RECREATIONAL USER POCKET GUIDE

Freshwater Invasive Non-Native Species

ABOUT THIS GUIDE

We in Cumbria love spending time on, in and around water. Whatever activity you enjoy – angling; swimming; boating; diving; walking; biking or even picnicking and paddling, we all have the potential to introduce and spread freshwater Invasive Non-Native Species (INNS) to and between our precious lakes, tarns and rivers. Protecting our freshwaters from INNS is something that we must all address as it is our responsibility.

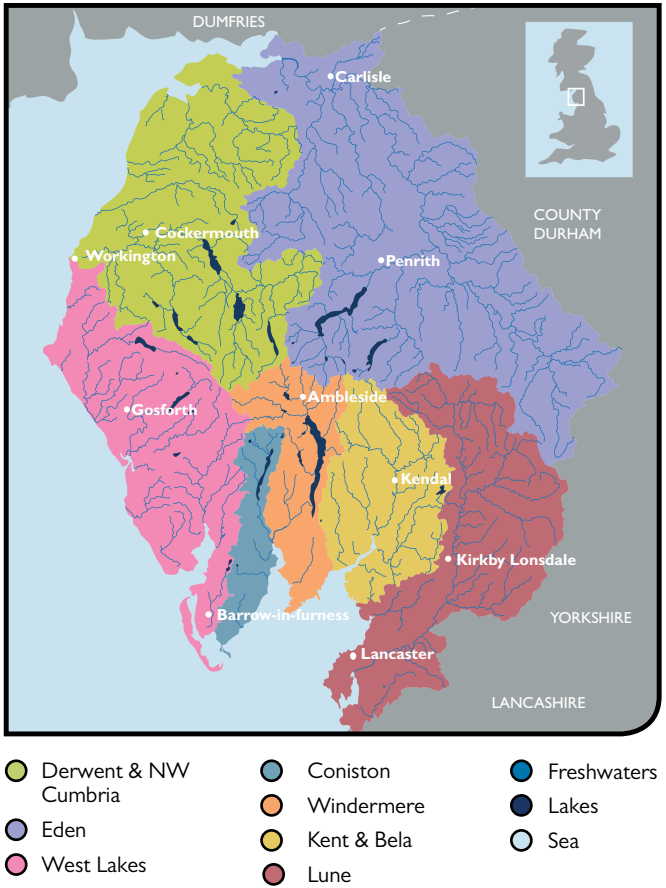
INNS pose one of the greatest threats to biodiversity loss globally, causing potentially irreversible damage to our native ecosystems and ecology. Cumbria is home to some rare and vulnerable native species such as white clawed crayfish, pearl mussels, various fish species including atlantic salmon, vendace, lampreys and Arctic charr which are relics from the ice age and plants. The survival of these species are being threatened by the introduction and establishment of INNS.

Furthermore, INNS also damage our infrastructure, affect the economy and our personal health and wellbeing including our recreational use and enjoyment of these beautiful places.

This guide provides information on a selection of freshwater INNS which are threatening Cumbrian waters, both within the county and from our neighbouring counties, and the risks they pose to help you decide where to go and how to ensure you do not introduce or spread these species.

The catchment maps give an indication of the current location of INNS within Cumbria. They also highlight any highly vulnerable native species which will be affected by the introduction of INNS.

CATCHMENT MAP OF CUMBRIAN RIVERS



HOW TO USE THIS GUIDE

The information in the following pages offers best practice advice for invasive non-native species and locational information current at the time of writing.

THIS GUIDE IS SPLIT INTO 3 SECTIONS:

1. What you can do

Highlights simple actions you can follow to reduce the risk of you introducing and spreading INNS

2. Species pages

- A selection of species both within Cumbria and those threatening our boarder.
- Highlights FACTS and IMPACTS associated with each species
- Identifies the means by which each species is spread (see symbol key)
- Identifies which catchment/s the species is currently found

3. Catchment maps

Provides locational information about vulnerable species and INNS found within those catchments. It is important to note that although INNS may be present within a catchment, they are not necessarily widespread across all rivers, lakes and tarns and should not be spread within that catchment as well as between catchments.

- Highlights VULNERABLE species present
- Highlights INNS currently present (abbreviated to initials of species)
- Identifies larger and regularly visited freshwater lakes, tarns and rivers

These symbols represent the means by which each species can spread between locations


Seed


Root


Organism

WHY?

Freshwater INNS are able to 'hitchhike' on equipment, footwear and clothing often unkowingly either by seed, root or stem fragment or the organism itself. Some species can tolerate and survive for long periods of time in damp conditions before being released into a new waterbody.

HELP US to prevent the spread of freshwater hitchhikers by following a simple three step process every time you leave any river, tarn or lake.

CHECK your equipment and clothing for living organisms. Pay particular attention to areas that are damp or hard to inspect.

CLEAN and wash all equipment, footwear and clothes thoroughly. If you do come across any organisms, leave them at the water body where you found them.

DRY all equipment and clothing – some species can live for many days in damp conditions.

WHAT CAN YOU DO?

BIO-AWARE!

The information in this guide enables you to:

- make an informed decision to reduce the risk of spreading and introducing INNS around Cumbria;
- follow best practice guidance and **CHECK – CLEAN – DRY** your equipment. See previous page (4).

REPORT

If you come across these species, please send your records to:

Cumbria Biodiversity Data Centre
Tullie House, Castle Street, Carlisle, Cumbria CA3 8TP

email: **recordingofficer@cbdc.org.uk**

tel: **01228 618717**

INCLUDE:

- Species
- Location and Grid reference
- Your details

If you would like further information about these species, please contact the Initiative Coordinator or visit our website at **www.cfinns.scrt.co.uk**

Many species need specialist control
Please call for advice

Japanese Knotweed | JK

Facts

- Can grow from a root fragment the size of your fingernail
- Roots can grow up to 7m deep and 3m wide

Impacts

- Causes severe structural damage to roads, buildings and other infrastructure
- Dominates river banks and lake shores limiting access
- Outcompetes native species

Currently present in

⚠ Widespread across Cumbria and the UK

WARNING – DO NOT CUT OR DISTURB THIS PLANT.
Specialist treatment required.

Himalayan Balsam | HB

Facts

- Can produce up to 800 seeds per plant
- Seed pods can explode seeds up to 3m from plant
- Seeds can remain viable for up to 2 years in the soil

Impacts

- Outcompetes native species and dominates river banks and lake shores
- Exposes bare banks during winter leading to soil erosion and bank destabilisation
- Reduces invertebrate biodiversity, for example HB is occasionally used by one species; the native rosebay willowherb in contrast is used by at least 12 species

Currently present in

⚠ Widespread across Cumbria and the UK

SIMPLE TO CONTROL:

1. Pull out whole plant including root ball
2. Break stem between root ball and first ridge on stem
3. Leave to compost on site away from the waterbody

Zebra Mussel | ZM

Facts

- Larvae are 0.1mm in length
- 7 larvae can fit on the tip of a pencil
- Produces sticky thread to attach to structure

Impacts

- Damage and block infrastructure
- Smother native species
- Remove nutrients from water

Currently present in

- Lancashire – Lakes around the lower Lune catchment near Carnforth

⚠ Not currently present in Cumbria

Giant Hogweed | GH

Facts

- Can produce up to 50,000 seeds per plant
- Can grow up to 5m tall with leaves up to 3m in length

Impacts

- Outcompetes native species and dominates river banks and lake shores
- Produces a sap which can cause skin burns and blistering when exposed to sunlight

Currently present in

- Eden
- Kent
- Lune
- Windermere

American Skunk Cabbage | ASC

Facts

- Can grow up to 1.5m tall
- Produces its own heat to allow early germination

Impacts

- Outcompetes native species and dominates boggy woodlands and river and lake margins
- Leaves large areas of bare soil exposed to erosion during winter

Currently present in

- Kent
- Windermere
- Coniston and Crake
- North West Cumbria
- Eden

Parrot's Feather | PF

Facts

- Can grow up to 2m tall
- Can grow from broken stem fragments

Impacts

- Dominate large areas of the beds of standing and flowing waterbodies which might otherwise support native plants
- Can limit access and recreational use of waterbody

Currently present in

- Lancashire
- Yorkshire
- Northumberland
- Durham
- Dumfries

⚠ Not currently present in Cumbria

New Zealand Pigmyweed | NZP

Facts

- Also known as *Crassula helmsii*, Australian Swamp stonecrop
- Can form dense mats up to 3m deep
- Can grow from broken stem fragments
- Can grow in water and on land

Impacts

- Dominate watercourse causing extensive decline in native plants
- Can prevent recreational and commercial activites
- Significantly alters the ecosystem and ecology of a waterbody

Currently present in

- Windermere
- Coniston and Crake
- North West Cumbria
- Eden

Killer & Demon Shrimp | KDS

Facts

- Survive for up to 15 days in damp conditions
- Survive in freshwater and brackish water

Impacts

- Voracious predator killing many native invertebrate and juvenile fish
- Significantly dominates and alters the ecosystem and ecology

Currently present in

- Cheshire
- Cambridgeshire
- South Wales

⚠ Not in Cumbria – All sites with KDS in the UK have recreational boating and angling

Floating Pennywort | FP

Facts

- Can grow from broken stem fragments
- Can grow up to 20cm per day

Impacts

- Dominates watercourse reducing oxygen, light, temperature and prevents invertebrates reaching the surface to breathe
- Blocks watercourses and exacerbate flooding
- Can prevent recreational and commercial activities

Currently present in

- Lancashire
- Yorkshire
- Northumberland
- Durham
- Dumfries

⚠ Not currently present in Cumbria

American Signal Crayfish & Plague | ASCP

Facts

- Can travel across land to colonise a new watercourse
- Plague spores can survive for between 6-22 days without a host in damp conditions
- Cumbria hosts one of the last strongholds of the native White clawed crayfish in the UK

Impacts

- Driving the native White clawed crayfish towards extinction
- Carries fungal plague which is fatal to the native White clawed crayfish
- Predate on fish eggs, juvenile fish and invertebrates
- Compete with native fish for refuges
- Undermine riverbanks by burrowing causing erosion

Currently present in

⚠ Only small number of scattered isolated populations present within Cumbria

⚠ Plague – there have been no incidences of crayfish plague within Cumbria

⚠ Widespread across the UK and bordering counties

Chinese Mitten Crab | CMC

Facts

- Lives in freshwater and breeds in estuaries only freshwater crab found in the UK
- Female crabs can produce up to 1 million eggs each season
- Can travel up to 1500km up river from the sea

Impacts

- Undermine riverbanks by burrowing
- Cause decline in diversity and richness of aquatic communities

Currently present in

- Common in the South East of England
- Recently been recorded in a number of coastal rivers in the North of the country

⚠ Only isolated record in Cumbria

Coarse Fish | CF

Examples

Top mouth gudgeon

Ruffe

Roach

LIVE BAITING – the transfer of live baits between waters carries huge risk and can impact the ecological balance. Please follow guidelines as set out under the Northwest Fisheries Bylaws no.18 and Salmon and Freshwater Fisheries Act 1975 Section 30.

Facts

- Can breed rapidly in suitable conditions
- Often introduced by escapees, contaminated stocking and live baiting

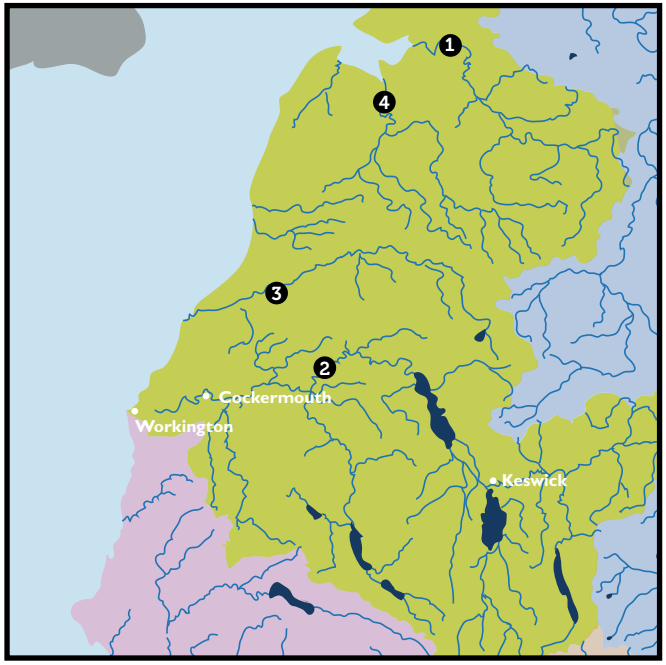
Impacts

- Quickly dominate a waterbody
- Exclude native species by predation on eggs and competition for prey and refuges
- Host disease and parasites fatal to native and vulnerable species
- Cause eutrophication by removal of zooplankton and increasing phytoplankton

Currently present in

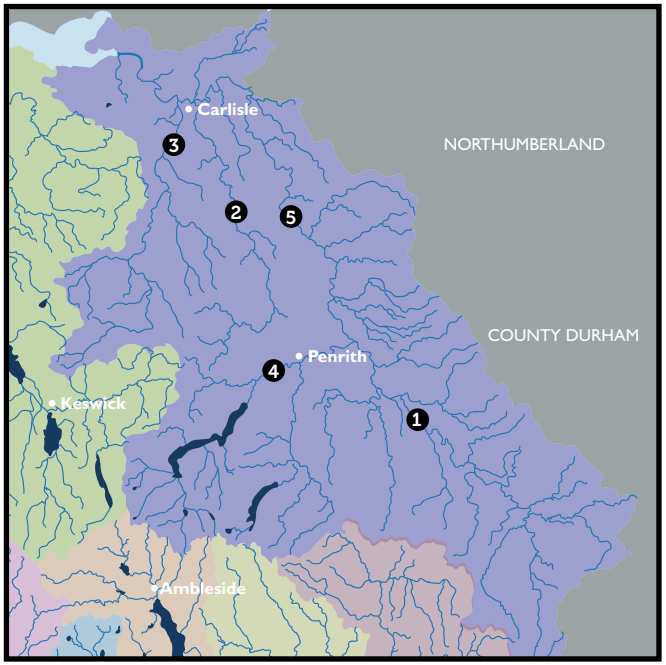
- Windermere
- North West Cumbria
- Eden

NORTH WEST CUMBRIA



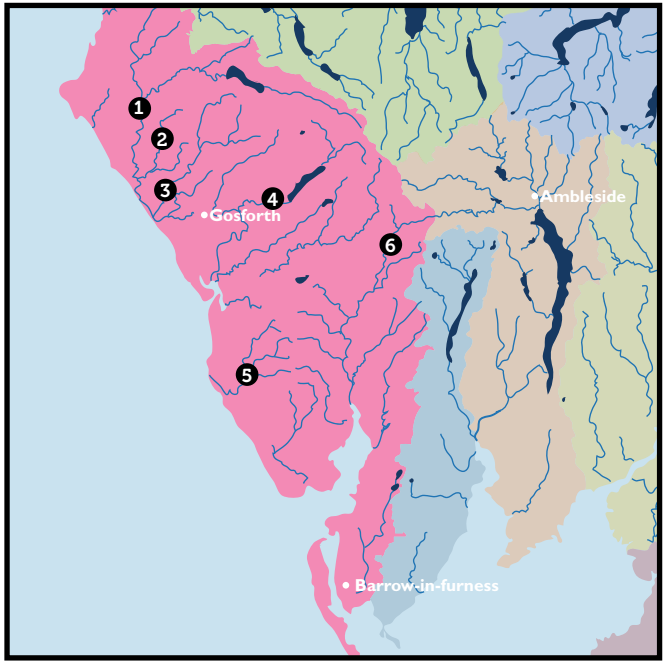
VULNERABLE SPECIES:	Arctic Charr, Vendace, Lampreys, Atlantic Salmon, Floating water plantain
INNS:	·HB ·JK ·ASCab ·NZP ·ASCray ·CF
LAKES / TARNS:	Thirlmere, Derwent, Bassenthwaite, Crummock Water, Buttermere, Lowes Water, Overwater
RIVERS:	1 Solway Plain 2 Derwent 3 Ellen 4 Waver and Wampool

EDEN VALLEY



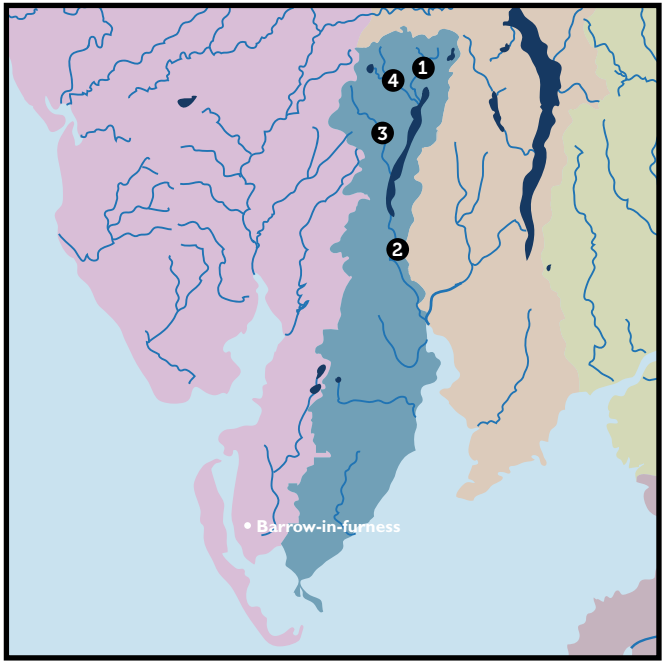
VULNERABLE SPECIES:	Atlantic Salmon, WCCray, Schelly, Lampreys
INNS:	·HB ·JK ·GH ·ASCab ·ASCray ·CF
LAKES / TARNS:	Ullswater, Haweswater, Brotherswater, Talkin Tarn, Red Water
RIVERS:	1 Lower Eden 2 Petteril 3 Caldew 4 Eamont 5 Upper Eamont

SOUTH WEST CUMBRIA



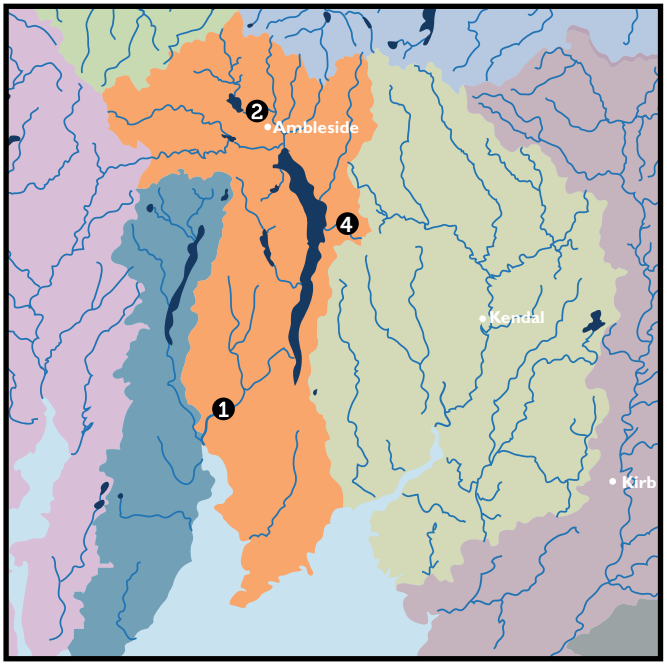
VULNERABLE SPECIES:	White Clawed Crayfish, Pearl Mussels, Arctic Charr
INNS:	·HB ·JK ·GH ·ASCray
LAKES / TARNS:	Ennerdale, Wastwater
RIVERS:	1 Ehan 2 Calder 3 Irt 4 Esk 5 Annas 6 Duddon

CONISTON



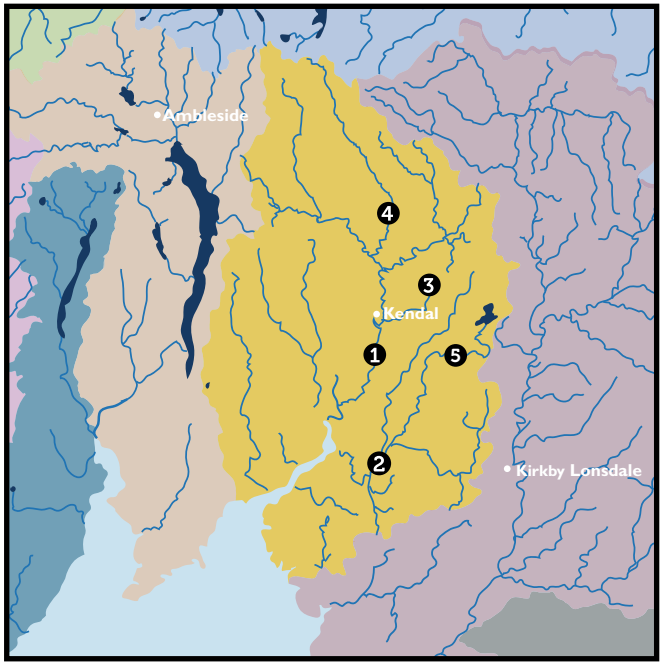
VULNERABLE SPECIES:	Atlantic salmon, Arctic charr, Trout
INNS:	·HB ·JK ·ASCab ·NZP ·CF
LAKES / TARNS:	Coniston Water, Yew Tree Tarn, Tarn Hows
RIVERS:	1 Yewdale 2 Crake 3 Torver 4 Church Beck

WINDERMERE



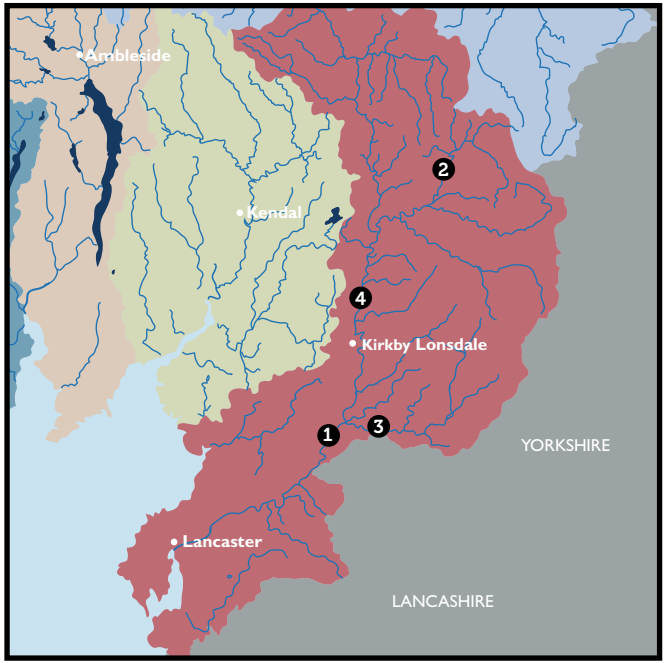
VULNERABLE SPECIES:	White Clawed Crayfish, Pearl Mussels, Atlantic salmon, Arctic Charr, Trout
INNS:	·HB ·JK ·ASCab ·NZP ·GH ·CF ·ASCray
LAKES / TARNS:	Grasmere, Rydal, Elterwater, Esthwaite, Windermere and several shallow relatively enriched water bodies at higher risk of invasion
RIVERS:	1 Leven 2 Rothay 3 Braythay

KENT & BELLA



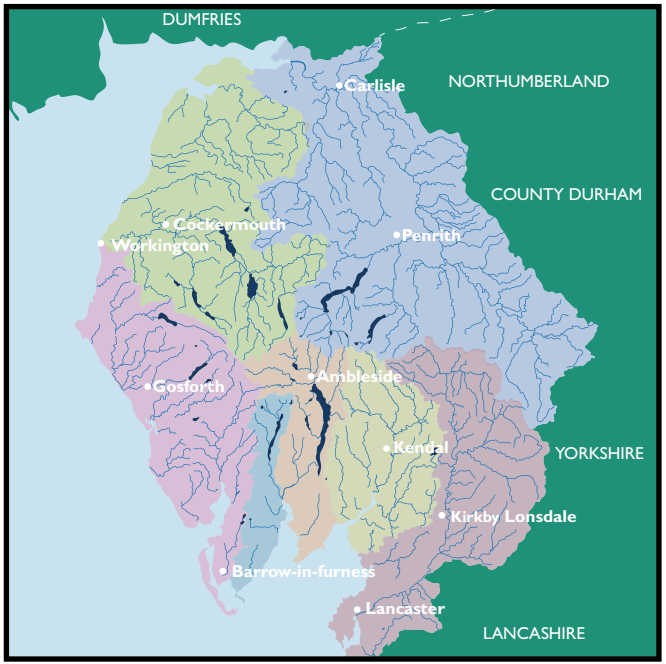
VULNERABLE SPECIES:	White Clawed Crayfish, Pearl Mussels, Atlantic salmon, Trout
INNS:	·HB ·JK ·ASCab ·GH
LAKES / TARNS:	Kentmere, Kentmere Tarn, Killington
RIVERS:	1 Kent 2 Bela 3 Mint 4 Sprint *(kent tributary)* 5 Peasey Beck *(Bela tributary)*

LUNE



VULNERABLE SPECIES:	White Clawed Crayfish, Pearl Mussels, Atlantic salmon, Trout
INNS:	·HB ·JK ·ASCab ·GH ·ZM ·ASCray
LAKES / TARNS:	Capernwray
RIVERS:	1 Lune 2 Rawthey 3 Greta 4 Wenning

SURROUNDING COUNTIES



LANCASHIRE, YORKSHIRE, NORTHUMBERLAND, DURHAM & DUMFIES:

INNS on our boundaries we **DO NOT WANT** introducing to CUMBRIA:

·FB ·PF ·ZM ·ASCP ·KDS ·CM ·CF

Cumbria Freshwater Invasive Non-Native Species Initiative

For more details about freshwater invasive non-native species and biosecurity, visit our website;
www.cfinns.scrt.co.uk

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Printed by Stramongate Press

Design by Custard Graphic Design,
www.custard-graphic-design.co.uk

NATURAL ENGLAND

Environment Agency

Morecambe Bay Local Nature Partnership

Department for Environment Food & Rural Affairs