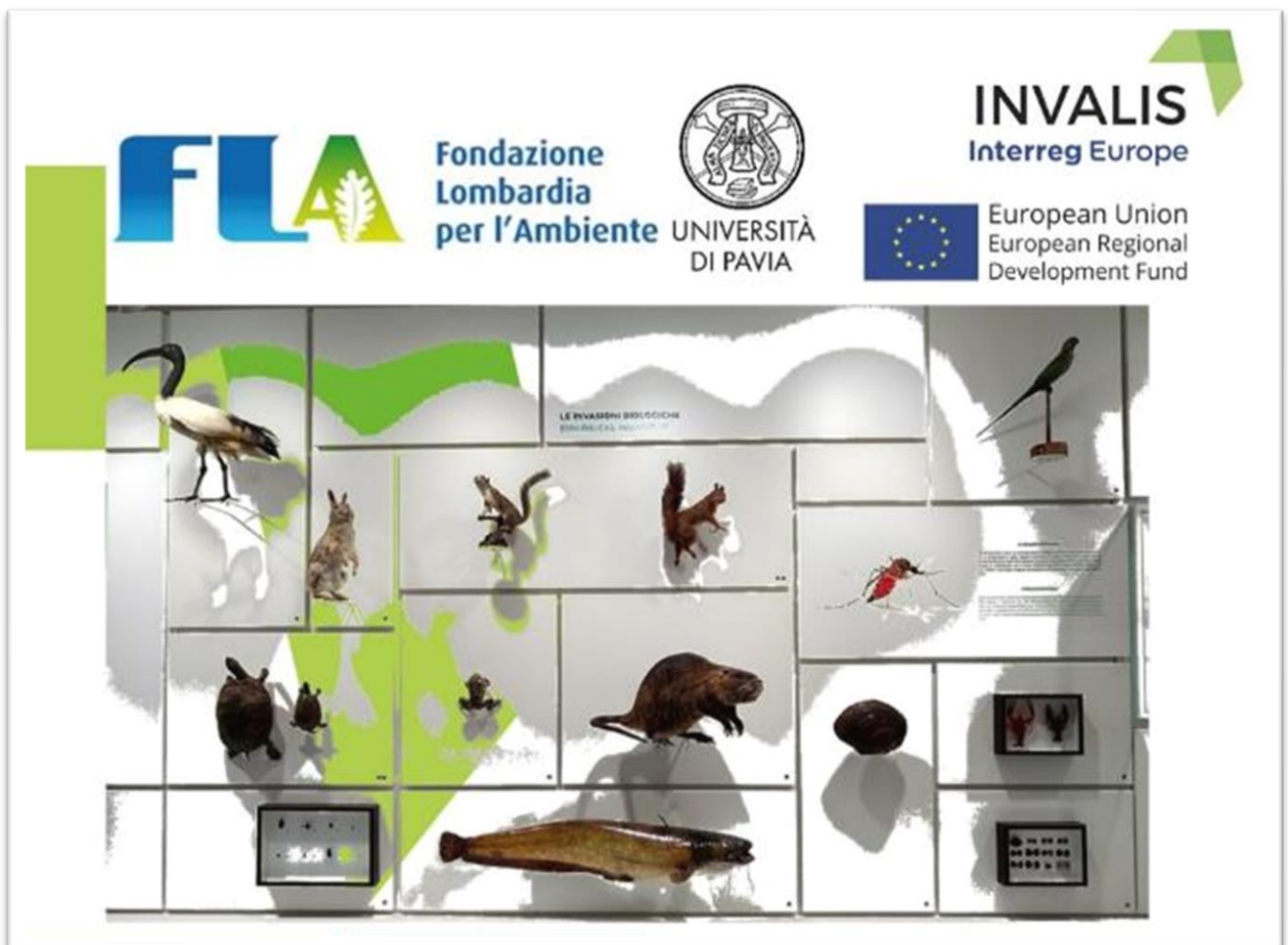


# ACTION PLAN OF THE INTERREG EUROPE PROJECT INVALIDIS: *Protecting European Biodiversity from Invasive Alien Species*



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## ***PART ONE / BACKGROUND***

### **1. The Interreg project INVALIS: improving policies to protect biodiversity from invasive alien species**

Biological invasions are considered one of the greatest threats to the biodiversity of ecosystems. Invasive Alien Species (IAS) can act as vectors for new diseases, cause native species' extinction, alter ecosystem processes, and reduce the value of land and water for human activities.

INVALIS has enabled the participating territorial authorities to address common challenges associated with biological invasions such as a) knowledge gaps in ecosystems' vulnerability to biological invasions and species' distribution, b) lack of awareness about IAS environmental and socioeconomic risks, c) low level of cooperation between public authorities and key stakeholders for the implementation of IAS management measures, and c) conflicts of interests.

INVALIS brings together 7 partners from 7 countries (of which Greece was the Lead Partner -LP-), to improve their environmental policies, by supporting policy measures for the prevention, early detection and control of IAS:

LP National Centre for Environment and Sustainable Development (Greece)

PP1 Lombardy Foundation for the Environment (Italy, FLA) (table 1)

PP2 Regional Ministry for Environment and Rural, Agricultural policies and Territory – Regional Government of Extremadura (Spain)

PP3 Corsican Agency of Environment (France)

PP4 Bucharest-Ilfov Regional Development Agency (Romania)

PP5 Institute of Sciences, Technologies and Agro-environment of the University of Porto (Portugal)

PP6 Zemgale Planning Region (Latvia, ZPR)

**Table 1. General partner information**

<b>Project:</b>	<b>INVALIS: Protecting European Biodiversity from Invasive Alien Species</b>
<b>Partner organisation:</b>	Lombardy Foundation for the Environment /Fondazione Lombardia per l'Ambiente (FLA)
<b>Other partner organisations involved (if relevant):</b>	Lombardy Region / Regione Lombardia
<b>Country</b>	Italy /Italia
<b>NUTS2 region:</b>	Lombardy Region /Regione Lombardia (ITC4)
<b>Contact person of partner organisation</b>	Mita Lapi
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The INVALIS project aims to improve policies to protect biodiversity from the threat posed by Invasive Alien Species (IAS).

The INVALIS project had been structured in two phases. During the first phase, the project developed:

- **Exchange actions and activities:** 3 interregional workshops, 2 site visits and 1 EU-wide policy learning event to promote capacity building among partners and stakeholders.
- **Knowledge Exchange and policies comparisons:** 18 policy briefs to transfer INVALIS lessons learnt to EU public authorities; a risk assessment framework for EU public administrations to assess regional ecosystems' vulnerability to IAS, 4 baseline analysis reports on territorial needs and IAS management practices.
- **Action plans:** 6 action plans to improve the addressed policy instruments, benefiting managing authorities and beneficiaries.

During the second phase each partner will support the implementation of the developed Action Plan and each partner will monitor the implementation of the relevant Action Plan by contacting the stakeholders and the beneficiaries of the different actions. All partners meet to learn from each other by exchanging on the success and difficulties faced in the implementation of their own Action Plan. The ERDF ROP 2014-2020 Managing Authority of Lombardy Region aims to improve the policy instrument, importing effective ways derived from the interregional cooperation to implement new projects relevant to the protection of biodiversity.

Interventions for the protection of environmentally sensitive (touristic) areas (e.g. protected areas and NATURA 2000 sites) have to support investment priority in terms of a) increasing their resilience to IAS introduction, b) establishing an early warning and information system, and c) performing response actions for high priority species.

Furthermore, management support services have to provide to public authorities' staff as regards the development of a common IAS management protocol that outline the procedures that relevant staff should follow to administer all actions related to IAS management.

The Lombardy Region expects that the management of the programme improves based on the INVALIS lessons learnt in the following ways:

- Select funding priorities for projects based on the natural environments' vulnerability to IAS. This includes allocating more funds to interventions dealing with the control of biological invasions in fragile areas.
- Establish collaboration schemes between research institutes, public authorities and the management bodies of protected areas to support the reskilling of their workforce on IAS management.
- Develop indicators for monitoring the effectiveness/efficiency of the IAS related projects that have been implemented.

## 1.1 Expected impact

INVALIS aims to improve the policies on biodiversity and environmental protection, supporting the policy measures for actions against IAS (i.e. prevention, early detection, control and eradication) in natural ecosystems. The overall goals of the project are:

- Increased capacity of 200 staff of public administrations to effectively implement IAS management 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

## 1.2 Action Plan framework

The Action Plan for Lombardy Region has been prepared on the basis of the INVALIS general structure of action plan <sup>1</sup> where the general framework was accommodated in order to highlight:

- the existing background concerning the management of IAS in the Lombardy Region, according with the National and Regional policies against IAS, including also emerging management issues;
- the regional exchange of experience activities carried out during Regional key stakeholders' meetings;
- the interregional exchanges (interregional workshops, study visits); and documents (policy briefs and thematic surveys);
- the identified actions and the recommendations (derived from the project activities) that can contrast the expansion of Invasive Alien Species and favour directly or indirectly the native biodiversity.

<sup>1</sup> A5.1: Common methodology for the development of action plans

Bacher S., Blackburn T.M., Essl F., Genovesi P., Heikkilä J., Jeschke J.M., Jones G., Keller R., Kenis M., Keffer C., Martinou A.F., Nentwig W., Pergl J., Pyšek P., Rabitsch W., Richardson D.M., Roy H.E., Saul W.C., Scalera R., Vilà M., Wilson J.R.U., Kumschick, S., 2018. Socio- economic impact classification of alien taxa (SEICAT). *Methods in Ecology and Evolution* 9: 159–168.

Bellard C., Cassey P., Blackburn T.M., 2016. Alien species as a driver of recent extinctions. *Biology Letters* 12(2).

Díaz S., Settele J., Brondizio E.S., Ngo H.T., Agard J., Arneth A., Balvanera P., Brauman K.A., Butchart S.H.M., Chan K.M.A., Garibaldi L.A., Ichii K., Liu J., Subramanian S.M., Midgley G.F., Miloslavich P., Molnár Z., Obura D., Pfaff A., Polasky S., Purvis A., Razzaque J., Reyers B., Chowdhury R.R., Shin Y.J., Visseren-Hamakers I., Willis K.J., Zayas C.N., 2019. Pervasive human-driven decline of life on Earth points to the need for transformative change. *Science* 366: 64–71.

Carlton J.T., 1989. Man's Role in Changing the Face of the Ocean: Biological Invasions and Implications for Conservation of Near-Shore Environments. *Conservation Biology* 3: 265–273.

Millennium Ecosystem Assessment, 2005. *Ecosystems and Human Well-being: Synthesis*. Island Press, Washington, DC.

Pimentel D., Zuniga R., Morrison D., 2005. Update on the environmental and economic costs associated with alien-invasive species in the United States. *Ecological Economics* 52: 273–288.

Simberloff D., 2011. How common are invasion-induced ecosystem impacts? *Biological Invasions* 13: 1155–1168.

Strayer D.L., 2010. Alien species in fresh waters: ecological effects, interactions with other stressors, and prospects for the future. *Freshwater Biology* 55: 152–174.

Vermeij G.J. 1996. An agenda for invasion biology. *Biological Conservation* 78: 3–9.



## 2. The Invasive Alien Species in Lombardy

Biological invasions, defined as the introduction and geographical expansion of species outside their native range (Carlton, 1989; Vermeij, 1996), are considered one of the major threats to natural ecosystems (Strayer, 2010; Simberloff, 2011) and a driver of global change (Millennium Ecosystem Assessment, 2005; Díaz et al., 2019).

There are currently about 12,000 alien species in Europe, and although only about 10% to 15% of these have become invasive alien species (IAS) (European Union (EU) [Regulation \(EU\) 1143/2014](#)), this small percentage has caused relevant environmental and socio-economic problems and concerns (Pimentel *et al.*, 2005; Bellard & Blackburn, 2016; Bacher *et al.*, 2018). IAS can act as vectors for new diseases, cause native species' extinction, determine changes in ecosystem processes, and reduce the value of land and water for human activities.

The core of [Regulation \(EU\) 1143/2014](#) is the list of Invasive Alien Species of Union concern (the Union List). The species included on the Union List are subject to restrictions and measures set out in the Regulation. These include restrictions on keeping, importing, selling, breeding and growing. Member States are required to take action on pathways of unintentional introduction, to take measures for the early detection and rapid eradication of these species, and to manage species that are already widely spread in their territory.

The last version of the list was updated in August 2019 and it includes 67 species (12 mammals, 5 birds, 4 fish, 1 amphibian, 1 reptile, 8 invertebrates, 36 plants); in Italy there are 43 out of these 67 species.

Lombardy is the Italian region with the highest number of introduced alien species in terrestrial and freshwater environments. This is due not only to the considerable size and heterogeneity of the territory, but also to agriculture, urbanization, industrialization, freight traffic and people flow, all of which are particularly intense in the region.

IAS presence in Lombardy's natural ecosystems raise the concern about to the extinction of endemic species and the deterioration of natural habitats (figure 1).



Slider turtle *Trachemys scripta*



Coypu *Myocastor coypus*



Louisiana crayfish *Procambarus clarkii*



Giant hogweed *Heracleum mantegazzianum*

**Figure 1. Some of the main invasive alien species in Lombardy Region**

In some instances, IAS may be responsible for severe economic damages to productive activities such as farming, agriculture and the use of forestry and pastoral resources.

In this territorial context, the regional government has drawn up a blacklist of the invasive alien species detected in Lombardy's natural environments, in an effort to tighten and coordinate controls to prevent the spreading of such species and the consequent damages to the environment and economy. Furthermore, a number of parallel projects carried out in Lombardy (table 2) have addressed the management of individual invasive species (e.g. LIFE TIB, EC SQUARE, CRAINAT). In particular, the Life project "GESTIRE 2020" aims at establishing a framework to prescribe priority actions for the prevention, detection and eradication of invasive species taking into account a) the extent of IAS impact on NATURA 2000 sites, b) the technical and financial feasibility of eradication/control actions and c) civil society's willingness to participate in the monitoring process.

**Table 2. Main project carried out in Lombardy region since 2007**

Project	Acronym	Brief description	Project duration	Financing program	website
<b>EC-SQUARE or ROSSOSCOIATTOLO</b>	EC SQUARE	The LIFE project EC-SQUARE, also named "Rossoscoiattolo" (Red Squirrel), is funded by the European Commission and the Italian Ministry for the Environment, Land and Sea. The project also includes actions for the valorization of forest ecosystems by restoring conditions for permanence and, where possible, the reintroduction of the red squirrel.	2007-2013	Life project	<u>The red squirrel, an endangered species!   EC-SQUARE (rossoscoiattolo.eu)</u>
<b>Trans Insubria Bionet</b>	LIFE TIB	The LIFE TIB project aims to improve and protect a portion of the main ecological corridor traversing the Po Plain. It is an element of primary importance for the Natura 2000 network, which extends on a European scale, since it links the Alpine and Continental bioregions. In particular, the portion affected by the LIFE TIB project extends from the Pre-Alpine foothills of Campo dei Fiori (north of Varese) and the Ticino River Valley. The project has the Province of Varese as the project leader, with other partners including the Lombardy Region, LIPU–Birdlife Italy and Fondazione Cariplo. Also participating are the two natural parks and the thirty-five municipalities in Varese province whose territory is	2011-2015	Life project	<u>LIFE TIB</u>

		traversed by the two ecological corridors.			
<b>Conservation and recovery of <i>Austropotamobius pallipes</i> in Italian Natura2000 sites</b>	CRAINAT	CRAINat provided the implementation of specific actions for the protection and conservation on the species <i>Austropotamobius pallipes</i> (also known with its common name of white clawed crayfish), species in a high conservation priority, included in Annexes II and V of Directive 92/43/EEC "Habitat". The initiative was the natural continuation of previous projects also supported by EU's LIFE program; its mean objective is the preservation / increasing of native crayfish populations through actions that will be realized in nature and actions of ex situ conservation.	2010-2013	Life project	<a href="#">LIFE08NAT/IT/000352 (lifecrainat.it)</a>
<b>GESTIRE 2020 - Naturachevale -</b>	GESTIRE 2020	<p>LIFE GESTIRE2020 is an experimental project for the conservation of biodiversity in Lombardy, cofinanced by the European Commission in the framework of the LIFE+ Program. LIFE GESTIRE 2020 aims at implementing an integrated strategy for Natura 2000 network in Lombardy in 6 lines of action:</p> <ul style="list-style-type: none"> <li>- Improve the governance and management models of the Natura 2000 regional network.</li> <li>- Implement concrete actions for the conservation of habitats and flora species.</li> <li>- Implement concrete actions for the conservation of animal species.</li> <li>- Prevent and contrast the spread of invasive alien species.</li> <li>- Monitor conservation status of protected habitats and species.</li> <li>- Build and strengthen ecological networks, to better connect protected areas.</li> </ul>	2016-2023	Life project	<a href="#">LIFE GESTIRE 2020   Naturachevale</a>



Lombardy Region is a region rich in biodiversity, containing 241 NATURA 2000 sites that cover 15% of its total territory and it needs to further strengthen environmental conservation efforts by a) sharing information on potential risks associated with IAS, b) accelerating the allocation of funds towards initiatives to combat IAS, c) creating networks for monitoring the introduction/spread of IAS in natural ecosystems.

Lombardy region covers an area of roughly 23,844 square kilometres (9,206 sq. mi) and its population is around 10 million people, accounting for more than one-sixth of Italian population.

In economic terms, Lombardy produces more than a fifth of Italy's GDP, making it the most inhabited, wealthiest and productive region in the Italian peninsula.

Despite this high anthropogenic impact, Lombardy is also one of the wealthiest regions of northern Italy in terms of biodiversity as it contains 24 regional parks, 67 natural reserves, 245 NATURA 2000 sites, covering 25% of its total territory.

The balance between human activities (such as commercial and agricultural activities, the presence of three airports and a general high anthropogenic exploitation of the land) and natural ecosystems is not always easy to address, as well as the management of IAS. A series of problems, such as the necessity of the implementation of environmental policies, the importance of finding adequate and specific economic resources, the low number 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.

The combination of ecological characteristics of the areas associated with the management actions against IAS and the surrounding anthropogenic activities are the main factors that contribute to environmental vulnerability to invasive species.

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.

Furthermore, the reasons for improvement are:

1. A lack of projects/initiatives (funded by the ROP) to address biological invasions in the Lombardy region, seeking to improve the conditions of the natural heritage, especially as regards touristic areas with fragile environmental conditions (e.g. NATURA 2000 sites).
2. The Regional Operational Programme (ROP) of Lombardy region includes 6 Thematic Objective (TO) foreseen for the protection of natural assets/resources, but no concrete criteria for the selection of projects for protecting natural ecosystems from IAS have been set, in spite of the high intensity of tourism and trade activity in the region.
3. The protection of natural assets is not adequately linked with the capacity of territorial authorities' staff or intermediate bodies (e.g. Protected Areas' management bodies) to manage all the actions required to fight invasive species in an integrated way. This requires not only re-skilling public administrations' staff but also providing a common protocol for IAS management.

### 3. The regional policy instrument

The policy instrument that INVALIDIS mainly addresses is the Regional Operational Programme (ROP) Lombardy, funded by the European Regional Development Fund (ERDF). This programme provides investment funds of almost one billion euros (€970,474,516) with the priority objectives of the Region's economic growth and social development as well as the enhancement of its productive capabilities.

The programme is based on 6 priority axes:

- Axis I Enhancing research, technological development and innovation (36% of the total)
- Axis II Improving the access to the ICT, their use and quality (2% of the total)
- Axis III Promoting competitiveness of SMEs (30% of the total)
- Axis IV Supporting the transition towards a low carbon emission economy in all sectors (20% of the total)
- Axis V Sustainable urban development (6% of the total)
- Axis VI Tourism strategy for internal areas (2% of the total)

In this context, FLA identify three of the axes that can best support the actions suggested in this action plan.

Specifically, Axis III should support all actions that might increase the value of tourism in the region with particular attention to the natural heritage of the territory, Axis IV promotes actions for the reduction of CO<sub>2</sub> emission, and finally Axis VI prescribes measures for promoting the attractiveness of cultural and natural heritage in internal areas. Moreover, one of the objectives of this last Axis is to preserve and protect the environment promoting resource efficiency.

Under investment priority 6c, interventions for the protection of environmentally sensitive (touristic) areas (e.g. protected areas and NATURA 2000 sites) are aimed to support a) the increase of their resilience to IAS introduction, b) an established early warning and information system, and c) the performing of response actions for high priority species.

Furthermore, management support services provide public authorities' staff with the development of common IAS management protocol procedures. These procedures are to be followed to supervise all actions related to IAS management.

The management of the programme of the Lombardy Region is expected to improve on the basis of INVALIDIS lessons learnt, if the following actions will be implemented:

- Select funding priorities for projects based on natural environments' vulnerability to IAS. This includes allocating more funds to interventions for dealing with biological invasions in fragile areas.
- Establish collaboration schemes between research institutes, public authorities and protected areas' management bodies to support the reskilling of their workforce on IAS management.
- Develop indicators for monitoring the effectiveness/efficiency of the IAS related projects implemented.

A detailed analysis of the planned actions to be incorporated in the ROP on the basis of the INVALIDIS outcomes is reported in the following paragraphs, according to the main Axes that have been selected.

### 3.1 Axis III: Promote SME competitiveness

The axis has allocated about 30% of total ROP resources (295 million Euros) focussing, as its main target, on the improvement of businesses' competitiveness from the start-up stage throughout their growth and consolidation.

The axis is consistently part of the ROP's overall strategy to promote the economic wealth of the enterprises in the Lombardy Region: Priority axis III supports interventions to help MSMEs in their business activities, with special attention at improving access to credit, and can be accessed by the industry exploiting the Region's tourist destinations and other attractions.

This priority axis has five different targets and corresponding actions but, in particular, there is one (III.3) that includes targets and specific actions providing specific support to the natural heritage and tourism of the region:

- consolidate, modernize and diversify the Region's production resources and arrangements through a strategic repositioning of Lombardy on tourism, culture and general attractiveness in order to raise the number of customers/visitors.
- support for the development of products and services that complement the development and exploitation of identified cultural and natural attractions of the Region, not least by linking enterprises in the cultural, tourism, creative and entertainment businesses, and those concerned with the Region's traditional products and typical produce (III.3.b.2.1);
- support for the processes of aggregating and combining firms into business networks, establishing a joined-up offering for tourist destinations (III.3.b.2.2);
- support for the competitiveness of firms in tourist destinations to improve the quality of the offer and to introduce new products and services with strategic and organizational innovation (III.3.b.2.3).

Support to tourism, culture and general attractiveness of Lombardy territory is an important issue of the regional plan with a specific focus on developing products and services to enhance the potential for tourism, culture and nature fruition in Lombardy. In particular, the action intends to co-finance projects (about 70%) with a minimum amount of invested money (100,000 euros), which provide a greater tourist-cultural valorisation of the following thematic areas (attractors): intangible cultural heritage, cultural itineraries and paths, contemporary art, archaeological heritage.

Among others, principal beneficiaries of the actions proposed by the axes III are cluster associations, local authorities, NGOs, foundations and managing bodies of protected areas.

As it will be described in detail in the chapter 4 of this Action Plan (pag. 13), the process of exchange of experience with the involved stakeholders and the participation to national and international events allowed INVALIS to influence an action in the tourism sector (see the 2<sup>nd</sup> part of this Action Plan, pag. 30).

## 3.2 Axis IV: Supporting the transition towards a low carbon emission economy in all sectors

The axis has allocated about 20.05% of total ROP resources (194.6 million Euros) - source: [English \(regione.lombardia.it\)](#) - with its main target as the containment of the amount of the CO<sub>2</sub> in the atmosphere, reducing the gap with the European Strategy 2020. Axis IV also promotes projects with low level of carbonium footprint in metropolitan and urban areas. Principal beneficiaries are regional and local authorities.

## 3.3 Axis VI: Inner Areas

The ROP Axis VI focus on the Inner Areas (Aree Interne) with an allocated budget of 1.96% of the total ROP resources (19 million Euros). The ROP is part of the regional implementation of National Strategy on Inner Areas. The purpose of the Inner Areas Strategy is to revitalize these areas by increasing their attractiveness, ensuring the essential services necessary to stop depopulation, aiming at a local-based economy (built on the peculiarities of the place) for which municipalities, regions and central administration define a local specific strategy. Moreover, it recognises the relevance of the tourism in the economy of a region.

For this purpose, the Lombardy Region has identified four internal areas<sup>2</sup>: Alta Valtellina, Valchiavenna, "Appennino Lombardo - Oltrepò Pavese" and "Valli del Lario - Alto Lago di Como".<sup>3</sup>

The axis VI identifies two possible actions related to Inner Areas:

- action 6.7.1: actions for the safeguard and promotion of natural heritage;
- action 6.7.2: actions for increasing the knowledge and the use of natural heritage also through innovative systems and technologies.

Projects funded by axis VI must improve the local development with actions for the implementation of basic services for citizens, such as education and training. In order to reach this goal, there are supplementary funds from the axes I, III, IV, POR ESF (15 million euros in total) and Rural Development Programme (RPD) 2014-2020 (11 million euros)<sup>4</sup>. Moreover, the Italian State provides 14.960 million euros for the development of the 4 Inner areas of the Lombardy Region<sup>5</sup>. The strategy for Inner areas identifies synergies between funding and support pillars related to different European, national and regional policies. This strategy is supported by integrated measures and policies:

- approximately 38 million € from ERDF (European Regional Development Fund - Lombardy Region), of which 19 for the development of cultural tourism – ca. 9.5 million per area, of which 4.75 million for the development of cultural tourism;

<sup>2</sup> Region laws, D.g.r. 2672/2014 and D.g.r. 5799/2016.

<sup>3</sup> the institution of the internal areas are defined by specific Regional laws (Delibere di giunta regionale): Alta Valtellina (D.g.r. 5229/2016) and Valchiavenna (D.g.r. 5445/2016) to which specific framework programme agreements are connected: Alta Valtellina (D.g.r. 5933/2016) and Valchiavenna (D.g.r. 5995/2016).

<sup>4</sup> [Italy | The European Network for Rural Development \(ENRD\) \(europa.eu\)](#)

<sup>5</sup> [Asse VI Aree Interne \(regione.lombardia.it\)](#)

- about 15 million ESF (European Social Fund - Lombardy Region) – or 3.75 million per area;
- 11.324 million from the EAFRD (The European Agricultural Fund for Rural Development) with reserves on RDP action lines (DG Agriculture);
- the Stability Laws for the years 2014-2015-2016 have established a fund of 190 million at national level that devotes 3.74 million per area (14,960,000 in total for Lombardy).
- lessons learnt by the development of the INVALIS Project can provide the Management authorities of Inner areas with useful indications in order to promote the natural characteristics of pristine areas that have experienced a diminished impact by anthropogenic pressures to maintain their original vocation, without the introduction of alien floral or faunal elements from other biogeographic regions, that can cause homogenization of the biota and in some instances develop massive invasions by non-indigenous populations with negative effects on the ecosystem resources of the area.

## 4. Emerging assets from INVALIS: A and B project actions

The main relevant inputs from deliverables and activities of INVALIS Interreg Europe are summarised in the table 6. They are listed according to the action typology of the project, that is A. Study activities and B. Communication and Dissemination (Table 3).

**Table 3. INVALIS A and B actions: main inputs for the Action plan**

Action typology	Action / derivable	Inputs (description of the activity)
<b>A1 COMMON STUDYING ACTIVITIES</b>	A1.1 Comparative analysis of territorial policies on IAS management	Description of the existing territorial policies on the detection and management of biological invasions in partners' territories.
	A1.2 Identifying the dimensions determining INVALIS natural ecosystems' vulnerability to IAS	Definition of a methodology to enable partners to identify the factors that determine regional natural ecosystems' vulnerability to the introduction and establishment of IAS, such as invasion history, possible effects of climate change, existence of conflicting interests and lack of relevant policy framework.
	A1.3 Mapping territorial authorities' management capacities and needs related to the design and implementation of IAS policy measures	Description of the public administrations' organisational and implementation needs related to the design and implementation of IAS related measures.
	A1.4 Identifying good practices and case studies regarding IAS management	Description of selected good practices related to the detection, eradication and management of IAS, such as surveillance systems, risk assessment frameworks, monitoring tools and inventories
<b>A2 ENGAGING REGIONAL STAKEHOLDERS &amp; PROMOTING PUBLIC DIALOGUE</b>	1st stakeholder meeting 29th November 2018	<p>All the participants have had the opportunity to share and highlight problems related to various aspects of the protection of the ecosystems from the invasion of IAS. The main highlights are:</p> <ul style="list-style-type: none"> <li>• A general lack of public awareness of and basic knowledge about IAS.</li> <li>• The importance of communication/citizen science projects. School environmental education or in site visits led by naturalist experts are crucial for the success of any action. Meetings and events with citizens and politicians, although somewhat difficult</li> </ul>

		<p>to organize, should be encouraged.</p> <ul style="list-style-type: none"> <li>Difficulties in organising early monitoring and alien species alert, due to the difficulties in training staff to recognise alien species or the poor level of confidence on an early alert of new IAS.</li> <li>Good synergy between ongoing projects. In particular the interaction with LIFE GESTIRE 2020 could represent an important opportunity for the implementation of the policy against Invasive Alien Species in Lombardy.</li> <li>Difficulty of the Regional Agencies in enforcing the European policy, due to a general lack of funding related to the management of IAS</li> </ul>
	2nd stakeholder meeting 16th May 2019	<p>Shared concepts:</p> <ul style="list-style-type: none"> <li>It is not feasible to talk of eradication for most invasive species. These species have already reached too high an abundance for their possible eradication; on the contrary, it is more correct to try to control invasive species.</li> <li>Despite high costs, control activities represent the most suitable way to contrast IAS, provided that they are coordinated between Regions and Countries.</li> <li>It is important to define site-specific protocols for each IAS.</li> <li>The status of the environment is very important: if an ecosystem is in a good ecological quality, IAS it find more difficult to colonise it because native species occupy all the ecological niches.</li> <li>Communication between stakeholders, but also between Public Authorities/Research centres and citizens is of paramount importance.</li> </ul>
	3rd stakeholder meeting 14th November 2019	<p>Topics emerged during the meeting and worthy of further consideration:</p> <ul style="list-style-type: none"> <li>Communicate and valorise the success obtained in the management of IAS to all the stakeholders and especially to scholars of all ages, especially enhancing the role of Botanical Gardens and Museums.</li> <li>Increase the knowledge on IAS with correct information.</li> <li>Involve local citizens associations.</li> <li>Use all the possible ways to inform citizens on the problems caused by IAS (social media, magazine, newspapers, tv programs).</li> <li>Promote the value of native biodiversity: the importance of scientific research and the need that researchers communicate their results to citizens.</li> <li>Prevention is the more effective action.</li> <li>Accountability of local Authorities.</li> <li>Increase of the controls on the commerce and detection of exotic species.</li> <li>Creation of specialised task force to control IAS.</li> <li>Increase the fines for trespassers.</li> <li>Reduce conflicts of competence between Authorities.</li> </ul>
	4th stakeholder meeting 19th March 2020	<p>During the meeting, FLA underlined the invaluable importance of the sharing of experiences, as well as of working together with other INVALIS partners for the identification of potential solutions in the IAS management, which might become part of the INVALIS Action Plan, despite the difficulty finding dedicated measures that are still available in the current POR ERDF. The original Application Form indicated the Policy Instrument "Axis VI" from POR ERDF 2014-2020; however, considering that INVALIS started at the end of this period, it is hard to find still available funds.</p> <p>Thus, FLA identified other possible axes that can be exploited for the control of the IAS and, in this meeting, we discussed with stakeholders and the Managing Authority the possibility to use different sources. Specifically, Axis III, related to all those actions that could enhance the</p>



		<p>value of tourism in the region with particular attention to the natural heritage of the territory, and Axis VI that prescribes measures for promoting the attractiveness of cultural and natural heritage in internal areas.</p> <p>The Managing Authority stated that the projects financed by the INTERREG Europe program can have relevant results both when they influence programs and measures already financed by POR ERDF and when they contribute to releasing funds for grants related to the aims of the projects.</p> <p>The Managing Authority agreed that it was possible to explore the sources of different funds in the Axes of the POR ERDF 2014-2020. In particular, the suggestion was made of exploring Axis III, namely a grant related to Tourism and Attractivity.</p>
	5th stakeholder meeting 27 <sup>th</sup> November 2020	<p>During the meeting, FLA described the results that the INVALIDIS project has obtained so far and, moreover, attention was paid to the assessment of the environmental vulnerability to biological invasions. The method proposed by INVALIDIS to define the vulnerability to IAS was appreciated by all the participants at the meeting and the final discussion provided some feedback that could be useful for implementing the method.</p>
	6 <sup>th</sup> stakeholder meeting 17 <sup>th</sup> May 2021	<p>Considering the new European programme 2021-2027 and the results of the first phase of the INTERREG EUROPE INVALIDIS project, the final discussion of the meeting was focused on the opportunity to propose new projects on the same topic proposed by INVALIDIS or topics related to the biodiversity and environmental restoration.</p> <p>The main message emerged from the meeting was that biodiversity and its management are hot topics and the effort on increasing citizens' knowledge and translating the scientific results into something more understandable to the layman is fundamental. The invited stakeholders actively participated to the discussion proposing, for example, to transfer the results obtained by INVALIDIS at National level or, at least, to other close-by regions, such as Piedmont. Finally, the importance of a better communication between local and regional/national Authorities was pointed out by a representative of the regional ecological guards who highlighted their difficult to communicate with them.</p>
<b>A2 public consultation</b>	A2.2 Inform, educate and protect: good practices for the protection of the native biodiversity 9th October 2020	<p>The webinar was shared using YOUTUBE platform and it had 155 visualisations. All the participants were satisfied about the organisation and the contents of the webinar. This event of public consultation has proven a good way to inform and involve citizens in the management of IAS. The main concepts provided were as follows. 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 success of the actions.</p> <p>INVALIDIS support the idea that policy and management options may be determinant for the ecosystem vulnerability to IAS and conservation programs should be a stable part of the regional legislation. Also, it would be better to have a more detailed legislation shared between Regions and Member States to regulate the anthropogenic activities responsible for the introduction of IAS, especially considering free trade and movement existing throughout the European Union.</p> <p>Generally, the combination of ecological characteristics of the areas associated with the management actions against IAS and the surrounding anthropogenic activities are the main factors that contribute to environmental vulnerability to invasive species.</p> <p>Considering that the ecological characteristics are intrinsic to an environment and constitute a non-modifiable factor, the only way to decrease ecosystem vulnerability to IAS is to make relevant changes to the management of the area and to the surrounding anthropogenic</p>

		<p>activities that might be controlled through specific regulations. In this context, conservation programmes would require long-term funding security, but this is rarely available, except in some national programmes. Nevertheless, requalification projects require a longer-term perspective when securing funding for restoring populations or population monitoring programmes. Securing adequate funding to enable the implementation of these types of actions is seen as one of the key ingredients to success.</p> <p>Furthermore, an early detection and eradication are essential management tools to protect the native biodiversity, but they should be encouraged only where appropriate and feasible. However, they can only be carried out for a limited proportion of the IAS established in a country: for many long-established IAS present in the wild, eradication will be simply not feasible.</p> <p>If from an ecological point of view eradication is feasible, there should be other conditions that support this process such as an adequate public support, political commitment, and sufficient funds available. Finally, in the management of alien species, it is fundamental for citizens to be made aware of the problems caused by IAS to the local biodiversity: real effective actions are possible only if they are supported by society. This aspect could be even more important (or at least of the same importance) in comparison to technical and scientific aspects.</p> <p>Hence, it would be beneficial to increase manager and citizen awareness on the ecological and economic problems caused by IAS. There are different ways to involve citizens in environmental projects, from citizen science projects monitoring alien species, to dedicated events with the aim of increasing citizen knowledge on the impacts of IAS on the environment.</p>
<b>A3.1/2/3 interregional workshops</b>	Interregional workshop in Corsica, Romania, Latvia	<p>The participation to events organised by the partners of the INVALIDIS consortium was granted by representatives of FLA that have provided the experience gained by local meetings held in Lombardy. Moreover it has been useful to compare the main issues raised by different local situations and try to generalise the outcomes or to take inspiration from the better practices seen.</p>
<b>A3.4 2days study</b>	Virtual site visit in Lombardy 20 <sup>th</sup> November 2020	<p>Lombardy Foundation for the Environment has had the task of organising a two days-site visits intended to show achievements and situations encountered in Lombardy to all the project partners. The first visit was organised thanks to the Ticino Regional Park while the second one was organised with the help of the Regional Authority of Agriculture and Forests of the Lombardy Region (ERSAF).</p> <p>Because of the pandemic, Lombardy Foundation for the Environment couldn't host all the partners in Lombardy, so the site visits have been transformed into virtual site visits.</p> <p>Most of the Country of the INVALIDIS consortium share the same alien species and the same problems in their management thus all the partners found the practices proposed very interesting and they will try to propose them to their stakeholders.</p> <p>The first emerged suggestion is to encourage the funding of long-term scientific projects and management actions, supported by trained staff, financing projects on IAS that guarantee a constant monitoring activity of the environment and the pathways of introduction by professional and trained staff. Moreover, stronger and broader control of surrounding areas and corridors going into protected areas should be considered to prevent future IAS introductions.</p> <p>Finally, the information provided with the virtual site visit could represent a different approach to IAS management: instead of only focusing on eradication actions or negative impacts of IAS on native biodiversity, it may be better to improve the quality of the environment through restoration projects thus favouring native</p>

		<p>species' competition against IAS, especially in highly biodiverse areas. Environmental restoration is considered the most important action, but it would require long-term funding security and a longer-term perspective which are rarely available, except in some national programmes.</p> <p>In conclusion, Lombardy Foundation for the Environment thinks that the restoration of natural environments is the best way to contrast the threat of environmental pressure by introduced species and the risk of biological invasions; therefore, the virtual visit in the two sites of the Lombardy region provided examples of interesting practices for the safeguarding of the local biodiversity allowing participants to share useful ideas for the management of invasive alien species.</p>
	Virtual study visit in Extremadura, May 27th 2021	Participation at the virtual study visit organised by Extremadura on the management of IAS. In particular on the control of the water hyacinth in the Guadiana River.
<b>A3.5 EU Policy Learning Event</b>	EU wide policy learning event, on May 31, 2021 organised by ICETA	An international discussion on measures and policies for the prevention, early detection, control and eradication of invasive alien species in natural ecosystems in the European Union.
<b>B. "Communication and dissemination"</b>	B3.2 information days 1 <sup>st</sup> April 2019; 23 <sup>rd</sup> October 2019; 24 <sup>th</sup> November 2019; 20 <sup>th</sup> February 2020; 24 <sup>th</sup> March 2021	<p>The aim of these events was to inform citizens on the problems caused by IAS and how INVALIS project can help to maintain the local biodiversity.</p> <p>The first event was organised during a day dedicated to the main European projects on the alien species in the Lombardy Region. FLA was invited to present the Interreg Europe project INVALIS to the students of the course "Alien species and animal biodiversity" of the Master's degree in Natural Sciences of the University of Pavia.</p> <p>The second info-day was organised in collaboration with the LIFE ASAP project (Alien Species Awareness Program) to inform the local fishermen on the problems caused by IAS and the important role played by the fishermen themselves in their management.</p> <p>The third info day was organised in collaboration with the University of Pavia and it was mainly focused on IAS that invaded the Po river basin.</p> <p>For the last event, FLA held a speech on the general problem caused by IAS to the local biodiversity informing the general public on the actions that INVALIS promote.</p> <p>The last info day was organised in cooperation with the University of Pavia organised a virtual info-day for the INVALIS project. Students of the "Laboratory of Ecology" course of the Natural Science degree were informed on the problems caused by IAS and on the results obtained by INVALIS project so far.</p>
	B3.3 Participation in 3rd party events: 10 <sup>th</sup> -12 <sup>th</sup> September 2019; 23 <sup>rd</sup> -24 <sup>th</sup> September 2019; 25 <sup>th</sup> June 2020; 22 <sup>nd</sup> October 2020; 28 <sup>th</sup> October 2020	<p>2019</p> <p>Participation in XXIX Congress of the Italian Society of Ecology held in Ferrara, Italy (September 10th-12th) presenting an oral communication and a poster on the INVALIS's scope and preliminary results. Moreover, from September 23rd to September, participation in the congress of the Italian association "Successione ecologica" BIODIV 2019 (Alessandria, Italy), focusing on the aspect that favour the environmental vulnerability to IAS.</p> <p>2020</p> <p>In June 2020, FLA participated in an online event organised by the LIFE project GESTIRE 2020 of Lombardy Region on the involvement of private companies for the safeguard of biodiversity. In this occasion, FLA took part in the discussion, highlighting the importance of the involvement of the citizens in the management of local biodiversity.</p> <p>In October 2020, FLA took part in the 8<sup>th</sup> annual conference on climate change "ClimRisk2020: Time for Action! Raising the ambition of climate action in the age of global emergencies" organised by the Italian Society for Climate Sciences with a scientific poster on the INVALIS' activities. Moreover, on the same month, FLA participated in</p>

		another online event organised by the LIFE project GESTIRE 2020 of Lombardy Region on the presentation of a regional call of tender for the financing of projects related to the safeguard of the local biodiversity. This represented a good occasion to enforce the collaboration with the LIFE project GESTIRE 2020 in Lombardy.
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## 5. Challenges identification and goals prioritisation

### 5.1 Priorities

Four priorities for the management of IAS emerged from the interaction with Public Authorities, stakeholders and citizens during regional meetings, info-days and public event. They have been identified according with the following items:

i) Communication ii) Scientific Research iii) Protection of local biodiversity iv) Cooperation between authorities

#### - COMMUNICATION

In the management of alien species, it is fundamental that citizens are made aware of the problems caused by IAS to the local biodiversity: incisive actions are possible only if they are supported by society. This aspect could be even more important (or at least of the same importance) in comparison to technical and scientific aspects.

Valorise the success obtained in the management of IAS to all the stakeholders, especially to scholars of all ages, enhancing the role of Botanical Gardens, Museums and Natural Parks should be the best way to communicate the effort made to contrast IAS. The problems caused by IAS are underestimated by citizens, because the message passed from researchers to citizens is often unclear and thus it is important a scientifically correct and, in the meantime, clear message, able to reach the public. To this purpose, the involvement of experts in communication is highly recommended.

Nowadays it is very easy to obtain information through Internet and social media and the expert opinion on a such delicate topic should be more relevant compared to the opinion of layman, who in the majority of cases doesn't have the competence to evaluate the impacts of IAS on the environment and generally speaking do not care very much about them.

Actually, the impacts are often difficult to evaluate, especially over short periods, when the management actions might have not yet produced immediate results.

#### - SCIENTIFIC RESEARCH

Ideally, conservation programmes would require long-term funding security, but this is hardly available, except in some national programmes. Nevertheless, requalification projects require a longer-term perspective when securing funding for e.g. *ex situ* facilities, restoring populations, or population monitoring programmes. Securing adequate funding to enable the implementation of the Action Plan is seen as one of the key ingredients to success.

## - PROTECTION OF THE LOCAL BIODIVERSITY AND PREVENTION ON PATHWAYS OF INTRODUCTION

The Convention on Biological Diversity (CBD) promotes in its strategic plan 2011-2020 the following mission: *"take effective and urgent action to halt the loss of biodiversity in order to ensure that by 2020 ecosystems are resilient and continue to provide essential services, thereby securing the planet's variety of life, and contributing to human well-being, and poverty eradication. To ensure this, **pressures on biodiversity are reduced, ecosystems are restored, biological resources are sustainably used and benefits arising out of utilization of genetic resources are shared in a fair and equitable manner; adequate financial resources are provided, capacities are enhanced, biodiversity issues and values mainstreamed, appropriate policies are effectively implemented, and decision-making is based on sound science and the precautionary approach.**"* The **Article 8** of the CBD includes provisions for *in situ* conservation of biological diversity:

- to rehabilitate and restore degraded ecosystems and promote the recovery of threatened species;
- to prevent the introduction, control or eradication of those alien species which threaten ecosystems, habitats or species;
- to develop or maintain necessary legislation and/or other regulatory provisions for the protection of threatened species and populations.

The "do-nothing-option", often claimed as the most natural approach to test the ability of ecosystems to recover, will not work for such ecosystems where the causes for decline have not been reverted. Natural recovery of altered communities through neighbouring ecosystems should not be considered as the first option, because often the neighbouring communities are also threatened by anthropogenic pressures such as pollution and habitat fragmentation.

Moreover, a stronger and broader control of surrounding areas and corridors going into the protected areas could lead to a likelihood reduction of introductions. The combination of ecological characteristics of the areas, management actions and anthropogenic pressures are the main factors contributing to the vulnerability of areas to invasive species.

Finally, early detection and eradication are essential management tools to protect the native biodiversity and they should be encouraged where appropriate and feasible. However, it can only be carried out for a limited proportion of the IAS established in a country: for many long-established IAS present in the wild, eradication will simply be not feasible.

If the eradication is feasible from an ecological point of view (on the basis of relevant biological characteristics of the target species, its ecological relationship with the invaded area and socio-economic considerations), there should be also other conditions that support this process such as an adequate public support and political commitment, sufficient funds available.

## - COOPERATION BETWEEN AUTHORITIES

The management of IAS should be more effective if all the authorities follow the same strategy against IAS, also taking into account conceptual, practical, and ethical considerations, encouraging integrative and collaborative engagement between parts.



## 5.2 Recommended actions

Emerging proposals to improve the management of IAS in Lombardy could be developed and supported in the framework of the next Lombardy Regional Operation Plan (ROP).

### 1- INFORM AND EDUCATE

The only way to reduce the gap between the level of the risk perception and real risks is to invest resources and time in the communication processes. In these days, when it seems that environmental problems are hot topics and citizens are quite aware of them, it is highly recommended that the researchers focus their efforts on the increase of the citizens' knowledge, and translate their scientific results in something more understandable to the laymen (figure 2). How the moral values of a person can influence the management of IAS is another important aspect to consider. Moral values are defined as principle-guides in a person life and, compared to personal behaviors, they are considered more stable during time and less influenced by circumstances. Therefore, in the management of IAS, it is fundamental to reach moral values, such as the responsibility of human beings in the invasion process and of individual citizens in the safeguard of biodiversity from the danger of alien species.

Axis VI could provide funds to increase this action which is linked to the promotion of the attractiveness of cultural and natural heritage, also involving 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.

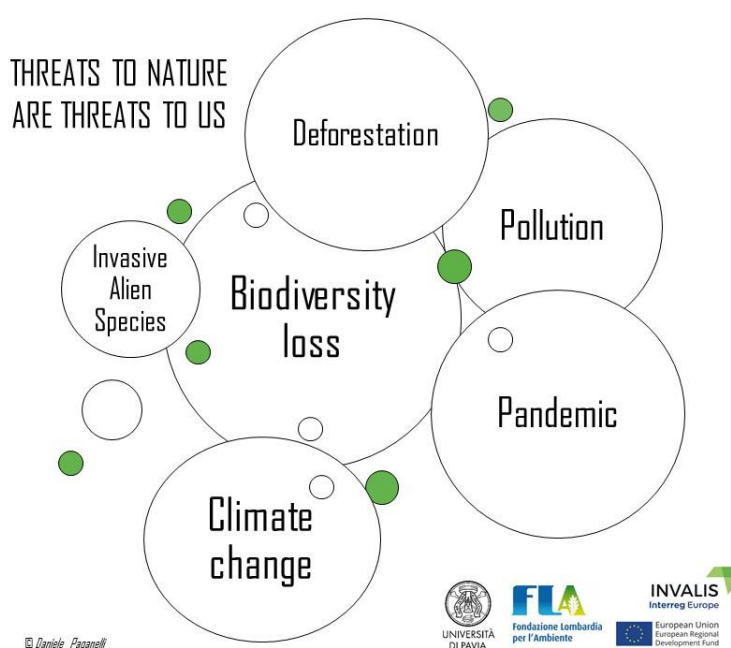


**Figure 2. Word cloud used during the public event organised by FLA on October, 9<sup>th</sup> 2020**



## 2- PROTECT NATIVE BIODIVERSITY AND RESTORE THE ENVIRONMENT

According to the European Union, biodiversity is essential for life and our planet and the economy depend on it. When nature is healthy, it protects and provides for goods and services. Biodiversity and ecosystems provide us with food, health and medicines, materials, recreation, and wellbeing and businesses. They filter our air and water, help keep the climate in balance, convert waste back into resources, pollinate and fertilise crops and much more. Biodiversity loss and the climate crisis are interdependent, and they exacerbate each other (figure 3).



**Figure 3. Threats to biodiversity**

Restoring forests, soils and wetlands and creating green spaces in cities is essential to achieve the climate change mitigation needed by 2030. But this must carefully follow the precautionary principle of favouring native biota ensuring the necessary control of any deliberate or unintended introduction of alien species.

The new EU 2030 Biodiversity strategy will:

- establish protected areas for at least 30% of land in Europe and 30% of sea in Europe, with stricter protection of remaining EU primary and old-growth forests legally binding nature restoration targets in 2021;
- restore degraded ecosystems at land and sea across the whole of Europe;
- unlock 20 billion EUR/year for biodiversity through various sources, including EU funds, national and private funding. Natural capital and biodiversity considerations will be integrated into business practices;
- put the EU in a leading position in the world in addressing the global biodiversity crisis. The Commission will mobilise all tools of external action and international partnerships for an ambitious new UN Global Biodiversity Framework at the Conference of the Parties to the Convention on Biological Diversity in 2021.

FLA supports the idea that policy and management options may be key for the ecosystem vulnerability to IAS, since conflicts of interest (economic, cultural or social) may compromise projects and implementation of actions against these species.

Conservation programs should be (and often are) part of the regional legislation. For instance, the French government has included the European sturgeon in its National Biodiversity Strategy, as a priority species. As such, a national restoration plan needs to be developed and implemented, in line with obligations under other international conventions.

Moreover, further Species and Habitats Action Plans for the most threatened species and natural habitats should be carried on. All of these comprehensive plans should monitor and survey the targeted ecosystems to ensure that the presence of alien species is minimized and that an adequate early warning and alert is put in place to advise on the positive development of this component of the restoration of the sites under care.

The proposed actions could be financed by the axis III due to their relevance in the increasing of the environmental value of the territory which could be reflected in an increase of the tourism in the region. Moreover, the axis VI could provide funds for this action always linked to the tourism in the inner areas.

### **3- PREVENTION ON PATHWAYS OF INTRODUCTION**

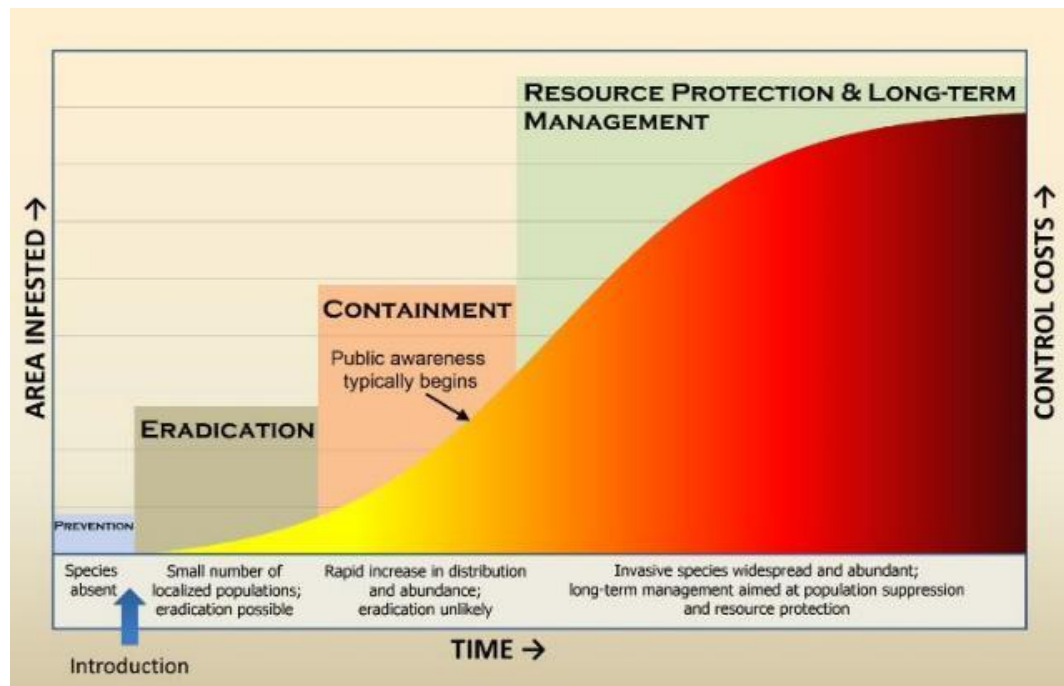
From a general point of view, it would be better to have a more detailed legislation that is shared between Regions and Countries to regulate those anthropogenic activities responsible for the introduction of IAS.

These actions are related to how people and goods travel and thus they intercept the objectives of the axes III and VI of the ERDF.

### **4- EARLY DETECTION AND ERADICATION**

Early detection and eradication must be considered as essential mean of improvement of the natural heritage of an area and thus they should be included in those actions funded by the axes III and VI.

In addition, long term projects against IAS, financed by those axes, could guarantee a constant monitoring activity of the environment by specialised and adequately trained staff, in order to understand and possibly reduce the impacts of IAS (figure 4).



**Figure 4. Invasive Alien Species increasing distribution in an infested area, possible actions and relative costs. Adapted from Invasive Plants and Animals Policy Framework, State of Victoria, Department of Primary Industries, 2010.**

## 5- FAVOUR THE “SLOW TOURISM”: SOCIAL, CULTURAL AND ECONOMIC IMPACTS

The definition of slow tourism reported by slow tourism-Italy website is: “(Slow tourism) improves the quality of hospitality to make vacations an experience to meet and get close to local communities and local environment while supporting the promotion of local resources and the most authentic typical products. It uses innovation to build virtuous networks amongst tourism organizations to bring local communities and travellers together”<sup>6</sup>.

Slow Tourism rediscovers those places that are less popular as tourist destinations, also valorising their natural heritage.

Ecotourism could be considered a branch of slow tourism. This type of vacation can help generate funding needed to cover important management costs in protected areas and it has been long promoted for its importance in supporting both biodiversity conservation and economic development.

Besides the presence of charismatic species, a wide range of other characteristics underpin nature-based tourism in protected areas. These include factors such as broader biodiversity (e.g. species richness; threatened species and habitat types; less charismatic biodiversity) and aesthetic of landscape (e.g. vegetation quality). Geographical factors, such as accessibility (e.g. travel time; trails and roads), or degree of human influence (e.g. cultural landscapes; overcrowding) are also considered important. Furthermore, the socio-economic conditions of a country (e.g. political stability) also affect ecotourism visitation.

Besides charismatic wildlife-viewing, many tourists may also prefer visiting protected areas for their cultural, recreational value, and visit places which allow for activities, such as hiking or biking, which are normally forbidden in parks where charismatic, dangerous animals are present.

<sup>6</sup> <http://www.slowtourism-italia.org/en/aboutus/principles/>

Moreover, opportunities for biodiversity-related activities, such as hiking or camping, might also be important aspects affecting tourists' decision-making<sup>7</sup>.

It has to be underlined that the preservation of the natural heritage in its complete pristine biogeographic identity and authenticity is in itself a value and can be enhanced, not mentioning the fact that the preserved ecological *aequilibria* achieved in times are at stake against the introduction of alien species, that might degenerate into biological invasions. The educational importance of a pristine community of native species is in itself a value to be exploited in nature conservation sites to the enjoyment of "slow tourists".

Considering all these aspects, it is fundamental to provide funds for the touristic infrastructures of those zones nearby protected areas which could support slow tourism. Valorising the natural heritage is one of the main objectives of the axis VI and thus we recommend the inclusion of projects with these goals among the projects funded by this axis.

## 6- GREEN INFRASTRUCTURES USING NATIVE SPECIES

Green infrastructure is a strategically planned network of natural and semi-natural areas with other environmental features designed and managed to deliver a wide range of ecosystem services such as water purification, air quality, space for recreation and climate mitigation and adaptation. This network of green (land) and blue (water) spaces can improve environmental conditions and therefore citizens' health and quality of life. It also supports a green economy, creates job opportunities and enhances biodiversity. The Natura 2000 network<sup>8</sup> constitutes the backbone of the EU green infrastructure<sup>9</sup>.

The European Commission has developed a Green Infrastructure Strategy<sup>10</sup>. This strategy aims to ensure that the protection, restoration, creation and enhancement of green infrastructure become an integral part of spatial planning and territorial development whenever it offers a better alternative, or is complementary, to standard grey choices.

According to EU, it is important to develop, preserve and enhance healthy green infrastructure to help stop the loss of biodiversity and enable ecosystems to deliver their many services to people and nature.

Developing green infrastructure is a key step towards the success of the EU 2020 Biodiversity Strategy<sup>11</sup>. The Strategy's target 2 requires that 'by 2020, ecosystems and their services are maintained and enhanced by establishing green infrastructure and restoring at least 15% of degraded ecosystems'. But green infrastructure contributes to all 6 targets of the Strategy - in particular the full implementation of the Birds and Habitats Directive<sup>12</sup> (target 1) and to maintaining and enhancing biodiversity in the wider countryside and the marine environment (targets 3 and 4).

On 6 May 2013, the Commission adopted an EU-wide strategy promoting investments in green infrastructure to restore the health of ecosystems, to ensure that natural areas remain connected together, and to allow species to thrive across their entire natural habitat, so that nature keeps on delivering its many benefits to us. The strategy promotes the deployment of green infrastructure

<sup>7</sup> <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5429685/>

<sup>8</sup> Natura 2000 - Environment - European Commission (europa.eu)

<sup>9</sup> [https://ec.europa.eu/environment/nature/ecosystems/index\\_en.htm](https://ec.europa.eu/environment/nature/ecosystems/index_en.htm)

<sup>10</sup> [https://ec.europa.eu/environment/nature/ecosystems/strategy/index\\_en.htm](https://ec.europa.eu/environment/nature/ecosystems/strategy/index_en.htm)

<sup>11</sup> [https://ec.europa.eu/environment/nature/ecosystems/strategy/index\\_en.htm](https://ec.europa.eu/environment/nature/ecosystems/strategy/index_en.htm)

<sup>12</sup> The Habitats Directive - Environment - European Commission (europa.eu)

across Europe as well as the development of a Trans-European Network for Green Infrastructure in Europe, a so-called TEN-G<sup>13</sup>, equivalent to the existing networks for transport, energy and ICT. This can also help enhance the health and wellbeing of EU citizens, provide jobs, and boost our economy.

Green infrastructure is a convenient concept for urban policy makers, but the term is often used in a too general way, and with limited understanding of the relative values or benefits of different types of green space and how these complement one another. At a more practical level, little consideration is given to the composition of the plant communities, yet this is what ultimately defines the extent of service provision. Green infrastructure is composed of a range of green landscape typologies, including parks, nature reserves, street trees, gardens, river corridors, ponds, green roofs and walls, farmed land and allotments. In practical terms, green infrastructure is now seen by most city planners as a necessary requirement, but what actually populates those green spaces that are 'blocked out' between the buildings is often given inadequate attention.

Furthermore, implementing new or improving existing green space is hampered by financial constraints, limited expertise and a lack of tools to value the different green space types as well as a lack of comprehension of how landscape typology affects service provision.

However, frequently little consideration is given to the composition of these spaces (i.e. at a plant or plant-community level), and it is rarely in terms of the benefits that might be conferred other than the purely aesthetic ones<sup>14</sup>.

The main factor determining species richness and floral quality in cities is human impact. The highest number of species (including alien species) per square kilometre in urban areas is found in the transitional zones between the city centre and rural areas, where the mosaic of land use types is most heterogeneous.

In this scenario, INVALIS promotes the use of native plants in order to enhance the local biodiversity, indirectly contrasting the alien species<sup>15</sup>.

Moreover, in a society that is rapidly becoming urbanized, urban green space is a vital component enabling citizens – children in particular – to engage with nature. Engagement in the natural world has been linked to health benefits, but also personal and social development, positive attitudes and values, greater resilience to stressful life events, opportunities for self-discovery and unstructured play and improved cognitive functioning, as well as acting as a catalyst for social interactions that themselves promote an aptitude for learning. Indeed, such engagement

<sup>13</sup> [Green Infrastructure - Environment - European Commission \(europa.eu\)](https://ec.europa.eu/eip/infrastructure/green_infrastructure_en)

<sup>14</sup> <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4998986/>

<sup>15</sup> See the Action 1, pag. 30

Adams A., Morse J., 2019. Non-material matters: a call for integrated assessment of benefits from ecosystems in research and policy  
Land Use Policy, 80: 400-402.

Cariñanos P., Casares-Porcel M., Díaz de la Guardia C., Aira M.J., Belmonte J., Boi M., Elvira-Rendueles B., De Linares C., Fernández-Rodríguez S., Maya-Manzano J.M., Pérez-Badía R., Rodríguez-de la Cruz D., Rodríguez-Rajo F.J., Rojo-Úbeda J., Romero-Zarco C., Sánchez-Reyes E., Sánchez-Sánchez J., Tormo-Molina R., Vega Maray A.M., 2017. Assessing allergenicity in urban parks: a nature-based solution to reduce the impact on public health. Environmental Research 155: 219-227.

Marando F., Salvatori E., Fusaro L., Manes F., 2016. Removal of PM10 by forests as a nature-based solution for air quality improvement in the metropolitan city of Rome. Forests 7.

Methorst J., Rehdanz K., Mueller T., Hansjürgens B., Bonn A., Böhning-Gaese K., 2021. The importance of species diversity for human well-being in Europe. Ecological Economics 181

Vujcic M., Tomicevic-Dubljevic J., Grbic M., Lecic-Tosevski D., Vukovic O., Toskovic O., 2017. Nature based solution for improving mental health and well-being in urban areas. Environmental Research 158: 385-392.

enhances ecological literacy with corresponding 'life chances', including opportunities for careers in the natural environment, not least in the environmental and biological sciences.

It is also demonstrated that biodiversity richness is positively related to life-satisfaction across Europe, with a comparable effect to income (Methorst *et al.*, 2021). This result highlights the potential non-material link between species diversity and human well-being. Within the context, this means that biodiversity may also provide non-material services nature's contributions to human well-being. This information may turn out to be crucial for evidence-based policy decisions regarding environmental management (Adams and Morse, 2019) and nature-based solutions to improve human health and well-being (Cariñanos *et al.*, 2017; Marando *et al.*, 2016; Vujcic *et al.*, 2017).

Striving to improve the management of biodiversity is a win-win strategy, with both humans and local fauna and flora benefitting from actions that promote a high diversity of natural landscape features.

Political and societal decision making should encourage the maintenance and creation of natural areas that support high biodiversity, thus fostering synergies between biodiversity conservation and promotion of human well-being.

Green infrastructures could also be seen as a way to reduce the impact of carbon in the atmosphere, thus actions that promote the use of plants could be funded by Axis IV.

#### **7- LEGAL MEASURES THAT SUPPORT THE USE OF NATIVE SPECIES IN LIVESTOCKS AND FARMS**

Livestock and farms could represent a way to save the genetic biodiversity of native species. The use for economical purposes of some native species could help in maintaining the genetic biodiversity of some species. Such source of specimens could be useful for long term repopulation projects in protected areas and Parks.

Indirectly, this activity could support the economy but also the tourism of internal areas and it could be funded by axes III and VI.

#### **8- LEGAL MEASURES SUPPORTING ENVIRONMENTAL RESTORATION AND MITIGATION ACTIONS**

Legal measures that support the environmental restoration and mitigation actions should be incentivized by National and Regional Authorities and, at the same time, the use of legal measures contrasting the diffusion of IAS should be rendered more effective. These actions include an active involvement of species user groups (e.g. in hunting, shooting, falconry, angling activities) in monitoring and mitigation projects, education and awareness programmes. Local communities should be engaged in support of necessary mitigation and their participation encouraged, establishing responsibility, within reasonable limits, for landowners, occupiers, and relevant stakeholders to prevent or control further spread of listed invasive alien species. Incentives for landowners and land occupiers should be established to carry out mitigation measures on their land using funds allocated for the next programmes POR ERDF and ESF 21-27



## 6. Sinergy between INVALIDIS and other projects

### 6.1 Sinergy between the Interreg project AQUARES and the Life ASAP project

#### 6.1.1 AQUARES - Water reuse policies advancement for resource efficient European regions

The First Phase of the project has been characterized by a parallel coordination between INVALIDIS and AQUARES projects (AQUARES | Interreg Europe); the experience exchange allowed to fix a common interest: the support and safeguard of the natural capital characterizing the territory of Region Lombardy.

Reduction in potable water abstraction – realized through the implementation of water reuse – is a strategy which complements the goals of INVALIDIS, and vice-versa.

Specifically, both projects have coordinated the activity which started in the semesters of the First Phase of both projects, directed to the integration of a measure already financed by the ROP-ERDF 2014-2020 (see ACTION 1 – Bando “Turismo & attrattività II” explained in Chapter 7).

The projects have parallelly, submitted a proposal aimed at obtaining a betterment of tourism sustainability objectives included in the grant. The sustainability characteristics proposed have been declined, respectively, in terms of the primary aim of each project.

#### 6.1.2 The LIFE ASAP project -Alien Species Awareness Program-

The LIFE ASAP project ([www.lifeasap.eu](http://www.lifeasap.eu)) is a project co-financed by the European Union that has as objective the reduction of the introduction rate of invasive alien species (IAS) in the Italian territory and the mitigation of its impacts. In particular, LIFE ASAP aims to increase the awareness and the active participation of citizens regarding the problem of IAS and to promote the correct and efficient management of IAS by public entities in charge thanks to the full implementation of the European regulations in the field of invasive alien species (EU 1143/2014). Both INVALIDIS and ASAP project have the aim to improve the management of IAS at different level and therefore the synergy between projects has been realized during two events: during the 3rd regional meeting of the INVALIDIS project, a member of the ASAP staff was invited to talk about the conflicts of interest in the management of IAS and then, INVALIDIS was invited to an event with fisherman of the Lombardy region organised by ASAP project (see table 3, pag. 13).

## 6.2 Synergy between INVALIDIS and the LIFE project GESTIRE 2020

In Lombardy region, several projects have addressed the problem of the management of IAS. In particular, the LIFE project Gestire 2020<sup>16</sup>, managed by DG Environment of Lombardy Region, aims to ensure the achievement of biodiversity conservation goals set out in the Habitats and Birds Directives, building on the contents of the Regional Prioritised Action Framework (PAF)<sup>17</sup>, thus contributing to the improvement the management of the Natura 2000 network.

This overall target will be achieved pursuing the following specific objectives:

- improving governance and management models of the Natura 2000 network (N2K) in order to achieve multiple policy goals, through the increase of capacity building of the many actors involved in the management of Natura 2000 network in Lombardy;
- maintaining and improving the conservation status of habitat and species;
- raise the awareness and the level of information of the value / potential of Natura 2000 sites;
- monitoring the effectiveness of the project in achieving the objectives of the PAF.

The project, started in 2016, planned and realised concrete actions such as the implementation of activities to protect the native red squirrel, based on the results of the LIFE project “Rossoscoiattolo” or the protection of native crayfish, in line with the experience acquired in LIFE CRAINat.

Considering that the aims of LIFE GESTIRE 2020 were strictly linked to the aims and activities of the INVALIDIS project, a proactive collaboration between these two projects was created since the beginning. The participations of the GESTIRE 2020 team members during the regional meetings of the INVALIDIS project was constant, providing a productive exchange of experiences. Moreover, some of the actions performed by GESTIRE 2020 were proposed by INVALIDIS project as good practices against IAS during the INVALIDIS interregional meetings and for the European Union database of good practices.

All the ensuing actions proposed by GESTIRE 2020 were funded using calls for proposals with specific criteria through LIFE funds, Rural Development Programme funds (RDP), Green Areas funds, Cariplo Foundation funds, European Territorial Cooperation funds, Regional Operational programme-European Social funds (ROP-ESF 14-20), Horizon 2020, and Erasmus +<sup>18</sup>.

The remarkable results obtained by this way of management encourage us to propose the same in order to foster a credible and fruitful Action Plan for INVALIDIS through the resources made available by the ROP.

In the table below, we reported a brief description of the call for tenders financed by the LIFE project GESTIRE 2020 related to the safeguard of local biodiversity and the contrast of IAS; these measures are relevant because they explore the same ideas that are behind the INVALIDIS project (Table 4).

<sup>16</sup> [LIFE GESTIRE 2020 | Naturachevale](#)

<sup>17</sup> [Financing Natura 2000 - Environment - European Commission \(europa.eu\)](#)

<sup>18</sup> [Finanziamenti Natura Che Vale | Il portale dei finanziamenti alla Rete Natura 2000 in Lombardia](#)

**Table 4. Description of the call for tenders financed by the LIFE GESTIRE 2020**

Programme	Dates	Description	Funds	link
<b>Regional programme for the safeguard of the biodiversity - Life Gestire 2020 -</b>	Open: 15/10/2020 Close: 29/01/2021	Improvement and conservation of habitats and the safeguard of local species of union concern related to the guidelines proposed by the LIFE project GESTIRE 2020: ecological connections, contrast of invasive plant species, habitats (bats, moorlands, amphibians, oak forests, heronry and reproduction sites for aquatic birds)	Total budget euro 2.077.514,21  Euro 1.026.112,22 regional funds  Euro 1.051.401,99 Life project funds	<a href="#">PROGRAMMA REGIONALE PER INTERVENTI TERRITORIALI A SALVAGUARDIA DELLA BIODIVERSITÀ – LIFE GESTIRE 2020   Bandi online (regione.lombardia.it)</a>
Regional programme for the management of Natura 2000 sites for the reproduction of aquatic birds	Open: 15/01/2020 Close: 15/05/2020	Safeguard, restoration, and improvement of Natura 2000 network wetlands	Total budget: Euro 100.000 Life project funds	<a href="#">Assegnazione di contributi regionali a favore degli enti gestori di siti Natura 2000 importanti per lo svernamento e la riproduzione dell'avifauna acquatica   Bandi online (regione.lombardia.it)</a>
<b>Regional programme for the improvement of heronry areas in Lombardy</b>	Open: 15/01/2020 Close: 15/05/2020	Improvement and conservation of herons and aquatic birds' reproduction sites in Lombardy region	<b>Total budget: not specified</b>	<a href="#">Assegnazione di contributi regionali a favore degli enti pubblici territorialmente interessati dalla presenza di siti di nidificazione di garzaie per la tutela delle condizioni degli specifici habitat   Bandi online (regione.lombardia.it)</a>
<b>Regional programme for the eradication and control of invasive alien plants</b>	Open: 15/01/2020 Close: 28/02/2020	Eradication/management projects of invasive plants species in Natura 2000 network sites	Total budget: euro 146.000 Life project funds	<a href="#">Assegnazione di contributi regionali a favore degli enti gestori dei siti Natura 2000 per interventi di eradicazione/contenimento di specie vegetali aliene invasive, in attuazione dell'azione C5 del progetto Life Gestire 2020   Bandi online (regione.lombardia.it)</a>
<b>Regional programme for the protection and management of aquatic birds' habitats</b>	Open: 15/01/2020 Close: 15/05/2020	Management of aquatic birds' habitats (natural or artificial) in the Lombardy region	Total budget: <b>not specified</b>	<a href="#">Assegnazione di contributi regionali a favore degli enti pubblici territorialmente interessati dalla presenza di siti riproduttivi di starnidi e altri uccelli di greti fluviali   Bandi online (regione.lombardia.it)</a>
<b>Regional programme for the eradication of invasive alien</b>	Open: 10/12/2019 Close: 30/01/2020	Actions against the Japanese knotweed ( <i>Reynoutria</i> sp. pl. and <i>Persicaria filiformis</i> ) in the Lombardy region	Total budget: euro 200.000 regional funds	<a href="#">Contributi regionali a favore dei Comuni lombardi per interventi di eradicazione/contenimento di specie vegetali invasive: poligono</a>

plants species				<a href="#">del Giappone (Reynoutria sp. pl. e Persicaria filiformis)   Bandi online (regione.lombardia.it)</a>
<b>Regional programme for the safeguard of amphibians</b>	Open: 17/09/2019 Close: 17/10/2019	Projects for the safeguard of <i>Salamandra atra</i> , <i>Rana latastei</i> , <i>Triturus carnifex</i> , <i>Pelobates fuscus insubricus</i> , <i>Bombina variegata</i> ed <i>Emys orbicularis</i> in the Natura 2000 network sites	Total budget: Euro 150.000 regional funds	<a href="#">Bando per assegnazione contributi regionali a favore di enti gestori siti della RN 2000 e amministrazioni pubbliche per attuazione del piano anfibi   Bandi online (regione.lombardia.it)</a>
<b>Regional programme for the eradication of invasive plants species of Union concern</b>	Open: 02/11/2017 Close: 13/11/2017	Projects for the eradication of invasive alien plants of Union concern in the Natura 2000 network sites	Total budget: Euro 465.000  Euro 450.000 for eradication actions  Euro 15.000 for awareness increasing	<a href="#">Contributi a enti gestori siti Natura 2000 per contenimento/eradicazione di specie vegetali invasive unionali, in attuazione regolamento UE 1143/2014   Bandi online (regione.lombardia.it)</a>
Source: Lombardy Region				

## ***PART TWO / ACTIONS and MONITORING PLAN***

### **7. Actions**

INVALIDIS identified other possible axes that can be exploited for the control of the IAS and, in the 4<sup>th</sup> regional meeting of the project, FLA discussed with stakeholders and the Managing Authority the possibility to use different sources. Specifically, the potential sources are the axis III, related to all those actions that could valorise tourism in the region with particular attention to the natural heritage of the territory, and the axis VI that prescribes measures for promoting the attractiveness of cultural and natural heritage in internal areas.

The Lombardy Managing Authority stated that the projects financed by the Interreg Europe program can have relevant results both when they influence programs and measures already financed by POR ERDF and when they contribute to releasing funds for grants related to the aims of the projects.

The Lombardy Managing Authority agreed that it was possible to explore the sources of different funds in the Axes of the POR ERDF 2014-2020. In particular, the suggestion was made of exploring Axis III, namely a grant related to Tourism and Attractivity. Its targets include the support for the competitiveness of firms in tourist sector by improvements on the quality of the offer (products and services) with strategic and organizational innovation.

#### **7.1 ACTION 1 – Call for tender “Turismo & attrattività II”**

INVALIDIS project aims to improve the policy instrument searching for new opportunities for funding new projects related to the contrast of IAS and for the safeguard and protection of the local biodiversity.

In this context, projects for improving the ecological connections between touristic areas are considered a priority and they are supported.

With this aim, INVALIDIS project actively modified the financing measure “Turismo e Attrattività II”, belonging to ROP ERDF 2014-2020 – Priority Axis III - Action 3.b.2.3.

The following activities described in detail here have been realized before the publication of the measure on Lombardy Region official Gazette, Ordinary Series n. 28 of 10th July 2020 and before the V Reprogramming of ROP ERDF 2014-2020 would be endorsed.

The V Reprogramming of ROP ERDF 2014-2020 has introduced changes to the programme which have influenced the Priority Axis addressed by INVALIDIS.

According to Regional Resolution n. XI/3596 Session 28.09.2020:

1. The financing of Action I.1.b.6.1, required a shift of 193.502.377,80 million € coming also from the sources previously allocated to initiatives already started within the Axis III, IV e V (185.306.892,66 €), whose expenditure framework has been realised in the period of conclusion of programme period 2014-2020.

2. The already planned and started initiatives will be realized in the period 2021-2023, and concluded before 31.12.2025 with financial resources made available according to art. 242 comma 2 of Law-Decree n. 34 of 19 May 2020.<sup>19</sup>
3. The changes carried out have been the object of a written consultation of the members of Surveillance Committee of ROP ERDF 2014-2020, carried out between July and August.
4. Lombardy Region has communicated to the European Commission the adopted changes for the final approval on the 5<sup>th</sup> August 2020.
5. The European Commission, on 11<sup>th</sup> September 2020, with Executive Decision C (2020) 6342 final, has adopted the reprogrammed ROP ERDF 2014-2020 of Lombardy Region.
6. Lombardy Region on 28.09.2020 has noted the approval through Regional Resolution n. XI/3596.

### INVALIDIS ACTION 1 – Call for tender Turismo & Attrattività II

#### The background

Challenge	ACTION 1 aims at favouring the local biodiversity using certified plants species for the environmental restoration in tourism facilities.
Foundations	<p>The First Phase of the INVALIDIS project has been characterized by a parallel coordination with AQUARES, another INTERREG EUROPE project, in which FLA is actively involved, and a proactive collaboration with the LIFE project GESTIRE 2020, managed by the DG Environment of Lombardy Region. The exchange of experience allowed to recognize an interest in common: the safeguard of the natural capital characterizing the territory of Lombardy Region and the support to its improvement.</p> <p>INVALIDIS project had the initial objective of reshaping the ROP ERDF Priority Axis VI. The original Application Form indicated the Policy Instrument “Axis VI” from POR ERDF 2014-2020; however, considering that INVALIDIS started at the end of this period, it is hard to find still available funds.</p> <p>Specifically, ACTION 1 aims at executing one of the clues included in the Application Form. Favouring the ecotourism can help generate funding needed to cover important management costs in protected areas and it has been long promoted for its importance in supporting both biodiversity conservation and economic development.</p> <p>The suggested actions could be financed by the axis III due to their relevance in the increasing of the environmental value of the territory which could be</p>

<sup>19</sup> **Art. 242 Contributo dei Fondi strutturali europei al contrasto dell'emergenza - Covid-19**

**Comma 2.** Le risorse erogate dall'Unione europea a rimborso delle spese rendicontate per le misure emergenziali di cui al comma 1 sono riassegnate alle stesse Amministrazioni che hanno proceduto alla rendicontazione, fino a concorrenza dei rispettivi importi, per essere destinate alla realizzazione di programmi operative complementari, vigenti o da adottarsi.



	<p>reflected in an increase of the tourism in the region and to improve its sustainability. Moreover, the axis VI could provide funds for this action always linked to the tourism in the internal areas. Considering all these aspects, it is fundamental provide funds for the touristic infrastructures of those zones, nearby protected areas, that could increase “slow tourism”, that is a kind of sustainable touristic exploitation.</p> <p>Moreover, the relevance of measures helping to improve “green infrastructures” has to be underlined. Green infrastructure is a strategically planned network of natural and semi-natural areas with other environmental features designed and managed to deliver a wide range of ecosystem services, such as water purification, air quality, space for recreation and climate mitigation and adaptation. The Natura 2000 network constitutes the backbone of the EU green infrastructure.</p> <p>Healthy green infrastructure could help to stop the loss of biodiversity and enable ecosystems to deliver many of their services to people and nature.</p> <p>Green infrastructure is a convenient concept for urban policy makers, but the term is used too generically and with limited understanding of the relative values or benefits of different types of green space and how these complement one another. At a more practical level, little consideration is given to the composition of the plant communities, yet this is what ultimately defines the extent of service provision.</p> <p>Furthermore, implementing new or improving existing green space is hampered by financial constraints, limited expertise and a lack of tools to value the different green space types, as well as a lack of comprehension of how landscape typology affects service provision.</p>	
Relevance of First Phase activities of INVALIDIS project	1 <sup>st</sup> – 5 <sup>th</sup>	During these semesters, FLA has participated in several meetings with the Managing Authority, with the General Directorate for Environment and Climate of the Lombardy Region and with the coordinators of the LIFE project GESTIRE 2020 (a European project which aims to provide good practices against IAS) and other stakeholders in order to explore possible alternatives to contrast IAS.
	14.11.2019	3 <sup>rd</sup> Regional Stakeholders Meeting of INVALIDIS project: the event was focused on the different types of conflicts of interest emerged in the management of the Invasive Alien Species in Lombardy. Moreover, all the invited stakeholders have been actively involved in the process of exchanging experiences, describing their point of view on the topic of the meeting. Here, for the first time, the importance of the safeguard of the local biodiversity as well as the environmental

restoration, clearly emerged.

**19.03.2020** At the 4<sup>th</sup> Regional Stakeholders Meeting, FLA underlined the invaluable importance of sharing experiences for the identification of potential solutions in the IAS management despite the difficulty finding dedicated measures that are still available in the current POR ERDF.

In this meeting, the Managing Authority stated that the projects financed by the Interreg Europe program can have relevant results both when they influence programs and measures already financed by ROP ERDF and when they contribute to the release of funds for grants. His suggestion was to explore Axis III, namely the Axis involving “Turismo e Attrattività II”. The importance of identifying solutions for the contrast of IAS is a crucial point in the process of their management.

Considering this challenge, FLA decided to explore a sector still unexplored for contrasting IAS in Lombardy: the idea was to try to influence all those actions that could valorise tourism in the region with particular attention to the natural heritage of the territory and promote the attractiveness of cultural and natural heritage in internal areas. The idea behind this action was to promote activities to safeguard the local (native) biodiversity and so, indirectly, to contrast IAS.

**30.03.2020** FLA had the opportunity to actively participate in the writing of a regional call for tender related to Tourism and Attractivity of the Axis III of the POR-ERDF 14-20.

In this call, FLA suggested using local plant species in the renovation process of touristic outdoor structures. This apparently simple concept has two important goals: to improve the environment and the local fauna and, indirectly, to contrast IAS.

The general ecological concept behind this suggestion is that if an ecosystem has a high native biodiversity, IAS are less likely to colonise it.

**10.07.2020** The integration has been formally adopted in a regional call for tender published in the “Bollettino Ufficiale” of the Lombardy Region n.28 of July, 10<sup>th</sup> 2020<sup>20</sup>

<sup>20</sup> <https://www.fesr.regione.lombardia.it/wps/portal/PROUE/FESR/Bandi/DettaglioBando/Agevolazioni/bando-turismo-2-aree-aperte>

<p>First Phase: Interregional exchange learning</p>	<p><b>A1.2</b> FLA was responsible of this task and, during the process of the identification of the factors that determine the regional natural ecosystems' vulnerability to biological invasions, the relevant effects of the tourism emerged for the first time. The analysis of the results collected by FLA underlined how the tourism represents one of the main anthropogenic activities that impact all the analysed ecosystems.</p> <p><b>A2.1/ A1.4</b> During the second regional meeting of the INVALIDIS project, Lombardy Region illustrated their activity in collaboration with the Universities of Pavia, Milan and Insubria, and the Armed Forces in the process of realising an info point at the "Orio al Serio" Airport. The main core of this action was the increase of passengers' awareness on the problems that IAS cause and also the organisation of training courses for the staff of the airport; both actions were supported by the LIFE project GESTIRE 2020.</p> <p>Despite tourism is not the most demanding sector for the contrast of IAS, FLA proposed this action as a good practice against IAS.</p> <p><b>B3.3</b> FLA took part in two third party events organised by the LIFE project GESTIRE 2020 of Lombardy Region: one was related to the involvement of private companies for the safeguard of biodiversity and the other one was on the presentation of a regional call for tender for the financing of projects related to the safeguard of the local biodiversity. Both events were in line with the idea of the involvement of the tourism sector in the contrast of alien species.</p>
The Action	
<p>Description and role of INVALIDIS project</p>	<ol style="list-style-type: none"> <li>1. INVALIDIS project had supported Lombardy Region in the call definition of renewed call for tender "<i>Turismo e Attrattività II</i>" <i>Sostegno alla competitività delle strutture ricettive alberghiere e delle strutture ricettive non alberghiere all'aria aperta</i> (Decrees n. 3521 of March 29<sup>th</sup>, 2017 and n. 2876 of January 31<sup>st</sup>, 2020). FLA, through a formal letter, proposed the following reference integration: <i>"...la necessità di pervenire ad una maggiore consapevolezza degli operatori sul tema, per consentire la salvaguardia del patrimonio naturale di biodiversità esistente. La valorizzazione nel bando in oggetto di attività dei gestori di strutture ricettive, volte ad un mantenimento della fauna e della flora autoctona permetterebbe di sviluppare presso gli operatori turistici una fattiva presa d'atto di quanto suggerito dal progetto INVALIDIS".</i></li> <li>2. The financing measure has provided support for: the realization or renovation of structures and facilities or complementary units related to tourist activity. The action is dedicated to tourist micro, small and medium enterprises (hotels and other accommodation facilities such as residences, diffuse hotels; condhotels) and SMEs on open air too (tourist villages, campings, caravan rest areas). Candidate projects are evaluated on different perspectives and compared on a score of maximum 30 points. Among these, 5 points are dedicated to social and environmental sustainability objectives.</li> </ol>

	<p>Through INVALIS specification, successfully included, the SMEs could also be recognised for their use of certified local plants which could improve the ecological connection between natural areas already present and they could act as shelter areas for the local fauna.</p> <p><i>“Per l’attribuzione dei punteggi in tema di sostenibilità ambientale saranno considerati i seguenti elementi:</i></p> <p><i>[...]</i></p> <ul style="list-style-type: none"> <li>- <i>attenzione all’inserimento paesaggistico e alla biodiversità del contesto della struttura ricettiva (ad es. impianti vegetazionali/siepi arboreo-arbustive atte a creare piccole connessioni con boschi/arbusteti e aree verdi esistenti anche mediante l'utilizzo di specie vegetazionali autoctone certificate, interventi per favorire l'alimentazione e il rifugio della fauna, aumento della permeabilità dei suoli, ecc.);</i></li> </ul> <p>FLA actively shared this result with the other INVALIS project partners during the interregional meetings.</p>
Players involved	<ul style="list-style-type: none"> <li>● Lombardy Foundation for the Environment</li> <li>● Regional government <ul style="list-style-type: none"> <li>○ Managing Authority ROP ERDF 2014-2020</li> <li>○ Environmental Authority POR ERDF 2014-2020 of the Lombardy Region</li> </ul> </li> </ul>
Timeframe	<p>Publication on Lombardy Region official Gazette: 10.07.2020</p> <p>Open window for candidacy: 21.07.2020-15.10.2020</p> <p>Monitoring up to 2023.</p>
Funding support	<p>The regional financial support covers a maximum of 50% of the total eligible costs of proposed interventions (with a minimum total eligible investment of not less than 80.000,00 euro and a maximum total eligible investment of not more than 200.000,00 euro).</p> <p>Total financial allocation is 17.000.000,00 €</p>
Funding sources	<p>ROP ERDF 2014-2020 – Priority Axis III - Action 3.b.2.3</p>
Impact	<p>Main positive impacts:</p> <ul style="list-style-type: none"> <li>● Green marketing: opportunities for the SMEs to increase their strategic positioning.</li> <li>● Increase tourism sustainability: strengthening tourist SMEs with strategies which decrease their impact on the local biodiversity.</li> <li>● Alleviate the pressure on protected areas: integrating the touristic areas with the network of protected areas</li> <li>● Long run: the improvement of the local biodiversity could indirectly favour</li> </ul>

	<p>the ecotourism</p> <ul style="list-style-type: none"> <li>• Long run: decreased vulnerability of tourist areas to biological invasions</li> </ul>
Monitoring	<p>The monitoring phase is subsequent to the V reprogramming of ROP ERDF 2014-2020, as described in the introductory paragraph to ACTION 1.</p> <p>INVALIS monitoring activities will evaluate:</p> <ul style="list-style-type: none"> <li>• N° of candidate projects that include the use of native plant species for the requalification of the environment surrounding the touristic facilities as part of their project goals</li> <li>• N° of project awarded with 1 to 5 sustainability evaluation points</li> <li>• N° of project and amount of financial support granted to SMEs selected for receiving the funding.</li> </ul>

## 8. Monitoring plan

The monitoring plan of the INVALIS project will be based on the results as determined by the implementation of measures and actions identified in the present project (in coordination with Managing Authority).

The monitoring process will allow to identify the progress of INVALIS actions and priorities and the recommendations implementation during the second phase of the project. The monitoring process will involve the INVALIS regional key stakeholders in activating dialogues (meeting), to discuss the impacts of the proposed the action as well as the opportunity to implement the recommended actions.

In relation to the policy instrument addressed, FLA will consider as performance indicators the number of project proposals submitted to address the introduction/establishment of invasive alien species in touristic areas (Table 5).

**Table 2. INVALIS Action Plan monitoring: main measurable targets and indicators, data sources and assessment period**

Action	Measurable targets and indicators	Data sources	Assessment period
<b>Action 1</b>	Number of candidate projects	Lombardy Region Database	After implementation of action
	Number of projects awarded with 1 to 5 sustainability evaluation points	Lombardy Region Database	After implementation of action
	Amount of financial support granted	Lombardy Region Database	After implementation of action
<b>Recommended Actions</b>	Total effective allocated funds	Lombardy Region Database	After implementation of action, every six month till 05-23
	Number of stakeholders involved	Lombardy Region Database	After implementation of action, every six month till 05-23
	Number of projects proposed for each axis	Lombardy Region Database	After implementation of action, every six month till 05-23

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## **SIGNATURE**

The Managing Authority of ROP ERDF 2014-2020 of Lombardy Region herewith agrees to support and promote the implementation of the actions detailed in the present Action Plan.

I confirm that I have the required authority of my organization to do so and that the required authorization process of my organization has been duly carried out.

**Date:**

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**Name and Job Title:**

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**Signature:**

---

**Stamp of the Organization:**

---

## SIGNATURE

The Managing Authority of ROP ERDF 2014-2020 of Lombardy Region herewith agrees to support and promote the implementation of the actions detailed in the present Action Plan.

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**Date:**

July 21<sup>st</sup>, 2021

**Name and Job Title:**

DARIO SCIUNNACH , ERDF 2014-20 MA

**Signature:**

Il dirigente  
(Dr. Dario Sciunnach)

**Stamp of the Organization:**

