Invasive Alien Species
A perspective from LIFE

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IAS - A perspective from LIFE

- **Invasive Alien Species**- "A species whose introduction and/or spread outside their natural past or present distribution threatens biological diversity"[1]

1. Convention on Biological Diversity definitions from COP VI/23, http://www.cbd.int/decision/cop/default.shtml?id=7197

IAS in the EU

- Are considered to be **the most important cause of biodiversity loss**, after habitat loss and fragmentation.
- the threat of IAS is particularly strong on islands where unique ecosystems have often evolved over time, isolated from the continental mainland.
- They can also cause significant **adverse impacts on the economy** (their economic impact in the EU was estimated at around €12 billion per year) as well as on **human health**, such as severe allergies and burns.

IAS in the EU

- **The IAS regulation (1143/2014)** includes a set of measures to be taken across the EU. Member states are required to:

Take action on pathways of unintentional introduction (**prevention**)	Take measures for the **early detection and rapid eradication** of new IAS introduced	**Manage species** that are already widely spread in their territory

- Restrictions on keeping, importing, selling, breeding, growing and releasing of the listed species into the environment.

IAS in the EU

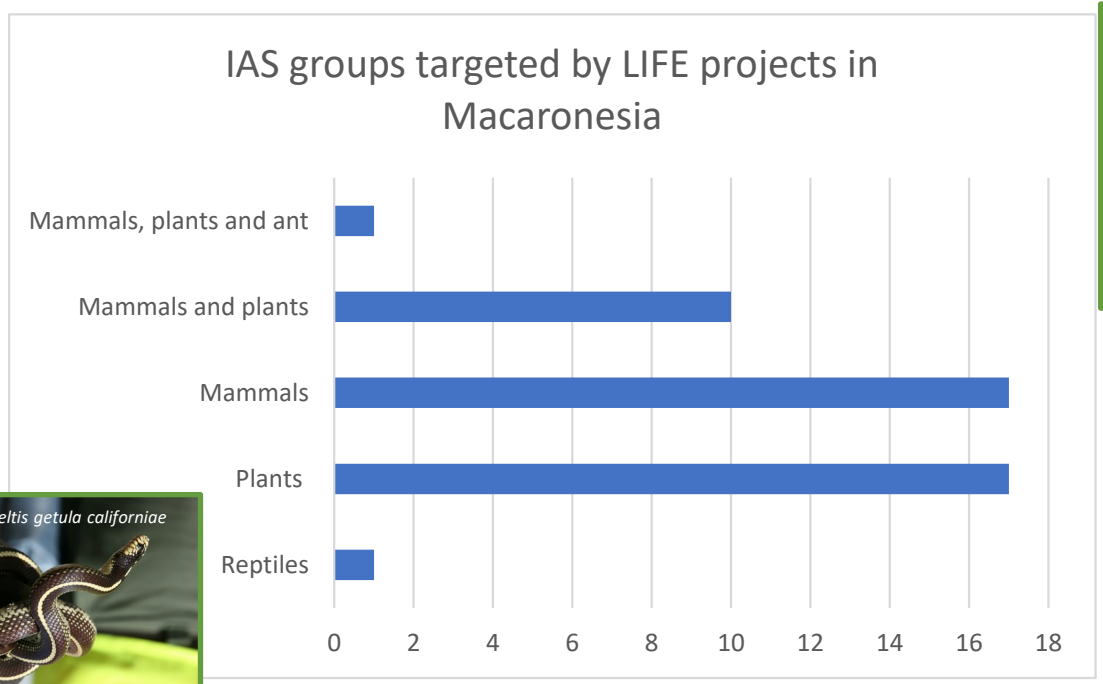
- The EU Biodiversity Strategy 2030 sets a specific target to combat the threat of invasive alien species in order to halt the loss of biodiversity and ecosystem services.
- To manage the established invasive alien species and to **reduce by 50% the number of Red List species that they threaten.”**

Importance of IAS in the Macaronesia region

- From the total of 72 Nature, Biodiversity and Climate LIFE projects implemented in the region 46 target the IAS threat.

- The number of LIFE projects including actions to tackle IAS has steadily increased over the duration of the programme's existence.

Importance of IAS in the Macaronesia region



LIFE projects fight against IAS in the Macaronesia region

Developed activities

Prevention

- Drafting of IAS control strategies
- Development of educational and awareness activities
- Organisation of training activities
- Increased capacity of teams to respond to identified threats
- Promoting use of non-invasive alternative plants
- Control of spreading mechanisms

Early detection and quick intervention

- Development of early detection apps/mechanisms
- Involvement of authorities and other stakeholders in alert schemes
- Test operability of implemented schemes
- Creation of rapid reaction teams
- Involvement of local population in the early detection scheme

Management of established IAS

- Control and maintenance of invaded areas
- Test new methodologies to control IAS
- Development of Guidelines and other management tools on the control of IAS
- Substantial increase in the production of native species

LIFE projects fight against IAS

A few successful projects, but current efficiency of IAS control measures is in general reduced:

Surveillance

- General awareness level of population and key stakeholders reduced
- Reduced control of the introduction pathways
- Lack of strong IAS policies
- Lack of political will to implement available legislation
- Lack of awareness of authorities on the threat
- Reduced awareness among technicians

Early detection and rapid reaction

- Existing detection systems not enough disseminated
- Reduced involvement level of stakeholders
- Lack of human resources
- Lack of goods, particularly important in the utmost regions
- Reaction time too long

Management of established IAS

- Lack of critical knowledge in some teams
- High post-project maintenance costs
- Reduced funds available for the post-project
- Lack of IAS integrated strategy
- Absence of efficient monitoring
- Reinvasion by target or new IAS
- Lack of long-term vision

Loose notes on general IAS management

Notes taken from the report on Invasive Alien Species and their control, 2023 (Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services) and from the LIFE brochure on Invasive Aliean Species, 2014

Management of biological invasions and prevention, and control of IAS can be achieved through an integrated governance approach with a set of complementary strategic actions:

- 1. Enhance coordination and collaboration across international, national and regional mechanisms
- 2. Develop and adopt effective and achievable national/regional implementation strategies
- 3. Share efforts and commitments and understanding of specific roles of all actors
- 4. Improve policy coherence
- 5. Engage broadly across governmental sectors, industry, scientific community, local communities and wider public
- 6. Support information systems, infrastructures and data sharing

Loose notes on general IAS management

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- When prevention fails, early detection and rapid response are effective at reducing rates of IAS establishment
- Eradication has been successful and cost-effective for some IAS, particularly small populations in “isolated” ecosystems
- When eradication is not possible, containment of IAS can be achieved with physical, chemical and biological control actions or combination.
- Physical and chemical control options are mostly effective at a local scale but can also be effective at larger scales; these control options are limited by labour costs and generally provide short-term suppression but not sustained control
- chemical control may have non-target impacts, needs to be implemented under regulatory compliance requirements and has decreasing societal acceptability
- Biological control has been very effective in controlling some invasive alien plants, invertebrates and, to a lesser extent, plant microbes and a few invasive alien vertebrates, but it may have non-target impacts if not well regulated

IAS Control management

Objectives and actions for managing biological invasions. **Decision-making tool** (source: IPBES (2023). Summary for policymakers of the assessment report on invasive alien species and their control of the **Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services**. https://doi.org/10.5281/zenodo.7430692)

High	Medium	Low

Objectives	Management Actions	Terrestrial and closed water systems			Marine and connected water systems		
		Current availability	Ease of use	Effectiveness	Current availability	Ease of use	Effectiveness
Prevention and preparedness	Horizon scanning						
	Import controls and border biosecurity						
	Pathway management						
	Risk analysis						
Early detection	Surveillance						
	Diagnostics						
Eradication	Physical eradication						
	Chemical eradication						
	Adaptative management						
Containment and control	Physical control						
	Chemical control						
	Biological control						
	Adaptative management						
Ecosystem restoration	Adaptative management						
Public understanding	Public engagement						

IAS Control management

Pending challenges

- Need to implement a long-term monitoring to assess management effectiveness using ecological and social indicators. Essential to continually follow the status of the identified invasions and ensure the early detection of new introductions.
- Long-term commitment and resourcing from governments and institutions to support the implementation of strategic actions is crucial to underpin the integrated governance of biological invasions.
- Essential the availability of funds to ensure maintenance tasks during the first years of the post-projects' periods.
- It is crucial the approval of a long-term Invasive Alien Species fight strategy, with defined measures and objectives, and the involvement of all interested stakeholders, supported by a good communication campaign.