

## **Environmental Audit Committee Invasive Species Inquiry**

### **Background to CIWEM**

1. CIWEM is the leading independent Chartered professional body for water and environmental professionals, promoting excellence within the sector. The Institution provides independent commentary on a wide range of issues related to water and environmental management, environmental resilience and sustainable development.
2. CIWEM welcomes the opportunity to respond to the Environmental Audit Committee on its inquiry on invasive species. This response was compiled with feedback from our Water Supply and Quality and Water Resources Specialist Panels, it focuses on invasive non-native species in a water context.

### **Summary**

3. Whilst it is recognised that water companies meet their statutory responsibilities in managing threats from invasive species, this is often through reactive management on an ad hoc basis.
4. Reduced water availability and pressure to restrict abstraction to protect aquatic habitats seem likely to drive the increasing case for water transfer between zones to improve supply resilience whilst avoiding the need for new reservoirs. It is important that invasive species threats are adequately managed in water transfers.
5. Appropriate regulators' guidance around water trading should better reflect invasive species threats.
6. The new Regulators' Alliance for Progressing Infrastructure Development should be required to address invasive species within their activity.
7. In mitigating increased risks from climate migration existing habitats will need to be strengthened such that they are in a healthy condition and less susceptible to invasive non-native species.
8. Biosecurity policies should be considered across water company operations including business as usual and supply chain activity to provide a holistic pathway focused approach to management.
9. Water companies must continue to work with other water users to promote understanding of how they might unwittingly facilitate spread of invasive species. Suitable wash down facilities are needed for recreational users.

10. Prevention of invasive non-native species spreading to the UK could be assisted by enhanced regulation on disinfection or filtration of bilge water, ballast water and hulls of boats, both commercial and personal, that travel overseas.
11. If the Government has not yet implemented the Ballast Water Management Convention, it should do so to address this introduction pathway and mitigate the risk of future trading relationships bringing invasive non-native species to the UK.
12. Industry needs reliable information on which to base action.
13. Regulators need to be reasonably funded so that they can act proportionately to the ecological, economic and social risks posed by invasive species.
14. In the event of EU exit it will be important that devolved policies across the UK are ecologically coherent as spread of invasive species across administrative boundaries is a threat. Enforcement of policies in all countries must be effective and coordinated.
15. It will be of vital importance that the UK and EU continue to share information and work collaboratively to manage the threat of invasive species through best practice and regulation.

### **Response to inquiry questions**

1. [How well is the UK and its overseas territories managing the impact of invasive species and controlling the risks of further invasion?](#)
16. Waterways face threats from a number of invasive non-native species which water companies play a role in detecting and eradicating or managing.
17. Managing the threat of invasive species alongside statutory conservation access and recreation duties under the Water Industry Act 1991 is seen as challenging. Recreational use of waterways, such as angling and boating, and raw water transfers represent areas for particular management of risk. Other ways that invasive species could be spread include by removal of existing impoundments, allowing species more movement, and through movement of workers and equipment between sites.
18. Invasive species is an area of devolved power, though Westminster holds overall responsibility for protection of the UK's external borders. The Environment Agency require water companies to consider invasive species risks that current abstraction and future water supply solutions could present and to propose management measures.
19. Whilst it is recognised that water companies meet their statutory responsibilities in managing threats from invasive species, this is often through reactive management on an ad-hoc basis.
20. The Government has previously stated that it would like to see the water industry take stronger collective leadership in addressing threats from invasive species through management on their property. In some cases, improved management has been facilitated through allocating Water Industry National Environment Programme funds.

2. Of those that are already in the UK, which invasive species are posing the greatest harm to:
  - a) Human health
  - b) Animal health
  - c) Plant health and biodiversity

21. The 2016 report by UKWIR<sup>1</sup> provided a top ten ranking of invasive non-native species that represented a threat to the water industry, please see below, as well as maps of their occurrence which can be seen in figure 3 of the report. Alongside those, UKWIR noted that other species including those that had not been screened by the report could also become established in UK waters and cause unforeseen impacts.

**Table 5 Final Top 10 INNS selected by the water companies 2015  
(NB the list refers to top 10 but includes 11 species due to the combination of the killer and demon shrimps when management options were considered)**

| Final Top 10 INNS selected by the water companies 2015 |                          |
|--|--------------------------|
| No   | Species                  |
| 1  | Quagga mussel            |
| 2  | Zebra mussel             |
| 3  | Killer and Demon shrimp  |
| 4  | Signal crayfish          |
| 5  | Round Goby <sup>13</sup> |
| 6  | Himalayan balsam         |
| 7  | Japanese knotweed        |
| 8  | New Zealand pigmy weed   |
| 9  | Floating pennywort       |
| 10   | Giant hogweed            |

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22. Invasive non-native species can have significant adverse environmental, economic and social impacts. Invasive species can disrupt the ecology of rivers and contribute to preventing rivers meeting Water Framework Directive standards or becoming degraded.

23. The economic impact on water companies of managing invasive non-native species is large. UKWIR have previously estimated the annual cost of management of these

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<sup>1</sup> [https://www.ukwir.org/Invasive-and-Non-Native-Species-\(INNS\)-Implications-on-the-Water-Industry](https://www.ukwir.org/Invasive-and-Non-Native-Species-(INNS)-Implications-on-the-Water-Industry)

<sup>2</sup> [https://www.ukwir.org/Invasive-and-Non-Native-Species-\(INNS\)-Implications-on-the-Water-Industry](https://www.ukwir.org/Invasive-and-Non-Native-Species-(INNS)-Implications-on-the-Water-Industry)

species at £7.5 million, in comparison to a UK wide figure of £1.7 billion<sup>3</sup>. As invasive species become more established, costs associated with their management will increase. Changing environments following invasion may also become more susceptible to further non-native species presenting the possibility of further management demands and costs.

24. Invasive species can also present social threats. Zebra mussels, which came to the UK from the Black Sea on boats, colonise and block water supply pipes preventing water from reaching treatment plants. Threats to drinking water are also threats to public health, bringing a social dimension to the impacts from invasive non-native species.
25. We also note that some native species can be disruptive and severely degrade habitats.

### 3. What are the risks of invasive species migrating to the UK from climate change?

26. Predicting the impacts of climate change on biodiversity of the UK is complex, with many potential outcomes.
27. Climate change is predicted to result in warmer wetter winters and hotter drier summers. This would alter the conditions of UK waters which may increase the vulnerability of existing ecosystems, influence the likelihood of establishment of known threats, and increase the number of species that are considered potential threats.
28. Reduced water availability as a result of hotter drier summers and droughts will impact on water management. Reduced water availability and pressure to restrict abstraction to protect aquatic habitats seem likely to drive the increasing case for water transfer between zones to improve supply resilience whilst avoiding the need for new reservoirs.
29. Inter-basin bulk raw water transfers must be properly planned to manage the risk of inadvertently transferring invasive fish species and parasites. Transfers are usually agreed as part of water companies Water Resource Management Plans. Ofwat and the Environment Agency are statutory consultees to these plans and provide water companies with guidance. Appropriate regulators' guidance around water trading should better reflect invasive species threats.
30. Water companies must meet conditions in their Water Transfer Licence, including any on invasive species. Water companies in the UK are able to discuss invasive species threats on a case by case basis with their appropriate regulator.
31. Ofwat recently (March 2019) announced funding for a Regulators' Alliance for Progressing Infrastructure Development who will cover strategic inter-region water

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<sup>3</sup> [https://www.ukwir.org/Invasive-and-Non-Native-Species-\(INNS\)-Implications-on-the-Water-Industry](https://www.ukwir.org/Invasive-and-Non-Native-Species-(INNS)-Implications-on-the-Water-Industry)

transfers<sup>4</sup>. This team, combining expertise of Ofwat, the Environment Agency, and Drinking Water Inspectorate should be required to address invasive species within their activity.

4. What actions should the UK take to mitigate the risk, or adapt to, climate migrations of invasive species?

32. Given the likelihood that invasive non-native species risks will increase with climate change and that preventative monitoring and immediate action present the most expensive stages of management, it is clear that water companies and Government will need to prioritise increased funding for management of climate migration risks.

33. In mitigating increased risks from climate migration existing habitats will need to be strengthened such that they are in a healthy condition and less susceptible to invasive non-native species. It may also be appropriate to consider whether connectivity of habitats is sufficient to enable existing species to retreat and avoid extirpation.

34. Where invasive species do enter the waterways and are not controlled through immediate actions taken, water companies should use pathway management plans to inform further action.

5. Where should the four nations prioritise actions to tackle invasive species?

35. Invasive species can have significant negative impacts on ecology and infrastructure and the cost of management and eradication can be high. These factors necessitate focus on prevention, detection and early action.

36. Biosecurity policies should be considered across water company operations including business as usual and supply chain activity to provide a holistic pathway focused approach to management. Water companies must also continue to work with other water users to promote understanding of how they might unwittingly facilitate spread of invasive species. Suitable wash down facilities are needed for recreational users.

37. Prevention could also be assisted by enhanced regulation on disinfection or filtration of bilge water, ballast water and hulls of boats, both commercial and personal, that travel overseas.

38. Industry needs reliable information on which to base action, including information on which species pose the greatest threats, which areas are most vulnerable, likely potential pathways and information to facilitate early detection.

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<sup>4</sup> <https://www.ofwat.gov.uk/regulators-collaborate-to-support-strategic-water-transfers-and-joint-infrastructure-projects/>

39. Where threats are recognised quick treatment, though costly, must be prioritised to protect the environment. This will save money in the long term. Funding availability for proactive management must be improved, as cost can act as a barrier to action.
6. How can the risk of trade and future trading relationships bringing non-native species to the UK be mitigated?
40. Research by Keller et al. in 2009<sup>5</sup> showed that there were then 117 nonindigenous species established in the Britain's freshwaters. The research also showed that shipping and aquaculture were strong vectors.
41. The International Convention for the Control and Management of Ships' Ballast Water and Sediments (also known as the Ballast Water Management Convention)<sup>6</sup> is an international measure to prevent the spread on invasive species through ships ballast water. The Convention came into force in 2017 requiring ships to manage their ballast water and sediments in line with their ballast water management plan, and to carry a ballast water record book and an International Ballast Water Management Certificate.
42. An FAQ published July 2018 stated that the "UK has not yet ratified the Convention but is currently drafting the legislation that will allow accession to the Convention to take place"<sup>7</sup>. As this is the latest update it is unclear whether the UK has implemented the Convention.
43. If the Government has not yet implemented the Ballast Water Management Convention, it should do so to address this introduction pathway and mitigate the risk of future trading relationships bringing invasive non-native species to the UK.
44. Promoting trade of home-grown material, rather than importing of live material could help prevent spread of invasive non-native species. This has been done in the past, for example through an import ban in 2012 on European grown ash trees to prevent spread of the fungus responsible for ash dieback<sup>8</sup>.
7. How effective have the European Union's Invasive Alien Species Regulations been at addressing and tackling invasive species?

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<sup>5</sup> [https://www.jstor.org/stable/40419191?seq=1#page\\_scan\\_tab\\_contents](https://www.jstor.org/stable/40419191?seq=1#page_scan_tab_contents)

<sup>6</sup> <http://www.imo.org/en/MediaCentre/PressBriefings/Pages/21-BWM-EIF.aspx>

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[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/724375/Ballast\\_Water\\_Management\\_FAQ\\_Version\\_1.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/724375/Ballast_Water_Management_FAQ_Version_1.pdf)

<sup>8</sup> <https://www.gov.uk/government/news/government-bans-imports-of-ash-trees>

45. The Wildlife and Countryside Act 1981 covers invasive species, creating an offense to release or allow species in schedule 9 to escape. The 2015 Infrastructure Act transposed EU Regulation into domestic law.
46. Regulators have powers to enter into Species Control Agreements and issue Species Control Orders. Failure to comply with an Order without acceptable reasons can be classed as an offense and result in a fine, imprisonment or both. However, lack of resources has been noted as a barrier to effective implementation.
47. Wildlife and Countryside Link have previously stated in evidence to the House of Lords EU Energy and Environment Sub-committee that "lack of resources has led to all of the UK's administrations failing to meet deadlines for implementation of statutory biosecurity measures under the EU Invasive Alien Species (IAS) Regulation (1143/2014)"<sup>9</sup>.
48. Regulators need to be reasonably funded so that they can act proportionately to the ecological, economic and social risks posed by invasive species. Funding is needed for research, monitoring, building and directing volunteer capacity, and enforcement. Monitoring of invasive non-native species represents an area that citizen science could be used.
8. In the event of EU exit, how should the UK establish its replacement for the European Commission's scientific forum to update the species list of concern?
49. Should the UK leave the EU it is important that the UK establishes its own scientific forum. Under the EU Regulations member states can establish their own national list and use them to propose species of regional concern but it does not appear that the UK has done so.
50. Work has already been done by different bodies to identify invasive species threats in the UK. For example, Defra's Great Britain Invasive Non-native Species Strategy<sup>10</sup>, the UKWIR report referenced above and other industry reports such as Buglife's 2014 report on invasive invertebrates<sup>11</sup>. This work and the views of authors should be considered in establishing a scientific forum.
51. In the event of EU exit it will be important that devolved policies across the UK are ecologically coherent as spread of invasive species across administrative boundaries is a threat. Enforcement of policies in all countries must be effective and coordinated.

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<sup>9</sup> [https://www.wcl.org.uk/docs/HoL\\_biosecurity\\_inq\\_evidence\\_%20April2018.pdf](https://www.wcl.org.uk/docs/HoL_biosecurity_inq_evidence_%20April2018.pdf)

<sup>10</sup>

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/455526/gb-non-native-species-strategy-pb14324.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/455526/gb-non-native-species-strategy-pb14324.pdf)

<sup>11</sup> <https://www.buglife.org.uk/sites/default/files/INNSinverts2.pdf>

9. How should the UK work with the European Commission and others internationally to reduce the risk of invasive species?
  
52. The UK wishes to continue its trade with the EU and trade and transport links represent introduction pathways. Therefore, it will be of vital importance that the UK and EU continue to share information and work collaboratively to manage the threat of invasive species through best practice and regulation.