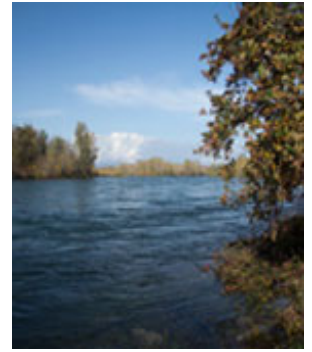




TIB - TRANS INSUBRIA BIONET - TIB - Trans Insubria Bionet. Habitat connection and improvement along the Insubria ecological corridor between the Alps and the Ticino valley

LIFE10 NAT/IT/000241



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#### Project description:

##### Background

Declining biodiversity is a major environmental problem everywhere, including in developed regions of Europe such as the densely-populated region of Lombardy (Italy). Habitat loss and fragmentation are the primary cause of biodiversity decline. To mitigate this biodiversity loss, Lombardy has identified and studied the functionality of critical ecological corridors, and the possibility of implementing a regional ecological network (Rete Ecologica Regionale - RER). One of the weak links of the network, the connection between the Alps and the Apennines through the Po Plain – the only possible route of dispersal for many species – is threatened by human activities.

##### Objectives

The general objective of the TIB project was to increase the functionality of the ecological corridor between Campo dei Fiori and the Ticino River Parks, an area covering some 15 000 ha and including 14 Natura 2000 network sites. This has been achieved through the improvement of environmental quality and the removal of problems related to the crossing of artificial barriers. Specific project objectives included the reduction of biodiversity loss caused by habitat fragmentation, degradation and destruction, and the re-establishment of links between the Alpine and Continental bioregions in the area between the Ticino valley and the Varese Pre-Alps. Furthermore, the project aimed to fight the

spread of invasive alien species, and to raise institutional awareness of the urgent need for systemic interventions in favour of large-scale ecological connectivity.

## Results

The TIB project's key message was: "Wildlife needs to move about to survive, LIFE TIB helps them do so". The TIB project was implemented in Northern Italy by the Varese Province, together with LIPU and Lombardia Region and the co-financer Cariplo Foundation. The project helped to stem biodiversity loss by restoring connectivity within the ecological corridor linking the Alpine and Continental bioregions in the area between the Ticino River Park and the Varese Pre-Alps.

The project strengthening the ecological network, by identifying and protecting the ecological corridors that allow animal and plant species to move between the Ticino River and Campo dei Fiori natural areas. It worked to defragment the landscape by protecting and strengthening road and river crossings used by animal species; it took action to combat invasive alien species and to facilitate the subsequent recovery of the ecological balance; and it facilitated the restoration of typical elements of traditional rural habitats.

One of the main project outcomes was the signing of an agreement among different stakeholders, namely the "Network Contract", involving 43 municipalities, the Varese Province, the Campo dei Fiori and Ticino Regional Parks, and Lombardia Region. This contract acknowledges the "Evaluation of Implications" as the adequate tool for the protection of the ecological corridor, leading to the implementation of Article 6 of the Habitats Directive. Perpetual agreements were signed with 279 landowners (321 land plots) and, in case of forestry, agreements were signed for land maintenance for at least 20 years.

The project constructed five underpasses used by dispersing amphibian species and eight pools used by amphibians for reproduction, and restored two existing wetlands in the Campo dei Fiori Regional Park. Eight underpasses were installed for the use of small- and medium-sized animals, with three existing underpasses being improved. Three culverts were adapted for the passage of wild fauna along waterways. The project restored a total of 400 m of new dry stone walls, and 295 m of already existing dry stone walls, to provide suitable shelters for amphibians, reptiles and small mammals. All these methods can be replicated elsewhere.

The project targeted mostly exotic trees, aiming to increase deadwood and microhabitats for saproxylic fauna (a total of 2 500 interventions); installed 541 nest boxes for birds and bats and created 66 nest holes; installed 150 log-pyramids for saproxylic fauna; and pollarded 30 trees, with 930 small plants of *Salix alba* and 40 plants of larger size planted to be managed by pollarding. Experimental techniques were applied for the removal of invasive *Nelumbo nucifera* from Brebbia Marsh and *Ludwigia grandiflora* from Varese Lake. Visual bird-scaring devices were fitted along electricity power lines for a total of more than 5 km (395 spirals and 69 isolated pillars).

A total of 17 different communication activities were implemented and 30 000 copies of different materials were produced and distributed. A total of 15 000

000 people received information about the project from the website, events, workshops and other activities. Project staff monitored the target amphibians, reptiles and other species, and they will continue to do so post-LIFE. The long-term sustainability of the project actions is guaranteed by specific agreements and funds already made available by the relevant authorities.

The project improved the natural ecological corridor between the Ticino River Park and the Campo dei Fiori Park for a range of target species. This is the most suitable corridor for preserving a functional link between the Alps and the Apennines through the Po Plain. By facilitating the mobility of animal and plant species, the project helps biodiversity adapt to climate change. The project strongly contributed towards attaining the objectives of the EU 2020 biodiversity target, the European Strategy for Biodiversity 2020, and the Habitats and Birds Directives. In particular, the project represents one of the first example of the concrete implementation of Article 10 of the Habitats Directive, by working to connect 14 Natura 2000 network sites in a project area of 19 000 ha. It also contributes to the implementation of the Birds Directive, for example, by improving habitat and decreasing the causes of mortality (e.g. electrocution on power lines) of several Annex 1 species.

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Environmental issues addressed:

Themes

Biodiversity issues - Ecological coherence

Keywords

protected area, biodiversity, animal corridor

Target EU Legislation

- Nature protection and Biodiversity
- Directive 92/43 - Conservation of natural habitats and of wild fauna and flora- Habitats Directiv ...
- COM(2011) 244 final “Our life insurance, our natural capital: an EU biodiversity strategy to 2020 ...

Target species

Anguis fragilis Bufo bufo Dryocopus martius Hierophis viridiflavus Hyla intermedia Lacerta bilineata Lucanus cervus Martes foina Meles meles Milvus migrans Mustela nivalis Osmoderma eremita Rana dalmatina Rana latastei Rana temporaria Triturus carnifex Zamenis longissimus

## Target Habitat types

- 9160 - Sub-Atlantic and medio-European oak or oak-hornbeam forests of the Carpinion betuli
- 9190 - Old acidophilous oak woods with Quercus robur on sandy plains
- 91E0 - "Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)"
- 3150 - Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation

## Natura 2000 sites

SCI	IT2010007	Palude Brabbia
SCI	IT2010002	Monte Legnone e Chiusarella
SCI	IT2010003	Versante Nord del Campo dei Fiori
SCI	IT2010004	Grotte del Campo dei Fiori
SCI	IT2010005	Monte Martica
SCI	IT2010006	Lago di Biandronno
SCI	IT2010008	Lago di Comabbio
SCI	IT2010009	Sorgenti del Rio Capricciosa
SCI	IT2010010	Brughiera del Vigano
SCI	IT2010011	Paludi di Arsago
SCI	IT2010022	Alnete del Lago di Varese
SPA	IT2010401	Parco Regionale Campo dei Fiori
SPA	IT2010501	Lago di Varese

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## Beneficiaries:

Coordinator	Province of Varese
Type of organisation	Local authority
Description	The coordinating beneficiary is the province of Varese in the Italian region of Lombardy. Since the 1980s, the province has run a department dedicated to local environmental matters. The department is responsible for two nature reserves, eight sites of Community Importance SCIs and three Special Protection Areas (SPAs).
Partners	Fondazione Cariplo, Italy (co-financer) Regione Lombardia, Italy Lega Italiana Protezione Uccelli (Italian League for the Protection of Birds), Italy

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Administrative data:

Project reference	LIFE10 NAT/IT/000241
Duration	01-OCT-2011 to 31-DEC -2015
Total budget	3,093,737.00 €
EU contribution	1,545,425.00 €
Project location	Lombardia(Italia)

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Read more:

Brochure	Title: "Fare la biodiversità" (3.88 MB) Author: Paolo Pileri Year: 2015 Editor: Provincia di Varese, LIPU – BirdLife Italia No of pages: 11
Brochure	Title: "Restaurare il territorio spezzato: Un ponte di natura tra le Alpi e gli Appennini = Restoring a fragmented landscape: A bridge of nature between the Alps and the Apennines" (6.92 MB) Author: Wouter Langhout, Luca Bonaccorsi, Claudio Celada Editor: Provincia di Varese, LIPU – BirdLife Italia No of pages: 13
Leaflet	Title: Project's leaflet (1.24 MB) Editor: Provincia di Varese, LIPU – BirdLife Italia No of pages: 10
Project web site	<a href="#">Project's website</a>
Project web site - 2	<a href="#">LIFE TIB Doc Trailer: "Moving to live" (04:44)</a>
Publication: After-LIFE Communication Plan	Title: After-LIFE Communication Plan Year: 2016 Editor: Provincia di Varese, LIPU – BirdLife Italia No of pages: 11
Publication: After-LIFE Conservation Plan	Title: After-LIFE Conservation Plan (Italian version, with summary in English) Year: 2016 Editor: Provincia di Varese, LIPU – BirdLife Italia No of pages: 30
Publication: After-LIFE Conservation Plan	Title: After-LIFE Conservation Plan Year: 2016 Editor: Provincia di Varese, LIPU – BirdLife Italia No of pages: 12
Publication: Book	Title: "LIFE TIB: Un corridoio ecologico tra Pianura Padana e Alpi" (9.36 MB) Author: Fabio Casale, Sara Barbieri, Federica Luoni, ... [ Year: 2015 Editor: Provincia di Varese, LIPU – BirdLife Italia No of pages: 244
Publication: Layman report	Title: Layman report Editor: Provincia di Varese, LIPU – BirdLife Italia No of pages: 13

Publication: Pedagogical tool	Title: "La biodiversità in provincia di varese" (1.79 MB) Author: Chiara Manghetti, Livia Speranza Editor: Provincia di Varese, LIPU – BirdLife Italia No of pages: 32
Publication: Technical report	Title: Project's Final technical report Year: 2016 No of pages: 150
Video link	<a href="#">"Connettere la biodiversità = Connecting Biodiversity" (5')</a>
Video link	<a href="#">"Dal consumo di suolo alla rete ecologica = From Land Take to ecological Networks" (6')</a>

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