



Department
for Environment
Food & Rural Affairs

The Prohibition of Keeping and Release of Live Fish (Specified Species) (England) Order 2014

Post Implementation Review

Date: 22 July 2024

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1. Introduction and Summary of Approach

1.1 Introduction

The document presents a review of the 'The Prohibition of Keeping and Release of Live Fish (Specified Species) (England) Order 2014' ('the 2014 Order'). This report outlines the Government's view on the effectiveness of the 2014 Order in England¹, covering:

- I. The extent to which these regulations are achieving their objectives as set out in the legislation (Regulation 2);
- II. The impacts that the regulations have had and how they relate to the original Impact Assessment; and
- III. An assessment of the extent to which the objectives remain appropriate.

2. What were the policy objectives of this measure?

2.1 Background

The major policy objective of the 2014 Order was to prevent the possibility of non-native freshwater fish, destined for ornamental ponds and aquaria, establishing breeding populations in the wild by prohibiting non-native freshwater fish species from being kept or released without a licence.

The spread of non-native fish species can have far-reaching and undesirable ecological consequences for animal and plant communities in rivers and lakes, and on the industries that depend on this environment such as recreational angling. Non-native fish can have a direct and negative impact on native species through predation or they can upset the natural balance that operates between native species. Non-native species can also introduce and spread novel diseases and parasites to which native species may have little or no resistance. To conserve the unique diversity of animal and plant life in our rivers and still waters, it is important that we regulate the keeping and release of non-native fish species destined for ornamental ponds and aquaria.

Prior to the introduction of the 2014 Order, the key measure in controlling the spread of non-native fish was the Prohibition of Keeping or Release of Live Fish (Specified Species) Order 1998 (last amended in 2003), made under The Import of Live Fish Act 1980 (ILFA). This Order made it an offence for anyone to keep or release any of the species listed, in any water (including tanks and ponds) without a licence. The 1998 Order only listed the approximately 100 species likely to be traded to Great Britain (GB) at the time the Order was implemented. This was because strict

¹ The original review of The Prohibition of Keeping and Release of Live Fish (Specified Species) (England) Order 2014 was carried out in 2019, aligning with the legislative review period requirements. However, in response to the impact of EU Exit and the COVID-19 pandemic, economists recommended to use figures up to 2022 to bring the document up to date. Unfortunately, due to delays in getting clearance since 2022, those figures haven't been updated for 2024.' The 2019 review recommended updates to the list of prohibited species, the need for improved enforcement measures and public awareness to prevent the spread of invasive species.

national fish health legislation required all imported temperate fish to be sourced from isolated, fully health-tested sources.

The harmonisation of fish health rules under European Commission Directive 2006/88/EC, removed the requirement for fish to originate from such health tested sources, other than where the fish are known to be susceptible to diseases controlled under that legislation. This gave businesses, collectors and other interested parties free access to almost all the world's freshwater fish. While many of these species originate from tropical or other climatic zones which would render them less likely to survive or become established in UK waters, there are several thousand species which have the potential to pose a significant risk to our native species and environment.

It was evident that the ILFA controls no longer provided the intended level of protection for native species and habitats or implemented our international obligations on biodiversity. The 2014 Order was introduced to re-establish an appropriate level of control on the risk of introduction of non-native freshwater fish species.

2.2 Objectives

The 2014 Order replaced the Prohibition of Keeping or Release of Live Fish (Specified Species) Order 1998 (as amended) and was made under ILFA.

The primary policy objectives of the 2014 Order are to:

1. Protect native species in England and by extension the biodiversity of habitats, ecosystems and ecosystem services, including commercial and recreational fishery waters from the introduction of potentially detrimental non-native species.
2. Prohibit the keeping and release of specified species of non-native freshwater fish in England except under a license.
3. Simplify the legislative landscape through revoking the 1998 and 2003 Orders under ILFA in relation to England and to consolidate the regulations into a single 2014 Order.

The 2014 Order was introduced as an improved and low-cost measure which prohibits the keeping or release without a licence for all 20,000 non-native freshwater fish species. However, it has grouped these species into 24 different taxonomic orders rather than listing individual fish species as previously was the case. Any new non-native freshwater fish that needed to be added to the trade could simply be assessed for risk and then be licensed under the 2014 Order, if appropriate, by the Fish Health Inspectorate (FHI) with minimal cost to industry or the Government.

The classification breakdown of non-native freshwater ornamental fish

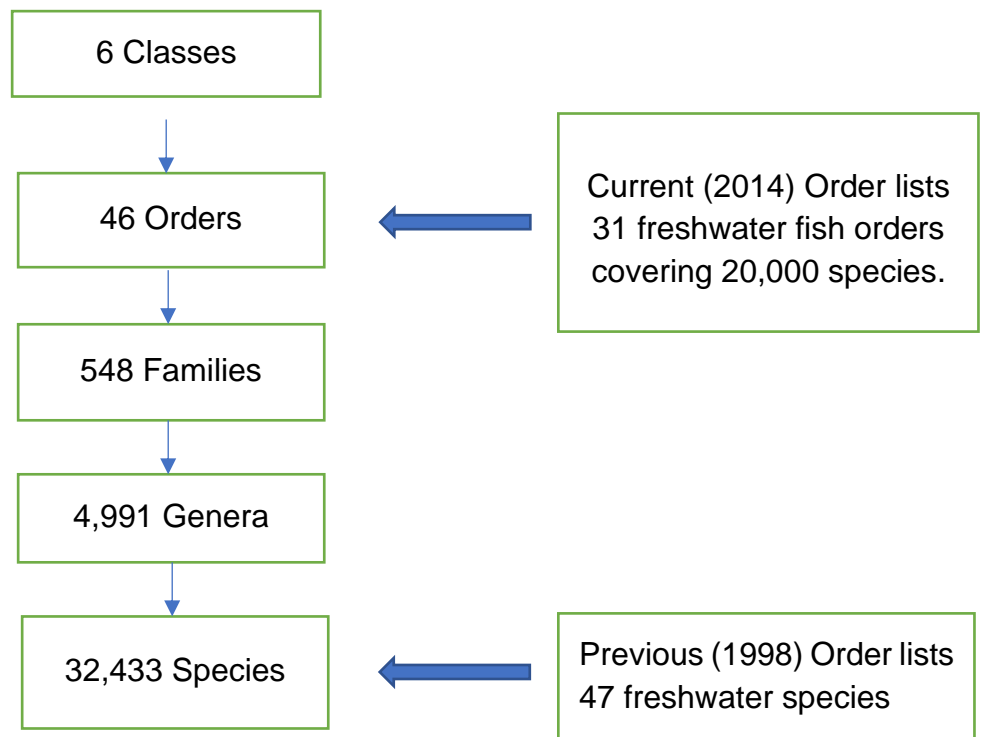


Figure 1: Flow chart of the different levels at which the current and previous ILFA Orders regulate non-native freshwater ornamental fish.

In December 2014 the Prohibition of Keeping and Release of Live Fish (Specified Species) (England) Order 2014 was amended ([the Prohibition of Keeping and Release of Live Fish \(Specified Species\) \(England\) \(Amendment\) Order 2014](#)) to exclude marine species and inland waters from its scope, leaving it to apply to aquaria and ornamental ponds only. In January 2015 the Keeping and Introduction of Fish (England and River Esk Catchment Area) Regulations 2015 were introduced to manage the keeping and release of non-native fish to inland waters, that is in the wild, through a permitting scheme.

2.3 Review clause

Regulation 3 of the 2014 Order requires the Secretary of State to review the operation and effect of Regulation 2 and publish a report within 5 years of this Order coming into force and within every five years after that. However, due to the disruptions caused by EU Exit and the COVID-19 pandemic, the scheduled publication of the Post Implementation Review faced delays.

3. How effectively has this Order been enforced and complied with?

3.1 Evidence sought for this PIR

This PIR has been informed through discussions with the enforcement and licensing body for the 2014 Order, the FHI at the Centre for Environment, Fisheries and Aquaculture Science (CEFAS); the Environment Agency, which regulates the introduction and keeping of fish (including non-native fish) in the wild; and the key trade body, the Ornamental Aquatic Trade Association (OATA).

3.2 Business compliance

Import of non-native freshwater fish

The major policy objective of the 2014 Order has been to prevent non-native freshwater species destined for indoor ornamental ponds and aquaria establishing breeding populations in the wild, by prohibiting them from being kept or released without a licence. This is complemented by the Keeping and Introduction of Fish (England and Risk Esk Catchment Area) Regulations 2015, which require any non-native fish introduced and/or kept in the wild to be permitted.

The FHI, which enforce this legislation, has stated that 14 requests had been made by ornamental aquatic trade importers to add new species (covering around 80 genera) to the general licence, per section 1(3) of the Import of Live Fish Act 1980, between 2014 and 2022. Out of this, a total of 52 new genera have been introduced to the list, though most of these are the result of changes to the taxonomic classification of the fish rather than the introduction of new species to trade. The import of a number of species into the UK have been rejected and one genus, *Gymnothorax*, has been delisted as it is now considered to be a wholly marine genus. In addition, significant numbers of informal enquiries were made by the industry to the FHI when seeking to introduce new non-native freshwater species.

Since the introduction of the legislation in 2014 and this review in 2019 and the following update in 2022, the FHI have found less than 33 examples where unlicensed non-native freshwater species have been detected in imported consignments of fish, either directly at Border Control Posts (BCPs) or in trade premises following public notification or random inspections by FHI Inspectors. The FHI believes that these few cases have been due to a lack of understanding of the legality of importing non-native freshwater fish rather than an attempt to deliberately circumvent the rules. The import/health certification paperwork for all consignments from third countries, which form most of the imports of ornamental fish, are required to be checked at the BCP's. Considering the 25,000 consignments of ornamental fish that have been imported into the UK since the introduction of the legislation, FHI believes that this represents a very low rate of offending by the commercial ornamental sector.

Environmental incidents relating to non-native freshwater fish

Historically, there have been clear examples of ornamental species, such as pumpkinseed and bitterling being introduced into natural waters in England and establishing populations. Also, over

the last 25 years some fishery owners have deliberately stocked their waters with cold water ornamental non-native species, particularly for angling purposes, some of which have been able to establish self-sustaining populations (e.g. goldfish, orfe, koi carp). While the numbers of non-native fish introduced into inland waters are too low to result in the regular establishment of populations, it has become clear that a precautionary approach is warranted with regard to the introduction of new cold-water species to the ornamental trade, given the risks of such species becoming established in the wild, once released.

The Environment Agency keeps records of all fisheries incidents, including the discovery of non-native fish species in inland waters, for a period of three years. The Environment Agency has stated that, since the introduction of the 2014 Order and the completion of this 2019 review, there have been five non-native fish species reported to be found in the wild that may be from the ornamental aquatic sector. Three of these species, the Piranhas, Ameiurid/Ictalurid Catfish and Plecos, were detected but only on a few occasions and thus do not currently present a great risk. This is because Piranhas and Plecos are unable to survive in English waters for a long period of time. The Ameiurid/Ictalurid Catfish can survive in English waters so there is a possibility that those were found in the wild could possibly be historic introductions. The Environment Agency is of the view that these species are unlikely to establish breeding populations and thus do not pose a significant threat to the environment. The two other species found are sturgeon of the genera *Acipenser* and *Huso* and the Giant Snakehead (*Channa argus*). Both species are able to survive in UK waters and both species are assumed to have been discarded into the wild. Sturgeon are readily available from aquaria retailers, garden centres and private sellers, and are popular amongst anglers. There is only one species of snakehead of concern which could establish a population - the Giant Snakehead (*Channa argus*) - which is banned from sale in England. Overall, there is no evidence to show that they have become established in UK waters and for that reason the Environment Agency believes that these incidents did not pose a threat.

4. What were the Original Assumptions regarding the costs and benefits of this Order?

4.1 Original Assumptions

The total costs to business in the original assumptions were expected to be £14k per annum, with £9k for risk assessments, £3k for admin costs and £1.5k for costs during inspection. The Order was designed to be a low-cost measure.

The one-off costs to the Government for transition to this Order were considered to be zero. The annual costs to the Government were estimated to be £30k, including £20k for licensing admin costs, £5k for rapid risk assessments and £3k costs for advising business. The overall cost of managing this legislation was not expected to change from the 1998 to the 2014 Order.

In 2014, as now, it was difficult to quantify the monetary value of native biodiversity or loss of the native species. Biodiversity was, and continues to be, crucial to ensure habitats and ecosystems

are ecologically sound and that fishers and hobbyists can have continued access to healthy and sustainable commercial and recreational waters.

The benefits of avoiding the costs of eradicating non-native species are illustrated by the example of topmouth gudgeon (*Pseudorasbora parva*), an extremely invasive non-native fish species that was introduced to UK waters accidentally but subsequently was available in the ornamental trade for a limited period. Native to Eastern Asia, topmouth gudgeon were introduced to the UK in the 1980s, but it was not until 1996 that they were found in the wild. Since then, they have been recorded in over 30 lakes and ponds across England and Wales. Case studies² of topmouth gudgeon eradications indicate that on average it costs £2 per m² to eradicate the species. Example costs are £61k, £50.8k and £18.1k at fisheries in Cumbria, the West Midlands and North Yorkshire, with the most expensive operation (£194k) having been undertaken in Devon. It poses considerable health risks to native species, including disease transmission and disruption of natural reproduction. As such, it can have adverse impacts on aquatic ecosystem functions through declining native fish reproduction and consequent changes in food-web structure.

5. What were the actual results of the costs and benefits of the 2014 Order?

5.1 Impacts on Industry

Costs for businesses included staff familiarisation/teaching of this Order, and the process of submitting applications for new freshwater fish species desired by businesses for import. OATA, the industry body that represents more than 850 businesses, highlighted the difficulty in quantifying the costs as they are embedded in the processes of staff inductions, in-house training and continued professional development of businesses. OATA has stressed that it is time-consuming trading in a wide diversity of fish species to ensure that they are ILFA permitted species. However, businesses in the industry are aware that only permitted non-native freshwater fish can be licensed and they are familiar with the requirement for the introduction of any new non-native fish to be licensed. OATA highlighted problems caused by changes to species nomenclature not being updated in the regulations resulting in relevant species becoming excluded from trade. Concerns were also raised about the increase in online trade and a seeming lack of understanding by those traders of their legal obligations and suggested that user friendly guidance on the regulations should be developed. We have no evidence that businesses have not taken on additional bureaucratic burdens. Overall, the OATA is content with the regulatory approach and believes that it has been positive for the ornamental trade and industry. OATA maintains that the Order has facilitated trade as the General Licence does not require renewal and there is no need to apply for an ILFA licence for every new fish species added.

5.2 Impacts on the Government

² Britton et al. 2008; Aquatic Conserv: Mar. Freshwat. Ecosyst. 18: 867–876.

According to the FHI, the one-off/set up cost for implementing the 2014 Order was zero. FHI reported that annual costs were around £67k per annum – over twice the original estimate. These costs are made up of enforcement and inspection costs close to the £30k, administration costs at £9k and the risk assessments and industry advice at £28k. This shortfall has been met by FHI re-prioritising existing budgets.

5.3 Industry recommendations and government response

OATA has made a number of recommendations to further improve the regulations. These include:

OATA recommendation	Government response
Clarify the scope of the Order by being explicit that it only includes ornamental freshwater fish kept in indoor aquaria. This is to avoid the confusion that the Order encompasses both the freshwater and marine ornamental fish kept in indoor aquaria	The amendment to the 2014 Order was explicitly introduced so that it only applies to freshwater fish. This amendment coincided with the introduction of the Keeping and Introduction of Fish (England and River Esk Catchment Area) Regulations 2015 (“KIF Regs”). The consequence is that the introduction and keeping of non-native fish in inland waters is now regulated by the KIF Regulations, leaving the scope of the 2014 Order limited to garden ponds and indoor aquaria.
Better listing of ILFA permitted fish on the government websites and other government sources especially with continuous changes by taxonomists.	The FHI actively manages the list of ILFA permitted fish and when industry announce any changes, the FHI will update lists. There is need for more resource to create a database containing fish species kept for ornamental, scientific research or conservation purposes.
Government agencies should raise awareness of the regulations to newcomers to the aquatic ornamental trade who sell ornamental species over the internet.	The Government does acknowledge that digital trade poses the biggest risk of the legislation being breached. The regulation of this trade is monitored effectively, and trade is regulated under various import controls.
More awareness-raising campaigns by government agencies, academics and scientific community to alert the public of the dangers of releasing non-native species.	The Environment Agency and the FHI deploy factsheets and posters for non-native fish species which outline the dangers of releasing non-native species.

OATA recommendation	Government response
<p>Greater inspection checks to ornamental fish movement into the UK via seaports, which OATA believes are less scrutinised than the Border Control Posts at airports.</p>	<p>The FHI does carry out 100% documentary checks using the IPAFFS system and carries out targeted operations at ports where there is intelligence suggesting that non-native species are being traded from EU suppliers.</p>

6. What is the overall evaluation of the 2014 Order to the Government, industry and the environment?

The Order has enabled the ornamental industry to continue to trade in a large number of non-native fish species, which pose a very low risk of becoming invasive in UK environments. It has, however, largely eliminated the risk of trade in temperate freshwater species that may pose a significant risk to UK biodiversity thus mostly meeting its intended aim. The processes established for risk assessing new species have functioned effectively for both industry and the regulatory bodies, and the major ornamental fish traders seek prompt advice about the potential listing of new species that become available to trade. This is largely due to the effectiveness of the taxonomic order that means that applications by industry for new freshwater non-native fish species do not require a change in the Order to include the new fish species. Instead, the applications for the new fish species would be accepted by FHI if the fish species come under the 24 taxonomic orders listed in the Order. The industry has accepted listing decisions made by the FHI and have not challenged any decisions by pursuing a more detailed biological risk assessment.

There have been recorded and, no doubt, unrecorded incidents of non-natives freshwater fish found in the wild. However, there is no indication from the Environment Agency's analysis that any of these species illegally released into inland waters since the introduction of the 2014 Order have become established or pose a significant threat to the ecosystem. In addition, relative to the huge number of species that are traded, this suggests a very small rate of non-native freshwater fish being introduced into the wild.

Nevertheless, it is clear from the discovery of ornamental species in the wild environment that the decision was justified to restrict species which could become invasive. It is difficult to stop individuals from releasing fish into the wild. The 2014 Order has ensured that the fish available for release should have a very low risk of becoming established or invasive in UK waters.

Although it cannot be quantified there are clearly benefits in preventing the undesirable ecological consequences for animal and plant communities in rivers and lakes, and for the sectors that depend on this environment such as recreational angling.

7. Conclusion

The policy objectives for the 2014 Regulations were originally as follows:

- i. Protect native species in England and by extension the biodiversity of habitats, ecosystems and commercial and recreational fishery waters from the introduction of potentially detrimental non-native species.
- ii. Prohibit the keeping and release of specified species of non-native freshwater fish in England in ornamental ponds and aquaria except under a license.
- iii. Simplify the legislative landscape through revoking the 1998 and 2003 Orders under the Import of Live Fish Act 1980 (ILFA) in relation to England and to consolidate the regulations into a single 2014 Order.

This review has found that policy objectives (i) and (ii) remain valid. Policy objective (iii) has been delivered. Since the 2014 Regulations came into effect, there have been no new significant threats to the native ecosystems posed by newly introduced non-native species. Nor have there been any complaints from the industry which suggests that this legislation is not restricting the economic growth of the ornamental freshwater fish sector.

Overall, this legislation continues to play its part in the prevention of the potential impacts arising from the introduction of new invasive freshwater fish species, originally destined for ornamental ponds and aquaria, into the environment through a low-cost but effective regulatory measure. These regulations have, and continue, to help ensure a successful sustainable and responsible ornamental fish industry both now and for the future. As a result, it is proposed that the 2014 Order remains in place in their current form, subject to further review in 2029.

Annex A – The Post Implementation Review

<p>Title: The Prohibition of Keeping and Release of Live Fish (Specified Species) (England) Order 2014</p> <p>PIR No: PIR-59806</p> <p>Original IA/RPC No: Defra0093</p> <p>Lead department or agency: Department for Environment, Food and Rural Affairs</p> <p>Other departments or agencies: Centre for Environment, Fisheries and Aquaculture Science, Environment Agency</p> <p>Contact for enquiries: freshwater.fish@defra.gov.uk</p>	Post Implementation Review
	<p>Date: 22/07/2024</p>
	<p>Type of regulation: Domestic</p>
	<p>Type of review: Statutory</p>
	<p>Date measure came into force: 17/02/2014</p>
	<p>Recommendation: Keep</p>
<p>RPC Opinion: N/A</p>	

1. What were the policy objectives of the measure?

The key policy objective was to protect native freshwater species in England; and by extension, the biodiversity of habitats, ecosystems, and commercial and recreational fishery waters from the introduction of potentially damaging, invasive freshwater fish species, originally destined for indoor ornamental ponds and aquaria. The Order prohibits the keeping of all non-native freshwater fish species except under licence.

2. What evidence has informed the PIR?

This PIR has been informed through discussions with the implementing body, the Fish Health Inspectorate at Centre for Environment, Fisheries and Aquaculture Science, the Environment Agency who manage introductions of non-native fish into Inland waters in England and the Border Esk and the key trade body, the Ornamental Aquatic Trade Association (OATA).

3. To what extent have the policy objectives been achieved?

The policy objectives of this Order have been largely achieved. Through a low cost and flexible licensing system the Order has enabled the ornamental industry to continue to trade in a large and increasing number of non-native freshwater fish species, which pose a very low risk of becoming invasive in UK environments. It has however largely eliminated the risk of trade in temperate freshwater species that may pose a significant risk to UK biodiversity if released into the environment.

Sign-off for Post Implementation Review: Chief economist/Head of Analysis and Minister
I have read the PIR and I am satisfied that it represents a fair and proportionate assessment of the impact of the measure.

Signed: Alastair Johnson

Date: 04/03/2024

A handwritten signature in black ink, appearing to read "David Turpin". The signature is fluid and cursive, with a long horizontal stroke at the end.

Signed:

Date: 27/09/2024

Further information sheet

Please provide additional evidence in subsequent sheets, as required.

4. What were the original assumptions?

The original assumption was that this would be a low-cost measure which protected the environment but contained built-in flexibility to allow the introduction of new low risk species to the ornamental trade. Costs to industry were expected to be £14k per annum, with £9k for risk assessments, £3k for admin costs and £1.5k for costs during inspection.

The assumed one-off costs to the Government were to be zero and whilst the annual costs to the Government were estimated to be £30k, including £20k for licensing admin costs, £5k for rapid risk assessments and £3k costs for advising business. These costs were no greater than those required to managing the previous regulatory measure.

Benefits were not monetised as it was difficult to quantify the monetary value of native biodiversity or loss of the indigenous species.

5. Were there any unintended consequences?

No unintended consequences have been identified.

6. Has the evidence identified any opportunities for reducing the burden on business?

The consultation response received from OATA noted that the legislation had made business easier given that there is less administration. The industry identified some improvements, but these were more about effective communication of the legislation to both the ornament trade and to members of the public to raise awareness of the impacts (and illegality) of releasing non-native freshwater fish into England rivers, canals and lakes rather than further suggestions to reduce the burden on businesses.

7. How does the UK approach compare with the implementation of similar measures internationally, including how EU member states implemented EU requirements that are comparable or now form part of retained EU law, or how other countries have implemented international agreements? (Maximum 5 lines)

The 'Prohibition of Keeping and Release of Live Fish (Specified Species) (England) Order 2014', is a piece of UK legislation that reflects the influence of EU regulations on UK law prior to EU Exit ensuring continuity with previous EU standards.

Comparatively, EU member states follow the EU Regulation on Invasive Alien Species (EU No 1143/2014), which includes measures like management plans, monitoring, enforcement, and penalties to control invasive species. Internationally, the USA has the National Invasive Species Act, and Australia has the Biosecurity Act 2015, both aimed at preventing the introduction of invasive species.

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