

BioClima



natura
che vale

BIODIVERSITÀ, RICCHEZZA
DELLA LOMBARDIA

A public-private partnership for climate change
adaptation and biodiversity conservation

With the contribution of:



Regione
Lombardia

LIFE GESTIRE 2020 - Nature Integrated Management to 2020.

La strategia integrata per Rete Natura 2000 e la biodiversità in Lombardia

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The context

Over the past few years, attention and awareness towards the **climate crisis** have increased, undoubtedly due to its now visible effects. However, there is an equally urgent need to address another related climate crisis: **biodiversity loss**, which is also connected to human activities. Scientists, nongovernmental organizations, and national and international institutions have started to sound the alarm, starting to talk of a **sixth mass extinction** in the planet's history.

Several international initiatives have emerged to address this new reality by **setting ambitious goals and pointing the way forward through clearly defined roadmaps**. Notable initiatives include the Kunming-Montreal **Global Biodiversity Framework** (GBF) and the **Nature Restoration Law**. The framework, with its “**30 by 30 target**”, has been called the **biodiversity equivalent of the Paris Climate Agreement**. On its side, with its **ambitious ecosystem restoration targets**, the Restoration Law is the first law of its kind at the European level.

The problem

Although the emergence and development of these initiatives at the international level is undoubtedly a positive sign, several analyses have pointed out the presence of the so-called **Biodiversity Funding Gap** (also known as the Biodiversity Financing Gap), which consists of **the difference between the resources needed to achieve the goals set and the resources put in place, or planned, to achieve them**. This very funding gap is one of the main reasons why the biodiversity conservation goals of the past decade (Aichi targets) have yet to be completed.

To not miss the next decade's ambitious goals, which the United Nations has dedicated to restoring ecosystems, it is necessary and urgent to “**close the gap**”. The most immediate way to do this is to reduce, first and foremost, the damage done to nature and to increase the financial resources devoted to its conservation and restoration. Therefore, a systemic and cross-society change is required, and this means that **not only the public sector but also the private sector and finance are now called upon to play their part**.

The opportunity

We are already observing the first signs of this desirable change. Interest in *nature positive*, a method that aims to safeguard biodiversity as well as the climate, continues to grow both in the public and private sectors. The private sector is questioning what it might mean for companies to move towards *nature positive* practically, and along with the finance, it is willing to engage in dialogue with the public sector as evidenced by the growing interest in the **European Nature & Business Summit** (EBNS). The event, organized by the European Commission, in its 2023 edition is dedicated to the topic of *nature positive* and its link with companies. A great opportunity lies in the growing interest in this topic and in the promising dialogue between the public and private sectors lies an opportunity which, if seized, could **contribute to solving the problem of the Biodiversity Funding Gap**.

Regione Lombardia's solution: BioClima Initiative

In the aftermath of the COVID-19 health emergency, in the belief that recovery could come through interventions with a positive impact on nature, **Regione Lombardia allocated 3.5 million euros in funding through Regional Law 9 of 2020 (Lombardia Plan) to create BioClima.**

The BioClima initiative was developed as part of the LIFE project "IP GESTIRE 2020". In particular, the action aimed at testing governance pathways geared towards activating innovative financing mechanisms to support ecosystem services (i.e., the benefits nature provides humankind). With the external technical assistance of Etifor,

a spin-off of the University of Padua, and the support of Fondazione Cariplo, which works non-profit for social and local development purposes, Regione Lombardia conducted a long process of stakeholder consultation intending **to develop an innovative financing model for interventions in biodiversity conservation, climate change adaptation and enhancement of ecosystem services provided by forests, protected areas and regional ecological networks.**

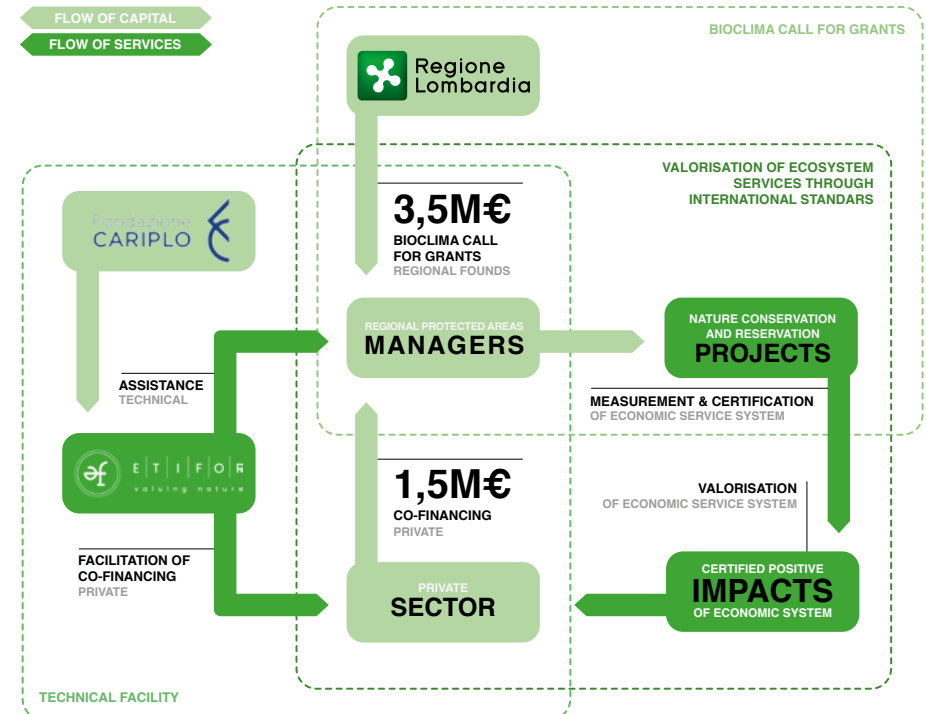


Operation and innovation

The BioClima initiative is, to all intents and purposes, a **public-private partnership**: a form of cooperation between public and private entities with the aim of financing services of public interest. In this case, the collaboration aims to finance forestry interventions to combat climate change and conserve habitats and species. BioClima gives concrete implementation to the Biodiversity Prioritized Action Framework (PAF) and Lombardia's Regional Strategies for Biodiversity and Sustainable Development.

The initiative consists of three key components:

1. **BioClima Call for proposals** (green box) granted the forest and parks managing entities part of the funds needed to implement projects in the area.
2. The **Technical Facility Service** (blue box), financed by Fondazione Cariplo and entrusted to Etifor, granted technical assistance to entities in identifying interventions, applying projects to the call for proposals and searching for private sponsors (through the use of
3. **International standards** are used to verify ecosystem services (yellow box) as a tool for quality assurance of projects and scientific measurement of impacts.



The initiative relies on an innovative **blended finance** mechanism, which is a system that uses public financing to attract and facilitate private sponsorship, coupling the two sources of funding to achieve results related to sustainable development. In this specific case, the blended finance model works on two levels:

- **On a regional scale**, the public entity provides grant funding, supplementing it with philanthropic funding of private origin granted by Fondazione Cariplo and an economic model for enhancing eco-

system services designed and managed by Etifor (which then also provides technical assistance and know-how)

- **On a local scale**, each beneficiary of the call receives sponsorships from private companies by generating certified positive impacts in the area through technical assistance provided by Etifor; the involvement of local communities allows the dissemination of the “value” created in the area.

Expected outcomes and impacts

The initiative attracted the interest of the management entities of 30 regional protected areas and resulted in the application of 18 projects. Of these, **12 were approved, funded and are currently ongoing**. These projects, detailed on the following pages, will reach completion in 2024.

Overall, it is estimated that after the implementation phase, the projects will have generated the following results:

- **FSC(R) certification for responsible forest management, with verified positive impacts on ecosystem services**, for more than **3,000 hectares**.
- **Forest improvements** of more than **300 hectares**.
- More than **27 hectares** of **specific biodiversity interventions**.

- Over **66,000 trees planted in reforestation**, creation of linear systems, ecological enrichment.
- Interventions for the **conservation of 16 protected habitats**.
- Interventions for the **conservation of over 20 protected species**.
- Resources worth **€5.6 million mobilized to finance interventions** for biodiversity conservation, climate change mitigation and adaptation, and enhancement of ecosystem services.
- **More than 150 people trained** on responsible forest management standards and procedures for verifying impacts on ecosystem services.
- Dissemination and awareness on the topic granted through **more than 20 field events open to citizens** and businesses and **over 100 mentions in the local or national press**.

Biodiverità e Clima project for companies

To include your company in BioClima initiatives, write to:

info@bio-clima.it
info@wownature.eu





Ticino Valley Park



Campo dei Fiori Park



Spina Verde Park

Ticino Valley Park

The project

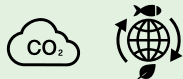
The Ticino Valley Park, Italy's first regional park, embraces a mosaic of highly differentiated natural and semi-natural environments. The extent and complexity of these ecosystems, within the highly anthropized framework of the Po Valley, means that they are not only reservoirs of biodiversity but also corridors and staging areas for species migration. However, some of these environments need interventions to be appropriately conserved.

The planned forest improvement measures include containing invasive exotic species and replacing them with native species. Further actions intend to restore and enhance habitats of high naturalistic value, such as wetlands, i.e., ecosystems characterized by the coexistence of soil and water.

Technical synthesis of the primary intervention activities

- 28 hectares of forest improvement work (replacing exotic species with native species).
- Creation of new wetlands by excavating, backfilling and bedding out of appropriate vegetation.
- Realization of an arboreal-shrubby hedge.
- Construction of a birdwatching facility.
- Securing a high-voltage power line, which represents a threat to birdlife.

TECHNICAL SYNTHESIS OF THE PRIMARY INTERVENTION ACTIVITIES:



Find out more

Campo dei Fiori Regional Park

The project

In the last few years, some of the forests in the Campo dei Fiori Regional Park in the province of Varese have been affected by a series of catastrophic events (fires, storms, torrential rains and hydrogeological disruptions), with negative consequences not only on some valuable habitats but also on the settlements downstream.

Therefore, action is being taken to restore damaged and degraded forests and recover other types of habitats (rough meadows, chestnut groves) of high value for animal and plant biodiversity in the area, regaining an ecosystem balance that has long since been altered.

Technical synthesis of the primary intervention activities

- Restoration of 8.94 hectares of damaged and collapsed forests by removal of dry and uprooted plants and subsequent artificial regeneration.
- Rehabilitation of 2.67 hectares of abandoned chestnut groves by removing unwanted vegetation, planting new chestnut trees and phytosanitary pruning with the tree climbing method.
- Creation of differentiated environment mosaics (through the result of clearings and restoration of lean grassland) on 2.76 hectares.
- Other interventions for biodiversity (construction of shelter trees and installation of bat boxes), accessibility and communication.

TECHNICAL SYNTHESIS OF THE PRIMARY INTERVENTION ACTIVITIES:



Find out more

Spina Verde Regional Park

The project

Spina Verde Regional Park extends northwest of Como in a hilly setting, embracing territories of significant natural, historical and scenic value.

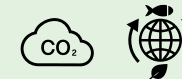
In some parts, the park's forests have been damaged by weather events and disease. This condition and a general need for silvicultural interventions have resulted in structurally and aesthetically compromised forests that support reduced biodiversity. At the same time, some wetlands important for amphibians require maintenance.

In the forests, the planned actions will include removing dead or damaged plants and planting new seedlings in their place; in the wetland area, however, action is taken to prevent landfill and create an access path to the site.

Technical synthesis of the primary intervention activities

- Removal of dead or damaged trees.
- Removal of non-native and invasive plants.
- Planting of more than 11,000 trees.
- Restoration of the wetland area through the reduction of non-native species and plants within the water body, creation of a secondary water body.
- Design of an access path to the wetland area through a wooden walkway and information boards.
- Establishment of a nursery to grow native plants for use in regeneration interventions.

TECHNICAL SYNTHESIS OF THE PRIMARY INTERVENTION ACTIVITIES:



Find out more



Adda Sud Park



Serio Park



Val di Mello

Adda Sud Regional Park

The project

Adda Sud Regional Park extends along the Adda River's lower reaches to the Po River's mouth, embracing valuable natural areas such as forests, meadows and wetlands (i.e., natural environments characterized by the coexistence of soil and water) that are home to protected animal species.

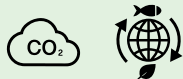
Invasive exotic species threaten the integrity of these valuable habitats, that is, species originally belonging to other environments introduced by humans that compete with native species naturally found in the area.

Thus, interventions are planned to conserve these habitats by removing invasive exotic species, planting trees, shrubs and floristic species to support pollinators, and laying boxes for overwintering bats.

Technical synthesis of the primary intervention activities

- 13.7 hectares of forest improvement with thinning, under-canopy planting, habitat tree establishment and bat-box installation.
- 6.4 hectares of dry meadow conservation.
- More than 1 hectare of new hedges, shrubs, and floristic enrichment with species palatable to pollinators.
- Installation of two environmental monitoring stations of air pollutants through analysis of pollinators and produced honey.

TECHNICAL SYNTHESIS OF THE PRIMARY INTERVENTION ACTIVITIES:



Find out more

Serio Regional Park

The project

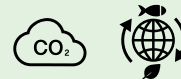
The Serio Regional Park stretches between the provinces of Bergamo and Cremona, along the course of the Serio River to its mouth in the Adda River. The Park's territory is characterized by the alternation of agricultural and natural areas and by sites of historical and architectural interest.

The interventions aim to rehabilitate and increase the natural environments typical of this ecological corridor, such as forests, rough meadows, wetlands and ponds. These environments, especially in a highly agricultural context, provide the necessary habitat for many amphibians, one of the most endangered classes of vertebrates. These include, for example, the Lataste's Frog, a frog endemic (i.e., exclusive to the area) to the Lombardy-Venetia plain.

Technical synthesis of the primary intervention activities

- Realization of a forested area of 3.9 hectares by planting over 5,000 trees and shrubs.
- Sowing of stable meadows.
- Restoration of the ecological functionality of the existing 1139 sq. m. wetland area.
- Creation of 8 small ponds for amphibians totalling 329 sq. m. under tree cover of the hygrophilous forest.
- Development of hedges and tree patches.

TECHNICAL SYNTHESIS OF THE PRIMARY INTERVENTION ACTIVITIES:



Find out more

Val di Mello Nature Reserve

The project

Val di Mello, located in the municipality of Valmasino (SO), is the largest nature reserve in Lombardy. The territory is characterized by an alpine landscape, in which the tremendous altitudinal range determines the presence of very diverse and heterogeneous environments embellished by meadows, pastures and alpine pastures.

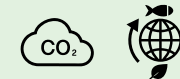
Many typical alpine species find a perfect habitat in this diverse environment. However, in recent decades, the abandonment of grazing activities has resulted in a reduction of the most fragile habitats and a consequent loss of biodiversity.

Thus, the intervention will aim to protect this diverse, complex and heterogeneous landscape mosaic by encouraging the proper development of forests and, in parallel, the protection of pastures and dry stone walls. The latter activity allows the maintenance of an artifact that is both a UNESCO "World Heritage Site" and a habitat for many insects, amphibians and reptiles.

Technical synthesis of the primary intervention activities

- 1.5 hectares of reforestation through the planting of more than 3,000 trees.
- 33 hectares of forest improvement with activities such as thinning and clearing, ecological enrichment, conversion to high forest, artificial regeneration, and containment of invasive exotic species.
- Restoration of dry stone walls.

TECHNICAL SYNTHESIS OF THE PRIMARY INTERVENTION ACTIVITIES:



Find out more



Orobie Valtellinesi



Martignana di Po



Torbiere del Sebino

Orobie Valtellinesi Regional Park

The project

The Orobie Valtellinesi Park, an area of extraordinary value for the variety and diversity of its ecosystems, stretches along the northern slope of the Orobie alpine range.

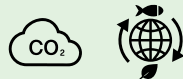
Due in part to the high degree of diversity and variety of its ecosystems, several animal and plant species have found ideal conditions to thrive. These include the iconic grouse, a threatened species considered vulnerable to extinction and, therefore, protected.

Interventions in the Park area aim to increase the availability of favorable habitats for grouse, but numerous other species, especially birds, will also benefit from these interventions. Goals include enhancing the area's naturalistic, recreational and educational value.

Technical synthesis of the primary intervention activities

- Forest improvement - aimed at creating a grouse-pleasing environment - of 24 hectares of adult forest by thinning, creating small clearings and protecting large-diameter trees.
- Forest improvement of 14 hectares of young forest through thinning and clearance operations to improve and diversify the structure.
- Trimming of pasture areas.
- Other interventions for nature and educational enhancement (upgrading of trails and educational paths).

TECHNICAL SYNTHESIS OF THE PRIMARY INTERVENTION ACTIVITIES:



Find out more

Municipality of Martignana di Po

The project

Maria Luigia Island is a Special Protection Area in the Martignana di Po (CR) municipality, and the river almost completely surrounds it.

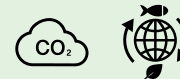
Maria Luigia Island, included in the context of the ecological corridor represented by the Po River, hosts a protected habitat typical of woods growing near rivers. The young woods on the Island, primarily recreated by human activity through the planting of trees, at present need some interventions to develop at their best. In particular, allochthonous species and a still suboptimal structure undermine natural forest regeneration, that is, the natural establishment of new trees and shrubs, and thus long-term survival.

The interventions aim to improve the structure of the forests, guiding them toward optimal development through forest improvement operations accompanied by planting trees and shrubs of species typical of the protected habitat intended to be recreated.

Technical synthesis of the primary intervention activities

- Thinning and chipping with enhancement wood-hauled material.
- Planting of trees and shrubs.
- Containment of invasive non-native species.
- Creation of nature trails for the fruition.

TECHNICAL SYNTHESIS OF THE PRIMARY INTERVENTION ACTIVITIES:



Find out more

Torbiere del Sebino Nature Reserve

The project

Wetlands are among the most threatened habitats on the planet. The Torbiere del Sebino nature reserve, just south of Lake Iseo, is a wetland of international importance.

Here, depending on the greater or lesser presence of water, very different environments are created, making up a complex and precious mosaic of habitats home to an incredible variety of species. In some areas, the presence of allochthonous species (i.e., species not initially present in this environment, arrived due to human action) of little ecological value that compete with native species have been found.

The future actions aim to conserve the mosaic of habitats through forest improvement actions, wetland rehabilitation, and improvement of sites used by waterfowl and migratory birds, amphibians, and reptiles.

Technical synthesis of the primary intervention activities

- Planting of more than 4,500 trees and shrubs.
- Removal of undesirable plant species.
- Ecological restoration by excavation and removal of material to recreate flooded marsh habitat to provide elective habitat for 14 target species.
- Restoration and creation of small natural wetlands.

TECHNICAL SYNTHESIS OF THE PRIMARY INTERVENTION ACTIVITIES:



Find out more



Oglio Nord Park



Oglio Sud Park



Canneto sull'Oglio

Oglio Nord Regional Park

The project

The Oglio Nord Regional Park runs along part of the course of the Oglio River of the same name, within Bergamo, Brescia and Cremona provinces.

The natural form of the Park's forests is, in some places, altered by invasive allochthonous species, that is, species originally belonging to other environments introduced by human activity that compete with the native species naturally present in the area.

Therefore, the planned interventions aim to contain these invasive allochthonous species and replace them with native species, and there will be further forest expansion by planting new trees. In addition, this process will include biodiversity interventions with several specific actions to benefit birdlife, amphibians, pollinators and bats.

Technical synthesis of the primary intervention activities

- Forest improvement by thinning to remove allochthonous pest species and replace them with native species.
- Expansion of existing forest.
- Renovation and improvement of wetlands.
- Establishment of semi-interred shelters within wet forests to promote the overwintering of amphibians.
- Laying of pollinator refuges in the form of reed boxes for wild bees.
- Installation of nest boxes for bats.

TECHNICAL SYNTHESIS OF THE PRIMARY INTERVENTION ACTIVITIES:



Find out more

Oglio Sud Regional Park

The project

The Oglio Sud Regional Park extends along part of the course of the Oglio River, crossing the agricultural plains of the Cremona and Mantua provinces to its confluence with the Po River. The park is rich in natural vegetation in a heavily anthropized landscape, and it provides a safe haven for aquatic and other wildlife.

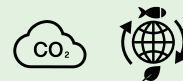
Over the years, several conservation and restoration efforts have been carried out on valuable habitats such as forests and wetlands.

The current need is to continue this path by protecting and expanding these habitats. This is why many interventions will take place in this area, including planting new trees and shrubs, removing invasive exotic species, and rehabilitating wetlands.

Technical synthesis of the primary intervention activities

- Planting more than 8,000 trees with different interventions (forestation, creation of linear green systems, etc).
- Forest improvement aimed to enhance the structure and to eliminate allochthonous species.
- Restoration of an oxbow through morphological remodelling and planting of native plant species.
- Further monitoring activities, natural and educational enhancement of the area.

TECHNICAL SYNTHESIS OF THE PRIMARY INTERVENTION ACTIVITIES:



Find out more

Municipality of Canneto sull'Oglio

The project

Canneto sull'Oglio (MN) is home to Lanche di Gerre Gavazzi and Runate, protected as Special Areas of Conservation and representing two small nuclei of naturalness set in a landscape context strongly shaped by human activities.

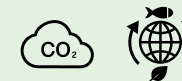
Because of this naturalness embedded in an anthropized context, oxbows ("dead" meanders of the river, isolated from the main body) play a key role in biodiversity conservation. They host many animal species, some of which are protected and endangered.

The young forests in these wetlands are, in some places, too dense or too homogeneous regarding different species' presence. Therefore, action must be taken to ensure an optimal structural development. In addition, environments suitable for amphibian reproduction (canals, wells) are to be restored, while new nature trails will encourage proper recreational use of the areas.

Technical synthesis of the primary intervention activities

- Thinning aimed to ensure a more natural structural development of the forest.
- Chipping and selling of the collected material to co-finance the interventions.
- Morphological remodelling of the channel (wreck of the ancient river course) and creation of pools suitable for amphibian reproduction.
- Realization of nature trails.

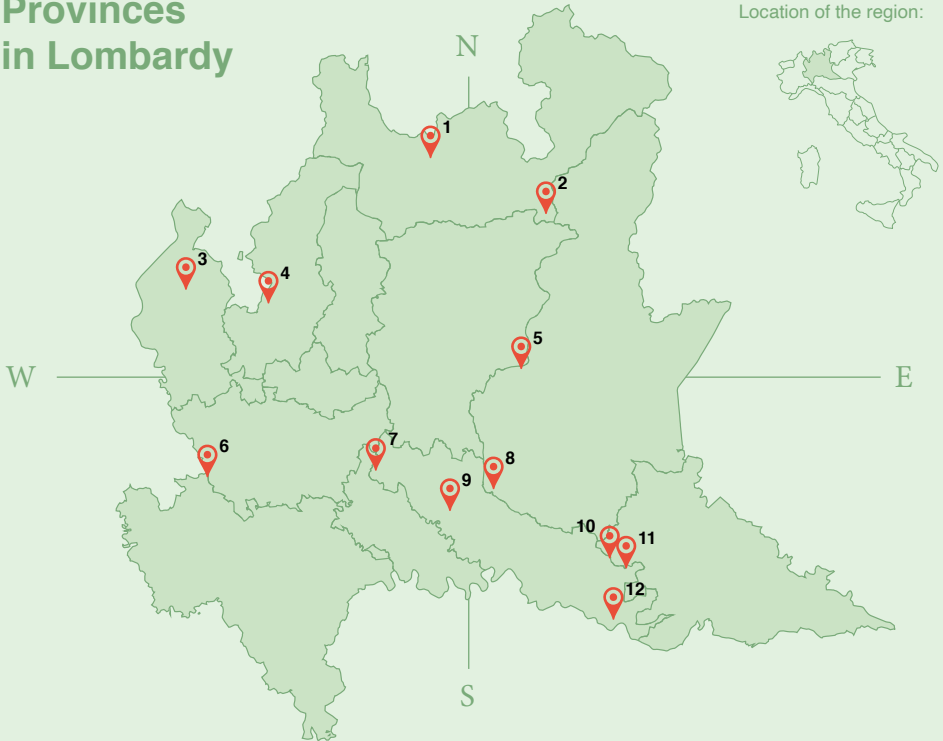
TECHNICAL SYNTHESIS OF THE PRIMARY INTERVENTION ACTIVITIES:



Find out more

Provinces in Lombardy

Location of the region:



BioClima Intervention Points

- | | |
|---------------------------------------|--|
| 1. Mello Valley Nature Reserve | 7. Adda Sud Regional Park |
| 2. Orobie Valtellinesi Regional Park | 8. Oglio Nord Regional Park |
| 3. Campo dei Fiori Regional Park | 9. Serio Regional Park |
| 4. Spina Verde Regional Park | 10. Municipality of Canneto sull'Oglio |
| 5. Torbiere del Sebino Nature Reserve | 11. Oglio Sud Regional Park |
| 6. Ticino Valley Park | 12. Municipality of Martignana del Po |

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