

Towards a framework for **Action on Invasives**

Martina O'Brien
National Biodiversity Data Centre



limerick.ie



Comhairle Cathrach
& Contae **Luimnigh**
Limerick City
& County Council



ACTIONS on INVASIVES

Stop the Spread of Invasive Alien Species in Ireland

Actions on Invasives

'Actions on Invasives' is an online mapping system that allows everyone to log and map the actions they have taken on invasive alien species. The Actions on Invasives initiative is a national programme to manage and control the spread of invasive alien species in Ireland.

My Actions

Manage my sites

Site name: Site type: Attribute name: SHOW ALL



1 Visit invasives.ie to see what actions you can take

2 Sign-up to the Actions on Invasives initiative

The role of invasive species in the Biodiversity Crisis

5 key drivers of biodiversity loss:

- changing use of sea and land
- direct exploitation of organisms
- climate change
- pollution

IUCN Red List assessment

- 16.2 % of species threatened by Invasive species alone
- 40% driven by IAS and other threats.
- Agents of ecological change




The role of invasive species in the Biodiversity Crisis



Invasive species in our local environment

- Japanese knotweed
- Himalayan balsam
- Giant hogweed
- Winter heliotrope
- Giant rhubarb
- Rhododendron
- Grey squirrel
- Zebra mussel
- Curly waterweed

Rationale for the development of 'Actions on Invasives'




Dún Laoghaire-Rathdown
 Invasive Alien Species Action Plan
 2020 - 2022
 Screening Report for Appropriate Assessment

21st April 2021

Wexford County Marine Biosecurity Report

Baseline Assessment of Marine Invasive Species

2020




Comhairle Contae Leath Meara Wexford County Council

MSP Research initiative
 Marine Invasive Species Ireland (MISI) PROJECT
 eDNA TOOLKIT

Document prepared by Galway-Mayo Institute of Technology (GIT) for the Marine Institute


Oscar Flynn Retweeted
 Sch. Biol. & Env. Sc @UCDSBES · Jul 13, 2021

Unfortunately another highly invasive species (Quagga mussel - Dreissena bugensis) was discovered in the Shannon by scientists in the Invasive Ecology Lab in SBES. We urge you to take care moving boats and freshwater equipment in Ireland.



with ecological implications.

@InvasSpecire @UCDSBES



UCD Invasive Ecology (InEco) Lab relocating crayfish ahead of gravel introduction on the Rye Water, Leixlip, Co. Kildare. This project was being completed with the aim of increasing salmon spawning habitat.

@UCDSBES

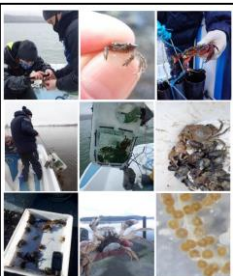


UCD Invasive Ecology (InEco) Lab continuing a Himalayan balsam survey on the River Liffey, Co. Kildare yesterday. This invasive plant shades out native species and dies back in Autumn, leaving the soil prone to erosion.

UCDSBES @InvasSpecire @BioDataCentre



Monitoring for Chinese Mitten Crab in Carlingford Lough and four other high risk east coast estuaries



Commissioned by BIM
 Report compiled by AQUENS Ltd, completed March 2021
 Authors: Jan-Robert Baars, Paul Brooks, Jennifer Coughlan, Jens Carlsson, Netten Carlsson, Dan Minchin
 Monitoring undertaken: December 2020 to March 2021

Sligo CERIS
 invas BIOSECURITY
 Queen's University Belfast

INVASIVE ALIEN SPECIES IN THE REPUBLIC OF IRELAND:
 POLICY RECOMMENDATIONS FOR THEIR MANAGEMENT

REPORT PREPARED FOR THE WATER FORUM

by
 Prof. Frances Lucy (IT Sligo)
 Prof. Joe Caffrey (INVAS Biosecurity Ltd.)
 and Prof. Jaimie Dick (Queen's University Belfast)


Lucy, Caffrey and Dick Draft 3 FINAL 3 May 29 2021

Canoeing Ireland


GET PADDLING ▾ ABOUT US ▾ CLUBS & MEMBERS ▾ COMPETITION ▾ EDUCATION ▾ RESOURCES

Check Clean Dry - Paddlesport Biosecurity

Thanks for remembering to



Protecting our environment from invasive species



An tOifig Tithochta, Ráilteán Aitiúil agus Oidhreachta Department of Housing, National Biodiversity Data Centre, Invasives.ie

IFA Aquaculture Conference
 26th September 2019



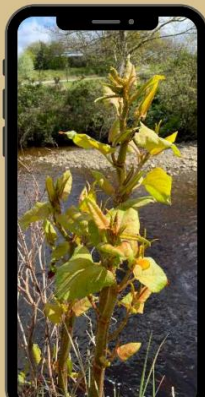
INVASIVE ALIEN SPECIES & AQUACULTURE FAIRE – THE IAS SMARTPHONE APP

BIM

Rationale for the development of 'Actions on Invasives'

Invasive Species on the Glennagannon River

We are delighted to announce that the Trust has been awarded funding under Donegal County Council's Development Fund Initiative for 2021. This funding will support a project to investigate the extent of the highly invasive Japanese Knotweed on the river and possible non-chemical approaches for control. If you live on the Glennagannon we would love to hear from you. You can submit records of JK on our Invasive Species form. Simply scan the QR code below with your smartphone and start recording. You can also visit the link below or call us and we can come to examine the extent of the invasion!



<https://arcr.is/HreHv>



Safety first:
When treating *Rhododendron ponticum* using this method you need to take precautions to avoid any injury or illness. We recommend using the following Personal Protective Equipment while treating *Rhododendron ponticum* using the hatchet method as described in this leaflet.

- Safety goggles
- Face mask with appropriate filter
- Waterproof disposable gloves
- Disposable overalls
- Suitable footwear

Herbicide treatment should always be carried out by a competent operator who has received appropriate training. Please always follow any safety advice on the product packaging.

Tips and Tricks for Effective Treatment

- Adding a blue colour dye to your herbicide dilution makes it easier to keep track of what plants have been treated. This can help prevent over-treatment, wasting time and excessive herbicide use.
- Just cutting your *Rhododendron* will encourage it to regrow vigorously, this regrowth is also likely to be more multi-stemmed, making future treatment more difficult.
- A single mature plant can produce up to a million seeds; each flower head can have several thousand seeds. Removing the flowering plants first will prevent and further spread of seeds.
- The leaves of the *Rhododendron* plant have a thick waxy coating. This reduces the amount of herbicide that can be absorbed by the leaves. This makes foliar spray an inefficient, expensive and less effective treatment method. It also means there is more damage to the surrounding habitat due to herbicide run-off.
- You can treat *Rhododendron* at any time of the year; results will be visible quicker if treatment is applied in spring or summer. Early summer is the best time to treat *Rhododendron* on your land as the purple flowers make it easier to spot the larger plants.
- Treated plants should be left in situ for one year to die back and prevent any seed spread. After this they can be cut and mulched or burned as appropriate.

Rhododendron ponticum is an invasive species that is spreading throughout the Irish countryside.

How to identify *Rhododendron ponticum*

- Grows up to 4m tall
- Purple flowers in early summer
- Thick waxy leaves
- Woody stems

Contact the Kerry Biosphere Reserve:
 kerrybiosphere@bio.net
 +353 1 277 746
 www.kerrybiosphere.ie

Find us on Social Media: @kerrybiosphere

Thanks to the SKDF MacGillCushy Rivers EP Project for sharing their knowledge and expertise to inform the Belvedere Woods Project. The MacGillCushy Rivers Project is an EP (European Innovation Partnership) Local Scheme. The Project is funded by the Department of Agriculture, Food and the Marine as part of Ireland's Rural Development Programme 2014-2020. Thank you to our funders the Department of Housing, Local Government and Heritage and Kerry County Council.

Rhododendron Ponticum

MANAGEMENT FOR FARMERS, PRIVATE LANDOWNERS AND GARDENERS



Biodiversity Ireland @BioDataCentre · Feb 23
 #GoodNewsStory in Belvedere Woods continues. After significant invasive plant removal, regeneration being aided by planting of 1000 native trees by Mullingar branch of Women's Shed, the Horticultural School @ Belvedere Hse & outdoor staff 🌱 to all @westmeathcoco & Peter Cuthbert



Biodiversity Ireland @BioDataCentre · Dec 9, 2021
 Got time for a #GoodNewsStory? 😊
 In this guest blog, Heritage Officer Melanie McQuade outlines the response @westmeathcoco have taken to deal with the invasive plant invasion at the Belvedere Gardens and Park site....

Researchers: Oscar Flynn, Kate O'Leary, Heather Swanwick, Martina Caplice, Dr Jan-Robert Baars, InvasiveEcology Lab, University College Dublin



American skunk cabbage has both pretty flowers and leaves, making it an attractive plant in the ornamental trade. Photo credit: Jan-Robert Baars



Seeds can build up in the soil where they are being investigated. Photo credit: Jan-Robert Baars



Researchers: Muireann Cotter, Martina Caplice, Oscar Flynn, Kate O'Leary, Heather Swanwick, Jan-Robert Baars

Researchers assessing the distribution and density of Himalayan balsam (Impatiens glandulifera) in a field. Photo: Oscar Flynn

American skunk cabbage (*Lysichiton americanus*) on the River Liffey, Co. Wick

Rationale for the development of 'Actions on Invasives'



Environment

Home > Nature and biodiversity

- Nature and biodiversity
- Biodiversity Strategy
- Nature and biodiversity law
- Natura 2000
- Species protection
- Green infrastructure
- Forests
- Global coalition "#UnitedforBiodiversity"
- Knowledge and data
- Biodiversity financing

Invasive Alien Species

Invasive Alien Species (IAS) are animals and plants that are introduced accidentally or deliberately into a natural environment where they are not normally found, with serious negative consequences for their new environment. They represent a major threat to native plants and animals in Europe, causing damage worth billions of Euros to the European economy every year. As invasive alien species do not respect borders, coordinated action at the European level will be more effective than individual actions at the Member State level.

EU Regulation 1143/2014 on Invasive Alien Species

Regulation (EU) 1143/2014 on invasive alien species (the IAS Regulation) entered into force on 1 January 2015, fulfilling Action 16 of Target 5 of the EU 2020 Biodiversity Strategy, as well as Aichi Target 9 of the Strategic Plan for Biodiversity 2011-2020 under the Convention of Biological Diversity.

The core of the IAS Regulation is the **list of Invasive Alien Species of Union concern** (the Union list). For information about the species currently included on this list, click here.

The IAS Regulation provides for a set of measures to be taken across the EU in relation to invasive alien species included on the Union list. Three distinct types of measures are envisaged, which follow an internationally agreed hierarchical approach to combating IAS:

- **Prevention:** a number of robust measures aimed at preventing the intentional or unintentional introduction of IAS of Union concern into the EU.



English

EASIN - European Alien Species Information Network

- Home About Services NOTSYS Documentation Citizen Science Contribute Contact us



EASIN facilitates information on Alien Species and officially supports the EU Regulation 1143/2014

Explore EASIN data

Species Search and Mapping
API and Web services
EASIN-Lit

Learn about Alien Species

EU Regulation 1143/2014
Species of Union concern
Questions & Answers

Join our Network

Invasive Alien Species app
Become a Data Partner
Citizen Science projects

Connect with us

- Follow us on Twitter Follow us on Facebook
Follow us on YouTube Follow us on LinkedIn

European Alien Species Information Network - EASIN @EU_Alien
Nice useful publication! It also highlights to avoid planting of *Styracis* species, including those listed as of Union concern (EU Regulation 1143/2014) [twitter.com/4Pollinator's](#) ...

7 days
European Alien Species Information Network - EASIN @EU_Alien
Escape or release of *spits* cause the same problems worldwide: be a responsible pet owner, protect [#biodiversity!](#) [twitter.com/InvasionEcolog](#)

Last updates
Catalogue of species
14,165 alien species
Database Version 8.2 - 21/10/2019

Observations of species
53,459,731 records

Species recorded in Ireland and established

View the IUCN In-Depth guide to the EU Regulation on Invasive Alien Species

Click on image to access species profile information. If you spot any errors or have information that can add to the species profiles please let us know. E-mail: invasives@biodiversityireland.ie



Giant Hogweed Grey Squirrel Himalayan Balsam Nuttall's Waterweed New Zealand Flatworm Ramo's Feather



Water Primrose Floating pennywort Curly Waterweed Chinese Mitten Crab American Skunk Cabbage Giant Chinese Rhubarb

Species recorded in Ireland in recent years but are not known to be established



Asian Hornet Coyote Egyptian Goose Italian House Crow Muntjac Deer Muskrat



Raccoon Ruddy Duck Sacred Ibis Siberian Chipmunk Terrapin / Sliders Tree of Heaven

Species not recorded in Ireland

- Animals



White Crayfish Spiny-cheek Crayfish Signal Crayfish Red Swamp Crayfish Marbled Crayfish Stone Mongoose



South American Coati Raccoon Dog Pallid's Squirrel North American Bullfrog Fox Squirrel Asian Mongoose



Amur Leopard Common Myna Pumpkinseed Fish Striped Bai Catfish

- Plants



Alligator Weed Arafat's Tearthumb Balloon Vine Broadleaf Waterfall Broomrape bluestem Chinese Sundew



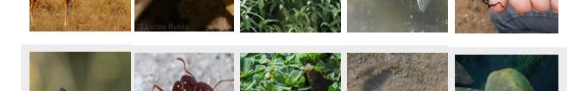
Chinese Tallow Common Milkweed Crimson Poutergrass Eastern Scaevola Golden Weevil Wattle Green Cabomba



Asian Hornet Coyote Egyptian Goose Italian House Crow Muntjac Deer Muskrat



Raccoon Ruddy Duck Sacred Ibis Siberian Chipmunk Terrapin / Sliders Tree of Heaven



Asian Hornet Coyote Egyptian Goose Italian House Crow Muntjac Deer Muskrat



Raccoon Ruddy Duck Sacred Ibis Siberian Chipmunk Terrapin / Sliders Tree of Heaven

EU Invasive Alien Species Regulation

A large proportion of list of species of Union Concern are not established in Ireland/Europe

- The focus for these species is on prevention
- Conducting pathway analysis and coordinating the development of Pathway Action Plans
- The development of early detection/rapid response systems

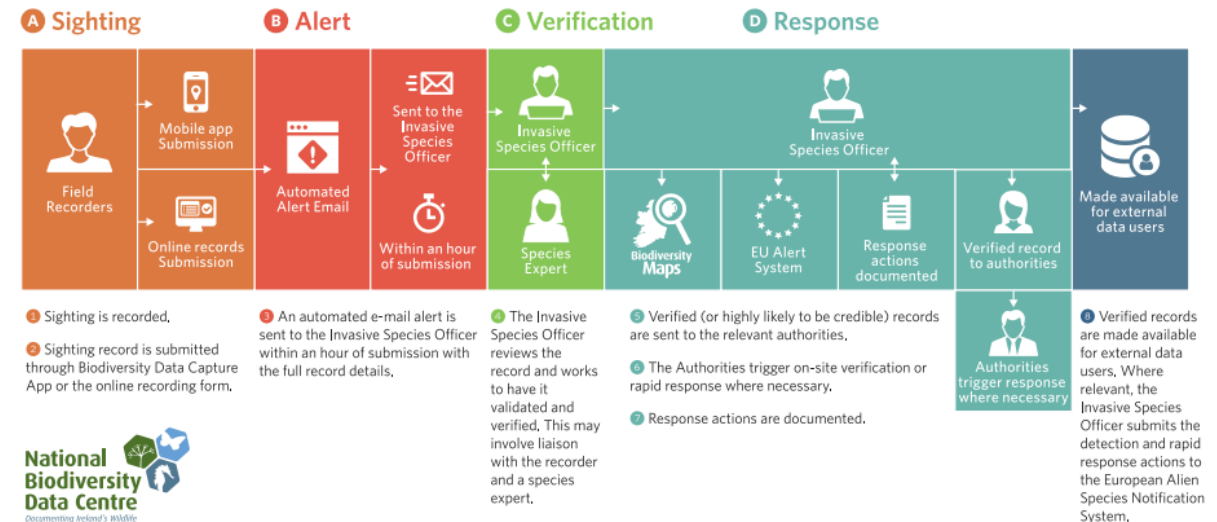
Final Angling Pathway Action Plan 2022 – 2027 Full text

Synopsis of Ireland's IAS Angling Pathway Action Plan 2022-2027 (5 pages)

Final Recreational Boating & Watercraft Pathway Action Plan 2022 – 2027 Full text

Synopsis of Ireland's IAS Recreational Boating & Watercraft Pathway Action Plan 2022-2027 (5 pages)

Invasive Species Record Alert System



Reporting requirements: City & County Councils

Some Species of Union Concern are recorded and widespread in Ireland

- Report on all established populations
- Implement management measures to contain and control species to mitigate their impacts and prevent their further spread
- Monitor the effectiveness of control and containment measures

Species recorded in Ireland and established



Giant Hogweed



Grey Squirrel



Himalayan Balsam



Nuttall's Waterweed



New Zealand Flatworm



Parrot's Feather



Floating pennywort



Curly Waterweed



Chinese Mitten Crab



American Skunk Cabbage



Giant Chilean Rhubarb

ACTIONS on INVASIVES

Stop the Spread of Invasive Alien Species in Ireland



Actions on Invasives

'Actions on Invasives' is an online mapping system that allows everyone to log and map the actions they have taken on invasive alien species, providing public recognition of your efforts and facilitating coordination. The Actions on Invasives initiative is managed by the National Biodiversity Data Centre

1

Visit invasives.ie to see what actions you can take



2

Sign-up to the Actions on Invasives initiative



3

Zoom into the map and draw around your site or mark your club, business etc.



4

Describe the actions you are taking on invasives



Add site

Site Information

Site Name

Type

Date

A. Preventing introduction and spread of Invasive Alien Species

B. Supporting surveillance of Invasive Alien Species

C. Control of Invasive Alien Species

D. Supporting education and awareness of Invasive Alien Species

E. Research on Invasive Alien Species

F. Other

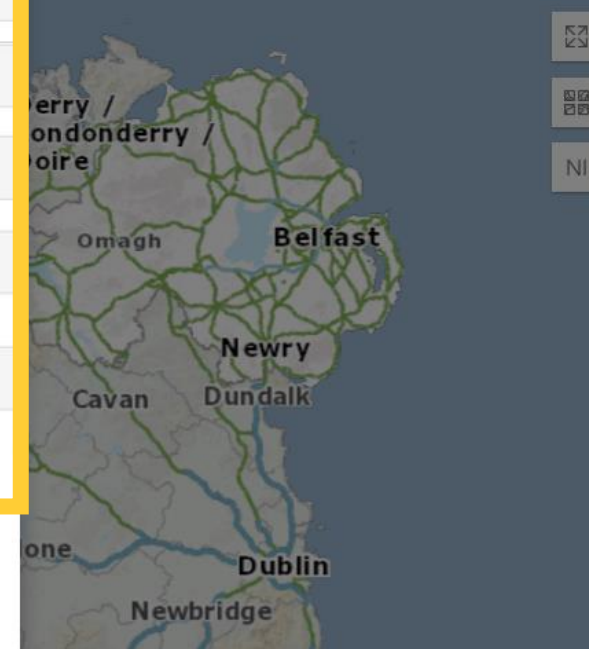
+ ADD SITE POLYGON

Show 10 entries

Date Name

No data

Showing 0 to 0 of 0 entries



Add site

Site Information

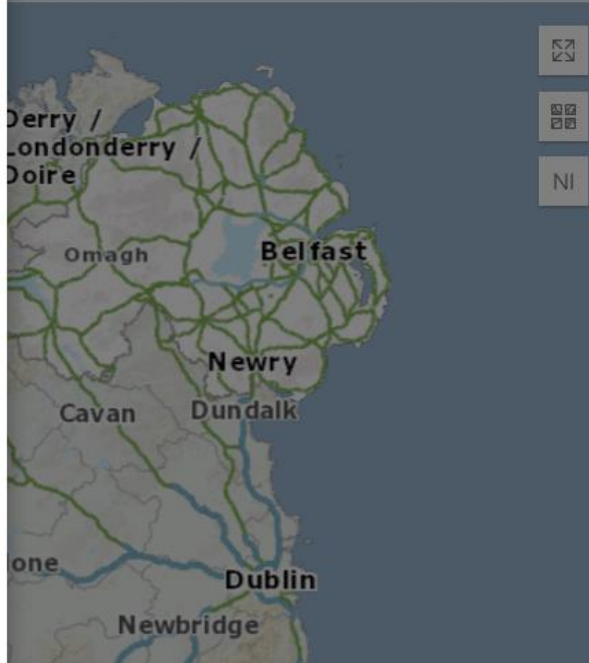
Site Name

Type

Date

A. Preventing introduction and spread of Invasive Alien Species

- Adopt a biosecurity policy** (i)
- Develop a bespoke biosecurity policy
 - Adopt the Be Plant Wise campaign
 - Adopt the Be Pet Wise campaign
 - Adopt the Check, Clean, Dry campaign
 - Other Name policy
- Implement biosecurity actions** (i)
- Avoid activity in infested sites
 - Develop an event specific biosecurity plan
 - Conduct site level risk assessment and develop a site level biosecurity plan
 - Contribute to the implementation of relevant Pathway Action Plans
 - Follow the Check, Clean and Dry code between waterbodies
 - Use a separate set of sampling equipment between waterbodies
 - Check and clean vehicles before leaving infested sites
 - Use hard standing areas for site access



+ ADD SITE POLYGON

Show 10 entries

Date	Name	Type
No data		

Showing 0 to 0 of 0 entries

paths or public land

Check origin of any soil/aggregate - ensure it is free of invasive alien species

Responsibly dispose of invasive alien species

Install biosecurity cleaning station(s)

Other Name other action

Uploaded - policy document

No file selected.



B. Supporting surveillance of Invasive Alien Species

Assist early detection

Participate in sentinel surveillance programme

Rapid reporting of alert invasive alien species to the National Biodiversity Data Centre

Circulate invasive alien species alerts to key stakeholders/group members Name alert species

Other Name other action



Participate in surveillance and monitoring

Undertake invasive alien species survey Name target species

Include invasive alien species in existing surveillance and monitoring programmes Name programme

Monitor the impacts of invasive alien species Name target species

Submit surveillance and monitoring data to the National Biodiversity Data Centre

Other Name action

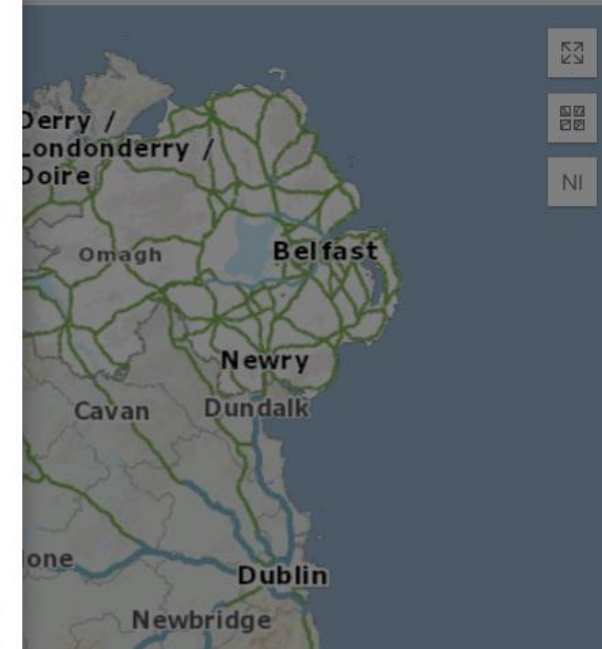


Uploaded - surveillance & monitoring document

No file selected.



FAQs



+ ADD SITE POLYGON

Show 10 entries

Date	Name	Type
No data		

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C. Control of Invasive Alien Species

Control of plants

American skunk-cabbage (*Lysichiton americanus*)
Asiatic tearthumb (Mile-a-minute weed) (*Persicaria perfoliata*)
Bohemian knotweed (*Fallopia x bohemica*)
Brazilian giant-rhubarb (*Gunnera manicata*)



Control of other plants (not listed)



Record the methods & outcomes of plant control

Chemical control	<input type="checkbox"/> Name target plants	<input type="text"/>	
Manual control	<input type="checkbox"/> Name target plants	<input type="text"/>	
Mechanical control	<input type="checkbox"/> Name target plants	<input type="text"/>	
Environmental control	<input type="checkbox"/> Name target plants	<input type="text"/>	
Biological control	<input type="checkbox"/> Name target plants	<input type="text"/>	
Other control action	<input type="checkbox"/> Name other control	<input type="text"/>	
Plants targeted under other control action	<input type="checkbox"/> Name target plants	<input type="text"/>	
Total area of invasive plants under control actions	<input type="checkbox"/> Area in m2	<input type="text"/>	
Ongoing monitoring of targeted invasive alien plant population	<input type="checkbox"/> Status of targeted population (increasing, decreasing, no change)	<input type="text"/>	

Control of animals

American lobster (*Homarus americanus*)
American mink (*Mustela vison*)
American oyster drill (*Urosalpinx cinerea*)
American razor-clam (*Ensis leei*)

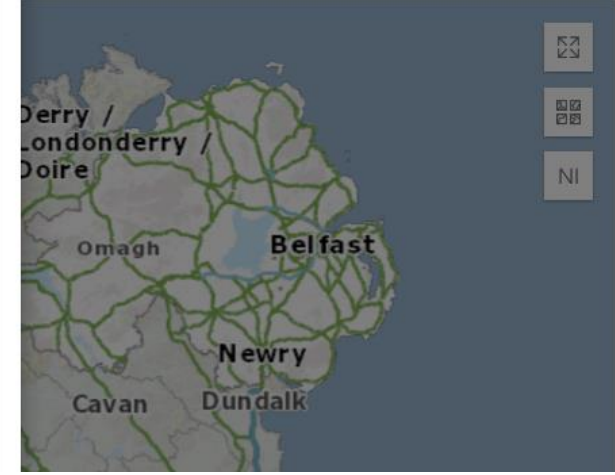


Hello Invasives Admin

Sign out



FAQs



Date	Name	T
No data		

D. Supporting education and awareness of Invasive Alien Species

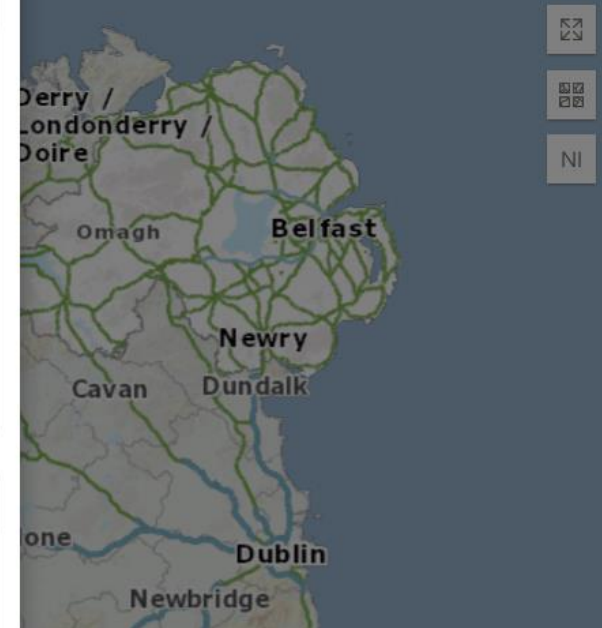
Support education and awareness	Deliver awareness event	<input type="checkbox"/>	
	Deliver training event	<input type="checkbox"/>	
	Attend awareness event	<input type="checkbox"/>	
	Attend training event	<input type="checkbox"/>	
	Promote invasive alien species actions online or in media	<input type="checkbox"/>	
	Install on-site signage	<input type="checkbox"/> No. of signs	
Other	<input type="checkbox"/> Name other actions	<input type="text"/>	
Uploaded - education & awareness document	<input type="button" value="Browse..."/> No file selected.		

E. Research on Invasive Alien Species

Support research	Provide resources to facilitate invasive alien species research	<input type="checkbox"/>	
	Undertake or participate in invasive alien species research	<input type="checkbox"/>	
	Other	<input type="checkbox"/> Name other action	
Uploaded - research document	<input type="button" value="Browse..."/> No file selected.		

F. Other

Other actions	<input type="text"/>	
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Manage my sites

The site has been saved successfully











+ ADD SITE POLYGON

+ ADD SITE - UPLOAD SHAPE FILE

EXPORT DATA

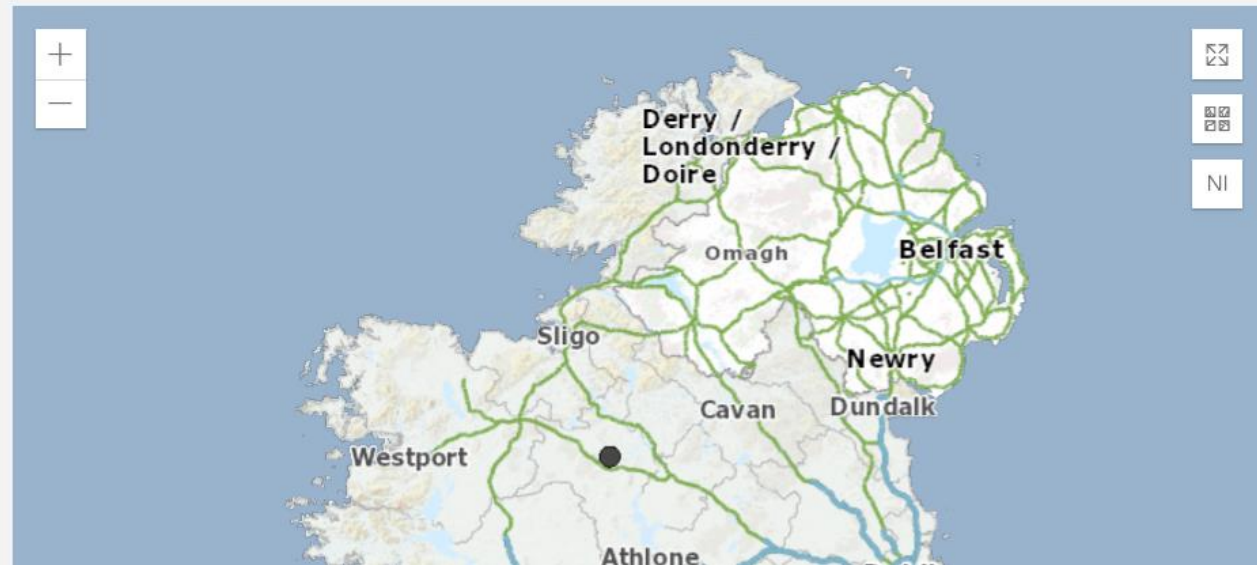
Show 10 entries

Search:

Date	Name	Type	Area	Actions
16/02/2022	Bord Iascaigh Mhara	Central Government	24921 m2	    
26/01/2022	Cherrywood Park	City & County Councils	5828 m2	    

Showing 1 to 2 of 2 entries

Previous 1 Next



Manage my sites











+ ADD SITE POLYGON

+ ADD SITE - UPLOAD SHAPE FILE

EXPORT DATA

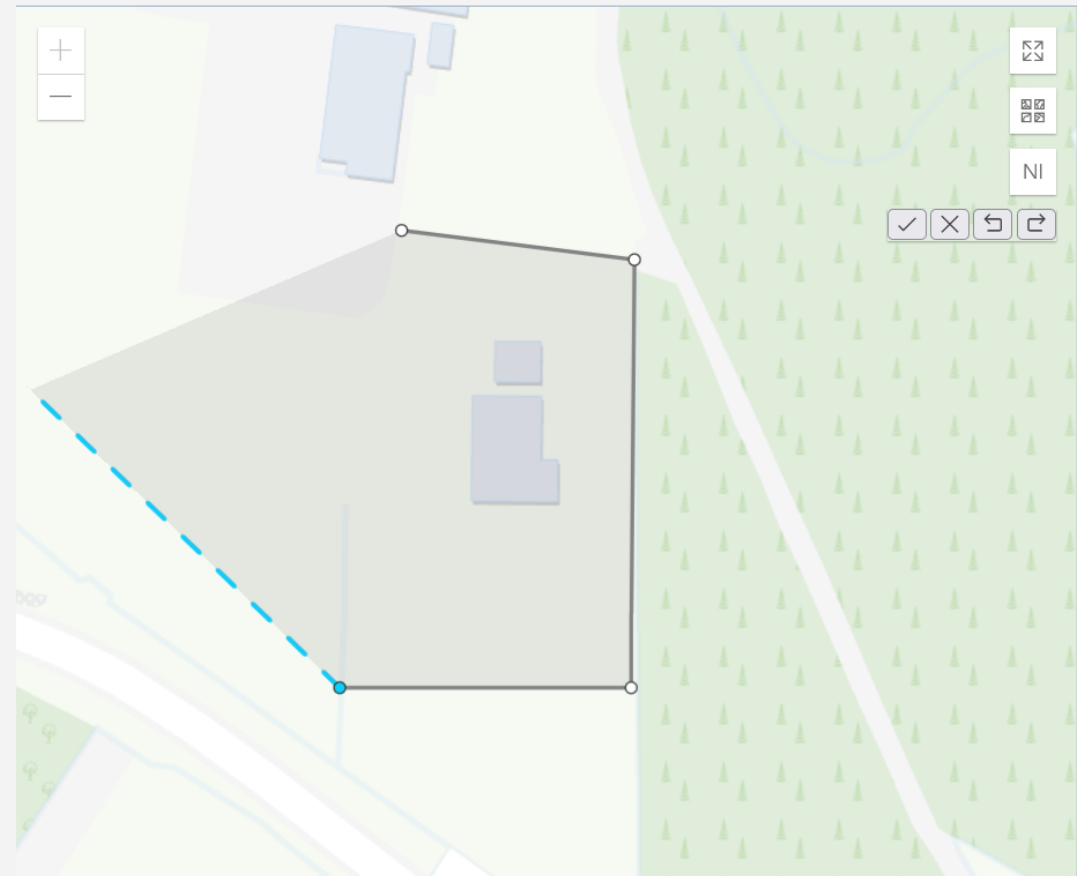
Show 10 entries

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Showing 1 to 2 of 2 entries

Previous 1 Next



Manage my sites

The site has been saved successfully ✕

[+ ADD SITE POLYGON](#)

[+ ADD SITE - UPLOAD SHAPE FILE](#)

[↓ EXPORT DATA](#)

Show entries

Search:

Date	Name	Type	Area	Actions
16/02/2022	Bord Iascaigh Mhara	Central Government	24921 m2	🔍 🗺️ ✏️ ✖️ 🔄
26/01/2022	Cherrywood Park	City & County Councils	5828 m2	🔍 🗺️ ✏️ ✖️ 🔄

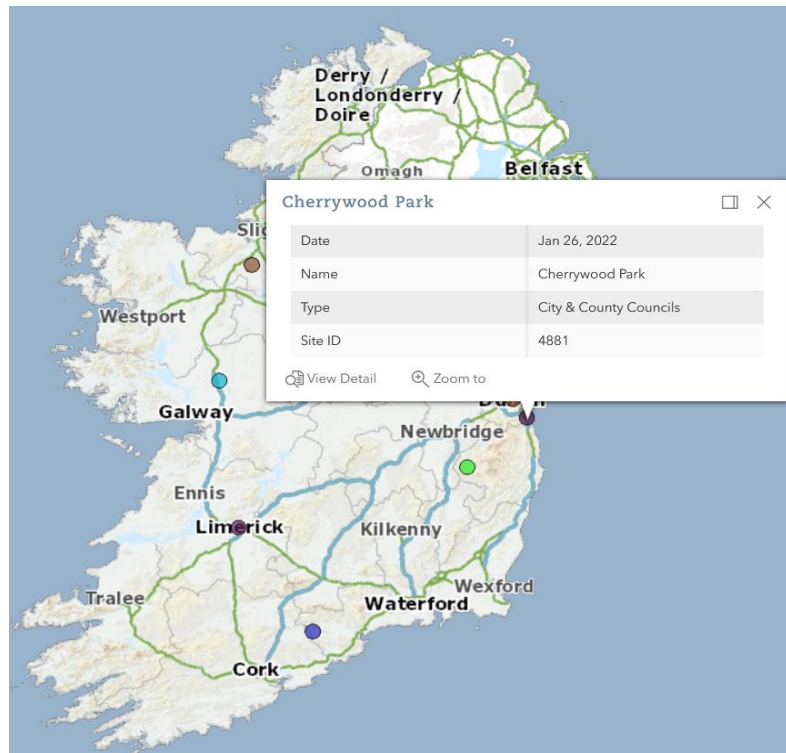
Showing 1 to 2 of 2 entries

[Previous](#) [1](#) [Next](#)



ACTIONS on INVASIVES

Stop the Spread of Invasive Alien Species in Ireland



Site Details

Site Name	Cherrywood Park
Date	26/01/2022
Type	City & County Councils
Recorder Name	Colette O' Flynn
Area	5828 m2
Early detection of IAS	Rapid reporting of suspected IAS to Biodiversity Data Centre
Control of plants	Mechanical control - Giant hogweed; Buddleja
Education and awareness of IAS	Other - Signs alerting general public to the presence of an IAS

CLOSE

Group type

Control of plants

--- Attribute value ---

SHOW ALL

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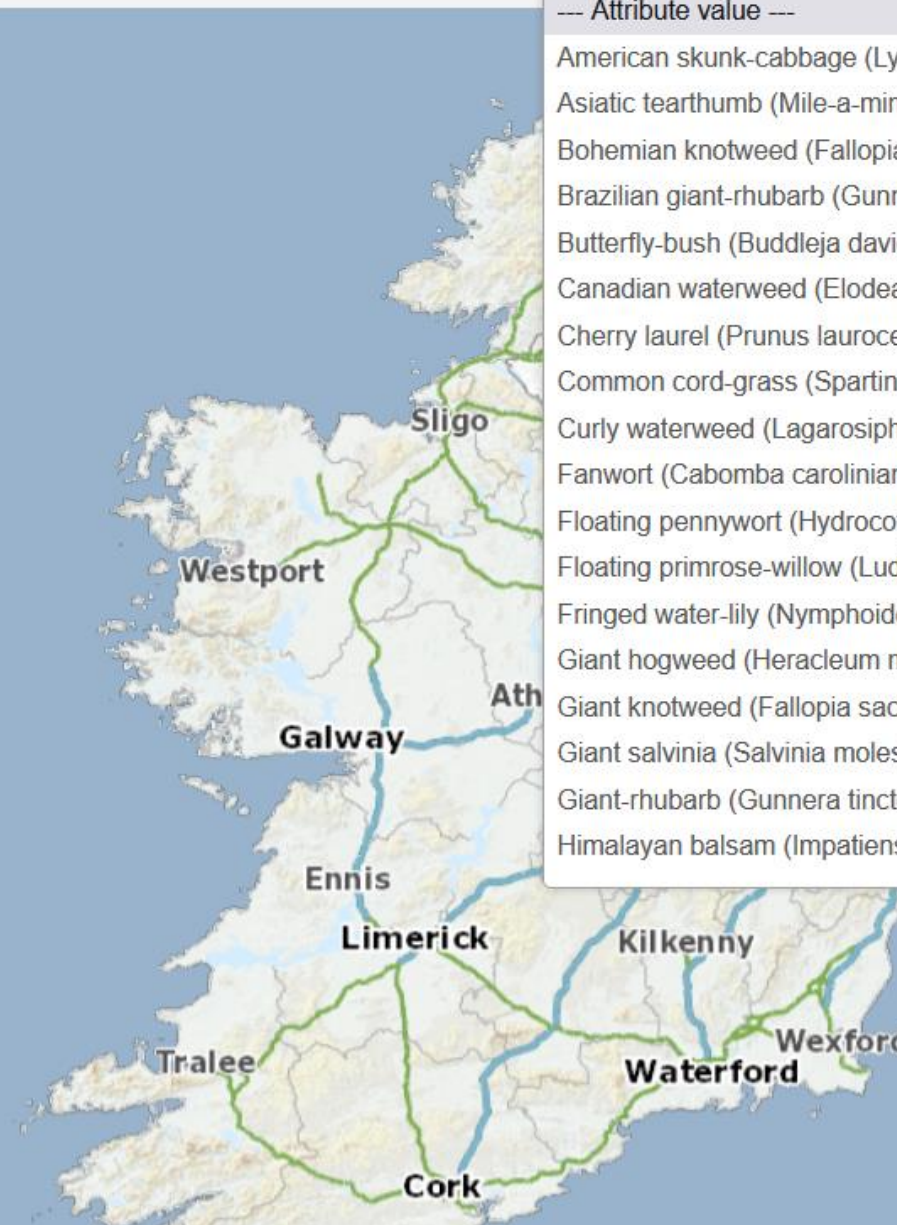
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⊞

NI

--- Attribute value ---

- American skunk-cabbage (*Lysichiton americanus*)
- Asiatic tearthumb (Mile-a-minute weed) (*Persicaria perfoliata*)
- Bohemian knotweed (*Fallopia x bohemica*)
- Brazilian giant-rhubarb (*Gunnera manicata*)
- Butterfly-bush (*Buddleja davidii*)
- Canadian waterweed (*Elodea canadensis*)
- Cherry laurel (*Prunus laurocerasus*)
- Common cord-grass (*Spartina anglica*)
- Curly waterweed (*Lagarosiphon major*)
- Fanwort (*Cabomba caroliniana*)
- Floating pennywort (*Hydrocotyle ranunculoides*)
- Floating primrose-willow (*Ludwigia peploides*)
- Fringed water-lily (*Nymphoides peltata*)
- Giant hogweed (*Heracleum mantegazzianum*)
- Giant knotweed (*Fallopia sachalinensis*)
- Giant salvinia (*Salvinia molesta*)
- Giant-rhubarb (*Gunnera tinctoria*)
- Himalayan balsam (*Impatiens glandulifera*)





Power behind the portal

- Provides an immediate positive visual output
- Establishes a network of people, groups and organisations working on invasive species
- Recognition for the contribution of groups to work on invasive species
- Opportunities for collaboration
- A very powerful communications tool to show responsible action in being taken
- Offers a hierarchy of action and a range of different ways that people, groups and organisations can choose to engage
- Accessible information
- Mechanisms for reporting on invasive alien species of Union concern
- Source of information and data for competent authority
- Provides opportunities for engagement
- Collates all invasive species information in one central place
- Reporting back to EU on work carried out: requirements for reporting on all IAS of union concern
- Know who is carrying out work on invasives, the species and areas their targeting
- Identify gaps in the work being done and provide support and guidance to fill those gaps
- Understand the type of work and capacity of different sectors
- Strategically co-ordinate action on invasive species at a national level

Thanks for listening!

Any questions?



Martina O'Brien
mobrien@biodiversityireland.ie

Posters

Calling all Anglers Help stop the Invasion!

Invasive plants and animals can harm our wildlife, carry diseases that kill fish, and block our waterways. Contaminated fishing gear can cause their spread.

Report any invasive species you find, including:

FISH DISEASES **QUAGGA MUSSEL** **AFRICAN CURLY WATERWEED** **KILLER SHRIMP**

Protect the environment and fishing you enjoy by keeping your kit free of Invasive species

Remember to check these places

CHECK Check your gear, clothing, and footwear after leaving the water for mud, aquatic animals, or plant material. Remove anything you find and leave it at the site.

CLEAN Clean everything as soon as you can. Pay particular attention to nets, waders and areas that are damp and hard to inspect. Use hot water (at least 45°C) or a high-pressure spray when possible.

DRY Dry all equipment and clothing until dry for at least 48 hours as some invasive species can live for weeks in damp conditions.

Disinfect all items if complete drying is not possible.

STOP THE SPREAD

Invasive plants and animals can harm our wildlife, carry diseases that kill fish, and block our waterways. Contaminated fishing gear can cause their spread.

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Remember to check these places

Find out more about Invasive species and how you can help to stop the spread at invasives.ie/biosecurity/check-clean-dry

Calling all Anglers Help stop the Invasion!

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CHECK Check your gear, clothing, and footwear after leaving the water for mud, aquatic animals, or plant material. Remove anything you find and leave it at the site.

CLEAN Clean everything as soon as you can. Pay particular attention to nets, waders and areas that are damp and hard to inspect. Use hot water (at least 45°C) or a high-pressure spray when possible.

DRY Dry all equipment and clothing until dry for at least 48 hours as some invasive species can live for weeks in damp conditions.

Disinfect all items if complete drying is not possible.

STOP THE SPREAD

Invasive plants and animals can harm our wildlife, carry diseases that kill fish, and block our waterways. Contaminated fishing gear can cause their spread.

Report any invasive species you find, including:

FISH DISEASES **QUAGGA MUSSEL** **AFRICAN CURLY WATERWEED** **KILLER SHRIMP**

Protect the environment and fishing you enjoy by keeping your kit free of Invasive species

Remember to check these places

Find out more about Invasive species and how you can help to stop the spread at invasives.ie/biosecurity/check-clean-dry

Calling all Paddlers Help stop the Invasion!

Invasive plants and animals harm our wildlife and environment. They can block rivers, lakes, canals and marine waterways making paddling difficult. Contaminated canoes and kayaks can cause their spread.

Report any invasive species you find, including:

FISH DISEASES **QUAGGA MUSSEL** **AFRICAN CURLY WATERWEED** **KILLER SHRIMP**

Protect the environment you enjoy by keeping your boat and kit free of Invasive species

Remember to check these places

CHECK Check boats, equipment and clothing after leaving the water for mud, aquatic animals or plant material. Remove anything you find and leave it at the site.

CLEAN Clean everything thoroughly as soon as you can, paying attention to the inside of your boat and areas that are damp and hard to access. Use hot water (at least 45°C) if you can.

DRY Dry - drain water from every part of your boat and dry with a sponge or towel before leaving the site. Dry everything until dry for at least 48 hours before using elsewhere as some invasive plants and animals can survive for weeks in damp conditions.

Disinfect all items if complete drying is not possible.

STOP THE SPREAD

Invasive plants and animals harm our wildlife and environment. They can block rivers, lakes, canals and marine waterways making paddling difficult. Contaminated canoes and kayaks can cause their spread.

Report any invasive species you find, including:

FISH DISEASES **QUAGGA MUSSEL** **AFRICAN CURLY WATERWEED** **KILLER SHRIMP**

Protect the environment you enjoy by keeping your boat and kit free of Invasive species

Remember to check these places

Find out more about Invasive species and how you can help to stop the spread at invasives.ie/biosecurity/check-clean-dry

Calling all Anglers Help stop the Invasion!

Invasive plants and animals can harm our wildlife, carry diseases that kill fish, and block our waterways. Contaminated fishing gear can cause their spread.

Report any invasive species you find, including:

FISH DISEASES **QUAGGA MUSSEL** **AFRICAN CURLY WATERWEED** **KILLER SHRIMP**

Protect the environment and fishing you enjoy by keeping your kit free of Invasive species

Remember to check these places

CHECK Check your gear, clothing, and footwear after leaving the water for mud, aquatic animals, or plant material. Remove anything you find and leave it at the site.

CLEAN Clean everything as soon as you can. Pay particular attention to nets, waders and areas that are damp and hard to inspect. Use hot water (at least 45°C) or a high-pressure spray when possible.

DRY Dry all equipment and clothing until dry for at least 48 hours as some invasive species can live for weeks in damp conditions.

Disinfect all items if complete drying is not possible.

STOP THE SPREAD

Invasive plants and animals can harm our wildlife, carry diseases that kill fish, and block our waterways. Contaminated fishing gear can cause their spread.

Report any invasive species you find, including:

FISH DISEASES **QUAGGA MUSSEL** **AFRICAN CURLY WATERWEED** **KILLER SHRIMP**

Protect the environment and fishing you enjoy by keeping your kit free of Invasive species

Remember to check these places

Find out more about Invasive species and how you can help to stop the spread at invasives.ie/biosecurity/check-clean-dry

Calling all Boaters Help stop the Invasion!

Invasive plants and animals harm our wildlife and environment. They can damage boat engines, clog propellers, and block waterways. Contaminated boats can cause their spread.

Report any invasive species you find, including:

FISH DISEASES **QUAGGA MUSSEL** **AFRICAN CURLY WATERWEED** **KILLER SHRIMP**

Protect the marine environment and sport you enjoy by keeping your boat and kit free of Invasive species

Remember to check these places

CHECK Check your boat, equipment and clothing after leaving the water for mud, aquatic animals, or plant material. Remove anything you find and leave it on the bank or in the bin.

CLEAN Clean everything thoroughly, paying attention to fenders, bow thrusters, props, the lip around your boat, and areas that are damp and hard to access. Use hot water (at least 45°C) if you can.

DRY Dry - drain water from every part of your boat and dry everything until dry for at least 48 hours before using elsewhere as some invasive plants and animals can survive for weeks in damp conditions.

Disinfect all items if complete drying is not possible.

STOP THE SPREAD

Invasive plants and animals harm our wildlife and environment. They can damage boat engines, clog propellers and block waterways. Contaminated boats can cause their spread.

Report any invasive species you find, including:

FISH DISEASES **QUAGGA MUSSEL** **AFRICAN CURLY WATERWEED** **KILLER SHRIMP**

Protect the environment you enjoy by keeping your boat and kit free of Invasive species

Remember to check these places

Find out more about Invasive species and how you can help to stop the spread at invasives.ie/biosecurity/check-clean-dry

Calling all Boaters Help stop the Invasion!

Invasive plants and animals harm our marine wildlife. They damage boat engines and damage boats. Contaminated gear and boats can cause their spread.

Report any invasive species you find, including:

FISH DISEASES **QUAGGA MUSSEL** **AFRICAN CURLY WATERWEED** **KILLER SHRIMP**

Protect the marine environment and sport you enjoy by keeping your boat and kit free of Invasive species

Remember to check these places

CHECK Check your boat, equipment and clothing after leaving the water for mud, aquatic animals, or plant material. Remove anything you find and leave it on the bank or in the bin.

CLEAN Clean everything thoroughly, paying attention to fenders, bow thrusters, props, the lip around your boat, and areas that are damp and hard to access. Use hot water (at least 45°C) if you can.

DRY Dry - drain water from every part of your boat and dry everything until dry for at least 48 hours before using elsewhere as some invasive plants and animals can survive for weeks in damp conditions.

Disinfect all items if complete drying is not possible.

STOP THE SPREAD

Invasive plants and animals harm our marine wildlife. They damage boat engines and damage boats. Contaminated gear and boats can cause their spread.

Report any invasive species you find, including:

FISH DISEASES **QUAGGA MUSSEL** **AFRICAN CURLY WATERWEED** **KILLER SHRIMP**

Protect the marine environment and sport you enjoy by keeping your boat and kit free of Invasive species

Remember to check these places

Find out more about Invasive species and how you can help to stop the spread at invasives.ie/biosecurity/check-clean-dry

Calling all Boaters Help stop the Invasion!

Invasive plants and animals harm our wildlife and environment. They can damage boat engines, clog propellers and block waterways. Contaminated boats can cause their spread.

Report any invasive species you find, including:

FISH DISEASES **QUAGGA MUSSEL** **AFRICAN CURLY WATERWEED** **KILLER SHRIMP**

Protect the environment you enjoy by keeping your boat and kit free of Invasive species

Remember to check these places

CHECK Check boats, equipment and clothing after leaving the water for mud, fouling, or plant material. Remove anything you find and leave it on the bank or in the bin.

CLEAN Clean everything thoroughly, paying attention to fenders, bow thrusters, props, the lip around your boat, and areas that are damp and hard to access. Use hot water (at least 45°C) if you can.

DRY Dry - drain water from every part of your boat and dry everything until dry for at least 48 hours before using elsewhere as some invasive plants and animals can survive for weeks in damp conditions.

Disinfect all items if complete drying is not possible.

STOP THE SPREAD

Invasive plants and animals harm our wildlife and environment. They can damage boat engines, clog propellers and block waterways. Contaminated boats can cause their spread.

Report any invasive species you find, including:

FISH DISEASES **QUAGGA MUSSEL** **AFRICAN CURLY WATERWEED** **KILLER SHRIMP**

Protect the environment you enjoy by keeping your boat and kit free of Invasive species

Remember to check these places

Find out more about Invasive species and how you can help to stop the spread at invasives.ie/biosecurity/check-clean-dry

Calling all Anglers

Help stop the Invasion!

**STOP
THE
SPREAD**

Invasive plants and animals can harm our wildlife, carry diseases that kill fish, and block our waterways. Contaminated fishing gear can cause their spread

Report any invasive species you find, including:



FISH DISEASES



QUAGGA MUSSEL



AFRICAN CURLY
WATERWEED



KILLER SHRIMP

Protect the environment and fishing you enjoy by keeping your kit free of invasive species

CHECK

Check your gear, clothing, and footwear after leaving the water for mud, aquatic animals, or plant material. Remove anything you find and leave it at the site.

CLEAN

Clean everything as soon as you can. Pay particular attention to nets, waders and areas that are damp and hard to inspect. Use hot water (at least 45°C) or a high-pressure spray when possible.

DRY

Dry all equipment and clothing until dry for at least 48 hours as some invasive species can live for weeks in damp conditions.

Disinfect all items if complete drying is not possible.



An Roinn Tithíochta,
Rialtais Áiteál agus Oidhreacht
Department of Housing,
Local Government and Heritage



National
Biodiversity
Data Centre
A Heritage Council Programme



Invasives.ie
Invasive Alien Species in Ireland



Find out more about invasive species and how you can help to stop the spread at:

invasives.ie/biosecurity/check-clean-dry

Calling all water users
Help stop the Invasion!



Invasive species harm wildlife and our environment

Don't spread them to new waterways



Calling all Boaters
Help stop the Invasion!



Invasive species block waterways and harm the environment

Don't spread them on your boat



Calling all boaters
Help stop the invasion!



Invasive species harm wildlife and block waterways

Don't spread them on your boat



Calling all Anglers
Help stop the Invasion!



Photo credit: Neil Hayward Photo

Invasive species harm fish and block waterways

Don't spread them on your kit



Canoeing, kayaking or stand up paddle boarding?

Invasive species harm the environment and block waterways

Don't spread them on your kit



Calling all marine boaters
Help stop the invasion!

Invasive species harm wildlife and block waterways

Don't spread them on your boat



Examples of invasive species that could become a serious problem in our waterways:

FISH DISEASES

Diseases such as Koi Herpes Virus (picture of infected fish), Salmon fluke (*Gyrodactylus salaris*) and the Crayfish plague (*Aphanomyces astaci*) kill fish and can close fisheries.



INVASIVE AQUATIC PLANTS AND SEAWEEDS

Freshwater plants like African curly waterweed (*Lagarosiphon major*) and seaweeds like Wakame (*Udaria pinnatifida*) block waterways and outcompete with native wildlife. If they spread further in Ireland, they could cost €millions to manage.



INVASIVE AQUATIC ANIMALS

The Chinese Mitten Crab (*Eriocheir sinensis*) moves between freshwater rivers and marine estuaries, damaging banks, preying on and outcompeting our native wildlife. The Slipper limpet can form chains and stacks of up to 15 individuals in marine environments. They can starve and smother native shellfish and be a serious pest of oyster and mussel beds.



Find out more about this biosecurity campaign and how you can report sightings to help stop the spread at: invasives.ie/biosecurity/check-clean-dry #CheckCleanDryIrl



Photos from Trevor Renals, the Environment Agency, Satu Viljamaa-Dirkis (IFA, OIE reference laboratory for crayfish plague) and Ian-Robert Banks.

Calling all water users
Help stop the Invasion!



Invasive species harm wildlife and our environment

Don't spread them to new waterways



Invasive plants and animals from all over the world have been introduced accidentally to Irish waters. Many different species have already been found in our lakes, rivers, seas, and other waterways, and the number of new arrivals is increasing rapidly.

They cause serious environmental problems that can be irreversible – outcompeting native wildlife, damaging ecosystems, and spreading disease. They can block waterways and riverbanks, interfere with fishing, and damage boats and propellers. Contaminated gear (e.g. equipment, boats, footwear, and clothing) is one of the most common causes of their spread to new waterways.

They can be small and hard to spot so are easily spread on damp equipment and clothing. **Protect the environment and sport you enjoy by keeping your boat and kit free from invasive plants and animals.**

CHECK Check your equipment, boat, and clothing after leaving the water for mud, aquatic animals, or plant material. Remove anything you find and leave it at the site.

CLEAN Clean everything thoroughly as soon as you can paying attention to areas that are damp and hard to inspect. Use hot water (at least 45°C) or a high-pressure spray.

DRY Dry everything until it is dry for at least 48 hours before using elsewhere as some invasive plants and animals can survive for weeks in damp conditions.

Disinfect everything if complete drying is not possible. Items can be soaked, thoroughly sprayed, or wiped down with a disinfectant approved for use near waterbodies (e.g. Virkon Aquatic, Virasore).



Anything that comes into contact with the water has the potential to spread invasive species elsewhere.

Following the Check Clean Dry biosecurity campaign can help protect our aquatic environment.



Remember to check these places



You can download free Check Clean Dry awareness-raising materials for your club from invasives.ie/biosecurity/check-clean-dry

Outdoor Signs

ATTENTION WATER USERS - help stop the invasion!

STOP THE SPREAD

Invasive plants and animals harm our wildlife and environments. They can cause disease, block waterways, interfere with fishing and damage boats. Please help stop their spread by following the **Check, Clean, Dry** code.



Remember to check these places



CHECK

Check your equipment, boat, and clothing after leaving the water for mud, aquatic animals, or plant material. Remove anything you find and leave it at the site.

CLEAN

Clean everything thoroughly as soon as you can paying attention to areas that are damp and hard to inspect. Use hot water (at least 45°C) or a high-pressure spray.

DRY

Dry everything until it is dry for at least 48 hours before using elsewhere as some invasive plants and animals can survive for weeks in damp conditions.

Disinfect everything if complete drying is not possible.



Remember to check these places



Protect the environment and sport you enjoy



Find out more about invasive plants and animals and how you can help to stop the spread at: invasives.ie/biosecurity/check-clean-dry

Report any invasive species you find including:



AIRE, A ÚSÁIDEOIRÍ UISCE - cabhraigh leis an ionradh a stopadh!

STOP AN SCAIPEADH

Déanann plandaí agus ainmhithe ionracha dochar dár bhfiadhúlra agus dár dtimpeallachtaí. Is féidir leo a bheith ina gcúis le galar, uiscebhealaí a bhlocáil, cur isteach ar iascach agus damáiste a dhéanamh do bháid. Cabhraigh le srian a chur ar a scaipeadh, más é do thoil é, leis an gcód **Seiceáil, Glan, Triomaigh**.



Cuimhnigh ar na háiteanna seo a sheiceáil



SEICEÁIL

Seiceáil d'fhearas, do bháid agus d'fíadaí tar éis duit teacht as an uisce agus feach an bhfuil láib, ainmhithe uisce nó ábhar plandúil orthu. Bain rud ar bith a fhaigheann tú agus fág ar an lathair é.

GLAN

Glan gach rud go maith chomh luath agus is féidir leat agus tabhair aird ar achair atá tais agus deacair a scrúdú. Úsáid uisce te (45°C ar a laghad) nó scaird ardbhrú.

TRIOMAIGH

Triomaigh gach rud go dtí go mbeidh siad trím ar feadh 48 uair an chloig sula n-úsáideann tú in áit éigin eile iad, mar is féidir le roinnt plandaí agus ainmhithe ionracha maireachtáil ar feadh roinnt seachtainí i ndálaí taisa.

Difhabhtigh gach rud mura féidir iad a thiomáint go hiomlán.



Cuimhnigh ar na háiteanna seo a sheiceáil



Cosáin an comhshaoil agus an spórt a thaitníonn leat



Tuilleadh eolais ag: invasives.ie/biosecurity/check-clean-dry

Tuairiscigh an speiceas ionraich a fhaigheann tú, lena n-áirítear:



Protect our waterbodies - help stop the invasion!

Invasive species can be a serious problem in lakes, rivers and other waterbodies. They can harm wildlife and the environment, damage boats and clog waterways. Here are some ways you can help to protect the waterbody you manage:

STOP THE SPREAD

Keep trailers and other kit out of the water where possible to avoid transfer of invasive species.

Display **Check Clean Dry** posters and information in visitor centres and club houses

Limit access to the water to a single point if possible.

If possible, install cleaning facilities for water users by access points to make it easy to clean equipment

Ask water users to check in and out to confirm their kit has been cleaned

Provide equipment for water users to borrow if you can - trailers and launching trolleys for boats, or nets and drogues for anglers.

Install signage by the water and access points to remind water users to **Check Clean Dry** their kit after leaving





African Curly Waterweed
Lagarosiphon major

4



- ▲ Submerged, aquatic plant, anchored in the substrate
- ▲ Leaves are strongly curved which are 6-30mm long and 1-3mm wide
- ▲ Tends to form dense stands with stems up to 3m long
- ▲ Can be confused with *Elodea spp.*, *Egeria densa*, and *Hydrilla verticillata*

Signal Crayfish
Pacifastacus leniusculus

9



- ▲ Much larger than our native White-clawed Crayfish although juveniles of both species are very similar
- ▲ Claws bright red underneath with a turquoise / white spot on the surface
- ▲ Spreads up and down stream and may cross land to colonise adjacent water bodies
- ▲ Carries Crayfish Plague which is deadly to our native crayfish. Look out for four other invasive crayfish species of Union Concern

What are freshwater invasive non-native species?

Animals and plants that have been introduced by human actions to parts of the world outside their natural range are known as non-native species. Most of these do not cause any problems in Ireland.

However, a small proportion, known as invasive non-native species, can cause serious and permanent problems by harming environments. They can be bigger, faster growing or more aggressive than native species, and may also have fewer natural predators to control their numbers. As a result, native species are often unable to compete.

A number of invasive non-native species have been introduced into the freshwater environment in Ireland which includes, for example, lakes, rivers and ponds.

Why should I be concerned?

These species can devastate populations of native species and change whole ecosystems, for example, by competing with and displacing native species, spreading disease, altering the local ecology and physically clogging waterways. This can adversely affect recreational facilities, for example, by reducing the population of fish, restricting navigation through waterways and affecting the quality of our rivers.

How are they usually spread?

Water users can unknowingly assist the spread of these species from one water body to another by accidentally carrying individuals, eggs, larvae and viable plant fragments on their equipment, shoes, clothing and other damp places.

What can I do to stop the spread of these species?

By following three simple steps when leaving the water, you can help stop the spread of invasive non-native species:

- CHECK** Check your gear, clothing, and footwear after leaving the water for mud, aquatic animals, or plant material. Remove anything you find and leave it at the site.
- CLEAN** Clean and wash all boats, equipment, footwear and clothes thoroughly. Use hot water (at least 45°C) or a high-pressure spray if possible.
- DRY** Dry all equipment and clothing until they are dry for at least 48 hours as some invasive species can live for weeks in damp conditions. Disinfect all items if complete drying is not possible.

www.invasives.ie/biosecurity/check-clean-dry

Freshwater Invasive Non-Native Plants

Freshwater invasive non-native plants can have a negative impact on our waterways leaving them unsuitable for both wildlife and recreation. These plants can grow rapidly, blocking out light and making it very difficult for our native species to survive.

Identification of these problem plants can be difficult with many looking similar to our native freshwater plant species. Expert advice should always be sought if you think you have found one.

The five species included in this leaflet are some of the many freshwater invasive non-native plant species found in Ireland that are of most concern to our wildlife and economy.

New Zealand pygmyweed *Crassula helmsii*



- Small round fleshy leaves arranged along the stem in opposite pairs
- Flowers very small, white with small petals
- Can grow under/above water surface and some forms found on land
- Forms dense impenetrable mats, can grow 200 times faster than native pond plants

Floating Pennywort *Hydrocotyle ranunculoides*



- Fleshy stems and roundish blunty toothed leaves held horizontal and generally dissected to the middle
- Flowers without petals, greenish, held erect
- Precludes growth of other aquatic plants
- Obstructs movements of animals and boats preventing navigation and recreational use of watercourses

Water Primrose *Ludwigia grandiflora*



- Creeping perennial water plant with long oval leaves like a willow
- Large, bright yellow flower like that of a primrose
- Plant can produce huge numbers of seed per year
- A similar related species, *Ludwigia peploides* is invasive and of union concern

African Curly Waterweed *Lagarosiphon major*



- Submerged, aquatic plant, anchored in the substrate
- Leaves are strongly curved which are 6-30mm long and 1-3mm wide
- Tends to form dense stands with stems up to 3m long
- Can be confused with *Elodea* spp., *Egeria densa*, and *Hydrilla verticillata*

Parrots Feather *Myriophyllum aquaticum*



- Aquatic perennial with forms that can grow above (emergent) and below the water surface (submerged)
- Blue-green leather like leaves in whorls of 4-6
- Emergent form is more robust than submerged form
- Can block ditches and dominate ponds
- Dies back in winter although submerged form is present all year

This leaflet was originally produced by the Cheshire Wildlife Trust with support of GB Non-Native Species Secretariat. This version has been adapted by the National Biodiversity Data Centre with support from the National Parks and Wildlife Service.

To find out more about invasive species visit: www.invasives.ie



Freshwater Invasive Non-Native Invertebrates

Freshwater invasive non-native invertebrates can have a negative impact on our freshwater environments leaving them unsuitable for both wildlife and recreation. These organisms can reproduce rapidly, prey on and compete with our native species. They can spread disease and parasites.

Identification of these problem species can be difficult so expert advice should always be sought if you think you have found one. The following six species are some of the many freshwater invasive non-native invertebrates found in Ireland that are of most concern to our wildlife and economy.

Zebra & Quagga Invasive Dreissenid's



- Zebra mussel: *Dreissena polymorpha* distinct ridging, triangular cross-section, lies flat when placed on front
- Quagga mussel: *Dreissena rostriformis bugensis* no distinct ridging, more rounded cross section, rolls to side when placed on front
- Colour and pattern not reliable characteristics to tell species apart
- Powerful filter feeders, alter whole ecosystems

Stone moroko (Topmouth gudgeon) *Pseudorasbora parva*



- Small slender freshwater fish, usually 4-8cm in length
- Generally iridescent silvery blue with thin dark purple - blue stripe along lateral line
- Upturned lower jaw with no barbels
- Dorsal fin originates directly above pelvic fin
- It can outcompete native fish for food, habitat and spawning areas

Killer Shrimp *Dikerogammarus villosus*



- Up to 30 mm in length, body is curled and semi-transparent with two pairs of antennae and large, powerful mandibles (jaws)
- Predator of native shrimp and other native species
- Likely to disrupt ecosystems through direct predation and indirect effects across food chains
- Parasites carried by killer shrimps could reduce fish stocks

Signal Crayfish *Pacifastacus leniusculus*



- Much larger than our native White clawed crayfish although juveniles of both species are very similar
- Claws bright red underneath with a turquoise / white spot on the surface
- Spreads up and down stream and may cross land to colonise adjacent water bodies
- Carries Crayfish Plague which is deadly to our native crayfish. Look out for four other invasive crayfish species of Union Concern

Chinese Mitten Crab *Eriocheir sinensis*



- Only freshwater crab found in Ireland. Migrates downstream to estuaries in Autumn to spawn
- Green, brown or grey in colour, front white tipped pincers covered in dense matt of fine hairs
- Legs long and hairy, body square and up to 80mm across
- Undermines riverbanks through burrowing leading to increased risk of erosion and flooding

Asian Clam *Corbicula fluminea*



- Invasive mollusc species usually less than 25 mm but can grow up to 50 to 65 mm in length
- Yellow-green to brown rounded triangular shell with evenly spaced ridges on surface
- Reach high densities and outcompete native species for food and space
- Threatens fish spawning grounds and native freshwater mollusc species

What do I do if I find an invasive species?

It is important to let us know if you see any of the species contained in this guide. Submit your sighting through:

<https://records.biodiversityireland.ie/>

For more information on recording visit: <https://invasives.ie/what-can-i-do/report-sightings/>

Remember to Check Clean Dry!
<https://invasives.ie/biosecurity/check-clean-dry/>

CheckCleanDryIrl

Photo credits: Caroline Hurley (1), GB NNS (2, 3), Joe Cahilly (3), Jan Robert Haars (4, 6), Seonara E.C. BY SA 3.0 (7), Environment Agency (8, 9) Matt Branzer (9), Shattersack (10), Colette O'Finn (11)

Invasive Freshwater Plants & Animals



Pocket guide

Border posters



Padding abroad?


Before entering or leaving Irish waters remember to:

CHECK CLEAN DRY

Help Stop the Spread of Invasive plants and animals

Find out how you can help stop the spread at: invasives.ie/biosecurity/check-clean-dry

As part of the National Biodiversity Data Centre, Invasives.ie is a project of the National Biodiversity Data Centre, National Parks and Wildlife Service, and the Department of the Environment, Climate and Communications.



Boating abroad?

Before entering or leaving Irish waters remember to:

CHECK CLEAN DRY

Help Stop the Spread of Invasive plants and animals

Find out how you can help stop the spread at: invasives.ie/biosecurity/check-clean-dry

As part of the National Biodiversity Data Centre, Invasives.ie is a project of the National Biodiversity Data Centre, National Parks and Wildlife Service, and the Department of the Environment, Climate and Communications.



Is your tackle clean?

Fishing abroad

Before entering or leaving Irish waters remember to:

CHECK CLEAN DRY

Help Stop the Spread of Invasive plants and animals

Find out how you can help stop the spread at: invasives.ie/biosecurity/check-clean-dry

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Adverts



STOP THE SPREAD

Calling all Anglers Help stop the Invasion!

Invasive plants and animals can impact on our wildlife, carry diseases that kill fish, and block waterways and banks. Contaminated fishing gear and boats can assist their spreads to new waterways.

CHECK Check your gear, clothing, and footwear after leaving the water for mud, aquatic animals, or plant material. Remove anything you find and leave it at the site.

CLEAN Clean everything as soon as you can. Pay particular attention to nets, waders and areas that are damp and hard to inspect. Use hot water (at least 40°C) or a high-pressure spray when possible.

DRY Dry all equipment and clothing until dry for at least 48 hours as some invasive species can live for weeks in damp conditions.

Disinfect all items if complete drying is not possible.

Protect the environment and fishing you enjoy by keeping your kit free of invasive species

Some invasives to watch out for:

- FISH DISEASE
- QUAGGA MUSSEL
- AMERICAN CURLY WATERWEED
- KILLER SHRIMP

Find out more about invasive species and how you can help to stop the spread at: invasives.ie/biosecurity/check-clean-dry

As part of the National Biodiversity Data Centre, Invasives.ie is a project of the National Biodiversity Data Centre, National Parks and Wildlife Service, and the Department of the Environment, Climate and Communications.



STOP THE SPREAD

Calling all Boaters Help stop the Invasion!

Invasive plants and animals harm our wildlife and environment. They can damage boat engines, clog propellers, and block waterways. Contaminated boats can cause their spread.

CHECK Check boats, equipment and clothing after leaving the water for mud, aquatic animals or plant material. Remove anything you find and leave it at the site. Disinfect if necessary.

CLEAN Clean everything thoroughly as soon as you can, paying attention to ropes, rigging, bilges and areas that are damp and hard to access. Use hot water (at least 40°C) if you can.

DRY Dry-clean water from every part of your boat. Dry everything until dry for at least 48 hours before going elsewhere as some invasive plants and animals can survive for weeks in damp conditions.

Disinfect all items if complete drying is not possible.

Protect the environment and sport you enjoy by keeping your boat free of invasive species

Some invasives to watch out for:

- FISH DISEASE
- QUAGGA MUSSEL
- AMERICAN CURLY WATERWEED
- KILLER SHRIMP

Find out more about invasive species and how you can help to stop the spread at: invasives.ie/biosecurity/check-clean-dry

As part of the National Biodiversity Data Centre, Invasives.ie is a project of the National Biodiversity Data Centre, National Parks and Wildlife Service, and the Department of the Environment, Climate and Communications.



STOP THE SPREAD

Invasive plants and animals harm the environment and block waterways. Contaminated equipment and clothing is one of the most common causes of their spread to new waterways.

Protect the environment and sports you enjoy:

CHECK Check your equipment, boat, and clothing after leaving the water for mud, aquatic animals, or plant material. Remove anything you find and leave it at the site.

CLEAN Clean everything thoroughly as soon as you can, paying attention to areas that are damp and hard to inspect. Use hot water (at least 40°C) or a high-pressure spray.

DRY Dry everything until it is dry for at least 48 hours before going elsewhere as some invasive plants and animals can survive for weeks in damp conditions.

Disinfect everything if complete drying is not possible.

Find out more about invasive plants and animals and how you can help to stop the spread at: invasives.ie/biosecurity/check-clean-dry

As part of the National Biodiversity Data Centre, Invasives.ie is a project of the National Biodiversity Data Centre, National Parks and Wildlife Service, and the Department of the Environment, Climate and Communications.

Thank you signs

Thanks for remembering to

remembering to



STOP THE SPREAD OF INVASIVE PLANTS AND ANIMALS
CHECK CLEAN DRY
invasives.ie/biosecurity

Protecting our environment from invasive species

An Roinn Tíochta,
Riailís Ainéil agus Oidhreacht
Department of Housing,
Local Government and Heritage

National
Biodiversity
Data Centre
A Heritage Council Programme

Invasives.ie
Invasive Alien Species in Ireland

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Templates

Your Organisation Name Here

STOP THE SPREAD

CHECK
CLEAN
DRY

Check your gear, clothing, and footwear after leaving the water for fishing or other marine leisure activities. Wash your gear and boots in a bucket of clean water.

Clean everything in water or power. Dry equipment in the sun. Do not leave gear or boots in a boat or on a boat trailer.

Dry all equipment and clothing until dry for at least 48 hours. Do not store equipment in a boat or on a boat trailer.

Remember to check these places

Invasive plants and animals can harm our wildlife, carry diseases that kill fish, and block our waterways. Contaminated fishing gear can cause their spread.

Report any invasive species you find, including:

- Water hyacinth
- Spotted shell
- Sea urchin
- Crab

Protect the environment and fishing you enjoy by keeping your kit free of invasive species.

invasives.ie/biosecurity/check-clean-dry

Your Organisation Name Here

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Remember to check these places

Invasive plants and animals harm our marine wildlife. They overgrow hard surfaces and damage boats. Contaminated gear and boots can cause their spread.

Report any invasive species you find, including:

- Water hyacinth
- Spotted shell
- Crab

Protect the marine environment and sport you enjoy by keeping your boat and kit free of invasive species.

invasives.ie/biosecurity/check-clean-dry

Your Organisation Name Here

STOP THE SPREAD

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Protecting our environment from invasive species

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