

Invasive alien species List of species of Union concern

SUMMARY

According to the International Union for the Conservation of Nature (IUCN), invasive alien species (IAS) are the second most significant threat to biodiversity after habitat loss. They are also capable of causing significant damage to human health and to the economy. The cost of controlling invasive alien species and repairing the harm they do in the EU is estimated at €12 billion annually.

To tackle this cross-border issue, an EU Regulation on IAS was adopted in 2014 and entered into force in January 2015. The European Commission had to submit to Member States' representatives a list of 'invasive alien species of Union concern' by January 2016, as an EU wide containment measure.

Under the Regulation, the list of IAS of Union concern will contain only species that are scientifically proven to be particularly harmful and that can be addressed in a cost-efficient manner. The compilation of the list is not a one-off exercise, but is intended as an ongoing process.

NGOs and the European Parliament have criticised the draft list for being too short and for not including some species which they consider are particularly widespread and harmful to ecosystems.



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Background

Alien species are species that have been introduced to a territory outside their ecological range. It is estimated that there are about 12 000 alien species present in Europe. Only a minority however is able to survive and to spread at a pace that can be detrimental to the environment. These are known as invasive alien species (IAS). It is estimated that among the alien species present in Europe around 10-15 % are invasive.¹

The International Union for Conservation of Nature ([IUCN](#)) considers invasive alien species to be one of most significant threats to biological diversity.² The tackling of these species and their removal from the natural environment is also one of the targets of the [EU biodiversity strategy](#). According to the [European Environment Agency](#), about one third of the 395 native European species listed as 'critically endangered' in the [IUCN Red List of Threatened Species](#) are under threat from invasive alien species.

The introduction of species to territories by human activity is not a recent phenomenon; it can be traced back to the time when humans took up travelling from one country or continent to another. The increasing globalisation in the second half of the 20th century is considered a major factor in the rise in number of IAS in Europe – by 76% since the 1970s.³ According to data published by the [European Environmental Agency](#), the number of marine invasive species is increasing particularly, at a faster pace than the number of terrestrial invasive alien species.

Invasive alien species tend to spread easily in areas where they, unlike native species, have no natural enemies (such as diseases, predators or competitors). When unrestrained, invasive alien species may be able to drive out native plants and animals by absorbing most of the light and/or food available. For instance, the Common water hyacinth (*Eichhornia crassipes*), due to its vigorous growth, is able to cover a pond or river to the extent that sunlight is blocked for other plant species, and fish are deprived of oxygen. The Asian ladybird is on its way to wiping out European native ladybird species by outcompeting or even eating them.⁴

IAS can also have negative impacts on human health: some invasive species, such as Giant hogweed (*Heracleum mantegazzianum*) or Common ragweed (*Ambrosia artemisiifolia*), are known to cause allergies and skin irritations, while others, like the Asian tiger mosquito, are carriers of exotic diseases previously unknown in Europe.

Economic damage is mainly borne by agriculture and horticulture, and by the construction and recreation industry, but also by public authorities. According to the [IUCN](#), the cost of controlling invasive species and repairing the damage they cause is estimated at €12 billion annually.

Introduction pathways

Horticulture, agriculture, aquaculture and transport/travel are considered the main pathways for introducing invasive alien species. The majority of IAS escape accidentally into the environment. The Rose-ringed parakeet, for example, was originally imported as a pet, but escaped into the wild and is now spreading in many European countries; the Harlequin ladybird, introduced to Europe as a biocontrol agent for aphids, escaped from greenhouses and is now one of the fastest spreading IAS in the UK.⁵ Some of the most harmful invasive alien plants, such as Giant hogweed and Himalayan balsam, were introduced in the 19th century as ornamental plants for gardens, from where they spread into the wild. Others were not intentionally transported but arrived as a

contaminant, for example in seed mixes or in bird feed. Marine species are very often transported unintentionally as 'stowaways' in ballast water or on the hulls of ships. A recent study identifies aquaculture as the main source of invasive alien freshwater species in Europe, followed by the aquarium trade. An EU Regulation on the use of alien species in aquaculture has been in force since 2007 but the effectiveness of existing control measures has been questioned.

Examples of existing control measures

The [online warning system](#) run by the Belgian conservation organisations, Natuurpunt and Natagora, in cooperation with Belgian local and regional authorities can be seen as an example for the effective control of invasive alien species. A network of volunteers regularly reports the sighting of IAS, including photographing and plotting the precise location of the animal or plant spotted. So far the system has proved successful in controlling the Ruddy Duck (*Oxyura jamaicensis*), and it is also used for spotting exotic goose species on Belgian territory. Similar alert mechanisms have been developed, for example in the United Kingdom as part of its recently updated [Invasive Non-native Species Strategy](#). For their awareness-raising campaigns, 'Be Plant Wise' and 'Check, Clean, Dry', the British government, together with the devolved Scottish and Welsh governments, also relies on the support of citizens and the involvement of local action groups. The United Kingdom is the first country in the EU to use biocontrol agents (deliberately released pests and diseases) for the eradication of established non-native species, such as Japanese knotweed and Himalayan balsam.

EU policy on invasive alien species

Invasive alien species is a cross-border issue par excellence – one that cannot be solved by national measures alone. In order to address the problem effectively, it is essential to ensure that action in one Member State is not undermined by a lack of action in a neighbouring country. This is the rationale behind the Regulation on the [prevention and management of the introduction and spreads of invasive species](#), which was adopted in 2014 and entered into force on 1 January 2015.

The Regulation aims at preventing and mitigating the negative impacts of invasive alien species on biodiversity as well as on human health and the economy, and sets out a number of requirements. These include preventive measures, reactive measures and management measures, depending on how far a species has spread within EU territory. **Preventive measures** include restrictions on the introduction of species to EU territory, the identification of pathways of introduction, and emergency measures, where applicable. **Reactive measures** cover surveillance systems, official controls and rapid eradication at an early stage. **Management measures** aim at preventing already established invasive alien species from spreading further. They include eradication, control and containment measures. In this context, Member States are also required to restore ecosystems damaged or degraded by invasive alien species (with costs being borne according to the polluter-pays principle). However in exceptional cases, and following authorisation by the Commission, Member States may issue special permits to allow activities involving species prohibited by the Regulation.

Timetable for implementing measures

By 2 January 2016, Member States must have established fully functioning structures for the control and prevention of the **intentional** introduction of IAS into the EU.

Within 18 months of the adoption of a 'list of Union concern' (see below), Member States are required to have implemented a series of measures: identification of priority pathways of **unintentional** introduction and spread of the listed IAS (to be addressed by means of action plans to be submitted within three years of the adoption of the list); surveillance systems to collect data on the occurrence of IAS; and management measures for tackling species widely spread on their territory.

Exemptions

Derogations from the eradication requirement can, under certain conditions, be granted for scientific and research purposes, as well as for 'reasons of compelling public interest, including those of a social or economic nature'. Member States can also be granted exemptions in case of serious technical problems, serious risk to human health or to the environment, and in cases where the costs are disproportionate to the benefits. In compliance with the **principle of proportionality**, there is no obligation to undertake measures that are not cost-effective.⁶

Member States are also allowed to request the inclusion of a species on the Union list, and to take emergency measures, when they detect species on their territories which are not on the Union list. They can keep their own national list of IAS and apply measures accordingly. Moreover, Member States are entitled to maintain or introduce more stringent national rules.

List of IAS of Union concern

A central element of the Regulation is a list of 'invasive alien species of Union concern'. 'Union concern' in this context means that the IAS cause damage so significant that measures at EU level are justified, even in Member States 'that are not yet affected or are even unlikely to be affected'. Once on the list, a species may not be introduced into EU territory, kept, bred, placed on the market, grown, cultivated or released into the environment.

Under the Regulation, decisions to list a species as an IAS of Union concern must involve evidence-based **risk assessments** to be carried out by the Commission or Member States. The relevant criteria for these assessments include the characteristics of the species and its adverse impact on biodiversity, ecosystems, human health and the economy, but also extrinsic factors such as the potential benefits of the species and the cost-effectiveness of the measures to be implemented. The risk assessments are evaluated by a scientific forum, consisting of representatives of the scientific community. This forum is also to be consulted for questions concerning technical aspects of the establishment and the updating of the list.

A crucial step for protecting biodiversity

With the establishing and the subsequent adoption of the list of IAS of Union concern the Commission addresses one of the main causes for biodiversity loss. The list will be an important step towards achieving target 5 of the EU Biodiversity strategy ('Help combat invasive alien species'). According to the Commission's [mid-term review of the biodiversity strategy to 2020](#), the EU can 'be considered on track with the actions envisaged under this target.'

The list is to be adopted and updated by way of **implementing acts**, and is intended to be an **open** and **dynamic tool**. The Commission was bound to submit a first list of IAS to a committee of Member States' representatives, established by the Regulation, by 2 January 2016. In autumn 2015, it submitted a draft implementing act with a first [draft list](#) containing 37 species. On 4 December, this committee gave a [favourable opinion](#), by qualified majority, on the draft implementing act.⁷

European Parliament's views

In the course of the adoption of the Regulation, Parliament welcomed in principle the Commission's proposal to tackle invasive alien species at EU level, but advocated an open and evolving list as well as stronger consideration of Member States' specific situations.

In a motion for resolution adopted on 1 December 2015, the Environment, Public Health and Food Safety (ENVI) Committee calls for the draft implementing act to be withdrawn and replaced with a new one. It regrets in particular the lack of information about the scientific criteria applied and the missing specifications on the common elements and the methodology underlying the risk assessments used in the process of drawing up the list of Union concern. The resolution is also critical that 'many of the most problematic invasive alien species are not listed', whereas species they consider less harmful are included on the list.

Stakeholders' views

Regarding the **draft list of IAS**, conservation groups, including the [European Environmental Bureau \(EEB\)](#) and [BirdLife](#) consider it to be too short. They also criticise the omission of known and widespread problem species such as Japanese knotweed and American mink. Both organisations also regret the lack of marine species on the draft list. As ballast water has been identified as a major pathway for invasive alien marine species, the NGOs criticise the missing link between the Regulation and the [Ballast water convention](#), which was adopted within the International Maritime Organization in 2004, but whose ratification is not yet complete.⁸ According to conservation groups, the proposed list also fails to focus on prevention, since only three of the 37 species proposed are in an early state of invasion; all the others are already widespread or established.

In the course of the adoption of the Regulation, the FAO [European Inland Fisheries and Aquaculture Advisory Commission](#) (EIFAAC) criticised the lack of clarity concerning the method and criteria applicable to risk assessments as well as the responsibilities regarding the conduct of risk assessments and the evaluation of the IAS list.

Sectoral associations have also reacted **to the Regulation**. In its reply to the consultation carried out prior to the Regulation's adoption, the British [horticultural trade association HTA](#) supported the principle of blacklisting harmful species on the basis of carefully considered risk assessments. Concerning the species so far listed, it expects no economic impact, as these species are not commercially grown.⁹ Taking the butterfly bush (*Buddleia davidii*) as an example, the association points however to the importance of invasive species as a potentially valuable source of nutrients for butterflies.¹⁰ The [European Anglers' Alliance](#) is strongly in favour of measures to control the spread of invasive alien species, such as signal crayfish, and floating pennywort (both species are on the draft list), as these species have a major negative impact on fishing and fish stocks, but calls for a strong approach on eradication. The [British Ornamental Aquatic Trade Organisation](#) argues against blanket bans of species. As its business is based to a large extent on alien species, the organisation favours reliance on control and individual responsibility to avoid the spread of invasive alien species. The [Confederation of European Forest Owners](#) welcomed the EU initiative, as some IAS pose a risk to sustainable forestry and the productivity of forests. They expressed concerns however that some tree species, such as the Douglas fir (at present not on the draft list)

might be introduced to the list, regardless of their importance for current and future forest production regimes.

Main references

Invasive alien species: A growing but neglected threat?, [Late lessons from early warnings: science, precaution, innovation](#), chapter 20, European Environmental Agency 2013, pp. 486-508.

[Invasive Alien Species: A European response](#), European Commission 2014.

Ambitious advances of the European Union in the Legislation of Invasive Alien Species, Beninde, J. et al., *Conservation Letters* May 2015, Vol. 8 Issue 3, pp. 199-205.

Grasping at the routes of biological invasions: a framework for integrating pathways into policy, P.E. Hule et al., *Journal of Applied Ecology* 2008, 45, pp. 403–414.

Endnotes

¹ Source: [European Commission](#) 2014.

² Biological diversity: the variability among living organisms from all sources including terrestrial, marine and other aquatic ecosystems, and the ecological complexes of which they are part; this includes diversity within species, between species, and of ecosystems.

³ Source: Invasive Species Specialist Group (ISSG): [Global strategy on invasive alien species](#), McNeely et al. 2001.

⁴ According to a study published in: [nature](#), 16 May 2013.

⁵ Source: [Non-native Species Secretariat](#).

⁶ [Summary record of the 2nd meeting of the Committee on Invasive Alien Species, 22 April 2015, European Commission, Directorate-General Environment](#).

⁷ The adoption follows the examination procedure, according to which the Commission, before adopting implementing acts, has to consult a committee comprising representatives of each Member State on its draft.

⁸ Ballast water discharge can contain a variety of invasive [plants](#) and [animals](#).

⁹ Source: [The Horticultural Association](#).

¹⁰ In [written evidence](#) on invasive species addressed to the House of Commons Environment Audit Committee. The butterfly bush is not included on the draft list of IAS.

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