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National management strategies of IAPs of EU concern that are widespread in mainland France

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Objectives of the national management strategies

For **invasive alien plants (IAP) of European Union (EU) concern that are widely spread in mainland France**, such as Giant hogweed (*Heracleum mantegazzianum*), Eastern baccharis (*Baccharis halimifolia*) or Himalayan balsam (*Impatiens glandulifera*), national eradication is no longer conceivable, because not all known populations can be managed due to lack of stakes, impacts or means. Choices have to be made on **where and how to manage the existing populations**.

In connection with the European IAS Regulation, the National IAS Strategy, the French Environment Code and the French Biodiversity Plan, the French Biodiversity Office (OFB), the network of National Botanical Conservatories (CBN) and the IUCN French Committee (UICN France), with the collaboration of the French Agency for Environmental Health and Safety (ANSES), and the participation of researchers, botanists and practitioners, are thus developing **national management strategies (NMS)** for these species.

Mostly intended for **regional coordinations and local managers on IAPs**, NMS aim to **provide a decision support tool** to determine gradually **priority regions, areas, populations and interventions**, in order to limit the occupancy and reduce the damages of the concerned species.

Part I of a NMS : well know the species to better intervene



Example
the Giant hogweed

Monocarpic perennial herbaceous species of the Apiaceae family

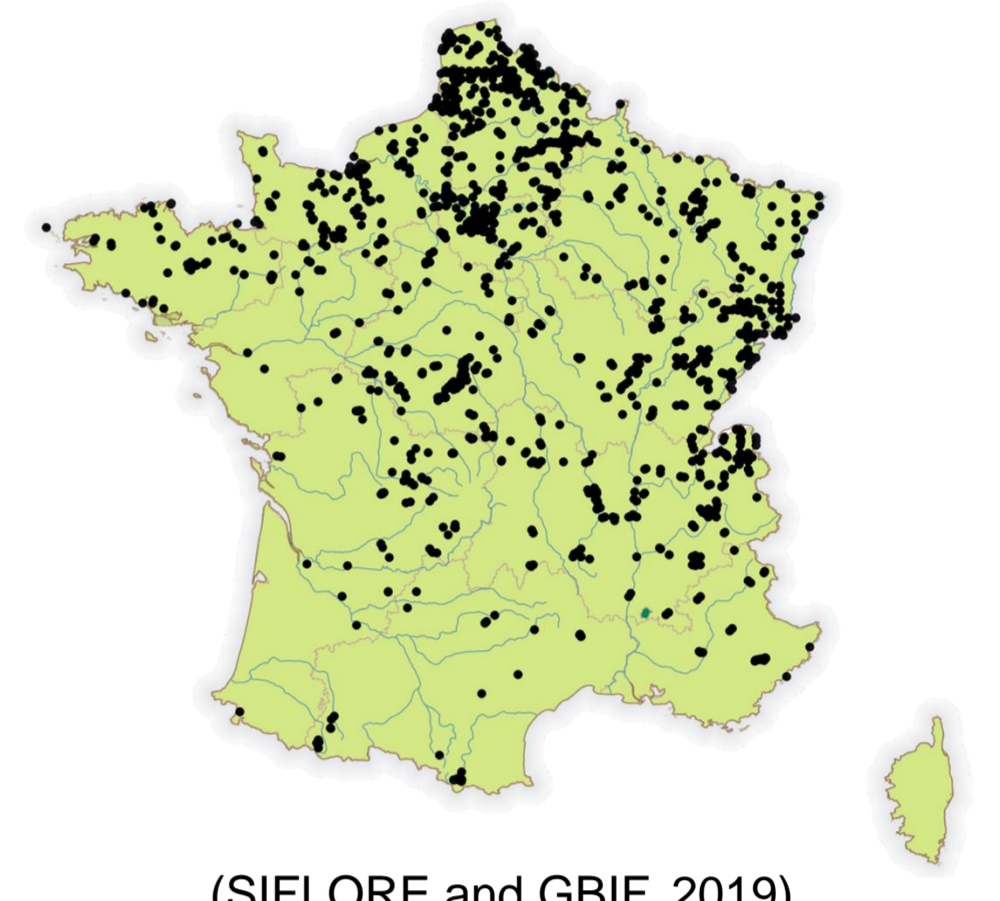


An invasive species

- Ornamental introduction in gardens
- Production between 5 000 and 100 000 seeds per single plant
- Spread of seeds by wind, water and human along roads, railways and rivers
- Persistence of the seed bank in the soil for more than 7 years
- Photodermatitis caused by the sap

A widespread species

Habitats with good resource supplies, high light and humidity levels, disturbance or lack of regular management
Ex.: riparian forest, forest edge and clearing, meadows, wasteland, roadsides, etc.

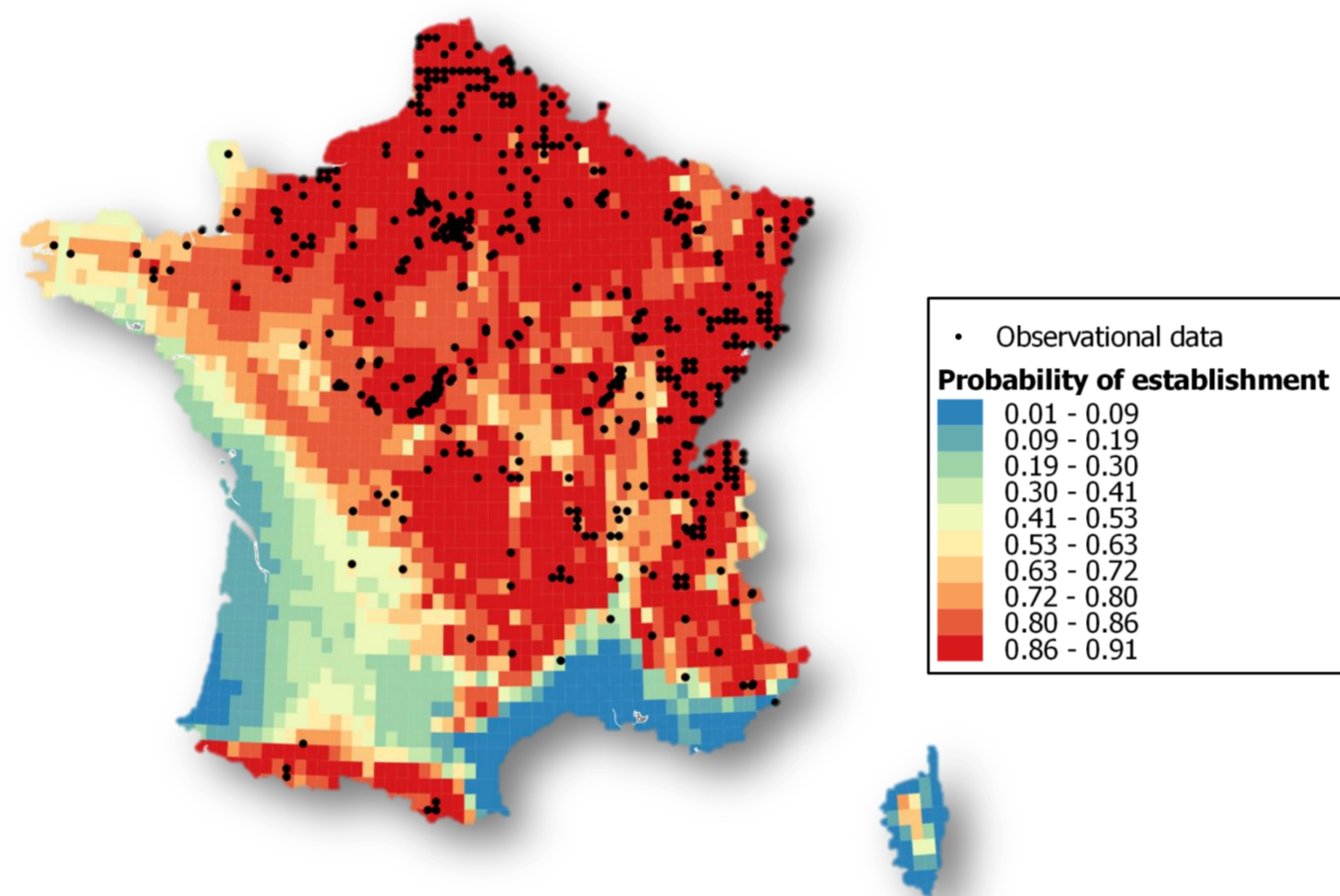


(SIFLORE and GBIF, 2019)

Part II of a NMS : where to intervene and with which objectives

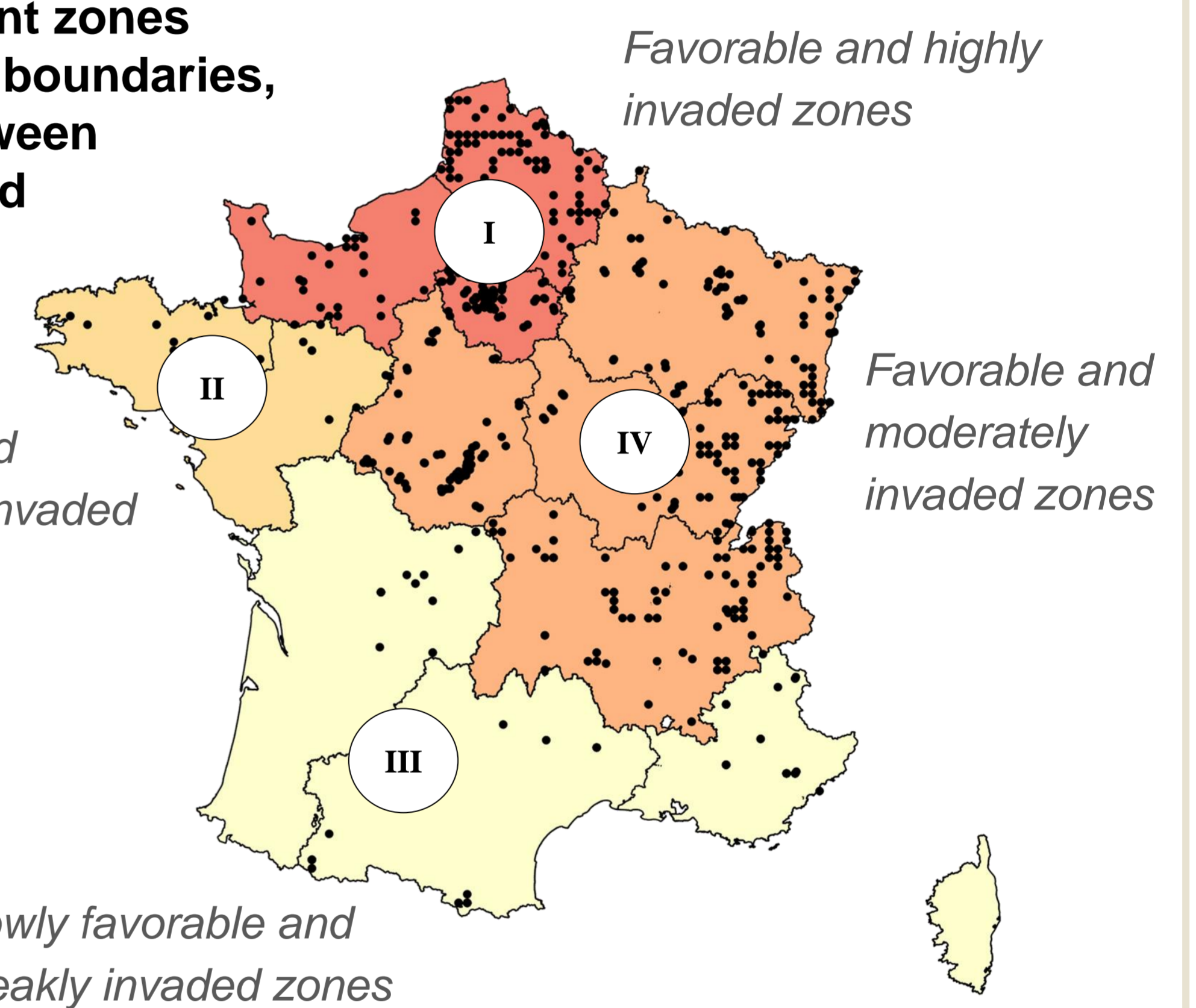
- 1 Prediction of the probability of establishment based on current occurrences (both in the native and introduced ranges) and the level of climatic suitability**

Climatic variables used : temperature, precipitation, seasonality, moisture index, etc.



- 2 Delimitation of different zones according to regional boundaries, based on a cross between population density and establishment risk**

Moderately favorable and moderately invaded zones



- 3 Definition of global management objectives for the administrative regions**

Taking in account existing regional management plans and voluntary actions

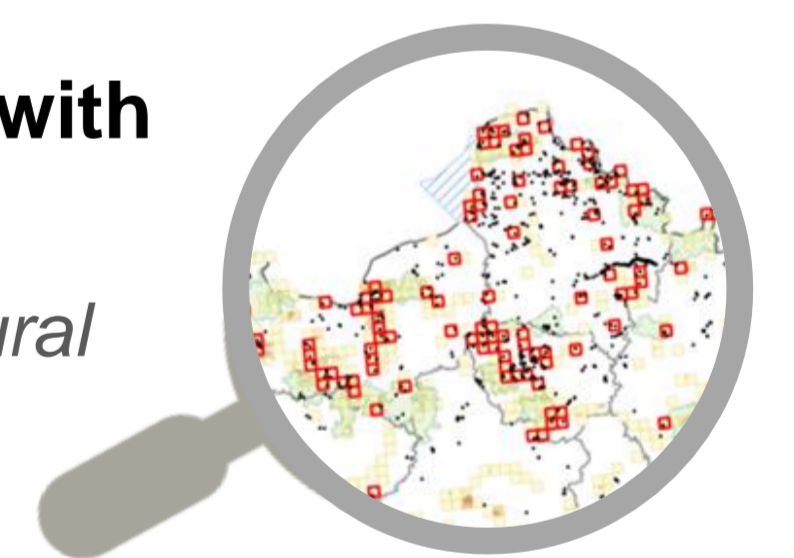
Management objective	Eradication			
	Control			
Zone	I	II	III	IV

Early detection and rapid response (EDRR) should be applied in zones III and IV

Definition of objectives at the population level

- 4 Identification of populations located in areas with high biodiversity stakes**

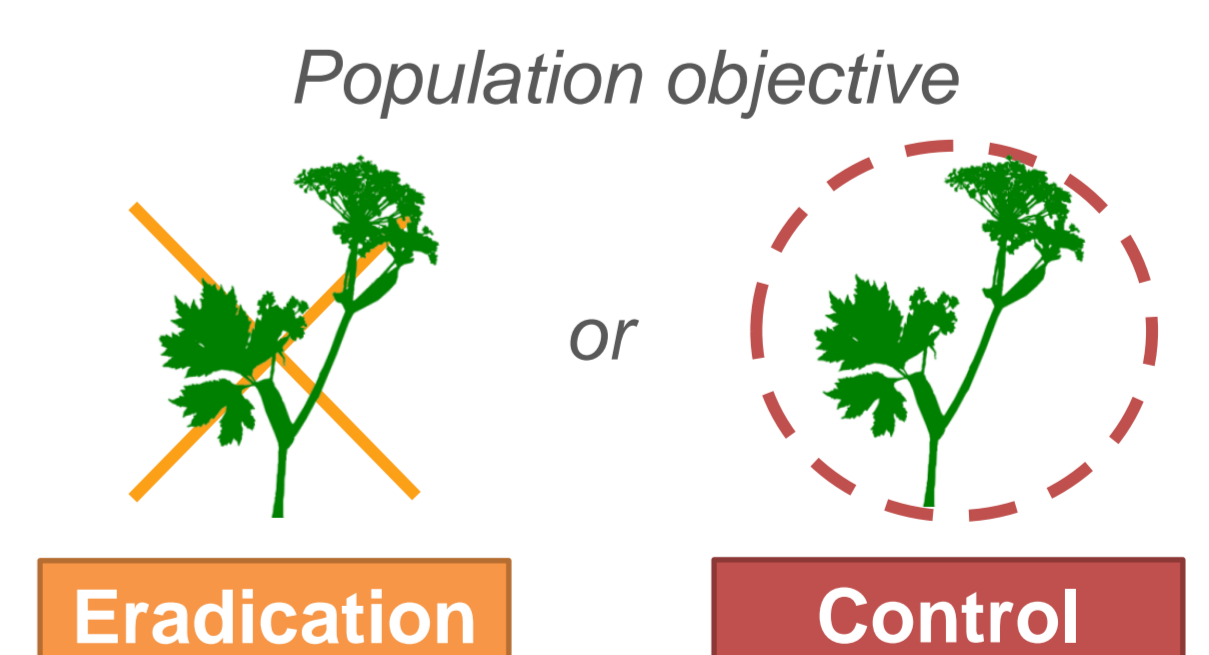
National and regional nature reserves, regional natural parks, national parks, biotope protection acts, etc.



- 5 Prioritization of populations with the use of a scoring method based on several criterions**

- direct hazard to human health
- threat for local biodiversity
- spread risk
- feasibility of the management
- size of the population
- etc.

- 6 Definition of local management objectives per population respecting regional management objectives**



Eradication

Control

Part III of a NMS : how to intervene and when

BEFORE

The **choice of the intervention method** has to be based on :

- defined objective
- site conditions
- technical feasibility
- human resources
- etc.

AFTER

Follow-up measures have to be implemented and **further repeated treatment** may be necessary

Restoration → local native plants
Ultimate waste → landfills
Green waste → composting centres or certified centres for incineration



Overview of the best management practices :

Eradication

- manual removal
- cutting below the root collar
- tillage
- glyphosate and triclopyr *

Control

- mowing or mulching
- inflorescences removal
- controlled use of grazing animals
- planting competitive native species

* as a last resort and in accordance with existing regulations

DURING

Conclusions and perspectives

- NMS will **support and encourage French regions to develop action plans and improve effective coordination** at their own level but also amongst each other
- Declination of NMS into **regional management plans (RMP)** by regional coordinators on IAPs will allow a more precise identification of the priority populations at local scale with tailored objectives
- This model will be **used for each of the widespread IAPs of EU concern** and could be **used by other Member States as guidelines**
- NMS will be revised every 5 years to reflect current trends and take in account new management practices

Citation of the guide of help in the development of NMS :

Freudenreich, M., et Albert, A. (2019). Guide pour l'aide à la rédaction des stratégies nationales de gestion relatives aux espèces végétales exotiques envahissantes. Agence française pour la biodiversité. 39 pp.