

A5.1: Common Methodology for the development of action plans



INVALIS – PROTECTING EUROPEAN BIODIVERSITY FROM
INVASIVE ALIEN SPECIES

DECEMBER 2020

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1 INTRODUCTION

This document comprises the first part of INVALIDIS activity “A5.1: Joint development of action plans”. It aims to provide instructions to project partners to help them prepare the action plans that will be implemented in Phase 2 of the INVALIDIS project. The instructions provided are based on:

The provisions of the INVALIDIS Application Form

The suggestions of the Interreg Europe Programme Manual

The deliverables of the INVALIDIS project

To aid INVALIDIS partners prepare the action plans, the document provides the following:

- I. General definitions and requirements of action plans.
- II. Articulation of an approach to develop a strategic development pathway upon which all actions in the plan will be based, to ensure coherence of actions and greater impact.
- III. Lessons learnt and recommendations based on A1 and A3 INVALIDIS deliverables that will help partners understand which types of actions should be included in the plans.
- IV. Recommendations on how to exploit EU funding.
- V. Methods to involve stakeholders in the implementation of action plans.
- VI. A three-step process for INVALIDIS action plans quality assurance.
- VII. Methods to conduct peer-reviewing procedures, and the approach for monitoring the implementation of action plans found in the Interreg Europe Programme Manual.
- VIII. A template for the preparation of action plans based on the Interreg Europe Programme Manual.
- IX. A timeplan of for the development of the actions plans, as prescribed by the Application Form and the steps set forth by this document.

2 WHAT IS AN ACTION PLAN?

2.1 DEFINITION

Action plans are usually defined as sequences of steps that must be taken, or activities that must be performed well, for a strategy to succeed”.¹ The purpose of an action plan is to clarify what resources are required to reach the goal, formulate a timeline for when specific tasks need to be completed and determine what resources are required.

Specifically, the action plan is a document providing details on how the lessons learnt from the cooperation within an Interreg Europe project will be implemented in order to improve the policy instrument addressed at territorial level. It specifies the nature of the actions to be implemented, the timeframe, the players involved, the costs, and funding sources. If the same policy instrument is addressed by several partners, only one action plan is required.

2.2 THE PROCESS OF DEVELOPING AND IMPLEMENTING AN ACTION PLAN

Action plans could be developed according to the following steps:²

1. **Define the Problem(s):** Assess the situation in order to gain an understanding of the issue at hand and to start searching for a solution.
2. **Collect and Analyse the Data:** After defining the problem, collection and analysis of data follows, in order to prove or disprove the assumptions about the nature of the problem and its potential solutions.
3. **Clarify and Prioritise the Problem(s):** If more than a single problem is identified, it is possible to prioritise all problems according to their importance.
4. **Set the Goals of Each Solution:** The goals need to be SMART (Specific, Measurable, Attainable, Realistic and Time-based).
5. **Implement Solutions:** An action plan is written such that the mission can be effectively accomplished on its own by an organisation (or person) and is

¹ <https://extension.psu.edu/the-seven-steps-of-action-planning>

² <http://www.businessdictionary.com/definition/action-plan.html>

followed almost like a recipe; it transforms the objective into an applicable procedure.

6. **Evaluate and Monitor:** The method applied should assess whether the goal and action plan correct the problem. Furthermore, a well-designed system of tracking can assist those responsible to assess when it is appropriate to enhance the action plan.

3 COMPONENTS OF INTERREG ACTION PLANS

According to the Interreg Europe Programme Manual³, the template for the action plans of INVALIDIS partners (Annex A) consists of the following three parts:

- 1. General information (Part I):** The purpose of part 1 is to aid all potential readers of the document identify quickly the role of the action plan, the context within which it was developed, the organisations responsible for its drafting, and, finally, the people that can provide more details. Thus, Part 1 requires the following information:

Name of Project:
Name of Partner organisation:
Other partner organisations involved (if relevant):
Country:
NUTS2 region:
Contact person:
Email address:
Phone number:

- 2. Policy context (Part II):** The purpose of Part 2 is to identify the policy instrument that aims to be impacted by the Action Plan, since the objective of an interregional

³[https://www.interregeurope.eu/fileadmin/user_upload/documents/Call_related_documents/Interreg Europe Programme manual.pdf](https://www.interregeurope.eu/fileadmin/user_upload/documents/Call_related_documents/Interreg_Europe_Programme_manual.pdf)

For further information provided by the Interreg Europe Programme, please see:

Interreg Europe Action plan template:

https://www.interregeurope.eu/fileadmin/user_upload/documents/Action_Plan_template.docx;

Designing action plans instructions:

https://www.interregeurope.eu/fileadmin/user_upload/events/europecooperates_Brussels/Designing_successful_action_plans.pdf;

Useful tips on how to design action plans:

<https://www.interregeurope.eu/news-and-events/news/4897/more-tips-on-how-to-design-action-plans/>

cooperation project is essentially to improve the policy instrument addressed by each participating partner.

3. List of actions (Part III): The purpose of Part 3 is to list all the actions to be implemented in the final phase of the INVALIDIS project. The Interreg Europe Action Plan template consists of the following:

- **Background:** lessons learnt that constitute the basis for the development of the present action plan.
- **Action:** description of the actions to be implemented.
- **Players involved:** listing and description of the organisations in the region who are involved in the development and implementation of the action and explanation of their role.
- **Timeframe:** Description of the time and workplan needed for the completion of each action.
- **Costs:** Explanation of the costs required for the completion of each action.
- **Funding sources:** Explanation of the funding sources to be used for financing each action.

4 DEVELOPING STRATEGIC DEVELOPMENT PATHWAYS BASED ON A1 AND A3 RESULTS AND POLICY INSTRUMENTS ADDRESSED

All actions in the INVALIDIS action plans should be rooted on the outcomes of INVALIDIS A1 and A3 deliverables, especially those pointing to specific recommendations related to the INVALIDIS regions' needs and opportunities in effective management of IAS. Suitable policies, protocols and procedures should be taken into account. It should be noted that the results of A2 activities are already directly available to INVALIDIS partners (and, due to their nature, applicable only for each specific partner), and therefore are not included in this report that focuses at consortium level. A4 deliverables (A4.1 Risk assessment framework for determining the vulnerability of natural ecosystems, A4.2 Implementing the sustainability strategy) are also not included in this report.

A1 and A3 activities prescribe key components and recommendations for further stimulating successful IAS management activities, organised in five thematic areas. These are:

- Conducive environmental laws and regulations
- Cross-departmental collaborations and synergies with local community
- Awareness raising campaigns
- Effective IAS management and tools
- Management of emerging conflicts of interest

Each public authority or other institution responsible for the preparation of action plans will have to juxtapose these recommendations with those of their policy instruments listed in the INVALIDIS application form or with any other relevant policy instrument. This way, they will be able to uncover any shortcomings, and then propose measures/actions that will integrate the missing recommendations in the policy instruments. All in all, partners will manage to develop a strategic development pathway towards achieving the aims of their policy instrument via the use of INVALIDIS activities' outcomes. The following figure summarises this process:



Fig. 1. Steps towards the development of INVALIDIS action plans.

As can be seen in the figure above, the preparation of an action plan starts with Step 1, i.e. by having partners responsible for the action plans read the lessons learnt and recommendations found in INVALIDIS A1 and A3 deliverables and identify those that are most appropriate for their territory. However, to make sure that they can have the most impactful interventions via this process, Step 1 is followed by Step 2, where partners will juxtapose the provided recommendations with those already included in their policy instruments. This way, they will be able to highlight recommended policy interventions that are not only relevant, but also absent from their policy instruments. Afterwards, Step 3 includes the articulation of a strategic development pathway. Finally, Step 4, is the final stage in the preparation process of action plans, when partners will describe in detail each action included in their strategic development pathway, according to the template provided by the Interreg Europe Programme Manual.

It should be noted that the action plan should follow the suggestions of the Interreg Europe programme, and consist of the three following types of interventions:

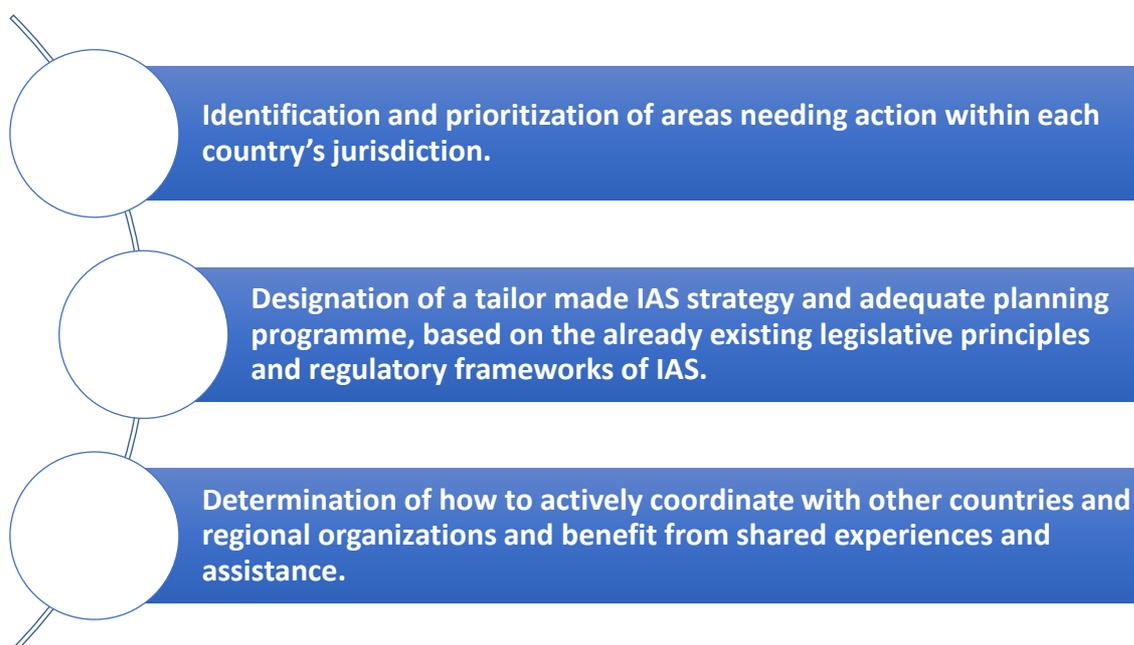
- **Type 1 - implementation of new projects:** By virtue of interregional cooperation, managing authorities and other relevant bodies can find inspiration in other regions and import new projects to be financed within their programmes. This type of impact requires the availability of funding in the programme, as is the case with Structural Funds programmes.
- **Type 2 - change in the management of the policy instrument:** Interregional cooperation can also influence the way policy instruments are managed. New approaches can be adopted thanks to lessons learnt in other regions. For instance, a new methodology for monitoring or evaluating a measure can be developed within the policy instrument. A managing authority or any other relevant body can also improve the way thematic calls are organised or the way projects are selected. The governance of the programme may also refer to the way environmental issues are integrated into the different measures of the operational programmes.
- **Type 3 - change in the strategic focus of the policy instrument:** The third type is the most challenging since it requires a change in the operational programme. To integrate the lessons learnt from the cooperation, some managing authorities can modify existing measures or even create new measures in their programme.

5 LESSONS LEARNT AND RECOMMENDATIONS DERIVED FROM INVALIDIS A1 ACTIVITIES

INVALIDIS A1 activities have presented specific lessons learnt and recommendations that constitute the background of all changes in the implementation of partners' policy instruments that can be achieved through the INVALIDIS project. The conclusions and recommendations of A1 activities are summarised in the subsequent sections.

5.1 COMPARATIVE ANALYSIS OF TERRITORIAL POLICIES ON IAS MANAGEMENT (A1.1)

The A1.1 deliverable "Comparative analysis of territorial policies on IAS management" examined the territorial policies of partners countries in order to ensure that the European legislation is enforced, policies, protocols and procedures are in place, and operations towards the effective management of IAS are sufficiently implemented by project partners. Specifically, A1.1 focused on the:



A1.1 highlighted that adequate consistent legislation, agreed protocols, general compliance, effective enforcement and access to funding are all vital components of harmonized and operational actions. According to the conclusions of the report, the key components for further stimulating successful IAS management activities are divided in four thematic areas:



Recommendations: in order to improve their policy instruments, project partners, depending on their needs and situation, should consider adopting and implementing some or all of the following measures:

Conducive environmental laws and regulations

- Review environmental, fisheries, agricultural, aqua-cultural, forestry, horticultural and bio-security legislation in each Member State's territory, to determine the capability and competence for protecting biodiversity, economies and health against invasive species, identifying gaps, inconsistencies and conflicts.
- Improve, disseminate and adopt practical legislative guidelines covering all activities affecting IAS management. The latter may encompass export-import, trade, transport, construction, military activities, emergency reflexes, scientific research, aquaculture, horticulture, agriculture, tourism, surveillance, risk analysis, biocontrol, eradication, declaration of noxious pests etc.
- Develop mechanisms to improve compliance with and enforcement of IAS legislation.
- Periodically review existing national and regional policies and procedures to manage trade, movement, holding, release into the environment, establishment and management of

invasive species.

- Encourage the further adoption of strong laws and their enforcement against illegal releases. At this basis, practices could considerably valuable in limiting risk factors such as recreational hunting on public lands for example. To determine the efficiency and feasibility of this measure, education programs should be established in order to discourage releases and endorse public reporting.

Cross-departmental collaborations and synergies with local community

- Ensure the full participation by all stakeholders, including local communities, in the development and implementation of legislation.
- Lobby with institutions and decision-makers to support stringent policies.
- Intensify the collaboration with equivalent national focal points for relevant instruments and organizations in order to further develop, advance and implement national and regional IAS strategies and strengthen the responsiveness systems. Instruments and organizations could possibly include CBD, GISP, Ramsar, CMS, UNESCO Man and the Biosphere Programme, IMO, IPPC/EPPO etc.

Awareness raising campaigns

- Raise awareness on biological invasions at all levels. The latter could be utilized as a focal point for the diffusion of information and knowledge on biological invasions at all levels, involving from staff and managers to visitors, to local communities and the general public. Awareness on IAS could furthermore be raised and strengthened via the involvement of public in the diverse activities related to the monitoring and management of IAS.

Effective IAS management and tools

- Develop model technical protocols and procedures, enabling countries to use best practice in developing or modifying their internal procedures.
- Integrate invasive species and protected area management. Activities on IAS in protected areas should be based on a priority setting exercise, so as to sustainably manage the

available resources, directing them in a way that allows to minimize the effects of IAS.

- Staff capacity development for all aspects of IAS management. Acknowledged and well trained staff is vital for effective IAS management. Therefore, providing trainings would be very assisting to creating adequate personnel that will further contribute to communicate the IAS issues to public.
- Set up a rapid detection and prompt response framework.
- Comprise climate-dissemination modelling under the auspices of IPCC (International Panel on Climate Change) climate scenarios in horizon scanning to identify and classify alien species that have the potential to be invasive in the future, caused by the emerging developments in climate change, and to monitor species with a low risk of invasion.
- Encourage the establishment of a national authority, or a similar mechanism or network in order to coordinate the efforts of agencies and governments which are responsible for the policies regulating the management of IAS.
- Develop and disseminate action plans in order to address and eventually confront specific problems identified, e.g. for priority IAS, pathways and vectors, vulnerable sites, ecosystems, etc.
- Develop and introduce procedures to deliver any available information on a species' invasive behaviour (or the invasive potential of a species) to neighbouring countries, trading associates and countries with analogous ecosystems and histories of invasion. The latter should be implemented at a time prior to the determination of a particular species, as invasive. For example, intentional transfer to another state of potentially IAS, even if it is harmless in the state of origin (e.g.: export of wild boar, hare, etc., to states outside the natural range of these species, for release into the wild).
- Evaluate the prerequisite to adjust standing licensing rules for containment facilities holding potential IAS (e.g. botanic gardens, greenhouses, arboreta, garden centres, zoos, animal-breeding establishments, fish farms, research institutes). Existing licensing and control systems (e. g. in plant health) should only be used where appropriate.

- A trial eradication procedure could be a valuable tool to assemble information and data for the assessment (e.g. bait preference and acceptance to target species, risk of destruction of non-target species, ways to minimise this risk, etc.), which should potentially determine the likelihoods of success when attempting to address worst case scenarios.

5.2 IDENTIFICATION OF THE MAIN FACTORS THAT AFFECT THE ENVIRONMENTAL VULNERABILITY OF ECOSYSTEMS TO INVASIVE ALIEN SPECIES (IAS) (A1.2)

A1.2 action provided an indication of the vulnerability of the ecosystems analysed taking also into account the documented information of Figure 2.

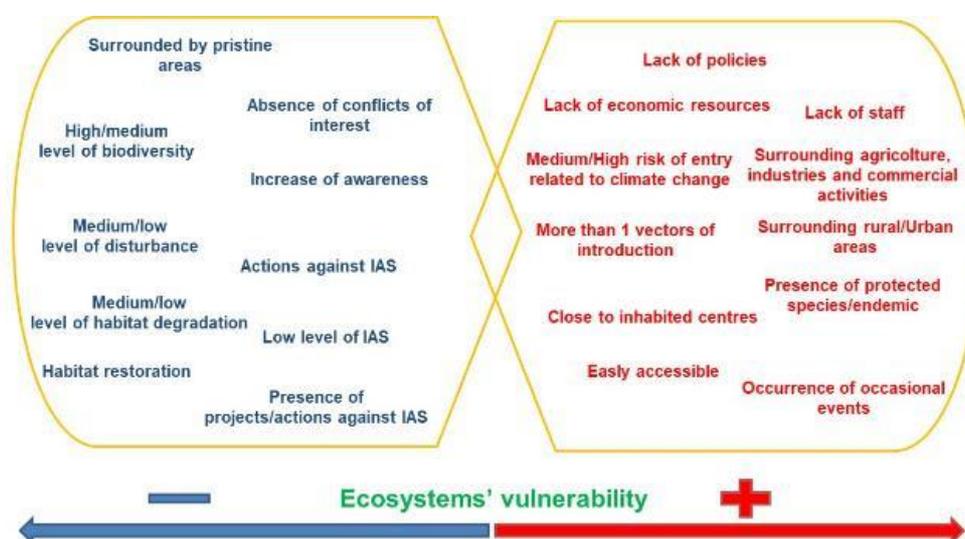


Fig. 2. Conceptual scheme of the main factors that can affect the ecosystem vulnerability.

- Most of the partners' areas assessed by the INVALIS project share characteristics that favour the process of invasion, such as a medium level of habitat degradation and of anthropogenic disturbance, a landscape mainly composed of rural or urban areas with intense agriculture or livestock activities.
- The management of IAS is not always easy to address. A series of problems, such as the lack of clear policies, of economic resources, of specialised staff and a low level of awareness of the problems caused by IAS often interfere with the level of success of the actions negatively affecting the vulnerability.

Considering that the ecological characteristics are intrinsic to an environment and constitute a non-modifiable factor, the only way to decrease ecosystem vulnerability is to make

relevant changes to the management of the area and to the surrounding anthropogenic activities that might be controlled through specific regulations.

- First of all, it would be beneficial to increase citizen awareness on the ecological and economic problems caused by IAS. There are different ways to involve citizens in environmental projects, from citizen sciences in projects on monitoring alien species, to dedicated events with the aim of increasing citizen knowledge on the impacts of IAS on the environment.
- Another useful action could be to finance projects against IAS that can guarantee a constant monitoring activity of the environment by specialised staff and reduce the impacts of IAS.
- Last but not least, it would be better to have a more detailed legislation that is shared between Regions and Countries to regulate those anthropogenic activities responsible for the introduction of IAS. For example, the duty to “check, clean and dry” all the possible vectors that can favour the diffusion of IAS or the ban on commercialising some species (e.g. *Trachemys scripta*).

In conclusion, the ecosystems’ vulnerability is a multiphase problem depending on intrinsic environmental factors which characterise each ecosystem, but it is also highly influenced by anthropogenic activities

5.3 TERRITORIAL AUTHORITIES’ MANAGEMENT CAPACITIES AND NEEDS RELATED TO THE DESIGN AND IMPLEMENTATION OF IAS POLICY MEASURES (A1.3)

The deliverable A1.3 (“territorial authorities’ management capacities and needs related to the design and implementation of IAS policy measures”) provided an analysis (based on a survey) of the organisational capacity needs of the territory’s public authorities that are involved in IAS policy-making and interventions. Specifically, INVALIDIS activity 1.3 showed that the top-3 organisational capacity needs of relevant territorial organisations are the following:

- Lack of personnel / adequately trained personnel: Survey respondents identified the lack of personnel – and more specifically the lack of IAS-trained personnel – as the most pronounced organisational challenge that their institutions face. Insufficient personnel impacts negatively organisations, decreasing in productivity and causing inadequate implementation of management practises and functions. Technical knowledge in certain areas (e.g. identification of new species) and training in of IAS-specific matters would equip organisations with more power to tackle their mission.
- Lack of external funding opportunities: Survey respondents identified the lack of funding opportunities as the second most important organisational capacity need they face. Although the survey identified that IAS-relevant organisations in INVALIDIS territories have the capacity to apply for grants, nevertheless they struggle to attract non-governmental funding.
- Managerial assistance / strategic planning: Survey respondents identified the lack of adequate managerial assistance and the ability to adequately communicate and translate the operation and strategic objectives into projects as the third most pronounced organisational capacity need.

5.3 IDENTIFYING GOOD PRACTICES AND CASE STUDIES REGARDING IAS MANAGEMENT (A1.4)

The deliverable A1.4 “Good practice guide on invasive alien species management tools” presented the main categories of management practices and tools typically employed by invasive species practitioners and policy makers in the battle against biological invasions.

The A1.4 deliverable presented 15 good practices as it can be seen in the next table. The crucial point of these practices and tools was mainly on information systems and registries that can be used to increase awareness on biological invasions and foster effective IAS management policies. Such practices and tools can essentially:

1. Improve the ability to track areas’ invasion history (**species databases and inventories**)
2. Assess the risks and impacts of incursions (**risk assessment frameworks**)

3. Improve the detection of new arrivals and take prevention measures at source **(surveillance systems)**
4. Report sightings and track spatial distribution **(reporting and monitoring tools)**
5. Coordinate management and prevention efforts **(expert networks)**

Table 1. Good practices on IAS management.

No	Country	Title
1	North and Central Europe	European Network on Invasive Alien Species
2	EU	European Alien Species Information Network
3	International	Invasive Species Specialist Group
4	Mediterranean	MedMIS platform
5	Italy	Decision Support System for American grey squirrel
6	Greece	Ellenic Network on Aquatic Invasive Species
7	France	Corsica Alien Network
8	Romania	IAS early detection and monitoring system in Constanta
9	Portugal	“Invasoras” platform
10	Spain	Risk assessment & surveillance system for zebra mussel
11	Italy	Surveillance Framework for <i>Popilla japonica</i>
12	Greece	“Is it alien to you? Share it”
13	Spain	Surveillance System for IAS trade in Extremadura
14	EU	“Invasive Alien Species in Europe” mobile application
15	Latvia	Volunteering network “Do for Nature”

One of the most promising good practices documented in A1.4 was the “European Network on Invasive Alien Species” that is presented below.

European Network on Invasive Alien Species

The European Network on Invasive Alien Species (NOBANIS, www.nobanis.org) is a gateway to information on alien and invasive species in North and Central Europe. It was established in 2002 on an initiative of the Nordic Council of Ministers. Its establishment followed the recommendations came out of the Convention on Biological Diversity held in Paris (2002), calling for enhanced regional cooperation to efficiently tackle with biological invasions, which had been recently recognised as one of the greatest threats to biodiversity and ecosystem services with substantial societal and economic implications. The rationale is that regional cooperation can prove essential in fostering an integrated approach to IAS management that will allow to address common territorial challenges. Biological invasions are a phenomenon, which is not limited to specific geographical borders but extend across countries, as alien species by nature are breaking down the physical borders between regions and become invasive in environments with favourable conditions for their establishment and multiplication.

Mission

The primary goal of the network was to provide an array of tools of informative character for implementing and making more operational a precautionary approach against the unintentional dispersal of invasive alien species. In addition, the network of NOBANIS aims to gather and disseminate valuable information on invasive species from all partnership countries, share experiences and lessons learnt on the management of biological invasions, raise awareness on the devastating impacts of invasive species on natural ecosystems, native biota and local communities, and finally contribute to surveillance by serving as an “early” warning system.



Overall, NOBANIS can be regarded as a cooperation platform, which through information sharing, can assist competent public authorities in partnering countries to successfully deal with the eradication, control and mitigation of these species. The network was initially funded by the Nordic Council of Ministers. Through the years, the network has become financially self-sustaining. The necessary funds for its activities are secured by voluntary contributions from organisations in participating countries, and EU funding programmes.

Functions

The NOBANIS network has developed a portal to provide users with easy access to information on biological invasions and species characteristics. The portal covers all the types of ecosystems and consists of the following sections.

1. **Country statistics.** The portal provides country statistics on invasive alien species. These statistics can be used by interested parties to identify species that are invasive at present and species that may become invasive in the future. It also provides information on how the species are introduced, their distribution at (spatial) scale, what habitats they may infect, what ecological and socio-economic effects they may have in the short and long run and references to relevant literature. More specifically, the database presents up-to-date information on: the number of alien species found in the country in question, categorising them as not invasive, invasive, and potentially invasive.
2. **Marine Identification Key.** The “Marine Identification Key” section presents information on the marine invertebrates and fish presently known to be introduced in Nordic waters.

This is to facilitate the detection and recognition of marine organisms that are alien and invasive in sea waters, and considered particularly hard to identify without advanced taxonomic knowledge. This section has been designed to allow scientists and biologists to supplement existing descriptions with new information drawn from scientific research, and report new marine species once detected in Nordic waters. The “Marine Identification Key” is primarily addressed to those involved in the management of invasive species and biodiversity in marine ecosystems and do not have advanced biological and taxonomic knowledge, but it can be useful to anyone with an interest in marine life.

3. **Species alert.** This section of the portal contains information on Invasive Species Alerts issued for the partnership counties. It is an integral part of the NOBANIS’ early warning and rapid response framework, notifying national competent bodies of the incursion of a new invasive species, and guiding rapid response measures intended to eradicate or control the invasive species before they become established. This function also aims to encourage the reporting of additional sightings of alien species, and inform the public on species’ range and potential impacts and on what actions may be required on their part to mitigate negative effects.
4. **Invasive species factsheets.** These resources are intended to assist public authorities and invasive species practitioners in their battle against biological invasions. These documents provide information on the biology (taxonomic group, native range), ecology (habitat, reproduction, lifecycle, natural enemies, and dispersal) and distribution (history of introduction, possible pathways, occurrence status, population) of a specific alien species in the recipient ecosystems, at least as witnessed and monitored in the NOBANIS network. The factsheets present also the adverse impact of the examined species on natural habitats and indigenous species, including also the economic and societal consequences in local communities. In addition, each publication provides best management practices and specific examples for operational activities and measures, covering all the stages of IAS management process from prevention to eradication and control.
5. **Image gallery & catalogue of national regulations.** The portal features two additional sections to further support public authorities’ efforts in addressing biological invasions. The first is a gallery with images of invasive species, as taken by local residents and

professionals in their territory and confirmed by scientists from the NOBANIS network. The second function is an overview of national regulations on invasive aliens currently applied in the countries participating in the NOBANIS network. This is to guide alien species practitioners' further actions and management measures.

Results

The network has generated impressive results. The NOBANIS portal contains more than 80 factsheets for the most common species that have been reported in partnership countries, covering both animals and plant as well as microorganisms. It has also published 12 identification keys for marine organisms. The NOBANIS network has developed a (continuously growing) register of invasive species experts, a repository with academic publications on IAS management, and a catalogue with national regulations and legal acts on biological invasions from 20 countries, which over the time, have turned into searchable databases and valuable sources of information for scientists, environmental organisations, public authorities actively involved in the field of IAS management.

The network has also contributed, by providing scientific knowledge and information on invasive species, to 12 international programmes and projects within the same thematic area, including Global Invasive Species Programme, GloBallast, The Non-Indigenous Aquatic Species Database Working Group, European Research and management Network on Aquatic Invasive Species, and the FAO database on introductions of aquatic species. Finally, the portal provides IAS statistics, at the moment, for 20 countries in North and Central Europe with more countries expected to join the network in the near future. Country statistics are regularly updated with new data and figures.

To conclude, all the above have positively contributed to the creation of a favourable and enabling environment for IAS management in North and Central Europe by improving the capacity of competent national and regional authorities to address IAS related issues, providing valuable information and building new knowledge proved to be critical in the battle against biological invasions, and raised the level of cooperation between key actors not only at national but also at transnational and cross-regional level. This has helped to employ a proactive and coordinated approach to IAS management through active information sharing, making partnership territories more resilient to new invasions and better mitigating the impacts of established populations. The network was largely

responsible for raising public awareness on the threats and socioeconomic ramifications of invasive species, and was also a catalyst (mostly through the early warning system) for increasing participation of local communities in IAS related activities.

Transferability

The network currently brings together public authorities and invasive species practitioners from 21 countries from North and Central Europe, and seeks constantly ways to expand with more countries from across the continent, with an inspiration to emerge as a Pan-European network for information sharing on invasive species. The network demonstrates high transferability potential as the needs addressed are common among EU regions (considering that biological invasions is a universal threat) and incurs low implementation risks. What is more, other regional and national networks such as the ESENIAS (East and South European Network for Invasive Alien Species) and Invasive Species Ireland, have used NOBANIS as point of reference.

6 LESSONS LEARNT AND RECOMMENDATIONS DERIVED FROM INVALIDIS A3 ACTIVITIES

INVALIDIS A3 activities have presented specific lessons learnt and recommendations based on conducted workshops and study visits at partners' countries. The conclusions and recommendations of A3.1 and A3.2 (A3.3-A3.5 have not been completed yet.) are summarised in the subsequent sections.

6.1 INTERREGIONAL WORKSHOP ON DIFFERENT ERADICATION AND CONTROL METHODS FOR INVASIVE ALIEN SPECIES (A3.1)

The focus of the workshop (hosted by the Corsican Environmental Office in Corsica) was on the different practical methods currently used to detect, monitor, gain control of and eradicate invasive alien species (IAS). It also discussed the factors that should be taken into consideration for determining which control method or combination of methods can be more efficient. Partners participated together with members of their stakeholder groups and external experts. Specifically, 60 participants represented the University of Corsica, organizations of the French state, the fishing federation, beekeepers, the federation of divers and various managers of natural areas (forests, coastline).

Detection and Monitoring of IAS

Participants presented their IAS issues, focusing on marine and freshwater species. There was a certain heterogeneity across the different regions represented in the means put in place to address IAS, as well as a need to prioritize the species to be monitored. In fact, the lack of material and human resources makes it necessary to make choices, depending on the danger of the species, and the feasibility of the actions to be undertaken.

It was found that the success of establishment of introduced species was generally above 40%. This suggests that (i) management efforts should be focused on reducing the number of introduced species and (ii) that it is important to detect IAS as early as possible. It is also important to remember that in a climate change context, species could become acclimated more easily.

Information gathering seems to be the best strategy. Some examples were presented such as the ALIEM project, the ALIEN Corsica network or partnerships with environmental users such as fishermen in Greece or in the framework of the DACOR project in Corsica.

Control and Eradication of IAS

Three topics were discussed: regulations, control and eradication, and prevention. All participants agreed that European regulations are necessary and that the drafting of lists of species at the local level should be obligatory. The creation of the lists must be based on a risk analysis linked to the European regulations. It also appeared that regulatory tools exist but that they are not necessarily exploited.

The participants also agreed that eradication and total control can only be done at a local level. The possibility of using the invasive species as natural resources, including some crabs or clams also discussed.

Recommendations

- Implement monitoring networks;
- Realize solid and objective methodological framework and control protocols based on ecological, economic analyses;
- Adapt national policies at a local level;
- Write lists of invasive species specific to regions;
- Work with the horticultural industry and help nurserymen to propose alternative solutions for ornamental plants;
- Do not introduce alien species for commercial or recreational purposes;
- Intervention in schools, exhibitions, scientific conferences and information brochures.

6.2 INTERREGIONAL WORKSHOP ON HOW TO MANAGE EMERGING CONFLICTS OF INTEREST IN IAS MANAGEMENT PRACTICES (A3.2)

The A3.2 interregional workshop (hosted by ADR-BI in Bucharest) was based on an input paper delivered by ADR-BI among project partners which contained guidelines on how to identify the situations in which the implementation of policies on IAS management will lead to conflicts of interest, whilst suggesting ways of dealing with such conflicts (e.g. awareness raising, compensatory measures, regulation). Partners participated together with members of their stakeholder groups and external experts.

INPUT PAPER ON HOW TO MANAGE EMERGING CONFLICTS OF INTEREST IN IAS MANAGEMENT PRACTICES

Disagreements and different perception on IAS are inevitable and are likely to become more frequent as the proliferation of IAS in Europe is constantly increasing. The latter raises many concerns regarding the consequences deriving from the introduction and spread of new non- native species. Accepting and recognizing this, suggest that managing authorities should proceed to the adoption of an anticipatory rather than reactive approach to conflict.

The selection of established approaches for IAS management should be consistent because otherwise it could engender disparaging conflicts. Inattentiveness to the multifaceted and composite socioecological frameworks of management can cause important issues to be overlooked or delegitimized, inspiring tension and opposition. Tensions can be intensified by management approaches that exclude interested parties from meaningful participation in planning and delivery.

Additionally, the way in which management initiatives are communicated is extremely important as it can highly influence the way they were received and the ability of decision makers on how to respond to concerns. Selecting which approach to follow or which measures to implement is a difficult procedure. According to the findings of this input study it can be inferred that in order to minimize potential conflicts of interests occurring to IAS management, decision makers should follow three major principles:

- a) Focus on the socio-political contexts of management
- b) Implement early and inclusive public engagement
- c) Implement responsive communication strategies

On the basis of the research trends and causes of conflicts that had been identified in the input study, it was suggested that situations of contentious invasive species management can be ameliorated and further strengthened by identifying the cognitive level of the conflict through the use of strategies such as structured decision making and risk communication.

7 FUNDING MODELS FOR THE IMPLEMENTATION OF ACTION PLANS

Sustained and accessible funding is needed for timely and cost-effective prevention and response measures for IAS that impact on biodiversity. Where funding is absent or erratic, the efficiency of management efforts may be compromised, leading to higher damage and/or control costs. Long-term funding is particularly important because⁴:

- it may take a while to assess whether or not new alien species are established or if just occasional findings occur;
- success of eradication efforts can only be proven with longer term sampling;
- ongoing research is needed to proof that risk assessments were right; and
- long-term samplings may only show natural variation of the species composition (i.e. naturally migrating species which are only rarely found should not be treated as IAS).

Recommendations:

- incorporation of IAS/biodiversity considerations in programmes funded with major EU budget lines, backed by clear guidance on access to funds;
- expansion of funding for prevention, early detection and rapid response, with clear definition of criteria for EU co-financing;
- support for development of cost-recovery and self-financing mechanisms, based on the polluter pays principle, to generate sustainable long-term funding to address predicted increase in IAS pathways and impacts.

⁴ IEEP, 2008. [Technical Support To EU Strategy On Invasive Alien Species \(IAS\). Policy options to minimise the negative impacts of invasive alien species on biodiversity in Europe and the EU.](#)

Funding sources: where do financial resources come from⁵?

Funding sources can be distinguished based on where they come from (private, public), as well as on the level from which they are provided (European, national, local). European funds are normally provided through the general EU budget. These funds include for example the European Regional Development Fund (ERDF), the European Agricultural Fund for Rural Development (EAFRD), the European Fund for Strategic Investment (EFSI) and the Cohesion Fund among others. Additional possible funding sources for IAS management may be Regional Operation Programmes (ROPs), Special Development Programmes, EU Programmes (e.g. Horizon 2020, LIFE+, Interreg), NGO/environmental donors, PPPs and direct private investments.

In the case of national public funding, common sources and mechanisms include:

- General government budgets;
- Bonds;
- State Revolving Funds;
- End-User fees.

⁵ https://ec.europa.eu/environment/nature/invasivealien/index_en.htm

8 ENGAGING STAKEHOLDERS IN THE MANAGEMENT OF IAS

A stakeholder (in the concept of INVALIDIS) is defined as any individual, group or organization who is affected (positively or negatively) by invasive species, or who has the capacity to promote or limit the spread of invasive species⁶. Stakeholder engagement is defined as the process of involving stakeholders (actors) in decision making, management actions and knowledge creation surrounding invasive species. Stakeholder engagement is widely advocated to integrate diverse knowledge and perspectives in the management of invasive species and to deal with potential conflicts of interest.

INVALIDIS action plans are designed for the implementation of policies that will impact and are relevant to many different stakeholders (public authorities, regional agencies, environmental NGOs, managing authorities, associations, universities, protected areas). INVALIDIS policy measures suggested in the action plans will be designed according to the concept of multi-organisational cooperative behaviours for the delivery of public services⁷. It should be noted that stakeholder participation plays a key role to the successful implementation of policy measures included in INVALIDIS action plans, and this is something that project partners should always consider whilst designing them. What is more, the second phase of the INVALIDIS project can focus on stakeholder participation in the implementation of policies, since they have already been consulted for their designing in INVALIDIS public consultation and regional stakeholders' meetings.

A proposed framework for engaging stakeholders in the management of IAS is the following⁸:

- i. identify stakeholders;
- ii. select key stakeholders for engagement;
- iii. explore key stakeholders' perceptions and develop initial aims for management;
- iv. engage key stakeholders in the development of a draft management strategy;
- v. re-explore key stakeholders' perceptions and revise the aims of the strategy;

⁶ Stakeholder engagement in the study and management of invasive alien species. JEMA. 2018.

⁷ <https://soc.kuleuven.be/io/egpa/org/2009Malta/papers/EGPA%202009%20Veronesi%20and%20Keasey.pdf>

⁸ A framework for engaging stakeholders on the management of alien species. JEMA. 2018

- vi. co-design general aims, management objectives and time frames with key stakeholders;
- vii. co-design a management strategy;
- viii. facilitate stakeholders' ownership of the strategy and adapt as required; and
- ix. implement the strategy and monitor management actions to evaluate the need for additional or future actions.

In case additional management is needed after these actions take place, some extra steps should be taken:

- x. identify any new stakeholders, benefits, and costs;
- xi. monitor engagement;
- xii. revise management strategy.

9 CRITERIA FOR ENSURING THAT LESSONS LEARNT WILL BE INTEGRATED IN THE PLANS

After reaching a conclusion about the types of actions that need to be included in their own action plans, each INVALIDIS partner will have to perform a review procedure to ensure that the policy measures proposed satisfy the following criteria.

1. They are relevant to the aims of INVALIDIS.
2. They are described in detail and accurately.
3. They are impactful.

The following sections clarify the meaning of each of these criteria.

9.1 ENSURING RELEVANCE

All proposed measures should be congruent with the project objective, overall goal, expected changes and operational objectives of the INVALIDIS project, as articulated in the INVALIDIS application form:

1. **Overall goal:** The INVALIDIS project aims to improve environmental policies by supporting policy measures for the prevention, early detection and control of IAS, by supporting INVALIDIS partners to transfer the lessons learnt into regional policies and action plans.
2. **Expected changes:**
 - Increased capacity of 200 staff of public administrations to effectively implement IAS policies.
 - 10 million euros unlocked to support projects for increasing natural ecosystems' resilience to IAS and to carry out eradication/control actions for high priority species
 - Increased awareness of over 1000 stakeholders about IAS impact on the biodiversity, economy and human health
3. **Operational objectives:**
 - Increase the capacity of public administrations to effectively implement environmental / biodiversity policies, integrating IAS monitoring, eradication, and control measures into territorial development strategies.

- Share methods/tools to evaluate the vulnerability of regional and cross-border ecosystems.
- Contribute to identify the main pathways of biological invasions and design actions to increase ecosystems' resilience.
- Unlock national and regional investments for IAS control and eradication projects.
- Promote the cooperation between public authorities and local stakeholders to address challenges associated with invasive alien species, including conflict resolution of socio-economic interests.
- Raise public awareness and strengthen local communities' commitment to participate in the monitoring, management, and control plans & measures for the protection of natural ecosystems against invasive alien species.

Secondly, all proposed measures should abide by the investment priorities included in the policy instruments of each partner.

Finally, the proposed measures should be broadly congruent with the INVALIDIS recommendations based on lessons learnt as found in this and other INVALIDIS deliverables.

9.2 ENSURING DETAILED DESCRIPTION

The following should be considered when designing an action plan:

- 1. Description of the background:** Partners responsible for the preparation of action plans should make sure that they describe clearly and comprehensively the rationale of the measures they propose alongside the lessons learned from the INVALIDIS project on which they are based.
- 2. Description of the actions:** Proposed measures/actions should be described in a way that can be understood by any public sector member that is involved in the policy making and implementation procedures.
- 3. Description of players involved:** Action plans should provide for each proposed measure/action a list of all participants and stakeholders as well as a detailed description of their role in policy making and implementation procedures.

4. **Articulation of timeframe:** Action plans should include a description of the timeframe and workplan for the implementation of actions/measures, if possible, in the form of a Gantt chart.
5. **Outlining of costs:** Action plans should provide detailed description of all expected costs accruing from the implementation of proposed actions/measures.
6. **Description of funding sources:** Action plans should provide detailed description of all funding sources for the implementation of proposed actions/measures.

9.3 ENSURING IMPACT

Before completing their action plan, INVALIDIS partners should make sure that the proposed actions/measures as well as the strategic development pathway in its entirety abide by the following:⁹

- 1) Proposed measures/actions have an overall positive impact and, if possible, in all of the following types of impact:
 - a. Fiscal impact.
 - b. Administrative impact.
 - c. Economic impact.
 - d. Social impact.
 - e. Environmental impact.
- 2) Proposed measures/actions were included only after all opinions about their implementation and impact exposed in the process of consultations were evaluated.
- 3) Proposed measures/actions conform to Government strategic priorities.
- 4) Proposed measures/actions are compatible with INVALIDIS policy recommendations.
- 5) Proposed measures/actions take into account sectorial, intersectoral and stakeholder problems (e.g. potential conflicts) so as to ensure that they will not affect the implementation of measures.

⁹ <https://www.legislationline.org/documents/id/17155>

10 PEER-REVIEW PROCESSES

The first draft of each action plan will go through a peer reviewing procedure (the peer-reviewing form can be seen at Annex B), conducted by all other INVALIS partners. These procedures will have to abide by the following principles¹⁰:

Effectiveness

- Peer-reviewing procedures should be systematic and not overly burdensome. They should provide an objective and coherent assessment of whether action plans are efficient, realistic, as short as possible, and congruent with the aims of the INVALIS project and the Interreg Europe programme.

Fairness

- Peer-reviewing procedures ought to provide equal treatment for all INVALIS territories under review. The review process should provide each partner with an adequate opportunity to respond to the assessment received by other partners.

Objectivity

- Peer-reviewing procedures must rely on objective criteria, in the sense that territories should be assessed against the EU approved principles of the Interreg Europe programme and the aims of the INVALIS project in accordance with an agreed methodology.

¹⁰ <https://www.oecd.org/tax/transparency/about-the-global-forum/publications/revised-methodology.pdf>

Co-ordination with other organisations

- Peer-reviewing procedures should aim to avoid duplication of effort. If some partners finish their action plans after some other partners have already been peer-reviewed, they should take into account the feedback of peer-reviewing whilst they finalise their action plans.

11 MONITORING THE IMPLEMENTATION OF ACTION PLANS

Monitoring means regularly checking the extent to which the measures described in the action plans are implemented on the ground, evaluating the results of these measures and gathering evidence of success to be reported on to the programme.

In order to monitor the action plan the following questions should be asked:

- Has each step been implemented correctly?
- Has each step been implemented on time?
- Has the expected outcome materialised from the completion of each step?

Based on the answers to the above questions the following questions may need to be considered:

- Is more time required?
- Are more tasks required?
- Are more resources required?
- Was the plan realistic?
- What action needs to be taken?
- Does the plan need to change?

Interregional cooperation is important for the following reasons:

Partners should continue learning from each other during the implementation phase of the action plans. They can exchange and build on the success achieved or on the difficulties encountered.

Certain measures of the action plan in one region may require the expertise of another region. In particular, when the measure relates to the transfer of a particular experience developed in one region, the 'importing' region may need the advice of the 'exporting' region on the best way to adapt the experience to its own context.

In order to ensure proper project management and monitoring of the different action plans, the partnership needs to remain active, and the lead partner's role will be to consolidate the information received from the different partners.

12 PROPOSED TIMEPLAN

The development of the action plans is foreseen to take place during the sixth and final semester of Phase I of the INVALIS project (project months M31 – M36, namely December 2020 – May 2021). Based on the steps described in the previous section and the provisions of the Application Form, partners and relevant authorities involved are advised to adhere to the following time schedule:

Step	M31 12/2020	M32 01/2021	M33 02/2021	M34 03/2021	M35 04/2021	M36 05/2021	M37 - M60 (Phase II) 06/2021 - 05/2023
Identification of most relevant INVALIS recommendations in juxtaposition with the policy instrument addressed							
Articulation of the strategic development pathway							
Development of draft measures and actions							
Consultation with stakeholders (during the 6th stakeholders meeting, as well as through ad hoc meetings)							
Preparation/drafting of action plan							
Peer review							
Finalisation of action plan based on peer review assessment(s)							
Monitoring of the implementation of the action plan							

ANNEX A: ACTION PLAN TEMPLATE

Part I – General information

Project: INVALIDIS

Partner organization: _____

Other partner organisations involved (if relevant): _____

Country: _____

NUTS2 region: _____

Contact person: _____

Email address: _____

Phone number: _____

Part II – Policy context

The Action Plan aims to impact:

Investment for Growth and Jobs programme	<input type="radio"/>
European Territorial Cooperation programme	<input type="radio"/>
Other regional development policy instrument	<input type="radio"/>
Name of the policy instrument addressed:	

Part III – Details of the actions envisaged

Strategic development pathway (please describe the shortages of the policy instrument, the aims of the policy measures included and the lessons learnt from the project that constitute their basis)

ACTION X (to be repeated for each separate action)

1. The background (please describe the lessons learnt from the project that constitute the basis for the development of the present Action Plan)

2. Action (please list and describe the actions to be implemented)

3. Players involved (please indicate the organisations in the region who are involved in the development and implementation of the action and explain their role)

4. Timeframe

5. Costs (if relevant)

6. Funding sources (if relevant):

Date: _____

Signature: _____

Stamp of the organisation (if available): _____

ANNEX B: PEER-VIEWING FORM

The peer-viewing form can be seen below:

INVALIDIS action plan peer-review form				
A. Relevance				
Question 1				
To what extent do you think the strategic development pathway described in the action plan is congruent with the overall goal and project objective of the INVALIDIS project as found in the Application Form?				
Not at all	Marginally	Moderately	Significantly	Absolutely
Could you briefly justify your view?				
Question 2				
Are there any actions that are not congruent with a) the policy recommendations of INVALIDIS deliverables, b) the tactical objectives of the INVALIDIS project?			YES	NO
Could you list them and justify your view?				
B. Accuracy and detailed description				
Question 3				
How thorough, detailed and accurate was the description of the strategic development pathway in the action plan?				
Not at all	Marginally	Moderately	Significantly	Absolutely
Could you please explain your view?				

Question 4

How easy was it to understand the link between the strategic development pathway in the action plan and:

a) The aims of the Interreg Europe programme

Not at all	Marginally	Moderately	Significantly	Absolutely

b) the aims of the INVALIDIS project

Not at all	Marginally	Moderately	Significantly	Absolutely

c) the aims and policy approach of the policy instrument(s)

Not at all	Marginally	Moderately	Significantly	Absolutely

Could you please explain your view?

Question 5

How thorough, detailed and accurate was the description of the actions in the action plan?

Not at all	Marginally	Moderately	Significantly	Absolutely

Were there any that were not thoroughly and accurately described?

Question 6

How thorough, detailed and accurate was the description of stakeholder involvement in the actions in the action plan?

Not at all	Marginally	Moderately	Significantly	Absolutely

Were there any actions in which stakeholder involvement was not thoroughly described?

Question 7

How thorough, detailed and accurate was the description of the timeframe and workplan for the implementation of the actions in the action plan?

Not at all	Marginally	Moderately	Significantly	Absolutely

Were there any actions in which the timeframe/workplan was not clearly described?

Question 8

How thorough, detailed and accurate was the description of costs for the implementations of the actions in the action plan?

Not at all	Marginally	Moderately	Significantly	Absolutely

Were there any actions for which the description of costs seemed insufficient?

Question 9

How thorough, detailed and accurate was the description of funding sources for the implementations of the actions in the action plan?

Not at all	Marginally	Moderately	Significantly	Absolutely

Were there any actions for which the description of funding sources seemed insufficient?