Catching more than you bargained for: unintentional introduction and spread of invasive alien species by recreational anglers between France and Great Britain

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Angling as a pathway/ vector

Listed as a pathway on the EU IAS Regulation (1143/2014).

Focus on the unintentional spread of IAS by anglers as hitchhikers in damp angling equipment (nets, hooking mats) and clothing (waders, boots)
High number of anglers fishing abroad

Left: 2015
300 out of 680
44%

Right: 2018
1197 out of 3540
33.8%
In 2018:

- 54% went abroad once a year
- 20% twice
- 16% less than once
Fishing upon return to GB

Time period between an angler returning from a fishing trip abroad and going fishing at a water body in Great Britain.

Percentage (%)

How soon an angler goes fishing upon return to Great Britain:
## Most popular fishing destinations for British anglers in Europe

<table>
<thead>
<tr>
<th>Country</th>
<th>Percentage of anglers travelling abroad in 2015 (n=300) (%)</th>
<th>Percentage of anglers travelling abroad in 2018 (n=1197) (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>France</td>
<td>33.3</td>
<td>32.4</td>
</tr>
<tr>
<td>Ireland</td>
<td>27.0</td>
<td>15.9</td>
</tr>
<tr>
<td>Spain</td>
<td>14.7</td>
<td>14.9</td>
</tr>
<tr>
<td>Netherlands</td>
<td>8.0</td>
<td>3.1</td>
</tr>
</tbody>
</table>
Exploring GB- France angling route

French coarse fisheries visited by British anglers.

Identified from 2015 survey
Summary of 2016 ecological surveys

- 34 fisheries.
- One lake per fishery
Summary of 2016 ecological surveys

- 34 fisheries
- One lake per fishery

- 19 IAS found in the fisheries
- 6 macrophytes, 3 gammarids, 3 crayfish, 4 molluscs and 3 fish.
- 8 of these EU IAS of Union Concern
Summary of 2016 ecological surveys

• 34 fisheries
• One lake per fishery

• 19 IAS found in the fisheries
• 6 macrophytes, 3 gammarids, 3 crayfish, 4 molluscs and 3 fish.
• Eight of these EU IAS of Union Concern

• 77% of fisheries contained at least one IAS
• 53% contained 2 or more IAS
• Two fisheries contained five IAS in their lake
Summary of 2016 ecological surveys

Four species present that are currently absent from GB

1 Plant
Water primrose *Ludwigia peploides*

2 Invertebrates
Gammarid *Gammarus roeselii*
Mysid *Limnomysis benedeni*

1 Fish
Black bullhead catfish *Ameiurus melas*
Issues

• Lack of biosecurity at the fisheries
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• Large number of sites
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Issues

- Lack of biosecurity at the fisheries
- Large number of sites
- Multiple different nationalities
- Lack of biosecurity undertaken by anglers after abroad trip

Percentage of anglers in each category (%)

Number of fishing trips a British angler has abroad each year:
- Once
- Twice
- 3-4 years
- 5 or more

Major
Moderate
Minor
Low
Issues

• Lack of biosecurity at the fisheries
• Large number of sites
• Multiple different nationalities
• Lack of biosecurity undertaken by anglers after abroad trip
• Different facilities available on site (electric, water tap?)
Summary

• Large volume of movement (est. 100,000-150,000 anglers per year)

• Multiple countries

• Limited biosecurity at fisheries

• Limited biosecurity undertaken by anglers BEFORE or AFTER trip
Pathway mitigation

• KEY: Education and awareness – only way to change behaviour in the long term

• Engage angling community

• Voluntary Codes of Conduct
Awareness raising

- Regional forums
- Angling shows
Awareness raising

• Regional forums
• Angling shows
• Angling magazines
• Social media (tweets, Facebook)
• Invasive week
• Signs at ports
Production of materials

Under the GB Pathway Action Plan (PAP) working group a series of different documents are being produced for:

- Angling leaflets, videos and posters

- Local and international competitions
  - Event organisers
  - Competitors

- Biosecurity risk assessments for fisheries

- Guidance for fishing tour operators
  - Guides themselves
  - Attending anglers
**Fishing abroad?**

Diseases and invasive species kill fish. Don’t bring them back.

**Protect the environment and the sport you love:**

**CHECK**

Check your equipment, clothing and footwear when you leave the water. Remove any mud or plant material and put it in the bin.

**CLEAN**

Clean everything thoroughly as soon as you can. Use hot water if possible.

**DRY**

Dry everything for as long as you can before using it at home as some species can live for over two weeks in damp conditions.

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**STOP THE SPREAD**

Invasive species and animals can carry diseases that kill fish and block waterways and banks interfering with fishing. They can be small and hard to spot as they are easily spread on damp equipment and clothing. Protect the environment and fishing you enjoy by keeping your kit free of invasive plants and animals.

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

- **CLEAN everything thoroughly as soon as you can. You can using adhesive tapes, waders, and areas that are damp and hard to access. Use hot water if possible.**

- **DRY everything for as long as possible before using elsewhere as some invasive plants and animals can survive for two weeks in damp conditions.**

For more information and Check Clean Dry materials, visit nonnativespecies.org/checkcleananddry.
Is it working?

Need to monitor changes in behaviour to establish whether or not these measures are working.

Surveys: 2011, 2015, 2018

Temporal changes in biosecurity behaviour

- Clean AND dry after every trip
- Clean after every trip
- Dry after every trip
- NEITHER cleaning nor drying their equipment after every trip
- Neither clean or dry and fish abroad

Percentage of respondents (%)

Years: 2011, 2015, 2018
GB anglers only one element

French coming to GB?
GB bringing IAS to France?

Overlap with other pathways?
Conclusions

• International issue – need for collaboration between countries

• Opportunity to share best practice

• Consistent message
Thank-you...any questions?

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