

# Greece'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

Greece hosts a large 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 Greece 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. Greece 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 Greece 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 Greece 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.

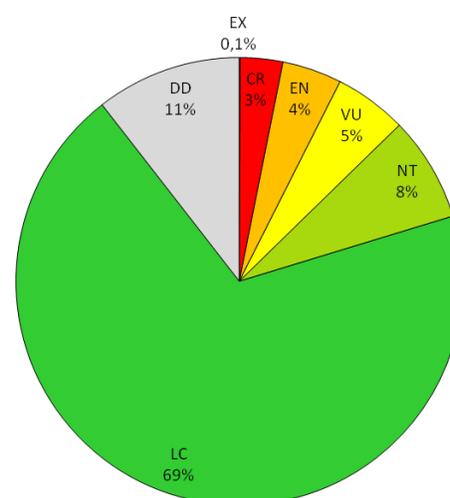
## Conservation status

Greece is host to an estimated 36,000 species of animals and plants. This number represents 23% of the total species described for Europe and could represent more than 2% of the species in the world. According to the table below, approximately 32% of the species assessed by the European Red List of Species are present in Greece. For some of the taxonomic groups, the percentages of European species that occur in Greece are particularly high; such as dragonflies, butterflies and saproxylic beetles.

Of the 1,883 species assessed that occur in Greece, the groups comprising the highest number of species are vascular plants, terrestrial molluscs, and butterflies. Of the total number of species assessed in the country 14%\* are considered threatened and 8% are Near Threatened at the European level, and one species is 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 Greece are found mostly in wetlands, rocky areas, forest and shrublands. These ecosystems require particular attention in order to ensure the habitats of these sensitive species remain.

European status of species in Greece



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 Greece	% of European sp. occurring in Greece	No. of threatened sp. in Greece (status at the European level)		
				CR	EN	VU
Mammals	233	97	42%	1	0	10
Reptiles	140	53	38%	0	2	5
Amphibians	83	22	27%	1	1	2
Freshwater fishes	522	123	24%	20	17	13
Butterflies	435	219	50%	0	2	3
Dragonflies	137	79	58%	3	4	7
Saproxylic beetles**	431	211	49%	0	13	5
Terrestrial molluscs**	1,233	278	23%	1	4	15
Freshwater molluscs	854	134	16%	24	9	11
Vascular plants**	1,826	667	37%	8	29	28
<b>TOTAL</b>	<b>5,894</b>	<b>1,883</b>	<b>32%</b>	<b>58</b>	<b>81</b>	<b>99</b>

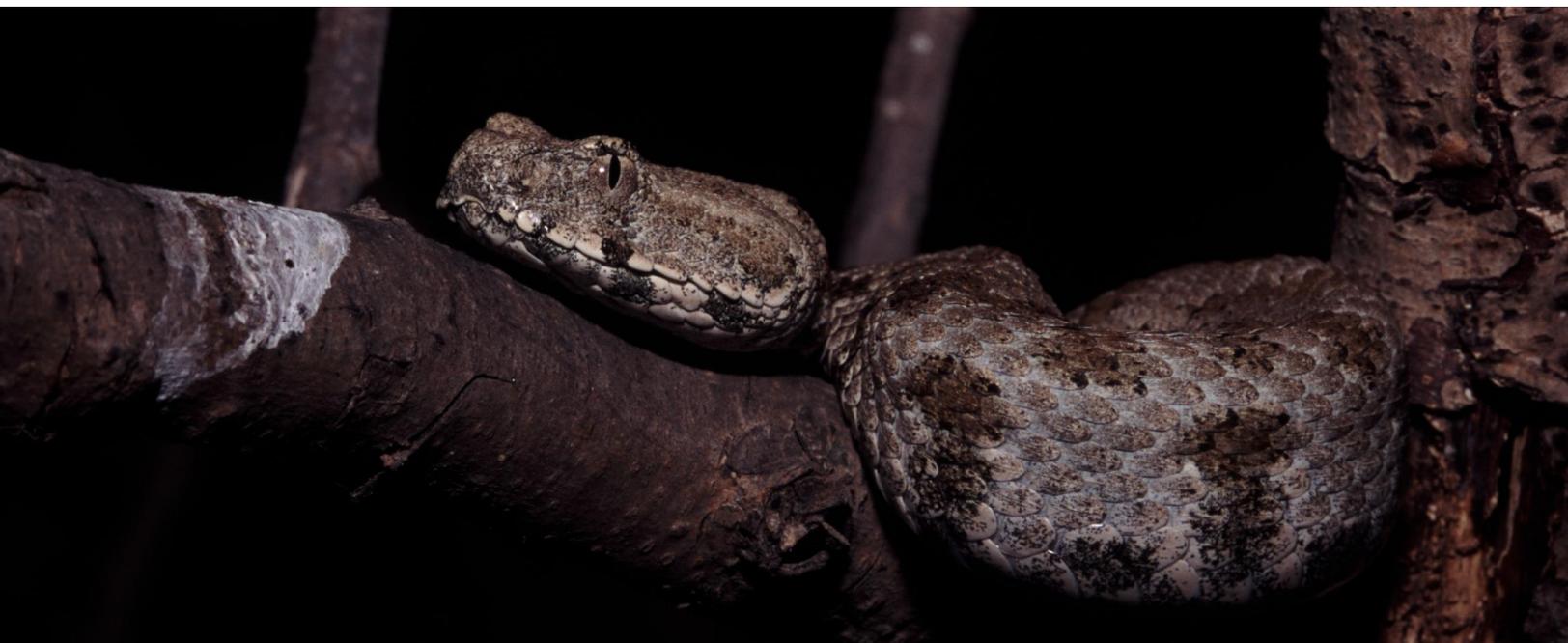
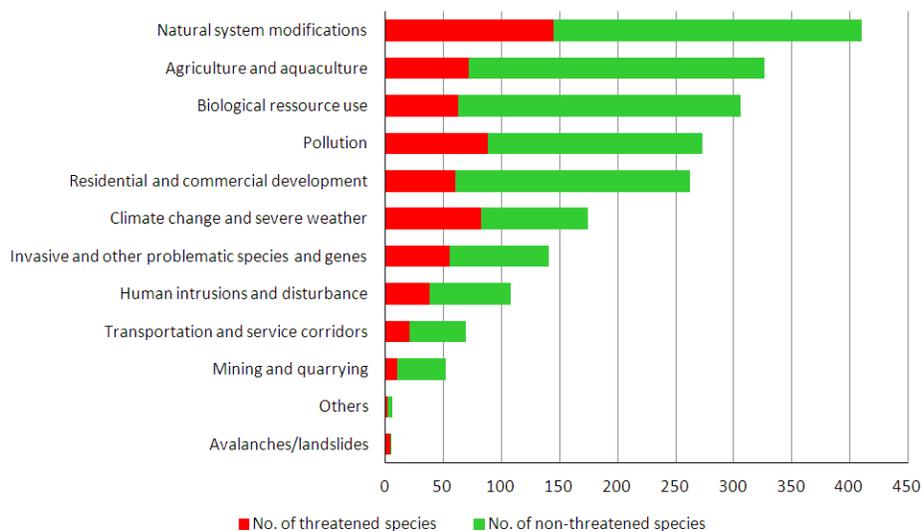
\*\*Not comprehensively assessed, selected species only.

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 Greece. 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 farming and ranching as a result of agricultural expansion and intensification, consumptive use of biological resources, urbanization and tourism.

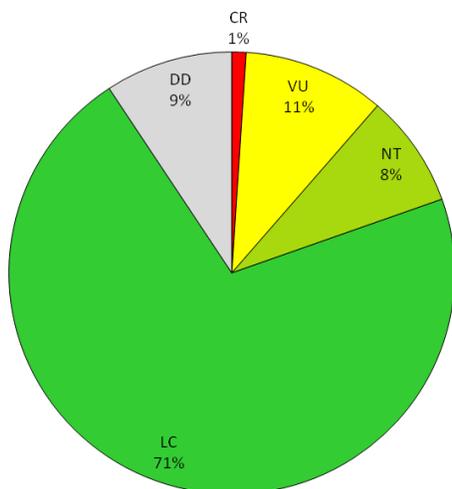
### Major threats at the European level to species occurring in Greece



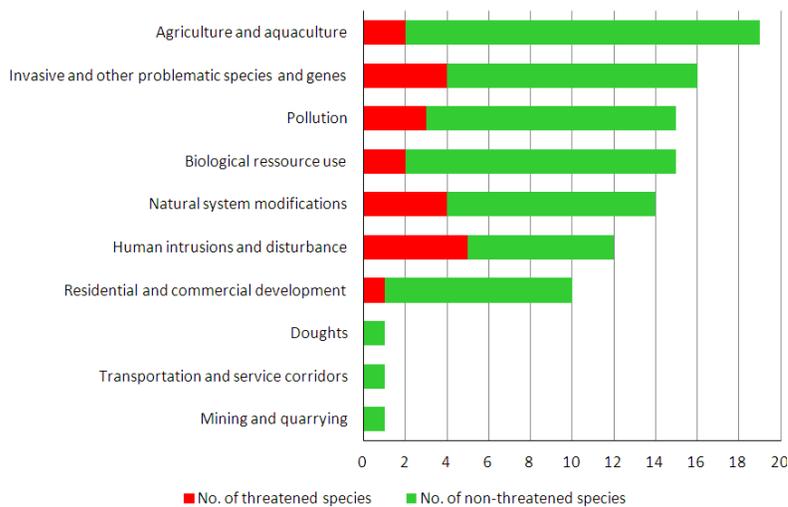
## Mammals

Greece hosts 42% of all the mammals that occur in Europe. Of these 97 species of mammals, 13%\* are threatened at the European level and at least an additional 8% are considered Near Threatened. The Balkan Peninsula is a hot spot of species richness in Europe and also one of the zones with the highest concentrations of threatened species in the region. The major threats at the European level that can possibly (or probably) affect mammals in Greece are agricultural expansion and intensification as well as invasive and other problematic species, both native and non-native.

**Status at European level**



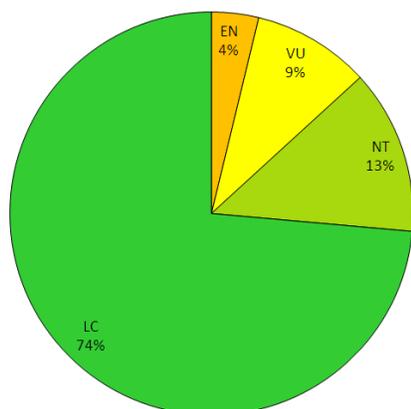
**Threats at European level**



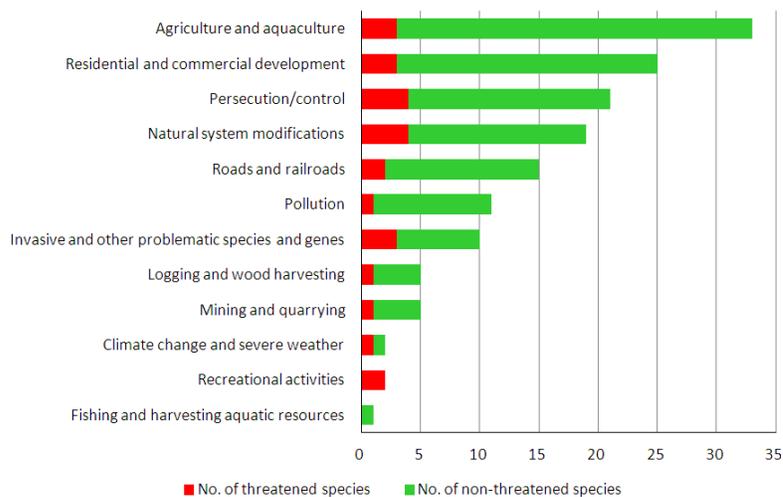
## Reptiles

Reptile species in Greece represent 38% of all the reptiles in Europe. Thirteen percent\* of the reptile species that occur in Greece are considered threatened at the European level. This group shows the greatest species richness in the Balkan Peninsula, being Greece the country with the second highest number of species in Europe. 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 40% of the reptile species in Greece may be threatened by human persecution and control, especially snakes and vipers.

**Status at European level**



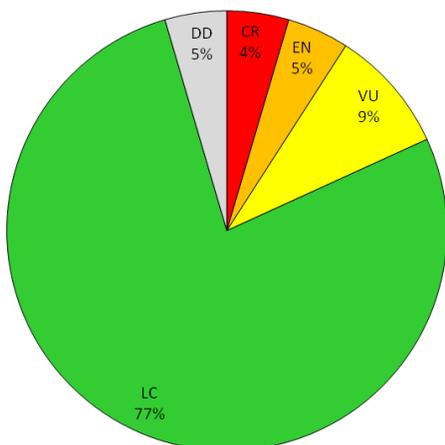
**Threats at European level**



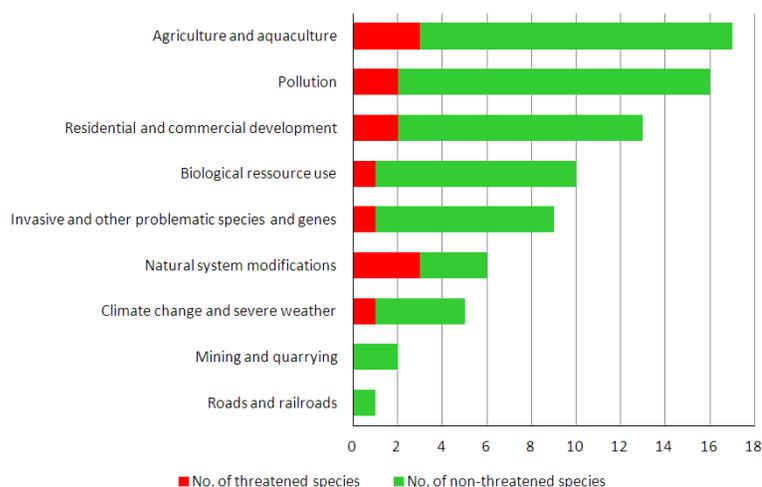
## Amphibians

Amphibians in Greece represent 27% of all amphibians occurring in Europe. This group shows high species richness in the Balkan Peninsula and a high number of endemic species in the Mediterranean islands. Nevertheless, these islands along with the Balkan coast also have one of the greatest concentrations of threatened species of amphibians. Nineteen percent\* of the amphibian species in Greece 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**



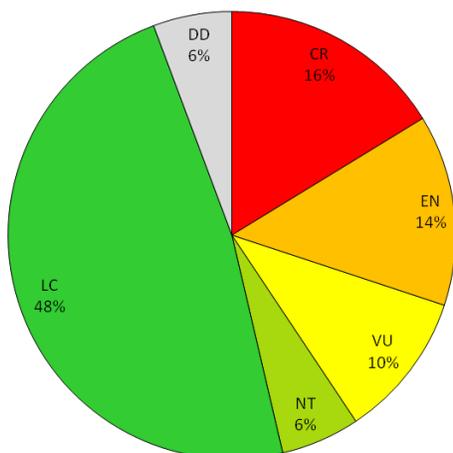
**Threats at European level**



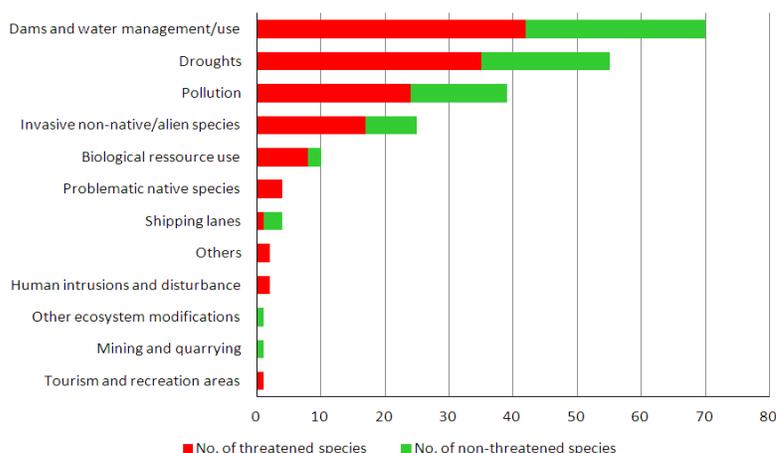
## Freshwater fishes

Freshwater fishes are one of the most threatened groups at the European level. Forty-three percent\* of the species that occur in Greece are threatened at the European level, while the percentage of total threatened species that is observed in the European region is 40%\*. Additionally, freshwater fishes have a high percentage of endemism in the European region: up to 80%. The Balkan Peninsula is one of the areas with highest species richness in Europe and some of the highest concentrations of threatened freshwater fish species are found in the northern Mediterranean coast. 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 severe weather. Declining water quality in freshwater rivers also poses serious problems.

**Status at European level**



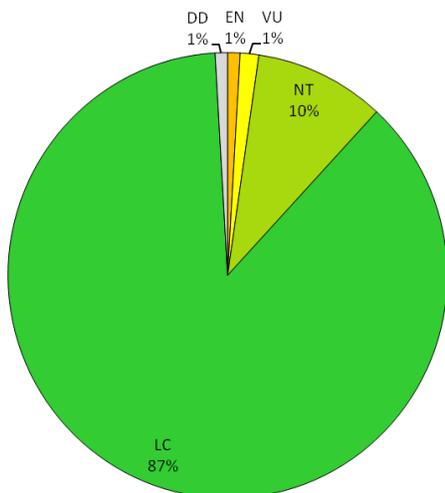
**Threats at European level**



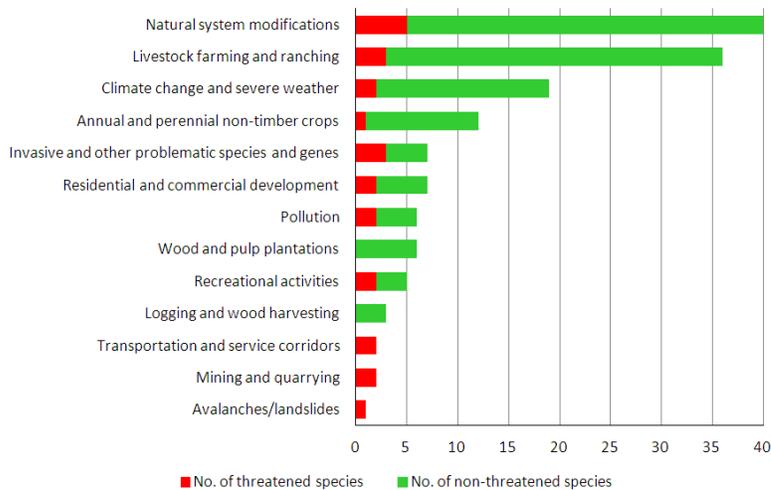
## Butterflies

Greece hosts 50% of all butterfly species in Europe and 2%\* of them are considered threatened at the European level. The country hosts the fourth highest number of species in Europe. The conservation status of butterflies in Greece based on the European Red List data is relatively good since approximately 87% 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



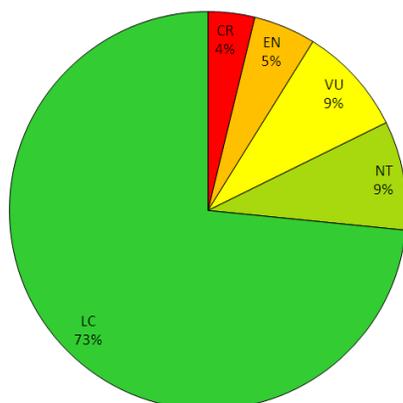
Threats at European level



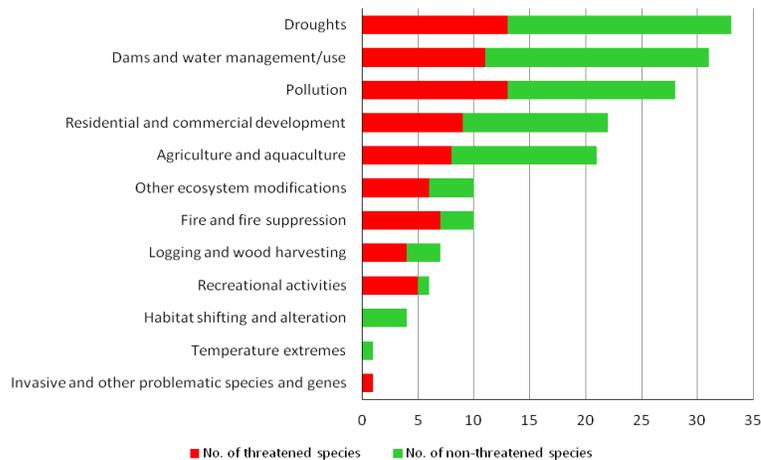
## Dragonflies

Fifty-eight percent of all the dragonflies in Europe are present in Greece. A very clear concentration of threatened species of dragonflies occurs in the Balkan Peninsula. In Greece, 18%\* of the dragonflies are considered threatened and 9% are considered as Near 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



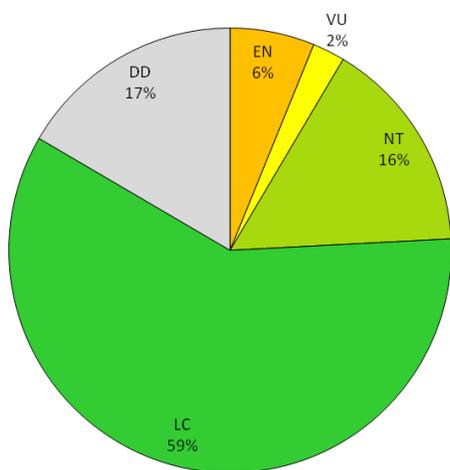
Threats at European level



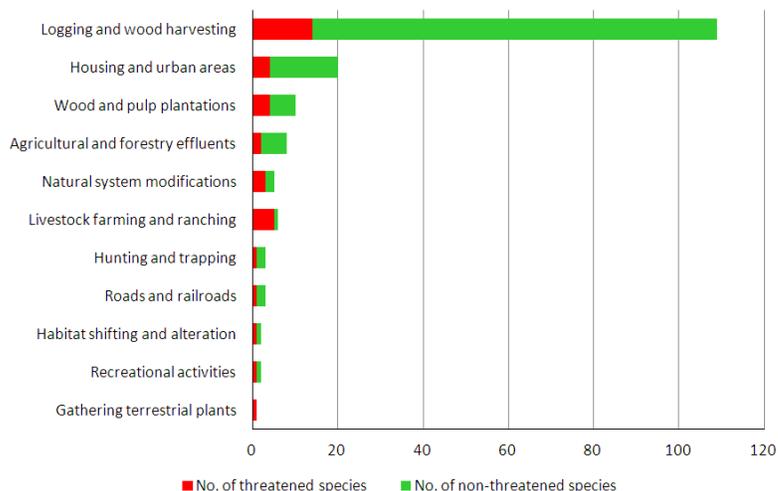
## Saproxylic beetles

Forty-nine percent of the beetle species assessed by the European Red List are present in Greece. Approximately 10%\* of the species in this group are considered threatened at the European level, but none of them are Critically Endangered. Sixteen percent of them are considered as Near Threatened at the European level. Saproxylic beetles are very dependent on the dynamics of tree aging and wood decay processes. Considering that the major threat to this group is by far logging and wood harvesting; these beetles require sensitive conservation management of tree populations irrespective of their situation.

**Status at European level**



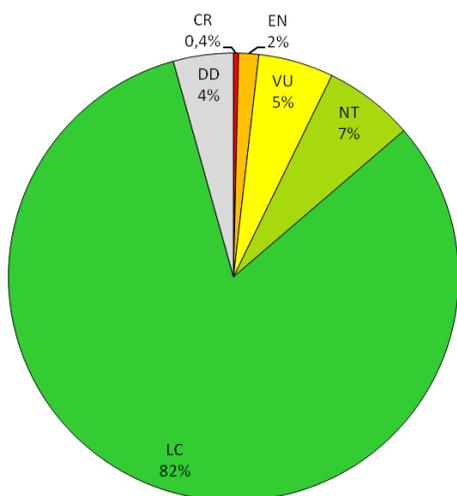
**Threats at European level**



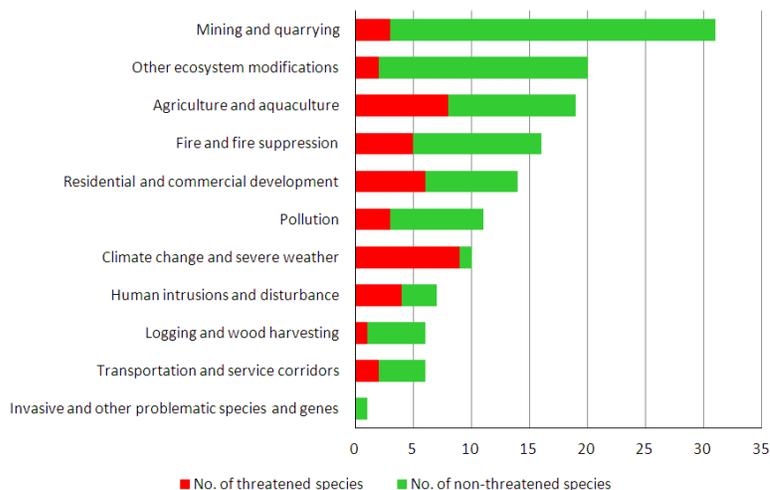
## Terrestrial molluscs

Twenty-three percent of terrestrial molluscs assessed by the European Red List are present in Greece. Eight percent\* of the terrestrial molluscs assessed that are present in Greece are threatened and 6% are Near Threatened at the European level. Greece is the European country that hosts the second highest number of terrestrial molluscs described for Europe. The major threat to this group at the European level is continuous destruction or degradation of suitable habitat from mineral extraction to produce construction material and inappropriate management of natural or semi natural ecosystems.

**Status at European level**



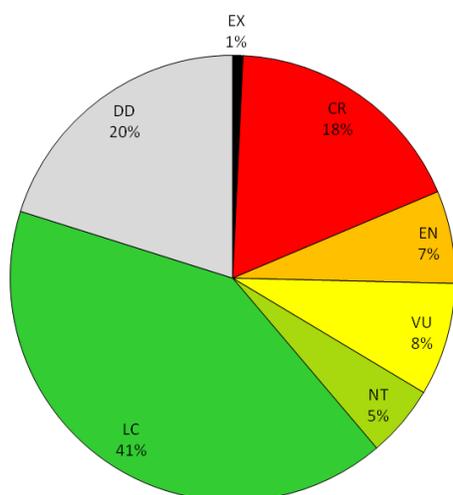
**Threats at European level**



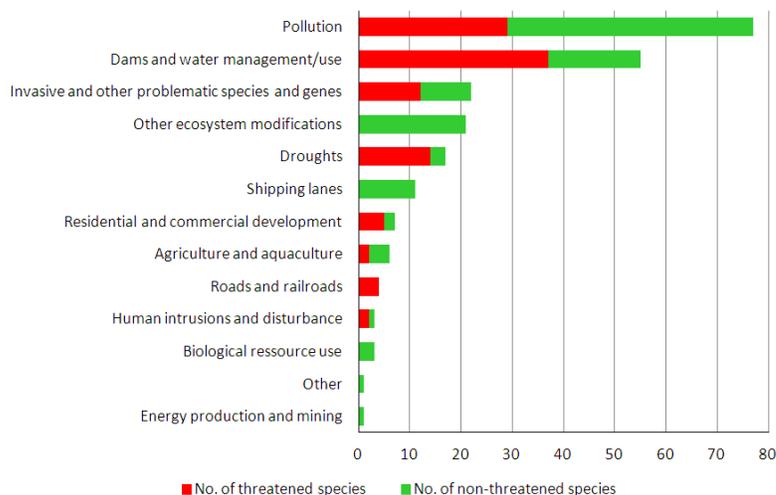
## Freshwater molluscs

Forty-two percent\* of the species assessed are considered threatened and 5% are Near Threatened at the European level. One of the species assessed within this group has already gone Extinct, *Graecoanatolica macedonica*, which was endemic to Lake Dorjan, on the border of Macedonia and Greece. Declining water quality in freshwater rivers and lakes caused mainly by agricultural activities and domestic and urban wastewater is the main threat to this group at the European level. Modification of the physical and chemical characteristics of freshwater rivers and lakes due to dam construction is also a major threat at the European level.

**Status at European level**



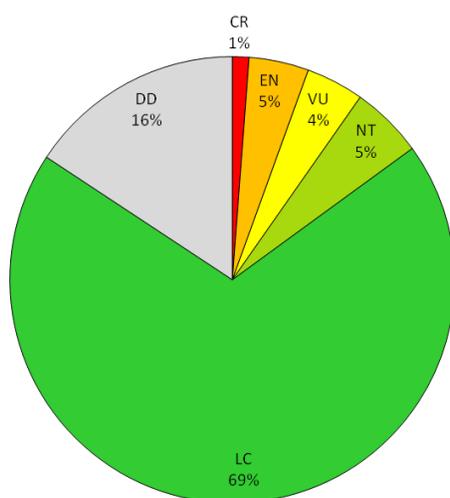
**Threats at European level**



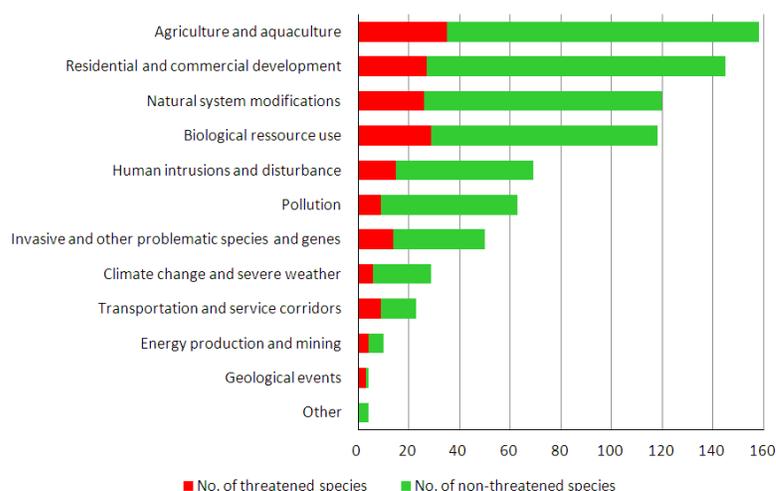
## Vascular plants

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 667 species are found in Greece, which represent 37% of the total of species assessed in Europe. Twelve percent\* of the 667 vascular plant species assessed in Greece 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 at European level**



**Threats at 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 Claes Andrén (*Macrovipera schweizeri*)

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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.