Germany’s biodiversity at risk

A call for action

NOT EVALUATED	DATA DEFICIENT	LEAST CONCERN	NEAR THREATENED	VULNERABLE	ENDANGERED	CRITICALLY ENDANGERED	REGIONALLY EXTINCT	EXTINCT IN THE WILD	EXTINCT
NE	DD	LC	NT	VU	EN	CR	RE	EW	EX

Germany hosts a significant proportion of the species that are threatened at the European level, and has the important responsibility for protecting these species within its territory. Species in Germany require greater action to improve their status. While many species already receive some conservation attention, others do not. Species can be saved from extinction but this requires a combination of sound research and carefully coordinated efforts. Germany as an EU Member State has committed to halting biodiversity loss by 2020 but urgent action is needed to meet this target and better monitoring capacity is required to measure if the target is met.

Considerable conservation investment is needed from Germany to ensure that the status of European species improves in the long term. This document provides an overview of the conservation status of species in Germany based on the results of all European Red Lists completed to date. It does not provide the status of the species in the country, therefore we invite the reader to cross check national and sub-national Red Lists. Together, they can be used to help guide policies and local conservation strategies.

The European Red List

The European Red List of Species is a review of the conservation status of around 6,000 species in Europe according to the IUCN Red List Categories and Criteria and the regional Red Listing guidelines. It identifies species that are threatened with extinction at the European level so that appropriate conservation actions can be taken to improve their status. The geographical scope is continent-wide, including European parts of the Russian Federation and Turkey as well as the Macaronesian Islands. The Caucasus region is not included.

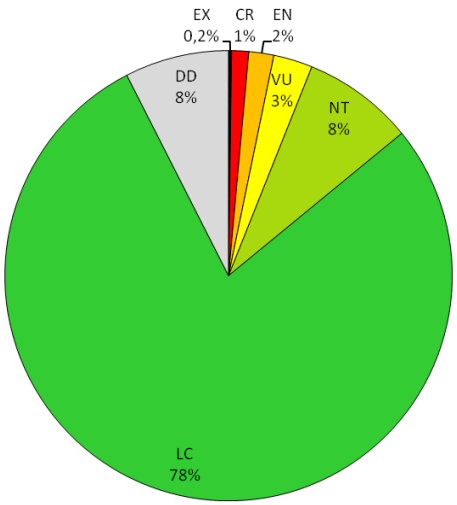
To date, European regional assessments have been completed for all mammals, reptiles, amphibians, butterflies, dragonflies, freshwater fishes and freshwater molluscs and a selection of saproxylic beetles, terrestrial molluscs, and vascular plants. Assessments of pollinators, medicinal plants, birds and marine fishes are currently under development.

The European Red List is compiled by IUCN Global Species Programme, with funding from the European Commission.

Conservation status

Germany is host to an estimated 71,900 species of animals and plants. This number represents 46% of the total species described for Europe and could represent more than 4% of the species in the world. According to the table below, approximately 23% of the species assessed by the European Red List of Species are present in Germany. For some of the taxonomic groups, the percentages of European species that occur in Germany are particularly high; such as dragonflies, saproxylic beetles, butterflies and mammals.

European status of species in Germany



Of the 1,383 species assessed that occur in Germany, the groups comprising the highest number of species are vascular plants, saproxylic beetles and butterflies. Of the total number of species assessed in the country 6%* are considered threatened and at least 8% are Near Threatened at the European level, and three species are already Extinct. Many of these species are endemic to Europe and are found nowhere else in the world.

Species that are considered threatened at the European level and occur in Germany are found mostly in wetlands, forests and grasslands. These ecosystems require particular attention in order to ensure the habitats of these sensitive species remain.

Number of species assessed within each IUCN Red List category at the European level

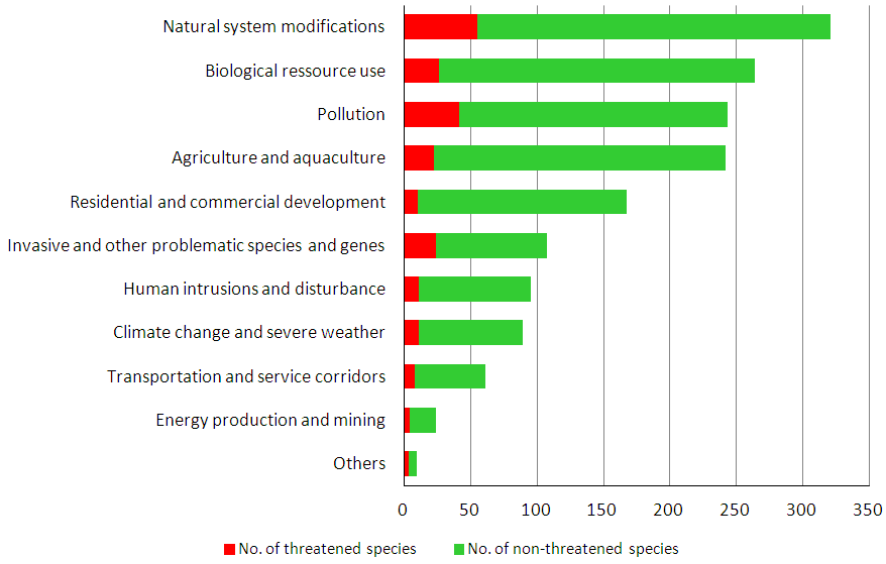
Species group	No. of sp. in Europe	No. of sp. in Germany	% of European sp. occurring in Germany	No. of threatened sp. in Germany (status at European level)		
				CR	EN	VU
Mammals	233	98	42%	2	1	4
Reptiles	140	14	10%	0	0	0
Amphibians	83	21	25%	0	0	0
Freshwater fishes	522	93	18%	7	1	6
Butterflies	435	184	42%	0	4	6
Dragonflies	137	79	58%	0	0	2
Saproxylic beetles**	431	209	48%	0	6	4
Terrestrial molluscs**	1,233	109	9%	0	3	2
Freshwater molluscs	854	127	15%	8	7	10
Vascular plants**	1,826	449	25%	0	3	5
TOTAL	**5,894**	**1,383**	**23%**	**17**	**25**	**39**

**Not comprehensively assessed, selected species only.
This table does not include the Not Applicable (NA) species in Europe (species introduced after AD 1500 or species of marginal occurrence).
The data are based on the results of the European Red List (European region wide assessment).

Major threats

Habitat loss, fragmentation and degradation are the most significant threats at the European level to species that occur in Germany. For freshwater species, major threats include the over-extraction of water, which in many cases is further exacerbated by increasing droughts due to climate change, pollution and the introduction of alien species. Other major threats come from consumptive use of natural resources such as wood or animal products and farming and ranching as a result of agricultural expansion and intensification, urbanization and tourism.

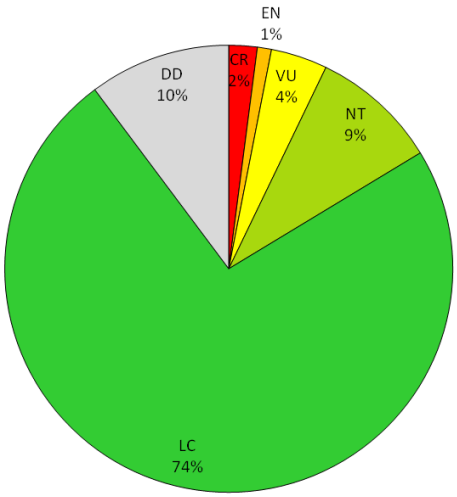
Major threats at the European level to species occurring in Germany



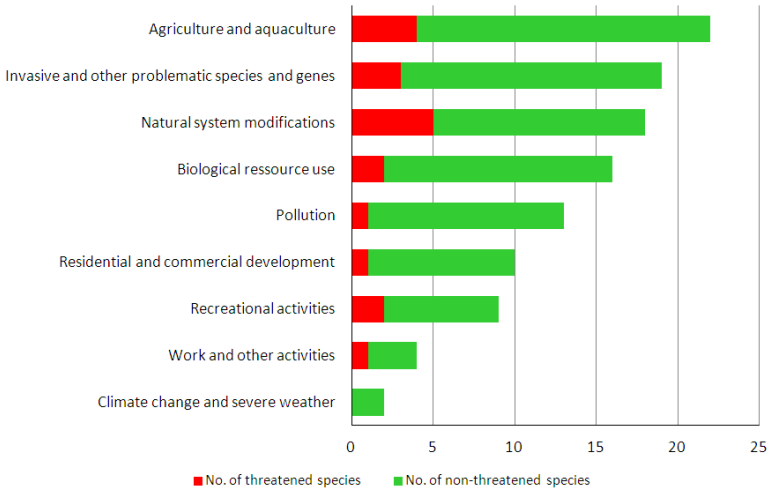
Mammals

Germany hosts 42% of all the mammals that occur in Europe. Of these 98 species of mammals, 8%* are threatened at the European level and at least an additional 9% are considered Near Threatened. The major threat at the European level that can possibly (or potentially) affect mammals in Germany is habitat loss, fragmentation and degradation due to agricultural intensification. Invasive and other problematic species, both native and non-native also pose serious threats to mammals in the country.

Status at European level



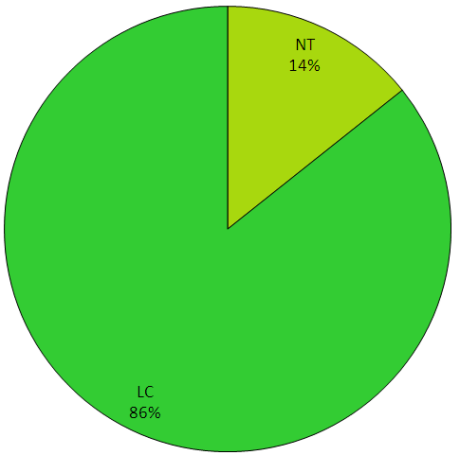
Threats at European level



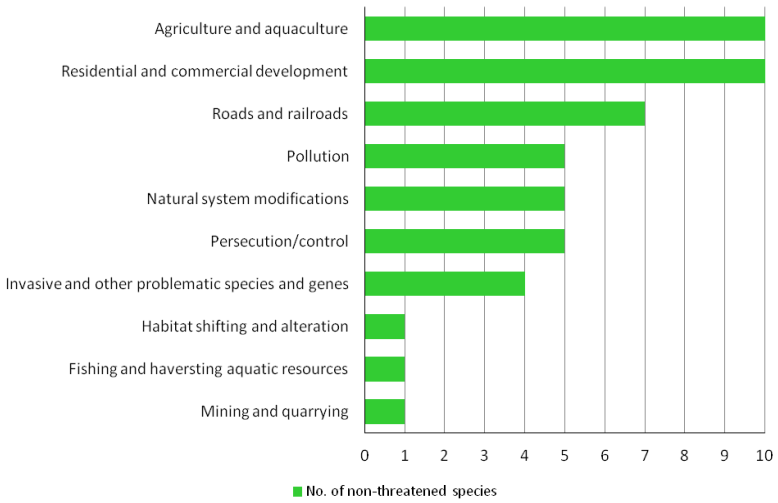
Reptiles

Reptile species in Germany represent 10% of all the reptiles in Europe. The conservation status of reptiles in Germany based on the European Red List data is relatively good since none of them are considered threatened at the European level and 86% are classified as Least Concern. Nevertheless, 14% of the species are considered as Near Threatened at the European level. Habitat loss, fragmentation and degradation especially due to agricultural intensification and urbanization are the main threats to this group at the European level. It is also interesting to note that at least 36% of the reptile species in Germany may be threatened by human persecution and control, especially snakes and vipers.

Status at European level



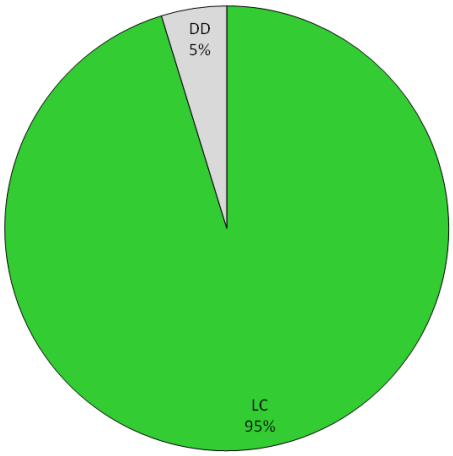
Threats at European level



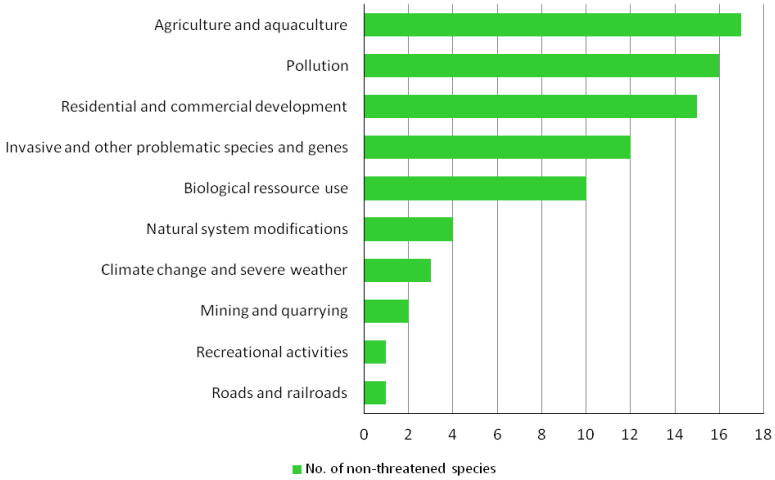
Amphibians

Amphibians in Germany represent 25% of all amphibians occurring in Europe. This group shows high species richness in Germany, which has the fourth highest number of amphibian species in Europe. None of the amphibian species that occur in Germany are threatened at the European level. The main threat to this group at the European level is the loss and degradation of suitable breeding habitat mainly due to agricultural activities through excessive water withdrawal and water pollution by agrochemicals.

Status at European level



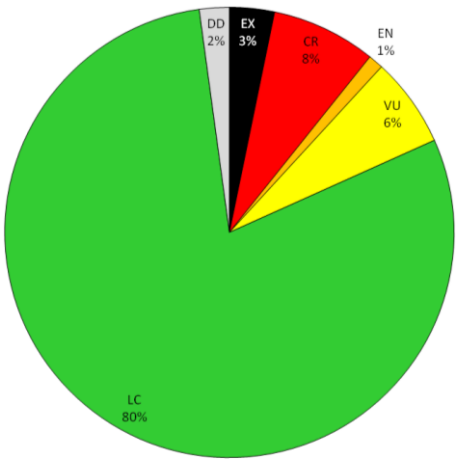
Threats at European level



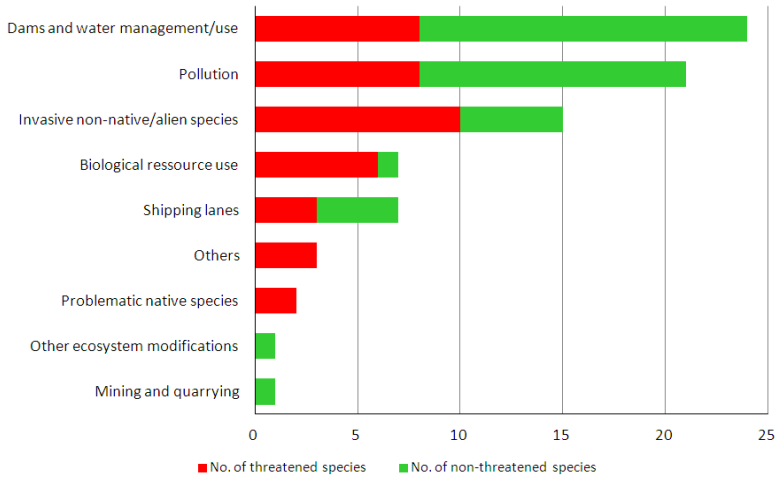
Freshwater fishes

Freshwater fishes are one of the most threatened groups at the European level. Sixteen percent* of the species that occur in Germany are threatened at the European level and three species have already gone Extinct. Additionally, freshwater fishes have a high percentage of endemism in the European region: up to 80%. Lakes in Germany are considered one of the most important hotspots of endemism in central Europe. The most important threat to this group at the European level is the change of water flow patterns due to dam construction and operation and the abstraction of water from underground or from the streams and rivers themselves. Declining water quality in freshwater rivers also poses serious problems to this group.

Status at European level



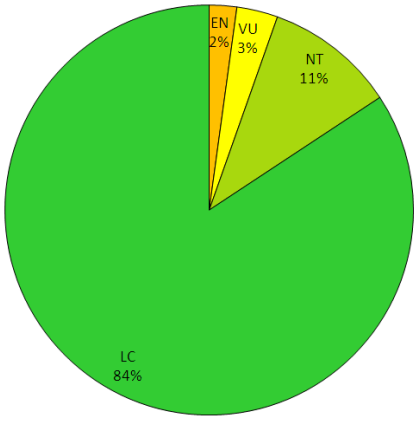
Threats at European level



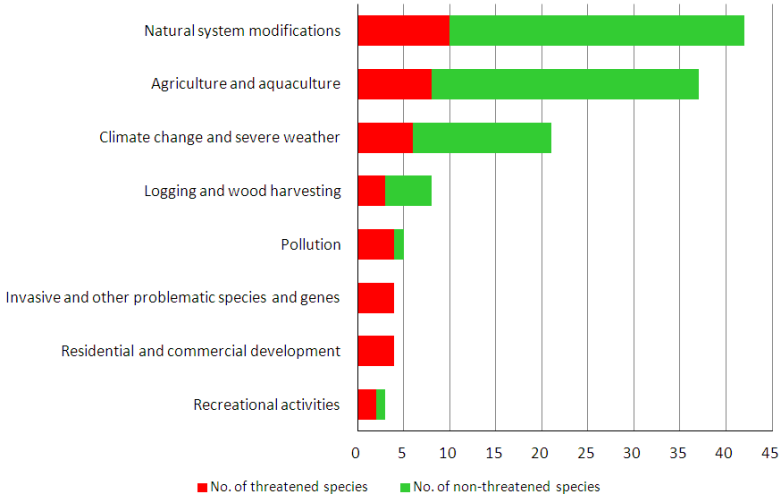
Butterflies

Germany hosts 42% of all butterfly species in Europe and 5%* of them are considered threatened at the European level. The conservation status of butterflies in Germany based on the European Red List data is relatively good since approximately 84% of the species are classified as Least Concern. However, butterflies have very specific food and habitat requirements at different stages of their life cycle so they are very sensitive to changes in their environment, especially to habitat management such as overgrazing, undergrazing or changes in forestry practices.

Status at European level



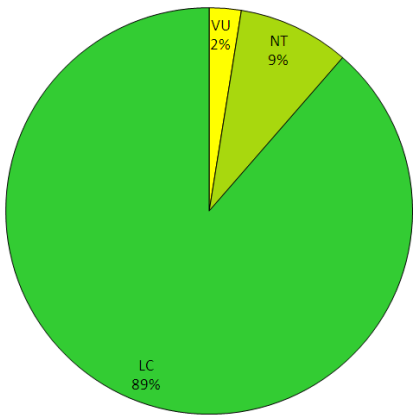
Threats at the European level



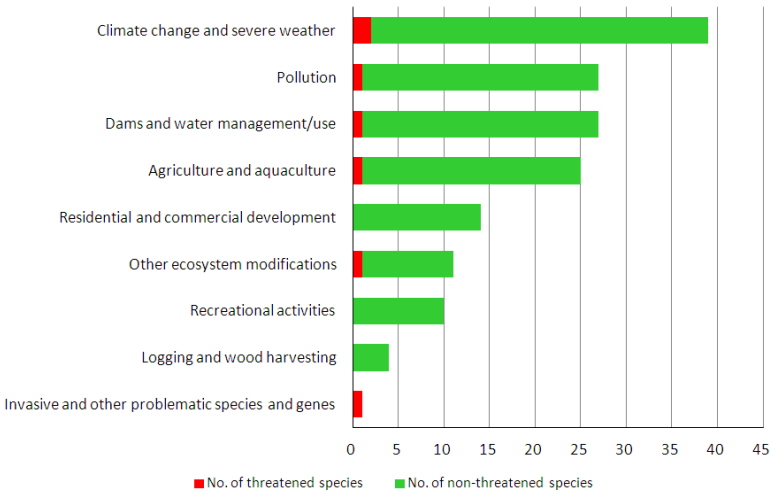
Dragonflies

Fifty-eight percent of all the dragonflies in Europe are present in Germany. After, Italy, France and Spain, Germany is the country with the fourth highest number of dragonflies in Europe. In Germany, 3%* of the dragonflies are considered threatened at the European level. This group is adversely affected by desiccation caused by dry weather, fires and increased water extraction for irrigation and human consumption. River species are also affected by ecosystem modifications such as the construction of dams and reservoirs and water quality deterioration.

Status at European level



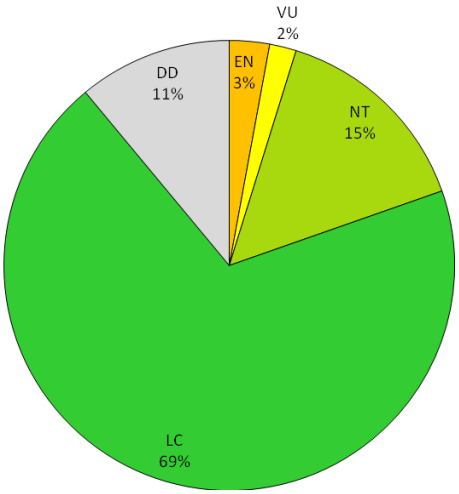
Threats at European level



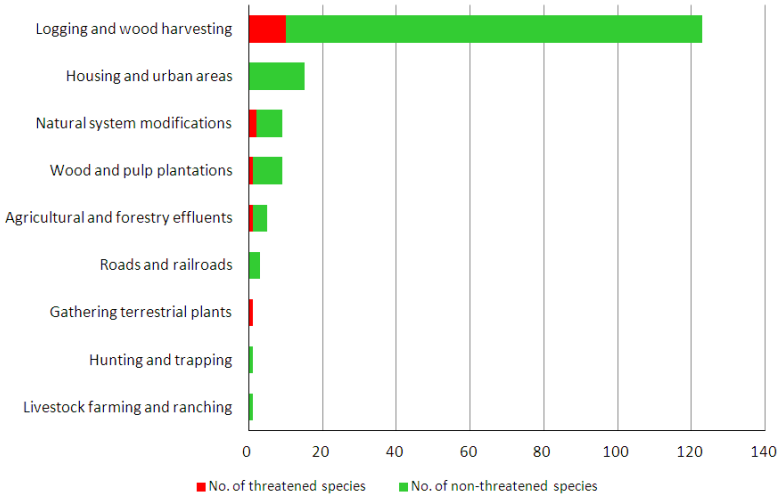
Saproxylic beetles

Forty-eight percent of the beetle species assessed by the European Red List are present in Germany. Approximately 5%* of the species in this group are considered threatened at the European level, which is less than half of the percentage of threatened saproxylic beetle species in Europe, and none of them are Critically Endangered. Fifteen percent of them are considered as Near Threatened. The species in this group are very dependent on the dynamics of tree aging and wood decay processes. The major threat to this group is logging and wood harvesting; therefore these beetles require sensitive conservation management of tree populations irrespective of their situacion.

Status at European level



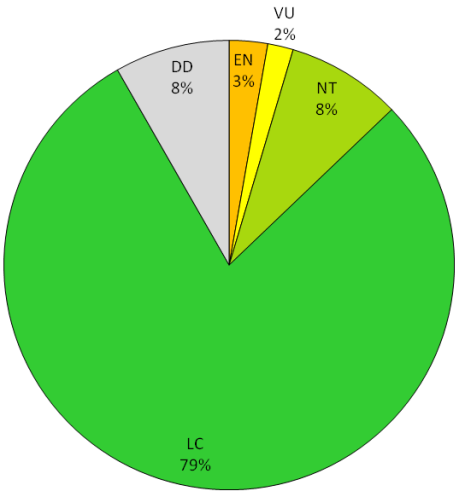
Threats at European level



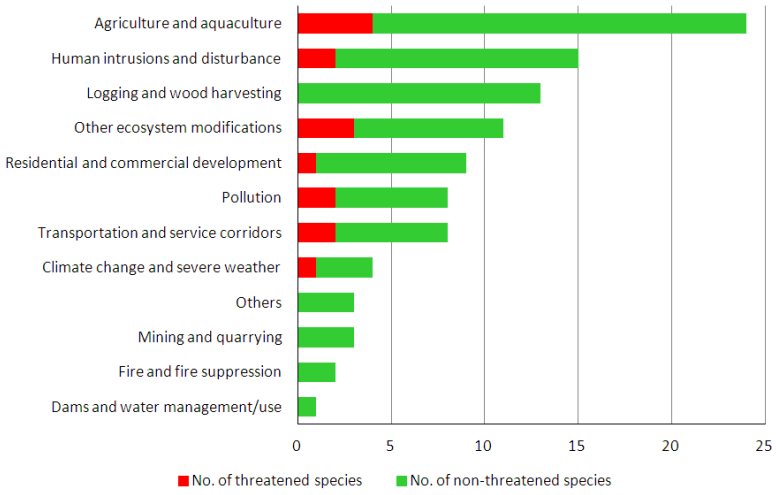
Terrestrial molluscs

Five percent* of the terrestrial molluscs assessed that are present in Germany are threatened and 8% are Near Threatened at the European level. The major threat to this group at the European level is the continuous destruction of suitable habitat due to agriculture and aquaculture as well as human intrusions and disturbance.

Status at European level



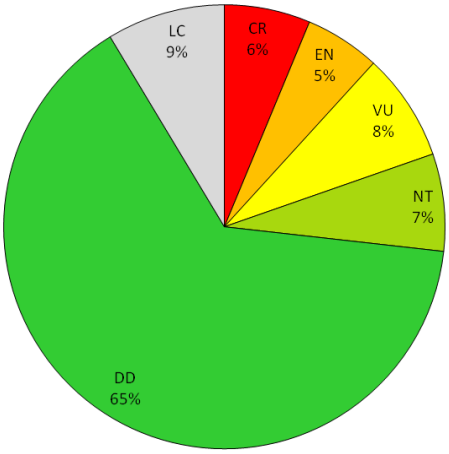
Threats at European level



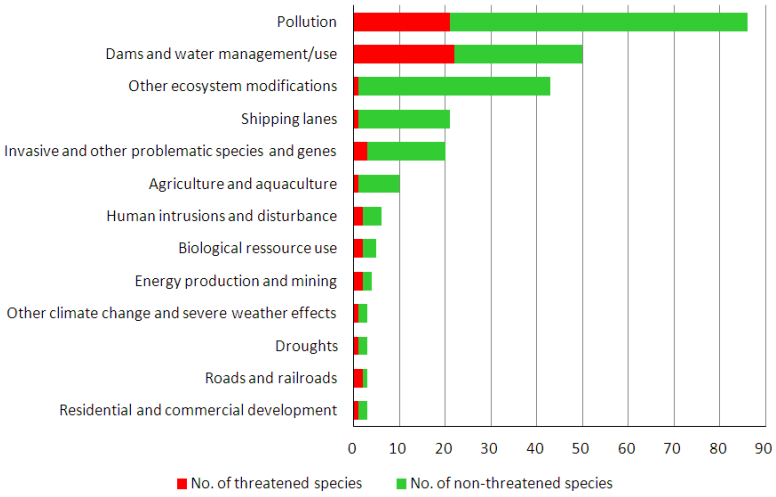
Freshwater molluscs

Twenty-two percent* of freshwater molluscs that occur in Germany are threatened at the European level. Water pollution is the main threat to this group at the European level, especially the one coming from agricultural effluents and domestic and urban wastewater. Modification of the physical and chemical characteristics of freshwater rivers and lakes due to dam construction is also one of the major threats at the European level.

Status at European level



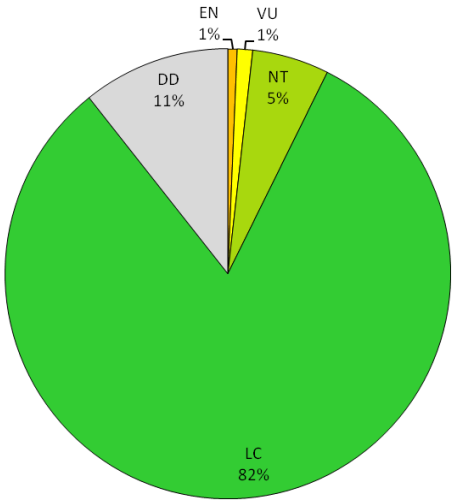
Threats at European level



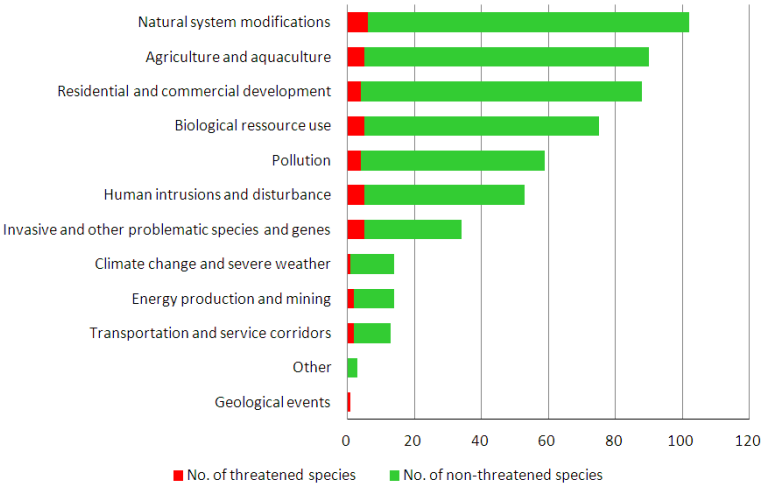
Vascular plants

At European level, priority crop wild relatives, aquatic plants and all species included in the annexes of the Habitats Directive, Bern Convention and CITES have been assessed. A total of 449 species are found in Germany, which represent 25% of the total of species assessed in Europe. Germany is also one of the countries that have a high number of endemic aquatic plants. Two percent* of the 449 vascular plant species assessed in Germany are considered threatened at the European level. For terrestrial plants, intensified livestock farming, especially intensive grazing activities have the worst impacts. For aquatic species, direct habitat loss caused by draining for development, agriculture and pasture is the main threat.

Status of European level



Threats of European level



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http://ec.europa.eu/environment/nature/conservation/species/redlist and
http://www.iucnredlist.org/europe

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Cover photo by Vincent Prié (*Margaritifera auricularia*)

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*The proportion of threatened species in this document is calculated as follows: (EW + CR + EN + VU) / (total number of species assessed - EX - RE - DD). Since the number of threatened species is often uncertain because it is not known whether DD species are actually threatened or not, this formula considers that DD species are equally threatened as data sufficient species.