natural Resources Wales (NRW) to produce a ‘Plan of Action’ for salmon (and sea trout) in Wales. This is in development and identifies a number of measures aimed at stock protection and environmental improvement to be addressed (with partners) in the next ~5 years (many of those actions follow those already identified in this progress report).

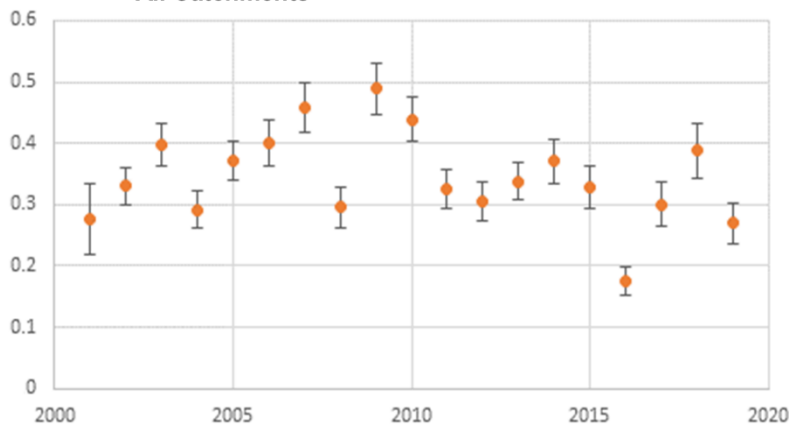
2: Stock status and catches.

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

In 2019, alongside poor adult returns, juvenile recruitment continues to be a concern (Figure 1.), although there appears to be some improvement on 2016, which was a notably poor year across many rivers in England and Wales, linked to storm Desmond. Poor recruitment of juveniles in 2016 could have suppressed adult returns in 2019 and may still have repercussions for the 2020 return, in particular.

Despite the above, on the recovering rivers a salmon was recorded above Sheffield on the River Don for the first time in 150 years and an adult salmon was recorded on the River Thames during the Environment Agency’s annual Thames fish survey in 2019.

**Fig. (1) Preliminary analysis of 0+ salmon Log₁₀(Density+1)
All Catchments**



Pink salmon did not materialise in any great numbers in 2019 with only three confirmed reports across England and Wales.

A new salmon skin condition, informally termed ‘red skin disease’ to describe ventral haemorrhaging in fresh run salmon, was reported in Norway, Sweden, Ireland and parts of the UK on a small number of wild salmon. No cases were confirmed in England and Wales. The origins and implications of this are unclear at present.

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’).

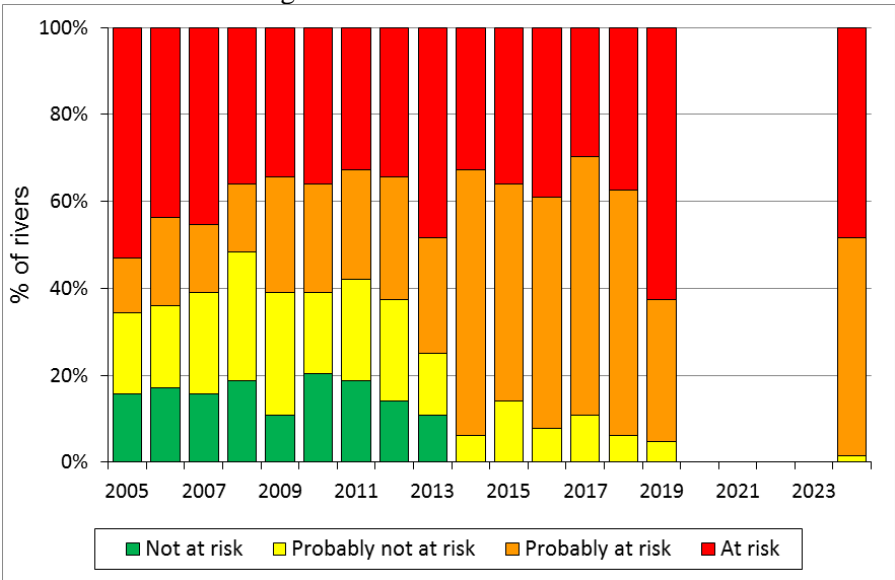
	In-river	Estuarine	Coastal	Total
(a) provisional nominal catch (which may be subject to revision) for 2019 (tonnes)	4.00	0.50	0.00	4.50
(b) confirmed nominal catch of salmon for 2018 (tonnes)	3.50	3.80	35.50	42.80
(c) estimated unreported catch* for 2019 (tonnes)	0.64	0.04	0.00	0.68
(d) number and percentage of salmon caught and released in recreational fisheries in 2019	7,990 salmon, 89% of those caught.			

*Unreported catch = estimated illegal and under-reported catch

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:		In order to ensure that management decisions are based on up-to-date assessments of stock status and composition (F1), in E&W we will (i) undertake annual assessments of the status of salmon stocks in line with the NASCO Fishery Management Guidance (paragraph 2.5), and (ii) annually review management measures and any need for changes / possible new measures (including voluntary and emergency regulatory controls) in salmon fishing These actions will also ensure that regulated fishing in estuary and river fisheries does not exceed levels that are sustainable and threaten conservation of stocks (F3), and that mixed stock fisheries do not pose unacceptable risks to stocks (F4).
	Expected outcome (as submitted in the IP):	An annual update on stock status for all principal salmon rivers, meeting annual reporting requirements for ICES and NASCO, and, where the annual review of management measures indicates the need for change, these changes will be implemented.
	Progress on action to date (Provide a brief overview)	The status of salmon stocks was assessed for all 64 of England and Wales' principal salmon rivers to meet annual reporting requirements for ICES and NASCO and will be published in the report: <i>Salmon Stocks and Fisheries in England and Wales 2019</i> . The assessment places each rivers' salmon stock

	<p>with a quantitative measure, or other justified evaluation, of progress. Other material (e.g. website links) will not be evaluated):</p>	<p>into one of four categories with the strongest classed as ‘Not at Risk’ and the weakest as ‘At Risk’, see Figure 2. below.</p> <p>Details of revised management measures are described in F3 and F4.</p>  <p>Fig. 2. Percentage of principal salmon rivers in each risk category, assessed against their management objective, for 2005-2019 and as predicted for 2024 for England and Wales.</p>
	<p>Current status of action:</p>	<p>Ongoing</p>
	<p>If ‘Completed’, has the action achieved its objective?</p>	<p>[[]]</p>
<p>Action F2:</p>	<p>Description of action (as submitted in the IP):</p>	<p>In order to ensure that assessments of stock status, compliance procedures and associated Decision Structure make best use of available data and remain fit for purpose (F2), E&W will continue to assess ways in which assessment procedures and the related Decision Structure can be improved and changes implemented. These developments will be subject to discussion and review with stakeholders through the England Fisheries Group (EFG) and Welsh Fisheries Forum (WFF).</p>
	<p>Expected outcome (as submitted in the IP):</p>	<p>Introduction of a more robust stock assessment methodology with clearer and more timely links to management decision-making and regulatory responses</p>
	<p>Progress on action to date (Provide a brief overview)</p>	<p>A salmon stock assessment working group has been established, which includes: the Environment Agency, NRW, the Centre for Environment, Fisheries and Aquaculture Science (Cefas) and the Game and Wildlife Conservation Trust (GWCT) together with a project programme and delivery schedule.</p>

	<p>with a quantitative measure, or other justified evaluation, of progress. Other material (e.g. website links) will not be evaluated):</p>	<p>Outputs to date against the four work streams include: 1. Setting Conservation Limits: GIS-based modelling work (commissioned by NRW and undertaken by the Water Research Centre) has been used to generate catchment-scale estimates of juvenile salmon (and trout) production from electrofishing survey data. Such models (to be developed further) have potential application in refining current procedures to estimate productive capacity/CLs on the principal salmon rivers of England and Wales. 2. Developments to estimating spawner numbers: An improved and upgraded online rod catch reporting system and associated reporting tools were implemented in December 2018, which has received positive feedback. Between 2016-19, over £1,000,000 has been invested in upgrading and improving the resilience of the national fish counter network. Since 2018, the River Tamar index river age-weight key has been applied to south west and southern stocks, and the River Dee index river age-weight key applied to Wales and NW and NE England. An internal QA process has been integrated into the compliance assessment process. 3. Consideration of alternative statistical compliance procedures: this work is in progress, including both a review of the statistical approach and analyses used in England and Wales, and comparison with several elements of the approaches used in Scotland, Northern Ireland and Ireland. 4. Improving the decision structure: this work is in progress.</p>
	Current status of action:	Ongoing
	If 'Completed', has the action achieved its objective?	[]
<p>Action F3:</p>	<p>Description of action (as submitted in the IP):</p>	<p>In order to ensure that regulated fishing by estuary and river fisheries does not exceed levels that are sustainable and threaten conservation of stocks (F3) (in line with the NASCO Fishery Management Guidance - paragraph 2.7), E&W will introduce new restrictions on net and rod fisheries in England from the 2019 season, and in Wales from 2020. The measures are based on the projected status of stocks for 2022, as assessed in 2017, and will apply for a fixed period, at which point they will be subject to further review (i.e. they are unlikely to be subject to change year on year; annual assessment of stock status will continue). These actions will also ensure that mixed stock fisheries do not pose unacceptable risks to stocks (F4).</p> <p>For England (measures implemented from 2019):</p> <ul style="list-style-type: none"> • Closure of all net fisheries for 'at risk' and 'probably at risk' rivers in 2019, based on the projected status of stocks for 2022, as assessed in 2017; this includes all remaining drift net fisheries. • Mandatory C&R by anglers on the rivers that are classed as 'at risk', based on the projected status of stocks for 2022, as assessed in 2017, and on rivers that are listed as 'recovering rivers' (Annex 2). • Voluntary C&R targets in excess of 90% on rivers classed as 'probably at risk'. Compliance with the C&R target will be reviewed in 2020 with

		<p>a view to either continuing the voluntary measures or implementing mandatory C&R byelaws if stocks cannot be adequately protected by voluntary means.</p> <ul style="list-style-type: none"> • Renewal of the 1998 Spring Salmon Byelaws. These protect the larger, early running salmon, and do not introduce any new restrictions. <p>N.B. River Severn emergency byelaws were introduced in 2019 requiring compulsory C&R.</p> <p>N.B. A package of rod fishing byelaws will also be developed for the cross-border rivers Wye and Dee (“Border Rivers (England) byelaws”) to complement measures in Wales.</p> <p>For Wales</p> <ul style="list-style-type: none"> • In 2019, emergency byelaw ‘The Wales Salmon Protection Emergency Byelaws 2018’ was brought in to ensure that all salmon are released before 1st June (nets) and 16th June (rods). <p>(measures implemented from 2020):</p> <ul style="list-style-type: none"> • Mandatory C&R fishing of all salmon at all times for rod fisheries in all rivers in Wales. • Introduce partial method prohibitions on bait (worm, prawn and shrimp), use of treble hooks and use of barbed hooks. • Introduce mandatory C&R fishing and method controls on 2 of the 3 cross-border rivers – Dee and Wye in Wales. (N.B. River Severn emergency byelaws were introduced in 2019 requiring compulsory C&R). • Introduce mandatory C&R of salmon at all times in all net fisheries, with arrangements for the last very small net fishery under negotiation. • Introduce revised start and finish dates for net fishing seasons.
	<p>Expected outcome (as submitted in the IP):</p>	<p>Reduction in the exploitation of stocks to facilitate conservation of wild salmon stocks and to aid stock recovery.</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)</p>	<p>[To reduce salmon exploitation in England and Wales, the new restrictions on net and rod fisheries described above for England (National Salmon and Sea Trout Byelaws 2018) and Wales (‘All Wales’ and ‘Cross-Border’ (Wye and Dee) Fishing Byelaws 2020) have been introduced.</p> <p>Three of 14 Net Limitation Orders (NLOs) within the IP were reviewed:</p> <p>River Camel: the national salmon and sea trout byelaws closed the net fishery and an additional byelaw requires compulsory C&R of salmon caught by rod and line.</p> <p>River Fowey: a zero NLO has been confirmed, the net fishery bought out and a 100% voluntary C&R of salmon caught by rod and line has been agreed.</p> <p>River Severn: an emergency byelaw was introduced in June 2019 requiring no netting and the compulsory C&R of salmon caught by rod and line.</p> <p>The River Lune NLO review will be completed in 2020.</p>

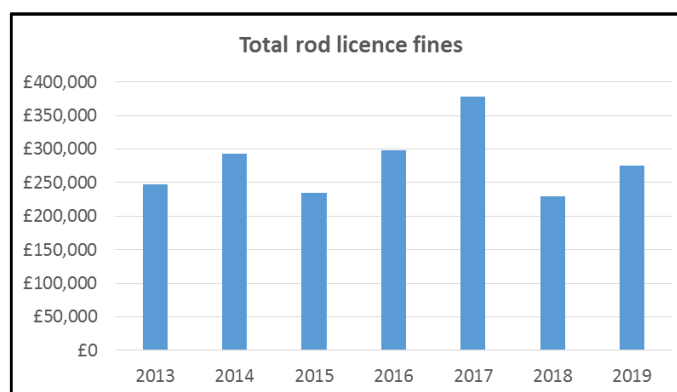
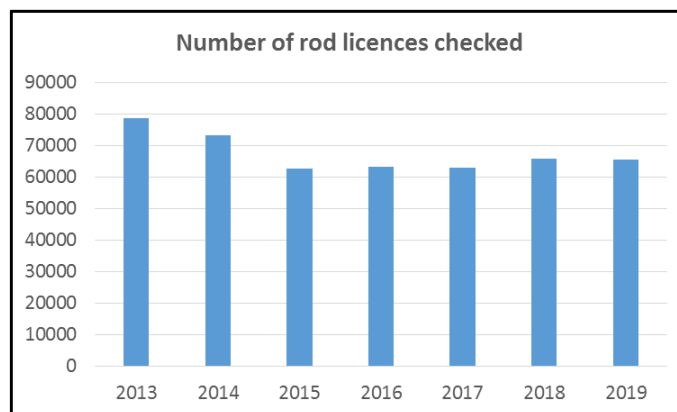
	<i>will not be evaluated):</i>	Based on provisional rod catch data for 2019, in England, for the rivers requiring mandatory C&R, compliance was 100% and for rivers requiring voluntary >90% C&R compliance was 90%. In Wales, C&R overall was 84%.
	Current status of action:	Ongoing
	If 'Completed', has the action achieved its objective?	
Action F4:	Description of action (as submitted in the IP):	<p>In order to ensure that mixed stock fisheries do not pose unacceptable risks to stocks (F4), E&W will introduce measures to phase out / regulate any remaining MSFs to reduce fishing mortality to sustainable levels in order to conserve stocks (in line with the NASCO Fishery Management Guidance - paragraph 2.7).</p> <p>Any estuarine MSFs will continue to be managed in order to safeguard the weakest contributing stock. Measures include:</p> <ol style="list-style-type: none"> The drift net fishery on the NE coast will close in 2019 and mandatory C&R of salmon will be required in the NE T&J (beach) net and Anglian coastal fisheries. The 5-year review of the NLO for net fisheries in the Severn Estuary and the regulatory measures for fixed engines will be conducted and amended as appropriate. The 7-year review of the NLO for the remaining nets in the Anglian Coastal Fishery will be conducted and the NLO (licence numbers) and Byelaws (fishing periods and gear) amended as appropriate. The 10-year review of the NLO for the remaining T&J (beach) nets in the NE coast fishery will be conducted and the NLO (licence numbers) and Byelaws (fishing periods and gear) amended as appropriate.
	Expected outcome (as submitted in the IP):	<p>Cessation of netting or introduction of mandatory C&R provisions for salmon in all coastal mixed stock fisheries from 2019.</p> <p>Implementation of regulations to ensure estuarine mixed stock fisheries (N.B. River Severn only, all other estuary fisheries will be closed or subject to mandatory C&R) continue to be managed in line with national policy and international guidance and to ensure that all contributing stocks achieve conservation requirements.</p>
	Progress on action to date (Provide a brief overview with a quantitative measure, or other justified evaluation, of	<ol style="list-style-type: none"> The drift net fishery on the NE was closed in 2019 and mandatory C&R of salmon is now required on the NE T&J (beach) net and Anglian coastal fisheries. The Severn Estuary net fishery is subject to an emergency byelaw which has closed the net fisheries and requires compulsory C&R for salmon caught by rod and line. The Anglian coast NLO is due for review in 2022.

	<i>progress. Other material (e.g. website links) will not be evaluated):</i>	d. The NE coast NLO is due for review in 2022.
	Current status of action:	Ongoing
	If 'Completed', has the action achieved its objective?	
Action F5:	Description of action (as submitted in the IP):	<p>In order to ensure that conservation of salmon stocks and fishing mortality at sustainable levels is not threatened by lack of support from stakeholders in voluntary conservation measure (F5), E&W will work with stakeholder organisations to promote catch and release (C&R) in rod fisheries through enhanced guidance and communications to increase acceptance of C&R among those anglers currently reluctant to adopt this practice and to achieve required C&R targets.</p> <p>In Wales this is mandatory C&R in all rivers from 2020; and in England from the 2019 season - mandatory C&R in all rivers classed as 'at risk', with voluntary high C&R rates (>90%) in all stocks classed as 'probably at risk' (based on the projected status of stocks for 2022, as assessed in 2017).</p>
	Expected outcome (as submitted in the IP):	Higher uptake of C&R in rod fisheries resulting in increased numbers of salmon surviving to spawn to facilitate 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):	<p>Based on provisional rod catch data for 2019, in England, for the rivers requiring mandatory C&R, compliance was 100% and for rivers requiring voluntary >90% C&R compliance was 90%. In Wales, C&R overall was 84%.</p> <p>Action to improve levels of C&R has included: the Angling Trust, Salmon and Trout Conservation and the Atlantic Salmon Trust promoting best practice C&R guidance and producing 'The Gift', Parts 1-3, which are video clips on the best tackle to use to safely C&R Atlantic salmon; planning how to safely land a hooked salmon; and how to safely land, unhook, revive and release a salmon. The Environment Agency sent C&R reminders in both May and June 2019 to 200,000 rod fishing licence holders in England and Wales who have signed up to receive the e-newsletter.</p> <p>In Wales, guidance was issued to all netmen on C&R. For rod and line anglers, a new web-based guide to C&R was developed in 2019: <i>Look after your salmon - an angler's guide to catch and release</i>, in partnership with the Wye and Usk Foundation, Angling Trust and Environment Agency, </p>

	Current status of action:	Ongoing																									
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Action F6:	Description of action (as submitted in the IP):	In order to ensure that unregulated (illegal) fishing and by-catch in other fisheries does not threaten conservation of stocks (F6), E&W will ensure effective enforcement of fishery regulations (in line with the NASCO Fishery Management Guidance - paragraph 2.3), and specifically: <ul style="list-style-type: none"> a) Continue with prevention, disruption and intervention of illegal fishing, including intelligence-led enforcement and ongoing implementation of a ban on the sale of rod-caught fish and a carcass tagging scheme for net-caught fish. b) Undertake a review of fishery enforcement priorities in England. c) work with England's ten Inshore Fisheries and Conservation Authorities (IFCAs) and Welsh Government to secure better protection for migratory salmonids from netting activities. 																									
	Expected outcome (as submitted in the IP):	Reduced illegal fishing and by-catch of migratory salmonids in estuaries and nearshore areas, helping to ensure that as many returning salmon as possible survive to contribute to spawning, particularly for stocks in vulnerable rivers.																									
	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>a) Salmon enforcement metrics are presented below for NE and NW England together with national licence enforcement figures 2013-19. In 2019, £250,000 was secured for the purchase a range of enforcement equipment to support operational activities. NRW have maintained enforcement levels in Wales in 2019. Enforcement staff have received training to prepare for the implementation of new (2020) net and rod fishery byelaws to protect salmon (and sea trout) stocks across Wales (see Section 1.2).</p> <table border="1"> <thead> <tr> <th colspan="2">NE England fisheries enforcement period from August 2018 to October 2019 (Data for 2019 alone not available)</th> </tr> <tr> <th>Enforcement activity / offence</th> <th>No.</th> </tr> </thead> <tbody> <tr> <td>Section 1 offences:</td> <td></td> </tr> <tr> <td>Gaff</td> <td>1</td> </tr> <tr> <td>Snatch</td> <td>1</td> </tr> <tr> <td>Illegal nets - salmon</td> <td>10</td> </tr> <tr> <td>Unlicensed salmon rod licence</td> <td>7</td> </tr> <tr> <td>Catch and release rod licence</td> <td>0</td> </tr> <tr> <td>Prosecutions salmon</td> <td>2</td> </tr> <tr> <td>Warning letters licensed netmen</td> <td>6</td> </tr> <tr> <td>Dealer checks for salmon were carried out as part of normal patrol duties targeting main wholesalers. The 'buyer beware' leaflet was updated to cover new byelaws.</td> <td></td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th colspan="2">NW England fisheries enforcement period 2019</th> </tr> <tr> <th>Enforcement activity / offence</th> <th>No.</th> </tr> </thead> <tbody> </tbody> </table>	NE England fisheries enforcement period from August 2018 to October 2019 (Data for 2019 alone not available)		Enforcement activity / offence	No.	Section 1 offences:		Gaff	1	Snatch	1	Illegal nets - salmon	10	Unlicensed salmon rod licence	7	Catch and release rod licence	0	Prosecutions salmon	2	Warning letters licensed netmen	6	Dealer checks for salmon were carried out as part of normal patrol duties targeting main wholesalers. The 'buyer beware' leaflet was updated to cover new byelaws.		NW England fisheries enforcement period 2019		Enforcement activity / offence
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Anti-poaching patrols in response to reports or when intelligence officers have found signs that indicate poaching activity.	15
Night time surveillance operations – following strong intelligence reports.	3
Day time surveillance operations – following reports or when intelligence officers have found signs that indicate poaching activity.	2
Coastal/licenced netting patrols.	31
Byelaw patrols – including checks for C&R (we are logging conversations with anglers for catches to help us to check catch returns at the end of the season)	114
Smolt bycatch checks with IFCA – these checked IFCA licenced fishermen's nets for smolts.	3
There have been no cases this year but enforcement officers have issued advice and guidance on C&R. Advice and guidance has been issued to all Solway Haaf netsmen (approx. 45) after errors were found in their log books. This is the first response to minor/medium breaches and will allow if necessary a stronger response in future.	45
Dealer checks for salmon carried out.	5

National rod licence enforcement figures 2013-19 (N.B. these figures relate to both migratory salmonid and coarse and trout licences)



		<div data-bbox="507 230 1201 645" data-label="Figure"> <table border="1"> <caption>Average rod licence fines</caption> <thead> <tr> <th>Year</th> <th>Average Fine (£)</th> </tr> </thead> <tbody> <tr> <td>2013</td> <td>128</td> </tr> <tr> <td>2014</td> <td>125</td> </tr> <tr> <td>2015</td> <td>125</td> </tr> <tr> <td>2016</td> <td>138</td> </tr> <tr> <td>2017</td> <td>148</td> </tr> <tr> <td>2018</td> <td>150</td> </tr> <tr> <td>2019</td> <td>175</td> </tr> </tbody> </table> </div> <p data-bbox="499 689 1461 1025"> b) The Environment Agency is undertaking an England fishery enforcement review, which is scheduled to complete by the end of 2020. c) The Environment Agency has worked with all 10 Inshore Fisheries Conservation Authorities (IFCAs) during 2019 to ensure the protection of salmon and sea trout in inshore waters. This has included attending IFCA meetings and undertaking joint patrols, with officers of both agencies operating with cross-warrants in some districts. In Wales, NRW are continuing to seek ways of working with Welsh Government marine fisheries to better protect salmon in inshore waters. </p>	Year	Average Fine (£)	2013	128	2014	125	2015	125	2016	138	2017	148	2018	150	2019	175
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	Current status of action:	Ongoing																
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<p>3.2 Provide an update on progress on actions relating to Habitat Protection and Restoration (section 3.5 of the Implementation Plan). <i>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.</i></p>		
Action H1:	Description of action (as submitted in the IP):	<p>To increase salmon's climate change resilience (H1) we will:</p> <p>a) seek to safeguard and create thermal refugia through tree planting/fencing to increase riparian shade (target 50,000 trees and 50km fencing in England by 2024);</p> <p>b) work with anglers to minimise the risk to salmon when temperatures are high through supporting voluntary cessation of fishing (e.g. on all principal salmon rivers where water temperatures reach 19°C at 09:00);</p>

		<p>c) ensure that salmonid thermal standards are applied and adhered to through regulation on all principal salmon rivers;</p> <p>d) aim to establish temperature monitoring networks on principal salmon rivers, representative of regions (target 5 rivers in England by 2024) to research and support management initiatives; and</p> <p>e) investigate potential impacts of future climate change scenarios on salmon and explore and seek to implement possible mitigating measures.</p>
	<p>Expected outcome (as submitted in the IP):</p>	<p>Improved salmon survival as a result of actions to moderate the impact of climate change.</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>a) In 2019, across England’s 42 principal salmon rivers, 14.97km of tree planting was undertaken and 11.85km of fencing was erected (Environment Agency’s ‘kilometres of river enhanced’ database). Welsh Government aims to plant 100,000 hectares of new woodland by 2030 to help Wales meet its carbon emission reduction targets, as well as to deliver other environmental benefits e.g. relating to flood alleviation, soil stability, pollution prevention and shading. Various tree planting initiatives are underway e.g. ‘The Plant! Programme’ – with around 4,000 trees planted monthly in north and south Wales.</p> <p>b) Three voluntary schemes were in operation in 2019 on the Test, Itchen and Hampshire Avon.</p> <p>c) Further work is required to determine the application of thermal standards in the permitting of discharges.</p> <p>d) A temperature monitoring network was established on the River Tamar in 2019. In Wales, networks of temperature loggers are in place on a number of principal salmon rivers, including the Wye, Usk, Tywi, Conwy, Clwyd and Dee (via NRW and partner organisations including Welsh Water, Afonydd Cymru and Wye Salmon Association).</p> <p>e) In England, the Environment Agency are undertaking an assessment of risks and opportunities from climate change to our Agriculture, Fisheries and Natural Environment functions. In this assessment, they are assessing the magnitude and urgency of these risks and how well its current work programmes are managing the risk from climate change. Within this process they are assessing the impact to salmon under current conditions, or +2°C and +4°C scenarios. The Environment Agency is influencing the development of the new Environmental Land Management scheme with Defra partners to promote land management measures which reduce existing pressures on salmon and promote riparian shading on headwater streams to reduce stream temperatures. In addition, they are developing a management approach to identify, protect and enhance thermal refuges in rivers.</p> <p>NRW, with Cardiff University and Welsh Government (Kess II programme), is supporting PhD research (2018-2021) into climate effects on salmonids in freshwaters. This aims to utilise long-term data sets - including on temperature, discharge, water quality and juvenile fish abundance - to map and model thermal conditions and salmonid habitat availability across Welsh</p>

		<p>catchments under future climate scenarios. A key aim is to identify important refuge habitats and guide both protection and potential enhancement actions.</p> <p>Work commissioned by NRW to investigate the extent and causes of recruitment failure of salmon and trout in Wales in 2016 following Storm Desmond, has recently been completed and reported by the Water Research Centre and Game and Wildlife Conservation Trust. This examines historic data sets (pre and post event) to identify the extent to which levels of salmonid recruitment in 2016 were unusual, and explores potential causes (e.g. temperature, flow, spawning levels).</p>
	Current status of action:	Ongoing
	If 'Completed', has the action achieved its objective?	
Action H2:	Description of action (as submitted in the IP):	<p>To improve the survival of salmon in estuaries and inshore waters (H2), we will:</p> <ul style="list-style-type: none"> a) review and report on the factors affecting salmon at sea and the associated evaluation and prioritisation of potential stressors acting in estuaries and inshore waters; b) raise the profile of salmon by supporting the International Year of the Salmon (IYS) throughout 2019 (and possibly beyond); c) support research initiatives aimed at improving understanding of salmon survival at sea (including: SAMARCH (SAlmonid MAnagement Round the CHannel) 2017-2022 and the Likely Suspects initiative) and use recommendations to realise better protection for salmon in estuaries and at sea; d) work with England's ten Inshore Fisheries and Conservation Authorities (IFCAs) and Welsh Government to secure better protection for migratory salmonids from netting activities; e) secure improvements in water quality through the delivery of the Water Company National Environment Programmes PR14 (2015-2020) & PR19 (2020-2025) and River Basin Management Plans (2015-2021) & (2021-2027); and f) seek to ensure tidal-lagoons and power stations do not adversely impact on salmon populations.
	Expected outcome (as submitted in the IP):	<p>Improved understanding of the fate of salmon in estuaries and marine waters to inform policy and strengthen management practice in these areas.</p> <p>Tangible measures implemented to protect salmon in the marine environment, e.g. byelaws introduced to protect salmon from inshore netting activities</p>
	Progress on action to date	<p>a) The two reviews have been completed: <i>Review of factors regulating Atlantic salmon at sea and their distribution and migration during the marine phase of the life-cycle</i> (Russell, Gillson & Bašić); and, <i>Review of potential stressors</i></p>

<p><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><i>of Atlantic salmon during the marine phase of the life cycle</i> (Russell, Gillson, Bašić, Riley & Talks). These reports have been finalised and are “in press” for publication in 2020, as per plan.</p> <p>b) From launch in November 2018 to the end of December 2019, the England and Wales IYS website was visited 4,095 times, including 1,192 visits to the page describing the salmon life cycle. It is planned to maintain this over the longer term. A full report of IYS activities has been submitted to NASCO: <i>IYS(20)01_EU – UK (England and Wales)</i>.</p> <p>c) An update on the SALmonid MAnagement Round the CHannel project 2017-2022 (SAMARCH) has been provided to NASCO’s IASRB (Project EW19), along with other work in this area carried out in E&W. Preliminary findings from the SAMARCH study have already been used by the Environment Agency to inform discussions on sea fisheries byelaws with IFCAs in 2019.</p> <p>d) In 2019, working with the Devon & Severn IFCA and Cornwall IFCA, new byelaws now prohibit all netting in estuaries. Coastal byelaws in the Devon & Severn IFCA and Cornwall IFCA are being reviewed. New Southern IFCA and Sussex IFCA byelaws are under review. New net (and rod) fishery byelaws have been introduced on all principal salmon (and sea trout) rivers in Wales in 2020 – the culmination of a public consultation process which began in 2017. These byelaws are in place for 10 years with a 5-year mid-term review (see Section 2.1). All Net Limitation Orders (NLOs) in Wales were renewed in 2017 and should be in place for another 10 years.</p> <p>e) In England, the most recent published WFD status information for transitional and coastal (TraC) waters is 2016. The results for overall WFD class status were:</p> <table border="1" data-bbox="533 1205 1445 1339"> <thead> <tr> <th></th> <th>High</th> <th>Good</th> <th>Moderate</th> <th>Poor</th> <th>Bad</th> </tr> </thead> <tbody> <tr> <td>Transitional</td> <td>1.0%</td> <td>19.2%</td> <td>72.1%</td> <td>1.9%</td> <td>5.8%</td> </tr> <tr> <td>Coastal</td> <td>1.6%</td> <td>41.9%</td> <td>54.8%</td> <td>1.6%</td> <td>0.0%</td> </tr> </tbody> </table> <p>In Wales, WFD cycle 2 interim classifications were undertaken in 2018. The next update (3-year cycle) is due in 2021. Since the last classification in 2015, transitional water bodies meeting ‘good’ or ‘better’ status have decreased by three including one water body which has deteriorated from high to moderate. Only one of 32 transitional water bodies in Wales was classified as ‘poor’ in 2018, the remainder were ‘good’ or ‘moderate’. Coastal waterbodies (23 in Wales) have generally stayed the same except for the only ‘poor’ water body improving to ‘moderate’ status. This means no coastal water bodies were reported as ‘poor’ or ‘bad’ in 2018.</p> <p>f) To protect migratory salmonids, impact assessments have been undertaken for the Hinkley Point Nuclear Power Station and the Swansea Bay tidal lagoon proposed development. The Interreg France (Channel) England Programme has recently awarded the Tidal Stream Industry Energiser Project (TIGER) €46.8m to drive growth in tidal stream energy around the Channel region.</p>		High	Good	Moderate	Poor	Bad	Transitional	1.0%	19.2%	72.1%	1.9%	5.8%	Coastal	1.6%	41.9%	54.8%	1.6%	0.0%
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	Current status of action:	Ongoing																																																																													
	If 'Completed', has the action achieved its objective?																																																																														
Action H3:	Description of action (as submitted in the IP):	<p>To improve fish passage and salmon habitat (H3) through implementing River Basin Management Plans, working with key partner organisations such as the Rivers Trust across England and Wales, we will aim to:</p> <ol style="list-style-type: none"> identify and prioritise barriers to migration and implement measures to improve fish passage (e.g. passage schemes completed on at least 25 sites in England by 2024); identify and restore degraded salmon habitat (e.g. minimum 50 kilometres in England); deliver new fish passage regulations; and seek to ensure in-river hydropower and tidal power schemes meet defined standards and do not cause deterioration in salmon populations. 																																																																													
	Expected outcome (as submitted in the IP):	Improved fish passage allowing greater access to spawning areas and improved smolt survival combined with enhanced habitat improving spawning success and juvenile survival.																																																																													
	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>a) In 2019, fish passage was improved on 17 weirs/barriers across England's 42 principal salmon rivers, improving access for salmon to 146 km of river on the Rivers Ribble, Kent, Leven, Severn, Tyne, Wear, Coquet, Exe, Camel and Fowey (data from the Environment Agency's 'kilometres of river enhanced' database and fish passage panel). Records from NRW indicate fish passage works benefitting salmon were completed at 15 sites in Wales in 2019.</p> <div data-bbox="550 1397 1238 1845" data-label="Figure"> <table border="1"> <caption>Removing or easing barriers on England's 42 principal salmon rivers 2014 - 2019</caption> <thead> <tr> <th>Year</th> <th>Other (De-culverting, fish easements)</th> <th>Pre-barrage</th> <th>Weir removal</th> <th>Bypass/natural channel</th> <th>Rock ramp</th> <th>Larinier super active baffle</th> <th>Pool type</th> <th>Baulk</th> <th>Low Cost Baffles</th> <th>Alaskan A/Denil</th> </tr> </thead> <tbody> <tr> <td>2014</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>2015</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>2016</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>2017</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>2018</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>2019</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> </tbody> </table> </div>	Year	Other (De-culverting, fish easements)	Pre-barrage	Weir removal	Bypass/natural channel	Rock ramp	Larinier super active baffle	Pool type	Baulk	Low Cost Baffles	Alaskan A/Denil	2014	1	1	1	1	1	1	1	1	1	1	2015	1	1	1	1	1	1	1	1	1	1	2016	1	1	1	1	1	1	1	1	1	1	2017	1	1	1	1	1	1	1	1	1	1	2018	1	1	1	1	1	1	1	1	1	1	2019	1	1	1	1	1	1	1	1	1	1
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Trews Weir larinier fish pass on the River Exe

- b) In 2019, 13.4km of habitat was enhanced across England’s 42 principal salmon rivers (data from the Environment Agency’s ‘kilometres of river enhanced’ database and fish passage group). NRW records indicate that habitat improvement works benefitting salmon – mainly in-river schemes – were undertaken at 14 sites in Wales in 2019 (totalling ~22 km of river). A programme to develop ‘Fisheries Habitat Restoration Plans’ for all (23) principal salmon rivers in Wales is ongoing – commissioned by NRW and delivered by Afonydd Cymru.
- c) The government remains committed to delivering fish passage legislation, after the transition period.
- d) On England’s 42 principal salmon rivers, up until the end of 2019, 123 hydropower permits have been issued with 89 operational, 32 non-operational and 2 not yet built.

Current status of action:	Ongoing
If ‘Completed’, has the action achieved its objective?	

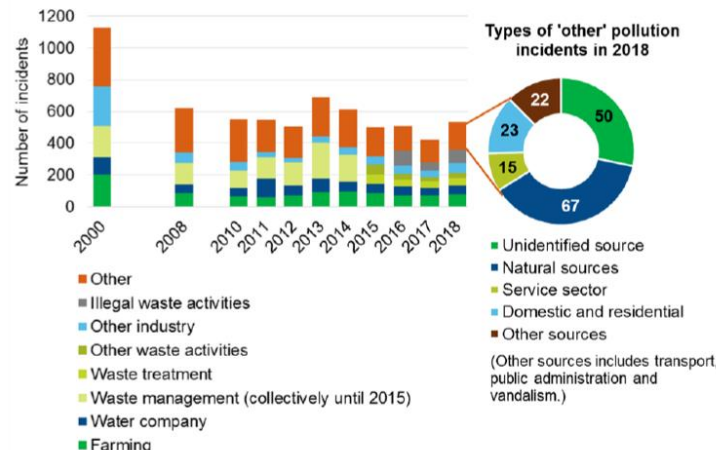
Action H4:	Description of action (as submitted in the IP):	<p>To ensure sufficient flow for salmon through delivering measures to realise sustainable abstraction (H4), we will:</p> <ul style="list-style-type: none"> a) continue the Restoring Sustainable Abstraction (RSA) Programme; to vary abstraction licences to meet requirements of environmental legislation (e.g. (WFD & HD), which includes 13 licences on salmon rivers in England investigated by March 2020); b) review time-limited licences due for renewal on salmon rivers, adjusting them as necessary to make sure they do not allow environmental damage now or in the future;
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		<p>c) ensure all permanent abstraction licences shown to be seriously damaging to salmon are reduced and meet environmental standards;</p> <p>d) revoke 116 unused licences that are no longer needed, and work with abstractors to reduce 12 under-used licences on salmon rivers in England by 2019. This will prevent increased abstraction from these licences creating new environmental pressures;</p> <p>e) regulate all significant abstractions that have been exempt historically to protect the water environment;</p> <p>f) secure sufficient flows for salmon through delivering >100 Water Industry National Environmental Programme water resource investigations during PR14 & PR19;</p> <p>g) work with abstractors and catchment groups to develop local solutions to existing abstraction problems, as set out in the Water Abstraction Plan 2017 (England). To support this, we will also work with stakeholders to improve available tools through the Future Local Management of Flows initiative 2019-2024; and</p> <p>h) ensure hydro and tidal power schemes do not cause deterioration in flows or an increase in migration barriers to the detriment of salmon populations. Where possible ensure flows and artificial spates controlled from impounding reservoirs are managed to optimise salmon production/migration.</p>
	<p>Expected outcome (as submitted in the IP):</p>	<p>Improved flows to sustain the various life stages of salmon in freshwater (and the wider ecology of rivers) resulting in improved survival of salmon.</p> <p>More sustainable abstraction with more water bodies meeting environmental objectives.</p> <p>Under Defra’s 25-year Environment Plan and set out in the Water Abstraction Plan (https://www.gov.uk/government/publications/water-abstraction-plan-2017/water-abstraction-plan), it is proposed to reduce the damaging abstraction of water from rivers and groundwater, ensuring that by 2021 the proportion of water bodies with enough water to support environmental standards increases from 82% to 90% for surface water bodies and from 72% to 77% for groundwater bodies. In order to meet these goals, the Environment Agency will implement the actions described above.</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)</p>	<p>a) In England, one abstraction licence on a principal salmon river was reviewed under the RSA programme in 2019. In Wales, NRW are progressing discussions with abstractors on abstraction and impoundment licences within the RSA programme.</p> <p>b) Twenty three time-limited licences on England’s principal salmon rivers were reviewed in 2019. There are nearly 400 time-limited licences that will be assessed when they are due for renewal. In Wales, NRW reviewed all time-limited licences in 2019 – five in total. A further five licences are scheduled to be reviewed in 2020, and 23 in 2021.</p> <p>c) In England, one licence that has been shown to be seriously damaging to salmon was modified in 2019. There are no licences in this category in Wales.</p>

	<i>will not be evaluated):</i>	<p>d) In England, 116 unused licences that are no longer needed have been revoked under phase one of this programme. Under phase two, one licence was revoked in 2019. This action is not applicable to Wales.</p> <p>e) In England, 1,505 applications for significant abstractions to be brought into regulation have been received. The application window for these previously exempt abstractions closes on 30th June 2020 so there may be a slightly higher number by June. The applications will then be determined between 2020 and 2022. It is not yet clear how many of these affect principal salmon catchments. Work is being addressed in this area in Wales in line with statutory deadlines. The application window for historically exempt licences closed on 31/12/2019 and NRW are progressing work to assess and determine all valid applications received (~100). The determination deadline is 31/12/2022.</p> <p>f) On England's 42 principal salmon rivers, to secure sufficient flows for salmon under PR14 (2014-2019), 23 water resource investigations have been completed and two will complete by 31 March 2020. This action is not applicable to Wales.</p> <p>g) In England, 2019 was the first year of the 5-year Future Local Management of Flows Initiative. Seven work packages have been identified and a stakeholder working group has been established involving water companies, e-NGOs (environmental non-government organisations) and agriculture sectors. One work package was completed in 2019, which involved modelling flows and water quality. This action is not applicable to Wales.</p> <p>h) In England, the Environment Agency has a model in place that triggers Kielder releases. It is based on freshwater flow and water temperature in the River Tyne and predicts whether there will be an oxygen deficit in the Tyne estuary. This is used to prompt the request for a release - via the Environment Agency's Hydrology team. There were no requested releases in 2019 due to regular rainfall and also because Kielder reservoir was drawn down in the summer to provide flood relief for potential winter floods. No salmon mortalities were recorded in the Tyne estuary in 2019. This system has been in place for about 10 years and the instances of dead salmon appear to have reduced dramatically. In 2018, due to drought conditions, multiple release were made and no dead fish were reported. In Wales, NRW applies its hydropower guidance when licensing HEP schemes - ensuring residual flows are protective of salmon habitat and flow requirements, and new impoundments are sited and designed to protect upstream and downstream passage. Work is ongoing by NRW and others to improve understanding of reservoir operation and flow regulation on the Dee, Wye, Usk and Severn in relation to salmon migration.</p>
	Current status of action:	Ongoing
	If 'Completed', has the action	

	achieved its objective?	
Action H5:	Description of action <i>(as submitted in the IP):</i>	To maximise the production of healthy smolts by improving water quality (H5), we will: a) influence River Basin Management Plans to deliver the necessary water quality improvements to protect and enhance salmon populations (England baseline principal salmon water body status (2016): 25% Good/High, 54% Moderate, 19% Poor, 2% Bad; Wales overall minimum target 42% water bodies Good or better status by 2021); b) deliver >100 Water Industry National Environment Programme water quality investigations on salmon rivers during PR14 (2015-2020) and PR19 (2020-2025); c) improve conditions for salmon through targeted agri-environment schemes e.g. Catchment Sensitive Farming, Environmental Stewardship, Countryside Stewardship and regulatory approaches such as Farming Rules for Water (or the equivalent initiatives in Wales e.g. Glastir schemes, Farm Business and Sustainable Production grants and New Water regulations ~2020); and d) seek to reduce ‘serious environmental incidents’ (e.g. from 419 in 2017 in (England). Includes delivery through Wales Land Management Forum subgroup on agricultural pollution and provision of advice by Farming Connect Agricultural Pollution Prevention Campaign).
	Expected outcome <i>(as submitted in the IP):</i>	Improved water quality to sustain the various life stages of salmon in freshwater (and the wider ecology of rivers) resulting in improved survival of salmon.
	Progress on action to date <i>(Provide a brief overview with a quantitative measure, or other justified evaluation, of progress. Other material (e.g. website links) will not be evaluated):</i>	a) In England, no update on WFD status was possible in 2019, as the data hasn’t yet been published, so the baseline of 2016 is the current position - shown above. In Wales, WFD cycle 2 interim classifications were undertaken in 2018. The next update (3-year cycle) is due in 2021. Since the last classification in 2015, the number of river water bodies meeting ‘good’ or better status has increased by 32. However, the number of water bodies at ‘bad’ status has increased by one. Of the 725 river water bodies in Wales (including seven canals and one ‘Surface water transfer’), ~91% were classified as ‘good’ or ‘moderate’ in 2018. b) Forty-seven water quality investigations were delivered to the end of 2019 under PR14 on England’s principal salmon rivers. The National Environment Programme (NEP) PR19 for Wales identifies a number of actions by the lead water company – Dwr Cymru/Welsh Water (DCWW) – to improve environmental quality over the lifetime of the plan (2020-2025). This includes targeting improvements to 418km of rivers over the course of the AMP7 period (to 2025) and a further 128km during AMP8 – to 2030. These figures have been agreed with NRW and the Environment Agency as part of the NEP process, and as such have the status of formal legal obligations. c) To improve conditions for salmon through targeted agri-environment schemes, uptake by farms within England’s 42 principal salmon catchments to the end of 2019 was: Catchment Sensitive Farming: 8,151 farms covering

		<p>726,251 hectares; Countryside Stewardship (water quality grants only) 4,390 farms; and Environmental Stewardship (All grants including biodiversity) 3,579 farms.</p> <p>The Wales Land Management Forum (WLMF) allows NRW to engage at a strategic level with organisations that have a direct land management role; e.g. Farmers' Union of Wales (FUW), Country Land and Business Association (CLA), Dwr Cymru Welsh Water (DCWW), etc. It met on several occasions in 2019 and includes a sub-group on agricultural pollution. The broad aim of WLMF is to develop mutual understanding of the root causes of pollution and to identify a spectrum of approaches for driving improvements. The initial focus has been on slurry and nutrient management alongside the water quality issues relating to soil runoff and use of agri-chemicals (e.g. crop protection products).</p> <p>Farming Connect has a programme tackling agricultural pollution through provision of support, advice and guidance to farmers (e.g. via film, e-fact sheets and case studies). To date, a number of targeted events have been held across Wales at locations where farming is believed to contribute to WFD failing water bodes.</p> <p>With support from NRW and others, NFU Cymru is running a project to assess the benefits that Assurance schemes could deliver to the farming community through raising standards.</p> <p>Throughout 2019, eight new agricultural officers appointed by NRW have been targeting visits at around 30% of the 1,700 dairy farms in Wales – helping the industry ensure it follows best practice and complies with the relevant regulations to prevent agricultural pollution. The same officers have been working in partnership with others (e.g. Farming Connect, the DCWW catchment team and Afonydd Cymru Catchment Officers) to develop innovative new ideas, technology and practices to help further reduce agricultural pollution.</p>
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		<p>d) In England, the most recent published information on serious pollution incidents is for 2018. In 2018, there were 533 serious pollution incidents, 14% fewer than 10 years ago in 2008, but 27% more than in 2017. Less than half of the incidents in 2018 were caused by industries that the Environment Agency regulate. To reduce serious incidents there has to be vigilance and action from all businesses (From report: <i>Regulating for people, the environment and growth, 2018</i>).</p> <p>Figure 3. All serious pollution incidents (caused by activities we permit and those we do not) by sector</p>  <p>The figure consists of two charts. The main chart is a stacked bar chart showing the number of serious pollution incidents from 2000 to 2018. The y-axis represents the 'Number of incidents' from 0 to 1200. The x-axis shows years from 2000 to 2018. The bars are stacked with the following categories from bottom to top: Farming (green), Water company (blue), Waste management (collectively until 2015) (yellow), Waste treatment (light green), Other waste activities (light blue), Other industry (dark blue), Illegal waste activities (orange), and Other (red). The total number of incidents shows a general downward trend from 2000 to 2018, with a notable dip in 2017 and a slight increase in 2018.</p> <p>The second chart is a pie chart titled 'Types of 'other' pollution incidents in 2018'. It shows the following distribution: Unidentified source (50%), Natural sources (67%), Service sector (15%), Domestic and residential (23%), and Other sources (22%). A note indicates that 'Other sources' includes transport, public administration, and vandalism.</p> <p>In Wales, the frequency of agricultural pollution incidents is a source of concern to NRW. The agricultural industry has been responsible for between 120 to 170 substantiated pollution incidents during each of the last eight years. Over 60% of these incidents took place within South West Wales, peaking in January to May. Some 50% of substantiated agricultural pollution incidents have been traced back to dairy farming (incidents involving less than 4% of dairy farms and ~1% of all farms). Recent regulations announced by Welsh Government have included new rules on nutrient management on farms. NRW has been working with Welsh Government and the sector to implement these changes which came into force in January 2020.</p>
	Current status of action:	Ongoing
	If 'Completed', has the action achieved its objective?	
Action H6:	Description of action (as submitted in the IP):	<p>To reduce the risk of salmon stock depletion as a result of predation (H6), we will:</p> <p>a) support the continued issue of licences to control cormorants and goosanders, including the use of area-based licences and the coordination of management actions;</p> <p>b) complete a preliminary review of the current management of fish-eating</p>


		<p>birds in Wales and undertake a subsequent full review of policy if a decision is made to undertake this;</p> <p>c) explore options for better protecting salmon at sensitive life stages and potential predation ‘pinch points’ (e.g. around barriers to smolt migration) and introduce new measures where appropriate; and</p> <p>d) review changes in the abundance and distribution of potential predator species to facilitate management decisions (e.g. seals and fish-eating birds).</p>
	Expected outcome (as submitted in the IP):	<p>Ensuring that licensing policy for the control of fish-eating birds remains fit for purpose and strikes an appropriate balance between safeguarding fish stocks and the conservation status of the birds.</p> <p>Better protection of salmon during sensitive life stages through co-ordinated activities at potential ‘pinch points’.</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>a) In England, in 2019, for cormorants, 440 individual licences and 20 area licences were issued; for goosanders, 26 individual licences and five area licences were issued. In Wales, five catchment-based licences were issued in 2019 covering cormorants and goosanders.</p> <p>b) NRW commissioned an external expert group to consider matters relating to fish eating birds (FEBs) and the resulting paper and recommendations were approved by the NRW Board before submission to Welsh Government. This group will be re-commissioned (2020) to implement the recommendations for a full Policy review.</p> <p>c) A review of obstructions across England and Wales is currently underway. A three-year salmon smolt tracking study to be undertaken by NRW and partners on the River Usk (2020 onward), aims to examine the impact of barriers (and their alleviation) on predation losses.</p> <p>d) Concerning fish-eating birds, the British Trust for Ornithology (BTO) report (Frost <i>et al.</i>, 2019) states that the non-breeding trend for cormorants across the UK 2006/07-2016/17 shows a 19% increase over this period, and the estimate of wintering cormorants for the UK was 62,000. Goosanders showed an 11% increase over the same time period, and the estimate of wintering birds was 15,000. No 10-year trend was reported for red-breasted mergansers but the most recent estimate of overwintering birds was 10,000. (Frost, T.M., Austin, G.E., Calbrade, N.A., Mellan, H.J., Hearn, R.D., Robinson, A.E., Stroud, D.A., Wotton, S.R. & Balmer, D.E. 2019. <i>Waterbirds in the UK 2017/18: The Wetland Bird Survey</i>. BTO, RSPB and JNCC, in association with WWT. British Trust for Ornithology, Thetford.)</p>
	Current status of action:	Ongoing
	If ‘Completed’, has the action achieved its objective?	

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

Action A1:	Description of action (as submitted in the IP):	In response to pressure to increase salmon stocking as a means to support fisheries and/or stocks (A1), we will: <ul style="list-style-type: none"> a) regulate salmon stocking in English rivers by implementing the Environment Agency's stocking policy, which requires the production of a stocking plan; b) continue to highlight the evidence about the impacts of salmon stocking; and c) not allow salmon stocking in Wales. <p>These actions will also address the threat from the introduction and spread of non-native fish, invertebrate species, parasites and diseases, excluding <i>G. salaris</i>.</p>
	Expected outcome (as submitted in the IP):	All authorised stocking operations ensure the protection of genetic integrity and fitness of wild salmon populations.
	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):	<ul style="list-style-type: none"> a) The River Ure salmon stocking plan was reviewed in 2019 and rejected, so no salmon will be stocked into the Ure in 2020. The Tyne salmon stocking plan was also reviewed and in 2020 stocking will be reduced to 160,000, which is the mitigation stocking for the impact of Kielder Reservoir. There will be no estuary mortality mitigation stocking in 2020. b) Evidence highlighting the impacts of salmon stocking has been shared with external partners on the Rivers Tees, Ure and Derwent. c) No salmon were stocked in Wales in 2019.
	Current status of action:	Ongoing
	If 'Completed', has the action achieved its objective?	<input type="checkbox"/>
Action A2:	Description of action (as submitted in the IP):	To prevent the introduction and spread of non-native fish, invertebrate species, parasites and diseases, excluding <i>G. salaris</i> (A2), we will: <ul style="list-style-type: none"> a) implement and enforce Keeping and Introduction of Fish Regulations (in 2015, the Environment Agency issued 5,207); b) implement European Council Regulation No. 708/2007 concerning the Use of Alien and Locally Absent Species in

		<p>Aquaculture and the Alien and Locally Absent Species in Aquaculture (England and Wales) Regulations 2011;</p> <p>c) monitor disease threats (e.g. <i>Saprolegnia</i> and red vent syndrome) and the occurrence of non-native species (e.g. pink salmon) together with providing timely management advice;</p> <p>d) implement biosecurity protocols including the 'Check, Clean, Dry' campaign: and</p> <p>e) remove non-native fish at high-risk sites and/or applying Import of Live Fish Act (IFLA) or fish movement regulations to take appropriate enforcement action where site owners are not compliant.</p>
	<p>Expected outcome (as submitted in the IP):</p>	<p>Containment and/or eradication of undesirable non-native fish species and prevention of <i>G. salaris</i> and other parasites and diseases occurring in England and Wales.</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>a) Since the implementation of the Keeping and Introduction of Fish Regulations in 2015, the total number of live/active permits issued by the Environment Agency is 5,575 Site Permits and 708 Supplier Permits (for introductions of non-native fish) up to 31 December 2019. In 2019, 427 Site Permits and 68 Supplier Permits were issued.</p> <p>b) There have been no applications to culture non-native fish species in natural waters in England and Wales in 2019. Defra policy remains to prohibit the culture of any non-native species in sites connected to natural waters.</p> <p>c) The ILFA Orders prohibit the keeping of any non-native freshwater fish in England and Wales without a licence. Illegally imported species are routinely seized at Border Inspection posts and the Fish Health Inspectorate (FHI) acts to prevent the introduction and marketing of unlicensed non-native fish from EU sources. Guilty parties face seizure and destruction of their stock and prosecution for serious or repeat offences.</p> <p>The FHI carried out 77 investigations relating to suspicions of notifiable disease in 2019, the majority in fishery waters. In addition, 64 fish samples were screened for notifiable diseases on import.</p> <p>The only listed disease detected was Koi Herpesvirus: 18 fishery sites were subject to formal controls for this disease, and two ornamental fish wholesaler's premises were subject to clearance and disinfection.</p> <p>d) All fish farms and ornamental fish import businesses operate in accordance with a biosecurity measures plan, which is aimed at minimising the risk of introduction of pathogens to the business and their spread to other businesses or the wider environment.</p>

		<p>The FHI audits biosecurity measures on aquaculture premises in England and Wales, to ensure that the risk of disease spread between farmed and natural waters is minimised. The FHI provides advice to industry on biosecurity and publicises the wider ‘Check, Clean, Dry’ campaign which aims to educate all water users on the risks of moving non-native species or pathogens between water bodies. FHI also provides guidance on best practice.</p> <p>The Great Britain Invasive Non-native Species Strategy 2015-20 seeks to minimise the risk posed by, and reduce the negative impacts of, invasive non-native species. It follows a hierarchical approach stressing prevention, followed by early detection and rapid response and finally long-term management and control. Enhanced biosecurity is one of the ten goals of the Defra 25-year environment plan. NRW is currently in the process reviewing and refining its Biosecurity Risk Assessments and associated practices applied to all areas of its business.</p> <p>The Angling Trust in February 2019 published: <i>A Survey of Anglers Biosecurity Behaviour and Awareness of Invasive Non-native Species in Great Britain in 2018</i>. Covering anglers in England, Wales and Scotland, 3,540 responses were received. The proportion of anglers cleaning their equipment after every fishing trip has risen since the launch of Check, Clean, Dry, from 21% in 2011, to 35.5% in 2015 and almost half (49.7%) in 2018. The number of high-risk anglers that do not undertake any form of biosecurity has fallen to 7.7%. Only 19.9% of anglers that responded to the survey had heard of the Check, Clean, Dry campaign despite 99% claiming to have heard of invasive non-native species.</p> <p>Pathway Action Plans have been produced for angling and recreational boating in 2019, as required by the Invasive Alien Species Regulations. They seek to prevent the unintentional spread of damaging organisms through targeted biosecurity measures. The Angling Pathway Action Plan is about to go out to public consultation.</p> <p>There has been investment by a number of the water companies in promoting the ‘Check, Clean, Dry’ campaign, particularly with regards travelling anglers (biosecurity posters at ports), improved signage at slipways and better biosecurity at events. The Invasive Non-Native Species (INNS) poster below was produced in 2019 as was a leaflet for tour operators that take game anglers overseas.</p>
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		 <p>e) The Environment Agency treated two topmouth gudgeon sites in 2019, in Somerset and in Bristol.</p>
	Current status of action:	Ongoing
	If 'Completed', has the action achieved its objective?	
Action A3:	Description of action (as submitted in the IP):	<p>To prevent the introduction and spread of the non-native parasite <i>G. salaris</i> (A3), we will:</p> <ol style="list-style-type: none"> deliver the <i>G. salaris</i> surveillance programme, contingency planning and scenario testing/exercises; and implement biosecurity protocols, including ensuring in-river operations comply with best practice and encouraging anglers and other water users to remain vigilant to the risk of non-native species and pathogens, to report sightings and to take biosecurity measures (the 'Check, Clean, Dry' campaign)
	Expected outcome (as submitted in the IP):	Protection of salmon from impact of <i>G. salaris</i> .
	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):	<ol style="list-style-type: none"> <i>G. salaris</i> contingency plans continue to be developed and tested. An exercise in 2019 highlighted the needed to improve communications in the event of an outbreak, and further refinements to the plan to address these issues have been made. The plan would be implemented immediately there was a suspicion or confirmation of the presence of <i>G. salaris</i> in UK waters. Wild salmonid samples were taken from eight river catchments in 2019 and all were negative for the presence of <i>G. salaris</i>. There was no suspicion of the presence of the parasite during routine inspections of salmonid farms, and no reports of unusually low levels of natural salmon parr populations that would have triggered specific investigation.

		<p>c) The Great Britain Invasive Non-native Species Strategy 2015-20 seeks to minimise the risk posed by, and reduce the negative impacts of, invasive non-native species. It follows a hierarchical approach stressing prevention, followed by early detection and rapid response and finally long-term management and control. Enhanced biosecurity is one of the ten goals of the Defra 25-year environment plan.</p> <p>The Fish Health Inspectorate provides advice to the aquaculture industry and angling industry on the risks posed by <i>G. salaris</i> and the practical biosecurity measures that can be taken to prevent its introduction to the UK and its spread within the country. The angling industry is aware of the risks and publicises actions to prevent its introduction by anglers. The Defra Check, Clean, Dry campaign continues to advise all water users of the practical measures they can take to prevent the spread of pathogens and non-native species.</p>
	Current status of action:	Ongoing
	If 'Completed', has the action achieved its objective?	<input type="checkbox"/>
Action A4:	Description of action (as submitted in the IP):	To prevent adverse environmental impacts of aquaculture on adjacent water bodies and ecosystems (A4), we will: a) continue to apply fish farm discharge controls and EU restrictions on prohibited substances and report any breaches in consents.
	Expected outcome (as submitted in the IP):	Avoidance of deleterious impacts on water quality to ensure waters achieve compliance with WFD GES/GEP status and requirements of protected sites.
	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):	In the application of fish farm discharge controls across England, by the Environment Agency, in 2018, there were 176 consent breaches and in 2019, 98 consent breaches (CCS Report 02/01/2018 to 10/12/19). The majority of breaches were minor and a range of regulatory responses were enacted from site closed, permit revoked, ponds drained down to a traders letter being issued advising of a breach in permit conditions.
	Current status of action:	Ongoing
	If 'Completed', has the action achieved its objective?	<input type="checkbox"/>

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.
	In England, new National Salmon and Sea Trout Protection Byelaws came into force 1 January 2019. In Wales, new All Wales Fishing Byelaws came into force 1 January 2020 and Cross-Border (Wye and Dee) angling byelaws came into force on the 31 January 2020. Details are provided in 1.2 and F3.
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.
	N/A
4.3	Details of any new actions to prohibit fishing for salmon beyond 12 nautical miles.
	N/A
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.
	N/A
4.5	Details of any actions taken to implement regulatory measures under Article 13 of the Convention including imposition of adequate penalties for violations.
	N/A
North American Commission Members only:	
4.6	Details of any new measures to minimise by-catches of salmon originating in the rivers of the other member.
4.7	Details of any alteration to fishing patterns that result in the initiation of fishing or increase in catches of salmon originating in the rivers of another Party except with the consent of the latter.