EICAT

Environmental Impact Classification of Alien Taxa

Lion fish *Pterois volitans* © Brian Gratwick CC BY 2.0

Human activities are transforming natural environments by moving species beyond the limits of their native geographic ranges into areas in which they do not naturally occur. Many of these alien species have become invasive, causing substantial changes to ecosystems and leading to native species extinctions. Invasive Alien Species (IAS) have become one of the major threats to biodiversity across the world.

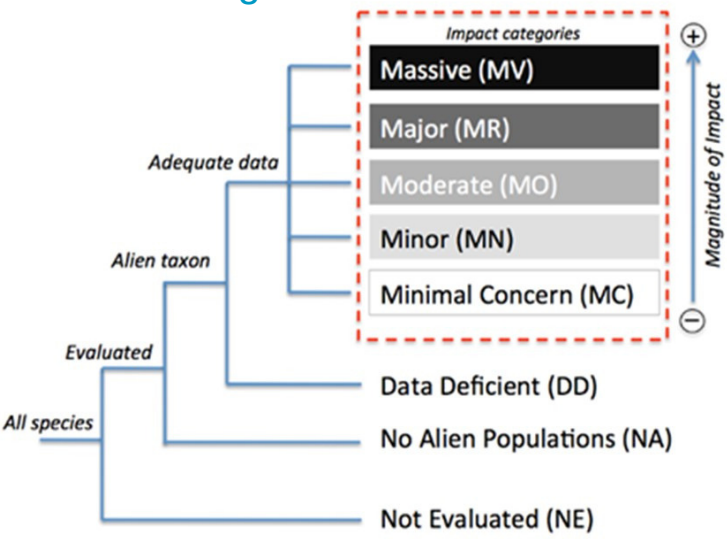
It is important to recognise harmful invasive alien species at an early stage of introduction in order to mitigate negative impacts. There is therefore a critical need for the capacity to evaluate, compare, and predict the magnitudes of the impacts of different alien species, in order to determine and prioritise appropriate actions where necessary.

The IUCN Species Survival Commission Invasive Species Specialist Group (ISSG) have developed a tool to support this prioritisation process.

Environmental Impact Classification of Alien Taxa (EICAT)

EICAT is an assessment process that classifies alien species into one of five categories, according to the **magnitude of the detrimental impacts to the environment**.

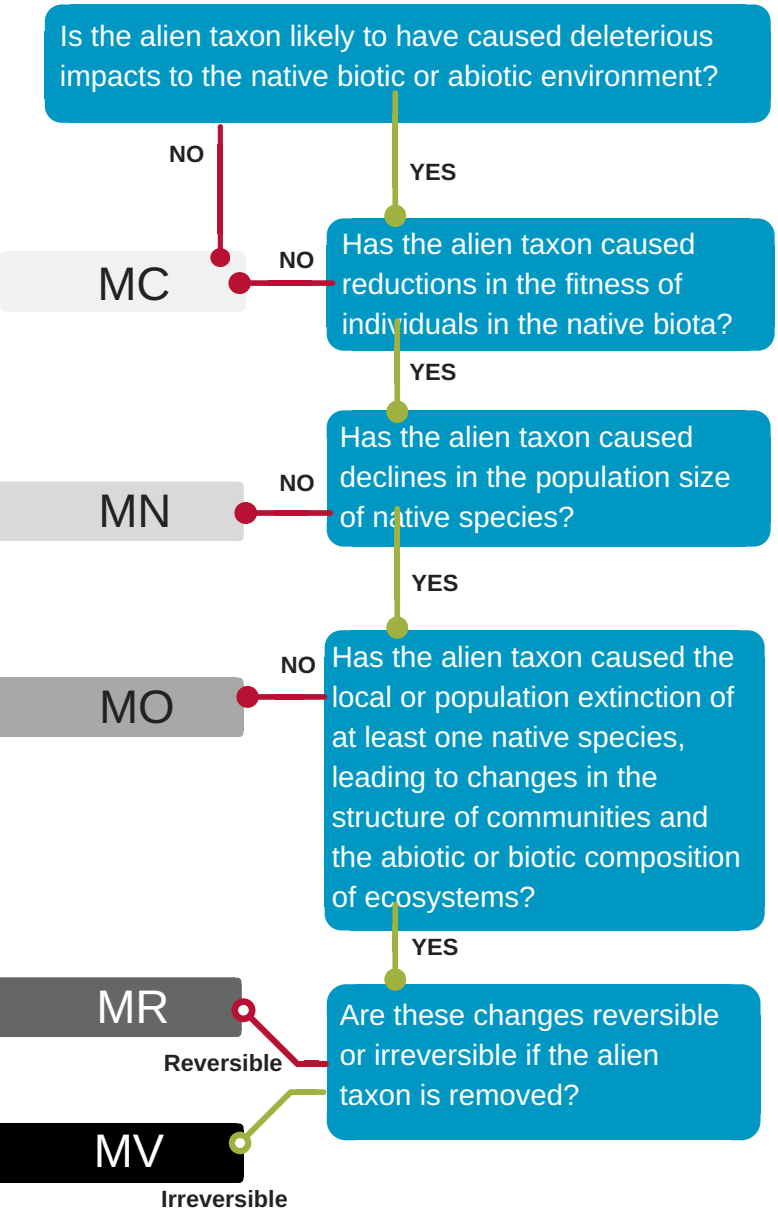
EICAT Categories



To assign species to each of the categories, EICAT uses semi quantitative criteria for each type of **impact mechanism** (see box opposite). The scheme also includes categories for species that are Not Evaluated, have No Alien Population, or are Data Deficient, and a method for assigning uncertainty to all the classifications.

The EICAT category is assigned based on the level of biological organization affected (individuals → populations → communities) and the severity and reversibility of this impact (see decision chart below).

EICAT decision chart



Impact mechanisms

1. Competition
2. Predation
3. Hybridisation
4. Disease transmission
5. Parasitism
6. Poisoning/Toxicity
7. Bio-fouling
8. Grazing/Herbivory/Browsing
9. Rooting/Digging
11. Flammability
12. Interaction with other invasive species

In order to indicate the highest probable impact of an alien species, and report on its current level of impact, EICAT assesses both the **Maximum Recorded Impact** (i.e. the highest level of impact ever documented for the taxa), and their **Current Impact** (i.e. the current highest level of impact documented for the taxa), caused under any of the impact mechanisms.

EICAT is managed by the IUCN SSC Invasive Species Specialist Group alongside the IUCN Global Species Programme. Its peer reviewed assessments will be published on the IUCN Global Invasive Species Database (www.iucngisd.org).

EICAT CAN

- distinguish alien taxa causing impacts of low concern from those with significant deleterious effects.
- facilitate comparisons of the level of impact by alien taxa among regions and taxonomic groups.
- facilitate predictions of potential future impacts of alien taxa in the target region and elsewhere.
- aid in the prioritisation and evaluation of management actions.

EICAT CANNOT

- replace a risk assessment.
- function as a statutory list of harmful invasive species.

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SSC Species Survival Commission
ISSG Invasive Species Specialist Group
IUCN