

Angling (Freshwater & Marine) Pathway Action Plan

Sustainability at the heart of a living, working, active landscape valued by everyone.

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An **invasive alien species (IAS)** is a plant, animal or other living organism that may be, either accidentally or intentionally introduced by man, which can have a negative ecological or economic impact in an area where it does not naturally occur.

This Northern Ireland Environment Agency (NIEA) developed this Pathway Action Plan (PAP), with assistance from DAERA Inland Fisheries, Loughs Agency and other related stakeholders that form the PAP Working Group (See Annex 1). NIEA is an agency of the Department of Agriculture Environment and Rural Affairs (DAERA). NIEA, along with other divisions of DAERA and the Working Group, will monitor the implementation of the listed actions. The Working Group membership will be confirmed within 6 months of the final publication of this PAP.

Background to action planning

Reducing the risk posed by pathways of introduction and spread is a key way of tackling IAS. The Invasive Alien Species Strategy¹ for Northern Ireland calls for the development of Pathway Action Plans (PAPs) and they are a requirement under the EU Invasive Alien Species Regulation². They can also form an element of the programme of measures under the Marine Strategy Framework Directive³ and the Environment Strategy for Northern Ireland⁴.

This Pathway Action Plan is one of a series of plans intended to address pathways of introduction or spread of non-native species in Northern Ireland. The EU Regulation defines pathways as ‘the routes and mechanisms of the introduction and spread of IAS’¹. Pathways can apply to the geographic route by which a species moves outside its natural range, or the human activity, in this instance angling, that leads to a deliberate or accidental introduction⁵. A large number of IAS are introduced unintentionally. The most effective way to manage these unintentional introductions is through the management of the introduction pathway itself rather than measures targeted at individual specific species. This plan outlines the general policy and approaches as well as deliverables by government and other actors in relation to the management of the angling pathway.

Scope

This Plan is aimed at the angling pathway, covering marine and freshwater environments, coarse and game fishing, including both wild and stocked fisheries but excludes aquaculture. The geographical scope of the PAP is Northern Ireland but will also refer where relevant to the Ireland from a biogeographical perspective and further afield (particularly Continental Europe).

Rationale

There are currently around 100 invasive non-native freshwater and marine species established in NI. These species, especially those in freshwater, tend to be particularly invasive. In recent decades the rate of arrival of IAS has accelerated, with many species coming from the Ponto-

Caspian region. These include species like the zebra mussel (*Dreissena polymorpha*), which is now established in Lough Erne and Lough Neagh and the quagga mussel (*Dreissena bugensis*), which has established populations in the Shannon system, providing a direct route for spread into NI. Other more recent freshwater arrivals in NI have been the Asian clam (*Corbicula fluminea*), bloody red shrimp (*Hemimysis anomala*) and pathogens such as the crayfish plague (*Aphanomyces astaci*). There are many more aquatic invasive species with the potential to arrive and establish in NI, including plants that can clog freshwater lakes and navigations, marine species that can foul boats and propellers and aquatic invertebrates which can completely alter natural ecosystems. There is also a range of fish diseases that pose a threat to fish in the UK and Ireland along with several invasive fish like topmouth gudgeon (*Pseudorasbora parva*) which pose a threat to angling. This PAP allows us the opportunity to try and prevent the arrival of IAS and associated pathogens into Northern Ireland.

As well as impacting our native biodiversity, IAS can negatively impact our economy. In NI, the estimated annual cost of IAS to the economy is £46.5 million⁶. [Rose to get figures from CEFAS report.](#)

Good biosecurity is critical to reduce the risk of introduction and spread of aquatic invasive non-native species. In 2011 the GB government introduced the Check Clean Dry (CCD) public awareness campaign aimed at improving biosecurity amongst water users. NI, along with all other British Irish Council (BIC) jurisdictions (GB, Ireland, Isle of Man, Jersey and Gurnsey) have fully adopted CCD and have adapted the resources from this campaign and promote CCD via the [Invasive Species Northern Ireland](#) website and multiple leafletting campaigns.

There is a [European Code of Conduct on Recreational Fishing and Invasive Alien Species](#)⁷ that has been developed under the Bern Convention and this area is also covered by a number of relevant NI Acts/Orders/Policy instruments. The recommendations outlined in this plan support the EU Invasive Alien Species Regulation (1143/2014)¹ which, along with Species of Union Concern, provides a general prohibition on the release of any non – native species of animal or plant into the Northern Ireland environment. Northern Ireland is bound to EU Regulation (1143/2014)¹ in respect of Invasive Alien Species (IAS) by virtue of the Northern Ireland Protocol. It is enforced via the corresponding Invasive Alien Species (Enforcement and Permitting) Order (Northern Ireland) 2019⁸.

Other relevant acts:

The Wildlife (Northern Ireland) Order (1985) (as amended)⁹

The Aquatic Animal Health Regulations (Northern Ireland) 2009¹⁰

Molluscan Shellfish (Control of Deposit) Order (Northern Ireland) 1972 Order¹¹

Lobsters (Prohibition of Introduction) Order (Northern Ireland) 1982¹²

The EU fish health regime under Directive 2006/88/EC¹³

All movements of fish or shellfish into Northern Ireland must be notified on [TRACES](#)

Environment Strategy for Northern Ireland (2022)¹⁴

Marine Strategy Framework Directive (2008/56/EC)¹⁵

However, legislation alone is not sufficient to manage and lower the risk associated with introducing or spreading of IAS. It requires cooperation and collaboration from all concerned, each sector is part of the solution and plays an important role in IAS management and implementing best biosecurity practice. This plan sets out additional actions to help to minimise the risk of introduction and movement of non-native species by the activities of anglers or their associated equipment.

Northern Ireland has adapted the GB Angling PAP and has detailed measures to raise awareness among key actors in the sector and strengthen existing biosecurity mechanisms. These actions are outlined below and they form the main body of the action plan.

Aims and Objectives

The overall aim of the PAP is to reduce the risk of introduction and spread of IAS by anglers based on international good practice.

- Facilitate the uptake of good biosecurity practice by the angling community.
- Raise awareness of the non-native species issue amongst anglers.
- Raise awareness of non-native species amongst fisheries managers and riparian owners.
- Raise awareness non-native species amongst traders and the media.
- Encourage all stakeholders to report novel IAS to CEDaR online, iRecord, NIEA Wildlife Team, Loughs Agency and DAERA Inland Fisheries Officers.
- Promote partnership working.

Key Actors

- Northern Ireland Government
- Northern Ireland Local Government (All councils)
- Northern Ireland Environment Agency
- DAERA Inland Fisheries

- Loughs Agency
- Ulster Angling Federation
- All Angling governing bodies (Coarse, Game and Sea)
- Waterways Ireland
- Agri - Foods and Biosciences Institute
- DAERA Marine & Fisheries Division
- DAERA Fish Health Inspectorate
- Department of Infrastructure Rivers Agency
- Fishing festival/competition organisers Other aquatic asset owners that permit angling
- Queens University Belfast/Ulster University
- The Rivers Trusts
- Angling Clubs
- Recreational fishery owners and managers
- Wild fish conservation organisations
- Local Community/Action Groups
- Riparian owners and managers

Actions

Key general actions are outlined below while a more detailed set of actions are to be found in Annex 2. Timetable for actions included in Annex 7.

Action 1

DAERA will oversee the running of a border biosecurity campaign concentrating on the high risk routes of entry to NI and Ireland – mainly internal flights and ferries from GB to and from Ireland and NI.

Action 2

DAERA to include the CCD message on the online angling license process.

Action 3

DAERA as members of BIC INNS Group will work with other member jurisdictions to establish and run a BIC Aquatic Biosecurity group to agree co-ordinated measures, including action at ports, airports, Eurotunnel and on ferries.

Measures to include:

- Adding a Check, Clean, Dry (CCD) or disinfect declaration to passenger entry forms
- Alongside CCD declaration, a declaration of the previous location the angling gear and associated equipment was used (this will alert border control to high-risk incidences and allow them to be more selective in their inspections i.e., if angler/equipment came from Ponto-Caspian region)
- Passengers should also declare their intended destination
- Thorough inspection of angling gear, associated equipment and vehicles
- Failure to comply will result in the quarantine or cleaning of angling gear and associated equipment; and may result in penalties e.g. loss of angling license/rod permit, fines

Action 3a

DAERA will work with Ireland government to introduce an all-island alert-system, whereby Ireland will be notified on any passengers arriving in NI whose final destination is an Ireland waterbody and vice versa.

Action 4

DAERA will liaise with government in Ireland which will be working with member states to agree a programme of action related to aquatic biosecurity (see Annex 4 for those priority species whose arrival we aim to prevent entering NI). NI will also continue to liaise with the GB Non-native Species Secretariat (GBNNSS) and BIC colleagues to produce further biosecurity protocols.

These will be targeted at;

- Continental anglers visiting Northern Ireland and Ireland in same visit
- Local NI and Ireland anglers recently returned from the European continent

Action 5

All angling locations will adopt CCD protocols and include in all lease and management agreements, relating to angling at their sites, when they next come up for agreement/renewal.

Action 6

The Ulster Angling Federation and other angling governing bodies will be encouraged to adopt CCD protocols to include in their constitutions or Terms of Reference (TORs).

Action 7

The DAERA Invasive Non-Native Species Team will compile and maintain a list of sites/ waterways which contain widely spread IAS (at UK National or Regional levels) that are a priority to contain or slow the spread of (see Annex 6 for Widely Spread Species list) and where angling occurs.

Action 8

Owners and managers of these sites where angling occurs will install facilities and signage showing they have adopted CCD protocols (see Annex 8 for resources). This may include;

- Suitable hard standing
- Cold water wash down facilities
- Large prominent signage
- Hot water wash down facilities where possible and practicable
- Enact local biosecurity by-laws where possible

Action 9

Organisers of angling events will be asked to raise awareness and ensure CCD protocols are adopted, especially where invasive species are already present.

This will include;

- A CCD declaration form should be adopted at angling competitions and endorsed by angling clubs
- This would make it a mandatory requirement to CCD all equipment and tackle before participation in a competition

- Those who fail to comply would have to CCD equipment before they are allowed to compete
- In addition, participants should declare previous location the angling gear and associated equipment was used (this will alert organisers to high-risk incidences and allow for more thorough cleaning e.g. if gear/equipment came from Ponto-Caspian region).

Action 10

DAERA Fish Health Inspectorate will circulate fisheries biosecurity guidance (see Annex 5) to all fisheries.

Action 11

Run a campaign aimed at encouraging anglers to record all IAS sightings on CEDaR, iRecord or iNaturalist and to ensure all actors report all sightings. DAERA will assess the effectiveness of this campaign through the analysis of engagement and reporting via CEDaR.

Monitoring and updating

The working group will be re-convened annually to assess progress with achieving the actions. The group will consider all relevant information including the following:

- Number of organisations/clubs/sites signed up to promote CCD.
- Baseline uptake of biosecurity among anglers – then future measurement of improvements to uptake. Particularly important for anglers travelling abroad and for foreign anglers visiting NI from infested waters in GB or abroad.
- Number of angling events organised by each relevant key actor which have provided cleaning facilities each year to demonstrate increasing trend.
- Number of water assets/access points that provide cleaning facilities for anglers permanently or temporarily e.g. during peak season (and within that how many promote/police use of them).

Along with internal annual reviews, as per requirements of the Regulation, this Pathway Action Plan will be reviewed and reported to the Commission every six years.

Annex 1: NI Working/Advisory Group members (TBC):

The following group will take part in further discussions regarding updating, improving and monitoring of this PAP:

Loughs Agency (Chair)

NIEA Invasive Non – Native Species Team (INNST) (Secretary)

Lagan Rivers Trust

Ballinderry River Trust

Ulster Angling Federation

DAERA Inland Fisheries

DAERA Fisheries Inspectorate

Agri-Food & Biosciences Institute – Fisheries & Aquatic Ecosystems

Northern Ireland Government

NI Water

Department of Communities River Managers

Department of Infrastructure Rivers

Local Council representatives

Annex 2: NI Angling Code of Conduct

THE NORTHERN IRELAND CODE OF CONDUCT ON ANGLING AND INVASIVE ALIEN SPECIES

2022

Ideas and texts for this code were drawn from the Council of Europe European Code of Conduct on Recreational Fishing and Invasive Alien Species and tailored to fit the requirements of Northern Ireland as a devolved administration of the U.K.

This document is primarily aimed at recreational fisheries.

For purposes of the EU Regulation (1143/2014), we will use the term invasive alien species (IAS) but in some cases they may also be referred to as Invasive Non-Native Species (INNS).

An **invasive alien species (IAS)** is a plant, animal or other living organism that may either be, accidentally or intentionally introduced by man, and which can have a negative ecological or economic impact in an area where it does not naturally occur.

The estimated annual cost of invasive species to the economy of Northern Ireland is £46,526,218¹⁶. Adopting preventative measures to avoid unintentional introduction and spread of invasive non-native species is widely accepted as the most effective approach to tackle their threat. The EU Invasive Alien Species Regulation¹⁷ and The Invasive Alien Species Strategy for Northern Ireland¹⁸ both aim to target pathways of IAS introductions, prioritizing them and putting measures in place to minimize IAS introduction and establishment. In the past, little thought was given to introduction of IAS by recreational fishing. However, with an estimated 54,000 people fishing in Northern Ireland in 2012¹⁹, it is clear angling here represents a potentially significant pathway for the movement of IAS between different waterways in Ireland, Great Britain and further afield. As such, anglers represent a group of people on which to concentrate educational material and resources as it is anticipated that through education and raising awareness, we will reduce the risk of introduction and spread of IAS by recreational angling. We can also ensure that angling forms part of the solution in tackling IAS, with anglers acting as the 'eyes and ears', spotting and reporting the spread of IAS on [CEDaR](#) (Centre for Environmental Data and Recording), [iRecord](#) or [iNaturalist](#), as well as participating in their control and eradication.

This code of conduct aims to encourage effective practices to prevent future introduction and movement of IAS by angling activity. Angling organisations and institutions hosting angling activity on their waters also have an essential role to play in educating recreational fishermen on the impacts of IAS and the importance of biosecurity.

The recommendations outlined here aim to increase the engagement of angling organisations in their role in raising awareness of IAS. Many of these recommendations support existing legislation such as:

- The Wildlife (Northern Ireland) Order 1985²⁰
- Regulation (EU) No 1143/2014 on the prevention and management of the introduction and spread of invasive alien species²¹
- The Invasive Alien Species (Enforcement and Permitting) Order (Northern Ireland) 2019²²

and codes, such as:

- The European Inland Fisheries Advisory Commissions (EIFAC) Code of Practice for Recreational Fisheries (2007)²³
- The Convention on the Conservation of European Wildlife and Natural Habitats European Charter for Recreational Fishing and Biodiversity (2010).²⁴

This code consists of three key measures:

- 1) Adopt effective preventative measures, like [Check, Clean, Dry \(CCD\)](#), to avoid unintentional introduction and spread of IAS**
- 2) Engage in initiatives to increase anglers' awareness of the threat of IAS and the need for biosecurity**
- 3) Adopt appropriate biosecurity practices for all fisheries, habitat and water body management.**

Detailed suggestions for the implementation of the key measures are outlined below.

1) Adopt effective preventative measures to avoid unintentional introduction and spread of invasive non-native species.

- All fisheries must assess the risk of introduction and further spread of IAS and diseases to their fisheries (identifying measures to minimize the risks where these are significant) and provide a report of their results to the NIEA INNS Team. (See Annex X for Guidance - to be drafted).
- Information and basic training on IAS must be provided to members of staff to ensure they understand the risks of IAS, are adequately trained to mitigate these risks, and know what to do if they come across IAS in a water body.
- Stocking and re-stocking should only be in accordance with relevant regulation and guidance, and measures should be put in place to prevent the unintentional introduction of IAS along with consignments of fish.

- Introduction of any non-native species to create fisheries should be avoided. Where proposed, they must comply with the [EIFAC Code of Practice](#) on Species Introductions, and relevant local or national regulations. For example, in NI, the introduction of non-native species like carp and rainbow trout require a license issued by the NIEA Wildlife Team.
- Where practical, access and egress for anglers should be limited, preferably to a single spot. Anglers should log in and out, confirming that their equipment has been [Checked, Cleaned and Dried](#) since it's last use, before entering, and Checked and Cleaned before leaving. Where a new IAS has been identified this procedure must always be followed to allow containment.
- A [CCD](#) declaration form should be adopted at angling competitions and endorsed by angling clubs.
 - This would make it a mandatory requirement to [CCD](#) all equipment and tackle before participation in a competition.
 - Those who fail to comply would have to [CCD](#) equipment before they are allowed to compete.
 - In addition, participants should declare previous location the angling gear and associated equipment was used (this will alert organisers to high-risk incidences and allow for more thorough cleaning e.g. if gear/equipment came from Ponto-Caspian region).
- Avoid using live bait as it can go on to become invasive in the waterway. Do not reuse bait, as bait can pick up parasites and diseases which can then be spread between waterbodies.
- If possible, nets, drogues, boats and boat equipment should be provided at any site that already has an active infestation of IAS and should be used in preference to personal equipment brought in from off site. If using own boat a singular launching/recovering vehicle could be used.
- Discourage the use of neoprene waders and felt soled wading boots by anglers as these are more difficult to clean and take longer to dry.
- Anglers should [Check, Clean and Dry](#) all equipment in line with the [CCD Campaign](#) to ensure IAS are not transported from one site to the next. They should be encouraged to place equipment in a well-ventilated space to aid in drying as opposed to storing in an enclosed space, such as the boot of a car.

- Fisheries that are high risk for IAS or with known IAS should, where practical, require anglers to fish from the shore/dry rather than entering the water. This could be accommodated by the installation of fish stands or stone walkways.
- Provision of biosecurity stations/cleaning facilities at sites. These ideally should not be connected to the drainage system and must be inspected, and records kept regularly.
- Ideally all cleaning and inspection operations should be supervised by a volunteer or member of staff.
- Early warning and rapid responses to new IAS should be supported. Sightings of new IAS should be immediately reported to the NIEA INNS team, via [CEDaR](#), [iRecord](#) or, [iNaturalist](#).
- Be fully aware of, and comply with, all relevant laws, regulations relating to IAS and promote the [CCD Campaign](#).

2) Engage in initiatives to raise anglers' awareness of the threat of IAS and the need for biosecurity.

- Support awareness raising activities to inform anglers on the issue of IAS, and encourage good biosecurity through promotion of [CCD](#) and Invasive Species Week.
- Promotion of [iRecord](#), [iNaturalist](#) and [CEDaR](#) facilities for reporting IAS. Highlight to anglers not only to concentrate on aquatic IAS but also to report terrestrial IAS on riverbanks and coastal habitats.
- Provide adequate signage and guidance to all recreational anglers to make them aware of the risk of IAS and provide advice on how to prevent their spread. Include guidance on day tickets for visiting anglers.
- Engage recreational anglers in programmes to remove IAS to increase educational and practical awareness as well as using them as a resource.
- Where possible include IAS and biosecurity information, such as an IAS identification guide, a guide to reporting IAS or a guide to [CCD](#), on club membership/cards/books and on day tickets for visiting anglers.

3) Adopt appropriate biosecurity practices for all fisheries, habitat and water body management.

Bank side and in-water management are frequent practices undertaken by recreational fisheries, such as dredging or re-profiling banks, managing vegetation, installing or repairing dams, pontoons or jetties, installing and maintaining fishing platforms. Various organisations, angling

clubs and individuals undertake valuable conservation activities to restore natural features such as meanders and bank-side vegetation, re-introduce lost native fish species, or other measures to improve water quality. These conservation measures represent a risk of unintentionally spreading or introducing IAS (and disease and pathogens). For this reason, it is important that these activities take the required biosecurity measures to prevent the risk of IAS spread.

- Recreational fisheries should engage with authorities or others in management planning for biosecurity, control, and eradication of IAS.
- Advice and guidance for mitigating the risk of IAS and improving biosecurity during habitat and instream works should be produced by the relevant authority (both the Loughs Agency and DAERA?).
- A compulsory biosecurity procedure should be produced for each project outlining and mitigating the potential IAS risks posed by suppliers, contractors, equipment, individuals (Advice and guidance can be sought from the relevant authority).

Annex 1: Relevant legislation and codes of practice.

Check Clean Dry

<http://invasivespeciesni.co.uk/what-can-i-do/check-clean-dry/>

EU IAS Regulation

http://ec.europa.eu/environment/nature/invasivealien/index_en.htm

Wildlife and Countryside Act

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69205/wildlife-countryside-act.pdf

EIFAC Code of Practice for Recreational Fisheries (2007)

<http://www.fao.org/docrep/pdf/011/i0363e/i0363e00.pdf>

the Wildlife (Northern Ireland) Order 1985

<http://www.legislation.gov.uk/nisi/1985/171/contents>

Regulation (EU) No 1143/2014 on the prevention and management of the introduction and spread of invasive alien species

<https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32014R1143&from=EN>

The Invasive Alien Species (Enforcement and Permitting) Order (Northern Ireland) 2019

<http://www.legislation.gov.uk/nisr/2019/159/made>

Guidance on Requirements for Section 48 Permits - In River or Waterbody Works DAERA
section 48 permit

<https://www.daera-ni.gov.uk/sites/default/files/publications/dcal/19.20.105%20Guidance%20on%20Requirements%20for%20Section%2048%20Permits%20proof%201.PDF>

Guidelines for Fisheries Protection during Development Works (Foyle and Carlingford areas)
<https://www.loughs-agency.org/app/uploads/2019/06/loughs-agency-guidelines-for-fisheries-protection-during-development-works.pdf>

A Strategic Review of Angling in Northern Ireland: Executive Summary (2013)
[Review-of-Angling.pdf \(sportni.net\)](#)

Annex 3: Biosecurity guidance for fisheries owners

Biosecurity guidance/plan for fisheries owners in NI also to be added when agreed by group in Annex 1.

Annex 4: Priority concern list of aquatic IAS

List of freshwater, marine and pathogen species that are a priority concern to keep out of Northern Ireland and for which there may be a risk of introduction via angling and related activities. Some are already present in NI in low levels but are localised to specific areas. For these species, the aim is to both reduce risk of their introduction and prevent further spread via angling. Some species are more widespread and present in Ireland, GB waters and on mainland Europe. (Those highlighted in red are alert species for NI).

Freshwater

Scientific name	Common name	Taxon group	Present in NI	Date first recorded in NI	Notes
<i>Alternanthera philoxeroides</i>	Alligator weed	Plant	No		
<i>Astacus astacus</i>	Noble Crayfish; Broad-fingered crayfish	Crustacean	No		
<i>Barbus barbus</i>	Barbel	Fish	No		
<i>Chelicorophium robustum</i>	N/A	Amphipod	No		Also found in brackish waters
<i>Corbicula fluminea</i>	Asian clam	Mollusc	Yes	2016	Localised populations in the River Foyle
<i>Dikerogammarus bispinosus</i>	N/A	Amphipod	No		
<i>Dikerogammarus haemobaphes</i>	Demon shrimp	Amphipod	No		Also found in brackish waters

Scientific name	Common name	Taxon group	Present in NI	Date first recorded in NI	Notes
<i>Dikerogammarus villosus</i>	Killer shrimp	Amphipod	No		Also found in brackish waters
<i>Dreissena rostriformis bugensis</i>	Quagga mussel	Mollusc	No		Present in Shannon catchment, Ireland (first recorded in 2021)
<i>Echinogammarus ischnus</i>	N/A	Amphipod	No		Also found in brackish waters
<i>Echinogammarus trichiatus</i>	N/A	Amphipod	No		
<i>Eriocheir sinensis</i>	Chinese mitten crab	Crustacean	No		Present in Waterford Harbour, Ireland
<i>Hypania invalida</i>	N/A	Polychaete	No		Also found in brackish waters
<i>Limnomysis benedeni</i>	N/A	Crustacean	No		Also found in brackish waters
<i>Ludwigia grandiflora</i> spp.	Water primrose	Plant	No		
<i>Myriophyllum heterophyllum</i>	American water-milfoil	Plant	No		
<i>Neogobius gymnotrachelus</i>	Racer goby	Fish	No		
<i>Neogobius melanostomus</i>	Round goby	Fish	No		
<i>Obesogammarus crassus</i>	N/A	Amphipod	No		Also found in brackish waters

Scientific name	Common name	Taxon group	Present in NI	Date first recorded in NI	Notes
<i>Oncorhynchus gorbuscha</i>	Pacific or Pink humpback salmon	Fish	Yes	2017	*For discussion Two incidences. One at River Bush Salmon Research Station, another in River Mourne, Sion Mills
<i>Oncorhynchus mykiss</i>	Rainbow trout	Fish	Yes	1969	*For discussion
<i>Orconectes limosus</i>	Spinycheek crayfish	Crustacean	No		
<i>Orconectes rusticus</i>	Rusty crayfish	Crustacean	No		
<i>Orconectes virilis</i>	Virile crayfish	Crustacean	No		
<i>Pacifastacus leniusculus</i>	Signal crayfish	Crustacean	No		
<i>Pontogammarus robustoides</i>	Scud	Amphipod	No		Also found in brackish waters
<i>Proterorhinus marmoratus</i>	Tubenose goby	Fish	No		
<i>Proterorhinus semiluaris</i>	Freshwater tubenose goby	Fish	No		
<i>Pseudorasbora parva</i>	Topmouth gudgeon; stone moroko	Fish	No		
<i>Salvelinus fontinalis</i>	Brook trout; Brook charr; Sea trout	Fish	No		*For discussion
<i>Sander lucioperca</i>	Zander; Pikeperch	Fish	No		
<i>Squalius cephalus</i>	Chub	Fish	No		*For discussion
<i>Thymallus thymallus</i>	Grayling	Fish	No		

Marine

Scientific name	Common name	Taxon group	Present in NI	Date first recorded in NI	Notes
<i>Asparagopsis armata</i>	Harpoon weed	Marine algae	Yes	2016	Present in Narrow Water Keep, Strangford Lough and two incidences in Belfast Lough
<i>Asterocarpa humilis</i>	Compass sea squirt	Tunicate	Yes	2017	Recorded at Church Bay; Rathlin Island, Bangor Yacht Club and Strangford Lough
<i>Bonnemaisonia hamifera</i>	A red macroalgae	Marine algae	Yes	2002	Widely spread across the NI coasts
<i>Caprella mutica</i>	Japanese skeleton shrimp	Crustacean	Yes	2009	Localised distribution; Glenarm Marina, Rathlin Island, Strangford Lough and Belfast Lough
<i>Caulacanthus okamurae</i>	Pom-pom weed	Marine algae	Yes	2016	
<i>Cercopagis pengoi</i>	Fishhook Waterflea	Crustacean	No		
<i>Didemnum vexillum</i>	Carpet sea squirt	Tunicate	Yes	2012	Localised distribution in Strangford Lough
<i>Gracilaria vermiculophylla</i>	A red macroalgae	Marine algae (seaweed)	Yes	2012	

Scientific name	Common name	Taxon group	Present in NI	Date first recorded in NI	Notes
<i>Grateloupia turuturu</i>	Devil's tongue weed	Marine algae (seaweed)	Yes	2017	Localised to Millbay, Larne Lough and Carrickfergus Marina
<i>Hemigrapsus sanguineus</i>	Asian shore crab	Crustacean	No		
<i>Hemigrapsus takanoi</i>	Brush-clawed shore crab	Crustacean	No		
<i>Mnemiopsis leidyi</i>	Water comb jelly; Sea walnut	Ctenophore	No		
<i>Rapana venosa</i>	Veined rapa whelk	Mollusc	No		
<i>Sargassum muticum</i>	Japanese wireweed	Marine algae (seaweed)	Yes	2002	Can also tolerate estuarine environments
<i>Styela clava</i>	Leathery sea squirt	Tunicate	Yes	2008	First recorded in Larne Lough and now present in Belfast Lough
<i>Undaria pinnatifida</i>	Wakame	Marine algae (seaweed)	Yes	2012	Recorded in Glenarm, Carrickfergus, and Carlingford marinas

Pathogens

Scientific name	Common name	How to identify it	Present in NI	Notes
<i>Salmon isavirus</i>	Infectious salmon anaemia (ISA) virus	Fish behave lethargically. They swim near the surface and often vertically when gasping. They are reluctant to feed. Symptoms normally develop slowly and include a distended abdomen, protruding bloodshot eyes and pale swollen gills ¹	No	First recorded in the West of Ireland in 2002. Ireland since declared free of ISA in 2009
<i>Aphanomyces astaci</i>	Crayfish plague disease	Many dead or dying White-clawed crayfish (<i>Austropotamobius pallipes</i>), our native crayfish species.	Yes	Recorded in NI in 2018 in the headwaters of the River Blackwater near Aughentaine, Co. Tyrone
<i>Gyrodactylus salaris</i>	Salmon fluke	Specialist knowledge needed. Heavily infected fish normally have damaged fins, in particular the dorsal, caudal and pectorals and there may be copious mucus	No	
<i>Chelicerophium robustum</i>	production. Infested fish are normally lethargic ¹	No	No	
Report suspected cases of these diseases to DAERA Inland Fisheries				

Priority concern species were listed as a result of being assessed and ranked as high risk of becoming invasive should they arrive and establish in Northern Ireland^{1,2,3}.

¹ Minchin, D., 2014. Risk assessment of non-indigenous marine species, Ireland: including those expected in inland waters. Report undertaken for The Centre for Environmental Data and Recording (CEDaR), Department of Natural Sciences, National Museums, Northern Ireland (NMNI) and the Department of Arts, Heritage and the Gaeltacht [Ref: NIS-2014# 1], 139 pp.

² Lucy, F.E., Davis, E., Anderson, R., Booy, O., Bradley, K., Britton, J.R., Byrne, C., Caffrey, J.M., Coughlan, N.E., Crane, K. and Cuthbert, R.N., 2020. Horizon scan of invasive alien species for the island of Ireland. *Management of Biological Invasions*, 11(2), pp.155-177.

³ Kelly, J., O'Flynn, C., and Maguire, C. 2013. Risk analysis and prioritisation for invasive and non-native species in Ireland and Northern Ireland. A report prepared for the NIEA and the NPWS as part of Invasive Species Ireland.

Annex 5: Ulster Angling Federation biosecurity clause

The Ulster Angling Federation biosecurity clause for inclusion in members angling club future constitutions:

To provide CCD materials to their members. This should include displaying signage and materials at the club water, guidance on the organisations website/social media streams, features in newsletters and sending materials to new members when they sign up.

BIOSECURITY

Members of the Club are asked to undertake good biosecurity practice whilst they are using the club's fishing waters.

This includes:

- 1.1.1 Making sure that their equipment is dry and free of mud prior to arriving at the site.
- 1.1.2 After every fishing trip, cleaning their equipment and boots in accordance with the Check, Clean Dry guidance. Particular care should be given to the seams of boots and waders and the rims of nets.

Day ticket users visiting the club must be asked to follow the same Check, Clean Dry guidance.

Annex 6: Widely Spread Species (WSS) list

List of Widely Spread Species (WSS) that we want, as a priority, to contain or slow down their spread and for which there is a risk of spread via angling:

Scientific name	Common name(s)	Taxon group	Environment
<i>Elodea nuttallii</i>	Nuttall's waterweed	Plant	Freshwater
<i>Gunnera tinctoria</i>	Giant rhubarb	Plant	Riparian
<i>Heracleum mantegazzianum</i>	Giant hogweed	Plant	Riparian
<i>Hydrocotyle ranunculoides</i>	Floating pennywort	Plant	Freshwater
<i>Impatiens glandulifera</i>	Himalayan balsam, Indian balsam	Plant	Riparian
<i>Lagarosiphon major</i>	Curly waterweed, African elodea, Lagarosiphon	Plant	Freshwater
<i>Lysichiton americanus</i>	American skunk cabbage	Plant	Riparian
<i>Myriophyllum aquaticum</i>	Parrot's feather	Plant	Freshwater
<i>Trachemys scripta spp.</i>	Red-eared, yellow-bellied and Cumberland sliders	Reptile	Freshwater

Annex 7. Timetable for drafted actions and other tasks to be discussed with the working group

Task	Deadline	Responsible
Consultation	January 2023	DAERA and Permanent Secretary
Publication of PAP	September 2023	DAERA
Confirmation of working group membership	Within 6 months of final publication of PAP	DAERA/NIEA
Action 1 Action 2	By NI Invasive Species Week 2025	DAERA and relevant BIC jurisdictions
Action 3 Action 3a	September 2024	DAERA and relevant BIC jurisdictions
Action 4	September 2024	DAERA, BIC, EU Member states
Action 5	From April 2024, all new lease/management agreements going forward must meet requirements	DAERA and relevant members of the Working Group
Action 6	April 2025	DAERA and angling governing bodies
Action 7	By NI Invasive Species Week 2025	DAERA
Action 8	September 2025	Site owners/managers
Action 9	By NI Invasive Species Week 2025	Site owners/managers and event organisers
Action 10	By NI Invasive Species Week 2025	DAERA Fish Health Inspectorate
Action 11	Campaign run for NI Invasive Species Week 2024; review effectiveness before ISW 2025	DAERA
Monitoring the progress and effectiveness of actions	Working group will be convened annually The PAP will be reviewed and reported to the Commission every 6 years	Working group DAERA

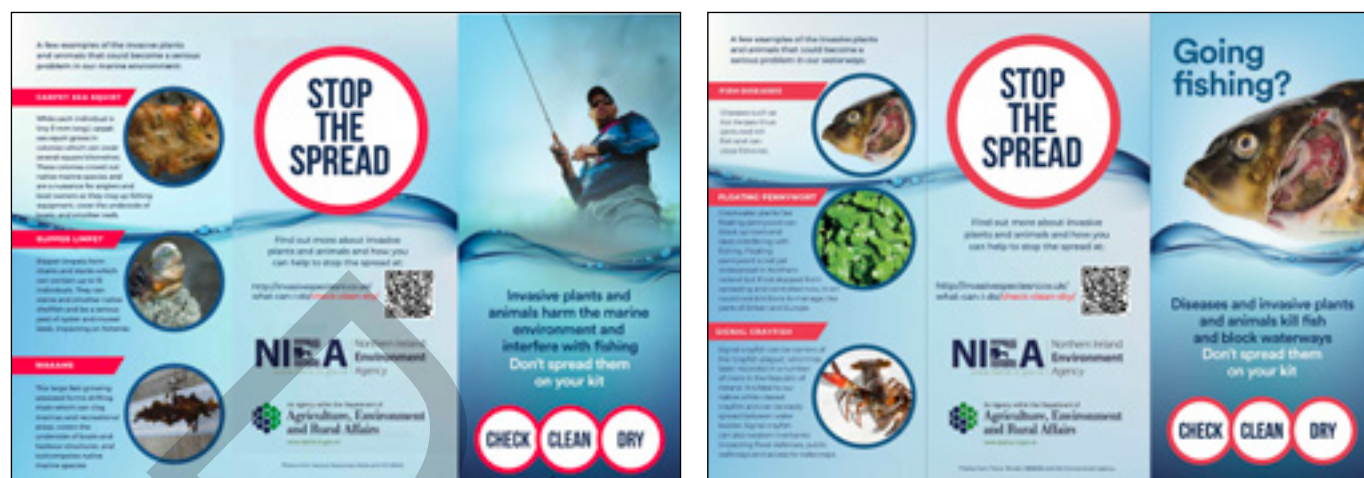
Annex 8. Check, Clean, Dry biosecurity campaign resources for raising awareness

These resources and more can be found on the Invasive Species Northern Ireland website, where they are free to download and use for your club or event, to raise awareness and help tackle the introduction and spread of IAS. These resources were developed by the GBNSS and adapted by NIEA for NI.

1) CCD campaign posters for [coarse angling](#), [marine angling](#), [fishing abroad](#) and [game angling](#):



2) CCD campaign leaflets for [inland](#) and [marine](#) angling:



3) [Poster](#) or sign for events, clubs and managers of waterbodies



(Images linked to PDF versions)

PDFs can be edited or personalised with credit given to the GBNNSS.

References (in order of appearance)

- 1 The official title of the EU Invasive Alien Species Regulation is: Regulation (EU) No 1143/2014 of the European Parliament and of the Council of 22 October 2014 on the prevention and management of the introduction and spread of invasive alien species.
- 2 An Invasive Alien Species Strategy for Northern Ireland (2013).
- 3 The Marine Strategy Framework Directive. Directive 2008/56/EC of the European Parliament and of the Council of 17 June 2008 establishing a framework for community action in the field of marine environmental policy <https://www.legislation.gov.uk/eudr/2008/56/contents>
- 4 Draft Environmental Strategy for Northern Ireland 2022 <https://www.daera-ni.gov.uk/sites/default/files/consultations/daera/Draft%20Environment%20Strategy.PDF>
- 5 Genovesi, P., Carboneras, C., Vilà, M., Walton, P. 2015. EU adopts innovative legislation on invasive species: a step towards a global response to biological invasions? *Biological Invasions* 17: 1307-1311.
- 6 Kelly, J., Tosh, D., Dale, K. and Jackson, A., 2013. The economic cost of invasive and non-native species in Ireland and Northern Ireland.
- 7 Council of Europe. European Code of Conduct on Recreational Boating and Invasive Alien Species. Strasbourg, 2016. Prepared by Ms Emma Barton, European Boating Association, on behalf of the Bern Convention.
- 8 The Invasive Alien Species (Enforcement and Permitting) Order (Northern Ireland) 2019 <https://www.legislation.gov.uk/nisr/2019/159/made>
- 9 The Wildlife (Northern Ireland) Order (1985) (as amended) <https://www.legislation.gov.uk/nisi/1985/171/contents>
- 10 The Aquatic Animal Health Regulations (Northern Ireland) 2009 [The Aquatic Animal Health Regulations \(Northern Ireland\) 2009 \(legislation.gov.uk\)](https://www.legislation.gov.uk/nisr/2009/159/made)
- 11 Molluscan Shellfish (Control of Deposit) Order (Northern Ireland) 1972 Order [The Molluscan Shellfish \(Control of Deposit\) Order \(Northern Ireland\) 1972 \(legislation.gov.uk\)](https://www.legislation.gov.uk/nisr/1972/171/contents)
- 12 Lobsters (Prohibition of Introduction) Order (Northern Ireland) 1982 [The Lobsters \(Prohibition of Introduction\) Order \(Northern Ireland\) 1982 \(legislation.gov.uk\)](https://www.legislation.gov.uk/nisr/1982/171/contents)
- 13 The EU fish health regime under Directive 2006/88/EC [LexUriServ.do \(europa.eu\)](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32014R1143&from=EN)
- 14 Environment Strategy for Northern Ireland (2022) [Draft Environment Strategy.PDF \(daera-ni.gov.uk\)](https://www.daera-ni.gov.uk/sites/default/files/consultations/daera/Draft%20Environment%20Strategy.PDF)
- 15 Marine Strategy Framework Directive (2008/56/EC) [EUR-Lex - 32008L0056 - EN - EUR-Lex \(europa.eu\)](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32008L0056&from=EN)
- 16 Kelly, J., Tosh, D., Dale, K. and Jackson, A. (2013) The economic cost of invasive and non-native species in Ireland and Northern Ireland https://invasivespeciesireland.com/wp-content/uploads/2010/07/Economic_Impact_Assessment_FINAL_280313.pdf
- 17 Regulation (EU) No 1143/2014 on the prevention and management of the introduction and spread of invasive alien species <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32014R1143&from=EN>
- 18 An Invasive Alien Species Strategy for Northern Ireland (2013) <https://www.daera-ni.gov.uk/sites/default/files/publications/doe/invasive-species-2013-4--web.pdf>

- 19 Hughes, G., Hughes, E., Sangster, M., and Kaley, A (2013) A strategic review of Angling in Northern Ireland: Executive summary. [Review-of-Angling.pdf \(sportni.net\)](#)
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- 23 Brainerd, S., 2010, December. European charter on recreational fishing and biodiversity. In *Strasbourg, Standing Committee 30th meeting Strasbourg* (pp. 6-9).

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