

COMPONENTS OF A NATIONAL STRATEGY FOR INVASIVE ALIEN SPECIES

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1 COORDINATION AND OUTREACH

National council for invasive alien species

A National Council should be established to coordinate the implementation of the National Strategy. This Council should be headed by the Ministry of Environment and essentially be composed by the Ministry of Agriculture, Ministry of Health, and Ministry of Education. Other federal agencies such as the Navy, Airport Authorities, and related ministries should also be involved.

Action no.	Recommended action	Participants	Potential partners
1.1	Establish a National Council for Invasive Alien Species in charge of the implementation of the national strategy, which should have legal status.	Ministries of Environment, Agriculture, Health, Education	Related ministries, Airport Authorities, Navy, provincial agencies, NGOs
1.2	Establish priorities, deadlines and action plans.	National Invasive Species Council	
1.3	Get governmental agencies, private sector, and the civil society involved in prevention and control activities.	National Invasive Species Council	Civil society, private companies, general public
1.4	Implement the national strategy on invasive alien species.	National Invasive Species Council	Civil society, private companies, general public

2 ROLES AND RESPONSIBILITIES

Each participating organization must define its role in the National Strategy, in order to clearly contribute to the achievement of set priorities and goals.

Action no.	Recommended action	Participants	Potential partners
2.1	Define roles and responsibilities for each of the core participants.	National Invasive Species Council	
2.2	Define roles and responsibilities for complementary participants.	National Invasive Species Council	All participants
2.3	Post information on invasive species to the civil society, private companies, and government agencies on what can be done to reduce the threat of invasive species.	National Invasive Species Council; NGOs	Private companies
2.4	Hold meetings for exchange of experiences.	National Invasive Species Council	Private companies, NGOs

3 PREVENTION, EARLY DETECTION AND RAPID RESPONSE

3.1 Risk assessment

Implement a screening process for required species imports in order to avoid the introduction of more invasive species in the country.

Action no.	Recommended action	Participants	Potential partners
3.1.1	Incorporate risk assessment to support screening species introductions, with a focus on biodiversity issues.	Ministry of Environment, Ministry of Agriculture.	Ministry of Health, border control agencies.
3.1.2	Carry out risk assessment for non-native species already in the country to identify priority threats. Generate species list with risk categories (high, médium, low).	Federal and state government agencies	Ministry of Agriculture, Universities, NGOs, scientific community.

3.2 Vectors and pathways assessment

Assesses how species reach the country, especially when involuntary introductions occur. The objective is to interfere in the transit of species and avoid new introductions or the spread of species within the country.

Action no.	Recommended action	Participants	Potential partners
3.2.1	Carry out vectors and pathways assessment for commercial routes (ex. considering ballast water).	Ministry of Environment	International commercial organizations, Navy, Airport Authority, scientific community, NGOs
3.2.2	Carry out vectors and pathways assessment for species already introduced, but with limited distribution, to define contention or eradication efforts.	Ministry of Environment, provincial governments	Navy, Airport Authorities, scientific community, NGOs
3.2.3	Implement contingency plans for priority species.	Ministry of Environment, provincial governments	Navy, Airport Authorities, scientific community, NGOs, private companies

3.3 Prevention measures (quarantine, inspection, border control)

These measures are intended to help reduce the amount of species introductions or the amount of propagules that go into the country through commerce, tourism and general transport, as well as illegal introductions.

Action no.	Recommended action	Participants	Potential partners
3.3.1	Intensify border control to avoid the entry of non-native species or related vectors.	Ministry of Environment	International commercial organizations, Navy, Airport Authority, Federal Police.
3.3.2	Implement prevention measures medidas to reduce the involuntary entry of non-native species, such as spraying airplanes and using phytosanitary rugs in points of entry.	Ministry of Environment	Navy, Federal Police, Ministry of Agriculture, Ministry of Health.

3.4 Early detection and rapid response

If prevention measures fail to avoid an introduction, the country should have an early detection and rapid response system in place to start with eradication or contention efforts and mitigate impacts on biodiversity and on the economy.

Action no.	Recommended action	Participants	Potential partners
3.4.1	Develop a model for action plans upon early detection of non-native species.	Ministry of Environment	NGOs, universities, museums, scientific community, federal police, protected area managers and employees
3.4.2	Build a network of trained experts for early detection. Develop website for reference and reporting system. Post risk assessment results for species in the country.	Ministry of Environment, provincial governments	Taxonomists, museums, universities, NGOs, civil society volunteers trained for early detection
3.4.3	Monitor areas of potential entry of invasive species for early detection. Create contingency plans.	Environmental agencies, navy, points of entry	Universities, museums, NGOs
3.4.4	Monitor commercial points for ornamental plants, pets, and aquaculture. Create contingency plans.	Environmental agencies, environmental police	Universities, museums, NGOs
3.4.5	Include records of non-native species in scientific collections and biodiversity surveys.	Environmental agencies	Museums and universities, field biologists and related experts

4 ERADICATION, CONTROL AND MONITORING

Existing invasive species problems need to be addressed by eradication and control programs. Priority species and priority areas must be defined in order to optimize efforts.

Action no.	Recommended action	Participants	Potential partners
4.1	Implement eradication and control systems for invasive alien species in protected areas.	Environmental agencies, park services	Museums, universities, NGOs, civil society volunteers trained for control work
4.2	Make information on invasive species available to the public on best practices and control of invasive alien species.	Museums, universities, NGOs	Scientific community and civil society
4.3	Define priorities and action plans for invasive species and priority areas.	Governments at all levels	Museums, universities, NGOs, scientific community
4.4	Promote the use of biological control agents as appropriate.	Federal government	Museums, universities, NGOs, scientific community

5 LEGAL FRAMEWORK AND PUBLIC POLICIES

Countries beginning to deal with invasive alien species tend not to have a legal framework established to facilitate the work. It is very important that the legal aspects are taken care of also to enable control work, which can be polemic from the point of view of civil society. This topic can be addressed as a biosecurity issue.

5.1 Review of existing legal framework

Action no.	Recommended action	Participants	Potential partners
5.1.1	Review existing legal framework to identify key gaps and inconsistencies, and improve legislation on invasive alien species.	Environmental agencies at all levels	Agriculture and Health agencies; Public attorneys.
5.1.2	Review international laws and agreements, such as the Convention on Biological Diversity, to create a legal base.	Ministry of Environment	

5.2 Official list of invasive alien species

An official list of invasive species is key in promoting public awareness and the initial step in establishing specific legal regulations. Lists can include restrictions or ban certain species from being used in the country.

Action no.	Recommended action	Participants	Potential partners
5.2.1	Establish official invasive alien species list and categories for restricted use or prohibition.	Ministry of Environment	Museums, universities, NGOs, scientists.

5.3 Public policies

Action no.	Recommended action	Participants	Potential partners
5.3.1	Create a thematic fund to support invasive species control work.	Federal government	Provincial governments, municipalities
5.3.2	Establish incentives or subsidies for the control and eradication of invasive species in private natural areas.	Governments at all levels	Herbicide companies, tools manufacturers, NGOs
5.3.3	Promote the production and the use of indigenous species as alternatives to non-native species.	Governments at all levels	Universities, NGOs, nurseries, ornamental plant producers
5.3.4	Promote capacity building for taxonomists on non-native species to improve local references.	Governments at all levels	Universities, research and conservation foundations

5.4 Legal regulations

Action no.	Recommended action	Participants	Potential partners
5.4.1	Establish regulations for the use of invasive alien species of economic value to mitigate impacts.	Governments at all levels	Private sector using invasive species for production
5.4.2	Establish legal regulations to request and allow control and eradication work to be carried out.	Ministry of Environment	Environmental agencies at all levels
5.4.3	Regulate production by plant nurseries avoiding use of invasive species or restricting distribution for specific purposes.	Governments at all levels	Private sector, forestry sector, municipalities and others holding nurseries
5.4.4	Prohibit the use of non-native species for restoration and rehabilitation purposes.	Governments at all levels	

6 CAPACITY BUILDING

To increase technical capacity and public awareness is key for the work on invasive alien species to prosper. Different target publics need to be reached.

6.1 For early detection and rapid response

Action no.	Recommended action	Participants	Potential partners
6.1.1	Capacity building and training on early detection for protected area managers and staff.	Environmental agencies	NGOs, universities, museums
6.1.2	Capacity building on early detection for border control agents.	Ministry of Environment	Ministry of Agriculture, Ministry of Health
6.1.3	Capacity building for scientists and researchers in museums, herbaria, universities, and NGOs.	Ministry of Environment	NGOs, universities, museums, scientific community

6.2 For prevention measures

Action no.	Recommended action	Participants	Potential partners
6.2.1	Capacity building on inspection methods for border control agents.	Ministry of Environment	Ministry of Agriculture, Ministry of Health
6.2.2	Training of dogs for detection of biological control at points of entry.	Ministry of Environment, Ministry of Agriculture	Federal police, post office

6.3 For eradication and control activities

Action no.	Recommended action	Participants	Potential partners
6.3.1	Capacity building on invasive alien species and control methods for technical staff and scientists	Governments at all levels	NGOs, universities, schools, secretaries of environment and agriculture

6.4 For teachers and professors

Action no.	Recommended action	Participants	Potential partners
6.4.1	Capacity building on invasive alien species and on native biodiversity for teachers and professors.	Governments at all levels	Schools, universities, museums, NGOs.

7 INFORMATION SYSTEM

A publicly available information system can be used to disseminate information and serves as a reference to regulations and control work.

Action no.	Recommended action	Participants	Potential partners
7.1	Implement the I3N invasive species database for national reference.	Ministry of Environment, IABIN Focal Point	I3N, NGOs, museums, universities, I3N member countries
7.1	Build a network of data providers and collaborators to feed the national database.	Organization in charge of the national database, IABIN Focal Point, Ministry of Environment	NGOs, museums, universities, scientific community, others interested in the topic
7.1	Make the national database available on the web for the general public.	Organization in charge of the national database, IABIN Focal Point, Ministry of Environment	I3N

8 EDUCATION AND PUBLIC AWARENESS

The general public has a key role to play in reducing the threat of invasive species by not releasing pets into natural areas or not cultivating invasive plants. All levels of education should be reached in time, so the concept of invasive species is well-known.

8.1 Education

Action no.	Recommended action	Participants	Potential partners
8.1.1	Include the topic of invasive alien species to all levels of education.	Governments at all levels	Ministry of Education, schools, universities
8.1.2	Include the topic of invasive alien species in professional courses such as Agronomy, Forestry, Civil Engineering, Architecture and Landscaping, Fishing Engineering, Biology and others.	Governments at all levels	Ministry of Education, universities

8.2 Public awareness

Action no.	Recommended action	Participants	Potential partners
8.2.1	Carry out national awareness campaigns on invasive alien species.	Federal government	Press, publicity agencies and NGOs

9 RESEARCH

Research is a very important support activity to help with solutions for the implementation of the national strategy, and should be directed to applied actions, especially in control work.

Action no.	Recommended action	Participants	Potential partners
9.1	Define control methods for invasive alien species in the country.	Universities, research institutions	Institutions funding environmental projects
9.2	Perform risk assessment of existing non-native species.	Universities, research institutions	Institutions funding environmental projects
9.3	Develop prevention measures for production activities and for border control.	Universities, research institutions	Institutions funding environmental projects

10 PRIORITY SETTING

As invasive alien species are often widespread, and too many to deal with at one time, priorities should be established according to the opportunities of eradication and control, as well as on restoring areas that are relevant to biodiversity conservation or to the maintenance of ecosystem services.

Action no.	Recommended action	Participants	Potential partners
10.1	Set priorities (for species and areas) for prevention, eradication and control work.	National Council	Scientific community, NGOs
10.2	Carry out risk assessment for non-native species in the country to support priority setting and identify species of high risk.	National Council	Scientific community, NGOs

11 MONITORING AND EVALUATION OF PROGRESS

It is important that progress in implementing the Strategy is monitored and registered for the different components.

Action no.	Recommended action	Participants	Potential partners
11.1	Define indicators for progress and results for the different elements in the national strategy	National Council	Government agencies, NGOs, universities, scientific community

12 RESOURCES FOR IMPLEMENTATION

Resources need to be made available for the actions in the strategy to be implemented. National as well as international funds should be mapped and can be helpful in establishing operational plans.

Action no.	Recommended action	Participants	Potential partners
12.1	Create a directory of available funding for the national strategy.	National Council	Government agencies NGOs, universities, scientific community
12.2	Identify and create governmental mechanisms to fund the planned activities.	Governments at all levels	Government agencies NGOs, universities, scientific community