

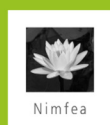


# SUSTAINABLE TOURISM ACTION PLAN

- High Modenese Apennine Regional Park
- Nirano's Mud Volcanoes Natural Reserve

D.T2.2.3 - Emilia-Romagna Region (PP01) -  
Central Emilia Parks Managing Authority

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## Table of Contents

1. Introduction .....	3
2. Protected Areas managed by the Central Emilia Authority .....	4
3. Demographic setting of the areas .....	8
4. Protected Areas involved in CEETO Project.....	9
4.1. High Modenese Apennine Regional Park.....	9
4.1.1. Flora and Fauna .....	11
4.1.2. Pratignano Lake .....	12
4.1.3. Santo Lake .....	13
4.2. Salse di Nirano Nature Reserve.....	14
4.2.1. Flora and Fauna .....	16
5. Strategy.....	19
5.1. Vision for sustainable tourism .....	20
5.1.1. Vision .....	20
5.1.2. Future Search.....	20
5.2. Future Search for Pratignano Lake .....	22
5.3. Future Search for Santo Lake.....	23
5.4. Future Search for Nature Reserve “Salse di Nirano” .....	24
6. Action Plan.....	25
6.1. Action Plan in Salse di Nirano: “Riserva Riservata” Nature Reserve .....	25
6.2. Action Plan in Santo Lake: “Liberiamo il lago” (Let’s set the lake free) .....	27
6.3. Action Plan for Sustainable Tourism Development .....	29



# 1. Introduction



The “Ente di Gestione per i Parchi e la Biodiversità Emilia Centrale” (Central Emilia Parks and Biodiversity Managing Authority) is a Public Authority established by Emilia-Romagna Region to manage protected areas of the Modena and Reggio Emilia provinces: 2 Regional Parks “High Modenese Apennines” and “Sassi di Roccamalatina”; 4 Regional Reserves “Secchia River Hydraulic Expansion Casing”, “Nirano’s Mud Volcanoes”, “Campotrera Rocky Cliff”, “Sassoguidano”, “Fontanili di Corte Valle Re” and “Collina Reggiana-Terre di Matilde” Natural and Semi-natural Protected Landscape - in addition to the Natura 2000 Network Sites. The Managing Authority has its legal and administrative headquarters in Modena and other three decentralized offices in Pievepelago, Guiglia (Pieve di Trebbio) and Rubiera. These offices also perform information and surveillance functions on the territory.

The priority purpose of the institution is to contribute, within the framework of the UNEP, EU and Italian Plans and Programs, to halting the loss of biodiversity and to maintain the functionality of ecosystem services while promoting the enhancement of the natural heritage and the improvement of living conditions of local communities. The general approach of the management of the Authority is aimed at making evident, in the first place to those who live in it, the protected areas as opportunities to unleash the potential offered by the natural, historical, landscape, cultural and human resources.



Fig. 1 - Territory of competence of the Ente Parchi Emilia Centrale and location of the Parks, Reserves and Natural and Semi-natural Protected Landscape managed by the Authority.

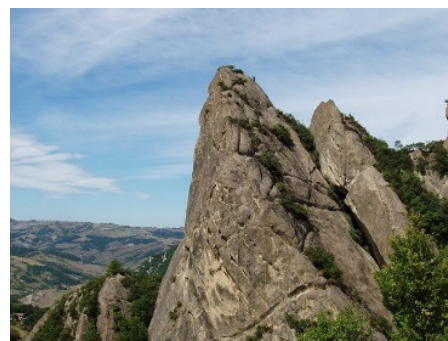
## 2. Protected Areas managed by the Central Emilia Authority

The regional protected areas managed by the Ente di Gestione Parchi e Biodiversità Emilia Centrale are eight, to which are added fifteen Sites of the Natura 2000 Network. The vision of protection and development of the different areas follow a common vision and common thread, although the strategies to be put in place will necessarily be specific to each area. Below is a brief description of these areas.



The High Modenese Apennine Regional Park with over 15'000 ha of extension and a territory that goes from 500 meters above sea level to 2'163m of Monte Cimone, the highest peak of the Tuscan-Emilian Apennines, presents a naturalistic environment rich and extremely varied. Inside the Modenese Apennine Park there are two areas of particular interest: they are the area between Monte Cimone - Libro Aperto - Lago Pratignano and the Monte Rondinaio - Monte Giovo area. Both are both SIC (Sites of Community Importance), and SPAs (Special Protection Areas).

The Sassi di Roccamalatina Regional Park protects an area with a surface of 23 Km<sup>2</sup> on the Modena hills. It consists of a gentle hilly landscape in the Emilian Apennines, characterized by ancient chestnut groves, woods and cultivated fields, at the center of which the imposing sandstone spiers of the Sassi stand. The main components are the arenaceous pinnacles of the Sassi di Roccamalatina and S. Andrea. A wide biodiversity of habitat concentrated in a small space allows the presence of species such as the Mediterranean tree heath alongside other high-altitude species such as beech and blueberry. Rich is the presence of orchids which, together with anemones, bells, lilies and cyclamens, colour the woods, the clearings and the rocky areas during the flowering seasons. The habitats recognized by the European Union of Community Interest, such as the alluvial forests of alder or the bush formations at *Festuco brometalia* have a particular value.



The “Secchia river Hydraulic Expansion Casing” Nature Reserve includes the water expansion tank, a stretch of river Secchia for a length of six kilometres and surrounding agricultural land; at the center of a wide urbanized area that can count on a catchment area of more than half a million inhabitants. A first intervention was to regulate human “activities” in the most natural area to allow for the necessary protection and thus favour the ecological balance.

The “Fontanili di Corte Valle Re” Regional Reserve, established in 1992, it covers an area of 37 hectares in the Municipality of Campegine - Province of Reggio Emilia. It is located in the plain halfway between Reggio Emilia and Parma. From the “Sun Highway” (A1) a characteristic rural complex stands out in the countryside, with the elegant manor house topped by a tower. The ancient court is the reference point for recognizing the area of the reserve, just 37 hectares, established to safeguard one of the last examples of resurgences of the plain of Emilia-Romagna, with the coming of the natural water table. The landscape of the area is characterized by thickets of hydrophilic plants in correspondence of the main resurgences and large ditches of running water that furrow the cultivated fields. Environments nowadays rare especially due to the too many irrigation water catchments that lowered the aquifers, and that marked the passage between high and low plain. The name of the area, which in the past belonged to the Reggio nobility, is linked to the counts of King, to whose family belonged the famous agronomist Filippo, rector of the University of Bologna at the beginning of the nineteenth century. The springs, locally called “*fontanazzi*” or lakes, are phenomena linked to the springing of waters that flow deep into the gravelly cones of the rivers, which in contact with lenses made of impermeable materials, are induced to rise to the surface. The puddle of outcrop is called the head of the fountain, from which a collector is born, the rod, which allows its outflow. The waters flow particularly clear and maintain a temperature between 11 and 17 ° C throughout the year, favouring the development of vegetation even during the winter, when small clouds of steam rise from the pools. Floating herbaceous species form delicate carpets that cover the flowing waters, and where the flow is faster, there are other submerged species. The edges are colonized by sedges, rushes, cattails and marsh straws, vegetation that is home to a rich minor fauna, including numerous specialized insects and of particular importance is the presence of *Panzarolo*, a small goby endemic to the Po valley.



The “Campotrera Rocky Cliffs” Regional Reserve, established in 1999, covers 42 ha located in the Municipality of Canossa, in the Reggio Emilia Province. At the heart of the Reserve rises an imposing rock formation, which rises from the clayey hills of Emilia, near the famous castle of Matilde di Canossa. The cliff is the most imposing rocky emergency in an area where there are about ten ophiolitic reliefs, with a characteristic reddish colour due to the oxidation of the ferrous component of the basaltic rock. A rugged, severe landscape of great geological interest, hardly colonized by vegetation capable of adapting to extreme environmental conditions. Due to its unusual natural habitats and

the wealth of biodiversity present, the reserve has been included in the list of sites of community interest (SIC) wanted by the European Union. The walls of the cliff are the vertical background of the valley of the *Cerezzola* river, a tributary of the Enza river. Like the other outcrops of ophiolites in the region, they are portions of oceanic crust located between the clays during the Apennine orogeny, hence the name of “islands” in the mainland. Among the many minerals found, the rare *datolite* stands out, with crystalline formations of particular beauty and the “lava cushions” produced by the sudden cooling of the lava in marine waters. As far as fauna is concerned, birds of prey and reptiles in particular are reported. Also, the local history stands out, above all for the presence very close to the protected area of the castle of Canossa, which has so much influenced the vicissitudes of these places and from which the Countess Matilde ruled her feudal state at the turn of the XI and XII centuries. In his presence, the famous meeting between Pope



Gregory VII and Henry IV took place here, which resulted in the acquittal of the emperor from the previous papal excommunication. Near the fortress, now in ruins, stands the still imposing castle of Rossena, also on the summit of an ophiolitic spur like the nearby tower of Rossenella.



The “Nirano’s Mud Volcanoes” Regional Reserve, established in 1982, covers an area of 209 ha in the Municipality of Fiorano Modenese (Modena Province). The Reserve protects a wide basin surrounded by gullies, in which numerous mud cones emerge which give the hilly landscape an almost lunar appearance. The “small mud volcanoes” originate through a unique geological phenomenon that has interested researchers since ancient times and still attracts visitors from all over Europe. Today the territory is protected by a reserve that also includes strips of forest, shrubs, ponds, meadows, arable land and vineyards, which together form an example of the hilly landscape of the first slopes

of the Modena Apennines. Many naturalists and travellers of the past have visited these areas, once more widespread than gradually exhausted, leaving an important documentation on their evolution. The first to leave a trace of it was Pliny the Elder in the first century AD. Since the '600 the saucers have been the object of more detailed studies, even if often still seasoned with fantastic colourings. The saucers are salty mud emissions and cold muddy waters that deposit in the shape of a cone with small craters at the top, from which gurgle gas and bituminous substances giving rise to cast characteristics. This is a phenomenon linked to the presence in the deep layers of hydrocarbon deposits originating from the anaerobic decomposition of organic remains of animal origin. The spontaneous ascent occurs under the thrust of the gases through deep fractures (faults) that intersect the reservoir. The vegetation near the cones is an example of adaptation to extreme conditions. The aridity and high salinity of the clayey soil condition the presence and distribution of plant species, which are arranged in concentric bands around the cones. In the areas close to the emission mouths, where the salt concentration is greater, the sparse vegetation cover is almost exclusively formed by sparse tufts of specialized grasses, typical of the coast. At a greater distance the grasslands formed by other species typical of the surrounding areas gradually gain the upper hand.



The “Sassoguidano” Regional Reserve, established in 1995, covers 280 ha in the Municipality of Pavullo nel Frignano - Modena Province. Located in the middle valley of the Panaro, in the Modena municipality of Pavullo nel Frignano, a rocky cliff emerges from the woods, stretching out between precipitous walls on a real plateau. It is the Sassoguidano reserve, which protects over the wooded plateau, the imposing ridge of the Cinghio di Malvarone (722 m asl) and the wild valley of the Lerna stream, a tributary of the Panaro, which develops between the rocks and then opens into a typical gully landscape, between steep walls and karst morphologies. On the calcarenitic walls of

the Cinghio, colonized by a sparse herbaceous and shrubby vegetation, one can see the peregrine falcon. In the plateau, oak and chestnut woods alternate with green grassy clearings of karstic origin, populated by various species of orchids; in one of them there is a small wetland, the pond of Sassomassiccio, almost dry in the summer months but rich in interesting vegetable and animal presence. The stretch of water in fact preserves a station of *Hottonia palustris*, a rare submerged aquatic plant from which emerges in spring a spike of pale whorl flowers. Furthermore, the absence of fish allows numerous species of amphibians to



complete the delicate reproductive phase. The floristic variety is quite rich: numerous herbaceous species of notable interest due to rarity or specialization are reported, linked to rupicolous habitats and clayey substrates. In the heart of the Reserve, which covers about 280 hectares, a Visitor Center has been set up in a historic rural building located near the Church of Sassoguidano, of 12th century origin, built in a very panoramic position. The other interesting religious building in the protected area is the oratory of Sassomassiccio, from the 11th-12th centuries, immersed in the chestnut forest. For almost thirty years, in the eighteenth century, it was the hermitage of a captain of the Este army, Vincenzo Muzzarelli, who later became a Franciscan friar with the name of Antonio Francesco.



The “Collina Reggiana - Terre di Matilde” Protected Landscape was established in 2011 and covers a large territory (area: 22.581 ha), in the Province of Reggio nell'Emilia and in particular in the Municipalities of Albinea, Baiso, Casina, Castelnovo ne 'Monti, Canossa, S. Polo d'Enza, Scandiano, Vetto, Vezzano sul Crostolo, Viano. Portion of the territory of the Reggio hills between the Tuscan-Emilian Apennine ridge and the Reggio Emilia front-hill, covering the hydrographic basins of the Enza River and in part of the Secchia River. The morphology of the territory is sculpted by the river dynamics of the Tresinaro, Crostolo and Tassobbio streams.

The geodiversity represented is rather wide: from the ophiolites of the area of Rossena and Campotrera, to the Salse di Regnano, characterized by modest but persistent lutivoma activity, with a beautiful cone and a mudslide extended for about 800 meters, with paroxysmal eective activity witnessed by Lazzaro Spallanzani; from the arenaceous rock of Canossa, an example of residual erosion, to the evocative gully morphologies that surround it; from the karst morphologies of the Messinian gypsum, to the verticalized layers of Flysch di Monte Duro.

From the vegetational, agricultural and settlement point of view the area is characterized by a wide diversity and rapid variability of environments: from the wooded nature of the most inaccessible areas and abandoned by agricultural activity, to forage cultivation for the production of Parmigiano Reggiano cheese , from Scots pine woods, to chestnut woods, from a dense network of castles, parish churches, villages, oratories, ancient roads and towers which together constitute the most evident traces of the great historical-cultural background of the Reggio hills. There is a prevalence of mountain hillside mosaics with high naturalness, hills and mountains with widespread and hilly gullies of average human settlement, hills - mountain with moderate anthropization and hills - mountains with widespread Scots pine. Rare and / or regionally threatened plant species such as *Pinus silvestris*, *Orchis ustulata*, *Stahaelinaa dubia* are reported. The rich hilly fauna includes species of community and local interest: mammals such as Istrice, Faina, Donnola and Tasso, in addition to the chiropterans Greater Horseshoe and the Greater Vespertilio. Among the amphibians are the Italic Geotritone, while among the reptiles there is the *Aesculapius colubro*. Among the birds there is the presence of different nesting species, including Tottavilla, Calandro, Averla piccola, Succiacapre, Kingfisher, Lodolaio and Lui bianco. The Ittiofauna is represented above all by the Barbo canino and the Ghiozzo padano. Among the invertebrates there are the river crayfish, the crustacean *Niphargus stygius* and the Dolichopoda palpata orthopter.



### 3. Demographic setting of the areas

The municipalities that give surface to the protected areas managed by the Emilia Central Parks Authority, are located in territorial contexts that have different specificities and also the dimensions of the single municipalities are very different. They range from the provincial capital of Modena, a city of over 184'000 inhabitants located on the polycentric metropolitan system of Emilia and Padano to the smallest municipalities in the province that do not reach 1,000 inhabitants (Riolunato and Montecreto).

Below is the data on the demographic structure of the municipalities pertaining to each of the eight protected areas managed by the Entity referred to 1 January 2016.

The indicators considered are as follows:

- Seniority index =  $(\text{Pop}_{65} / \text{Pop}_{0-14}) \times 100$
- Dependency index =  $[(\text{Pop}_{0-14} + \text{Pop}_{65}) / \text{Pop}_{15-64}] \times 100$
- Youth dependency index =  $(\text{Pop}_{0-14} / \text{Pop}_{15-64}) \times 100$
- Senile Dependency Index =  $(\text{Pop}_{65} / \text{Pop}_{15-64}) \times 100$
- Structure index (in active age) =  $(\text{Pop}_{40-64} / \text{Pop}_{15-39}) \times 100$
- Replacement index (in active age) =  $(\text{Pop}_{60-64} / \text{Pop}_{15-19}) \times 100$
- Olin Index of masculinity =  $\text{Males} / \text{Females} \times 100$

Territory	Total Population	Seniority index	Dependency index	Youth dependency index	Senile Dependency Index	Structure index (in active age)	Replacement index (in active age)	Olin Index of masculinity	Housing density	Middle Age	Surface KM <sup>2</sup>
Frassinoro	1.929	356,00	75,50	16,60	59,00	171,40	240,00	97,80	20,00	49,80	95,46
Fiumalbo	1.280	279,20	62,60	16,50	46,10	156,40	188,10	95,70	33,00	49,50	39,14
Fanano	2.989	286,00	63,60	16,50	47,10	164,80	204,60	94,50	33,00	48,80	89,91
Riolunato	712	312,90	68,30	16,50	51,80	167,70	200,00	107,60	16,00	49,50	44,91
Pievepelago	2.223	253,80	59,40	16,80	42,60	147,30	138,00	97,80	29,00	46,10	76,54
Sestola	2.510	351,30	67,40	14,90	52,50	188,80	226,90	96,60	48,00	50,40	52,47
Montecreto	940	308,40	70,30	17,20	53,10	176,00	526,70	110,80	30,00	50,10	31,22
Tot./media area	12.583										429,65
Tot./media Prov.	703.114	156,70	57,60	22,40	35,20	139,50	129,70	95,10	233,00	44,80	2.688,00

Tab. 1 - High Modenese Apennine Regional Park demographic setting.





Territory	Total Population	Seniority index	Dependency index	Youth dependency index	Senile Dependency Index	Structure index (in active age)	Replacement index (in active age)	Olin Index of masculinity	Housing density	Middle Age	Surface KM <sup>2</sup>
Fiorano Modenese	17.187	127,30	51,70	22,70	28,90	127,10	123,00	97,20	655,00	41,90	26,23
Pavullo n/F	17.477	150,90	58,60	23,30	35,20	139,40	119,50	96,60	122,00	42,40	143,73
Canossa	3.855	155,00	58,20	22,80	35,40	138,50	161,50	100,90	72,41	44,50	53,08
Campegine	5.232	128,20	55,20	24,20	31,00	123,90	130,40	99,90	222,29	42,90	22,62
Tot./media area	43.751										245,66
Tot./media Prov. (MO)	703.114	156,70	57,60	22,40	35,20	139,50	129,70	95,10	233,00	44,80	2.688,00
Tot./media Prov.(RE)	534.086	139,80	56,30	23,50	32,80	133,60	119,10	96,30	261,00	43,90	2.293,00

Tab. 2 - Other Natural Reserves (Salse di Nirano - Fiorano Modenese, Rupe di Campotrera - Canossa, Sassoguidano - Pavullo nel Frignano and Fontanili di Corte Valle Re - Campegine), demographic setting.

## 4. Protected Areas involved in CEETO Project

### 4.1. High Modenese Apennine Regional Park

The High Modenese Apennine Regional Park (formerly called “Frignano Park”) extends for over 150 Km<sup>2</sup> on an area ranging from 500 m. a.s.l. up to 2'163 m of the summit of the Cimone Mountain, the highest peak in the Northern Apennines. The Park presents a naturalistically rich and extremely varied environment.



Fig. 2 - Territorial location of the Regional Park, in the national, regional and provincial context.



Fig. 3 - Simplified cartography of the territory of the park (area in the red oval of fig. 2).



Fig. 4 - Images of the territory of the Regional Park.

Unique habitats, to preserve biodiversity, favour the growth and conservation of rare, plant and animal species. Glacial cirques cohabit with others transformed into peat bogs, forests of beech woods with large expanses of undergrowth, nival valleys settle on the slopes of the highest mountains, on which the golden eagle and other birds of prey flutter.

The Regional Park is rich and varied, with uncontaminated landscapes and luxuriant nature. Within the protected area there are two areas of particular interest: the area between Cimone Mount, the Libro Aperto (Open Book) and Pratignano Lake and the area of the Giovo and Rondinaio mountains, both defined as SCI (Sites of Community Importance) and SPA (Special Protection Areas) for the Natura2000 Network.

From a cultural point of view the park was an ancient area of human settlements. The high Apennine knew a consistent human presence with the Ligurian Friniati, remained in the territory up to the clash with the Romans, to whom we owe the first tracing (Via Bibulca) crossing the ridge towards Tuscany, then integrated in the Middle Ages by the streets linked to pilgrimages to Rome.

Historic streets that then, during the Este family dominion, saw enlargements and new tracks (Via Ducale, Via Vandelli). In addition to these, in the Park there are many traces of human activities over the centuries, from the historical centers of towns to hamlets, from hospitals to parish churches, from peasant courts to the oldest "Celtic huts", from mills to metatars (small buildings for chestnuts drying).

#### 4.1.1. Flora and Fauna



The profound climatic and geological changes, which have affected the territory of the park, have allowed the development of a varied and very abundant vegetation, mostly diversified according to the altitudes.

The predominant plant environment is the beech forest, which occupies the extensive mountain belt and establishes (around 1'700 meters of height) the upper limit of the arboreal vegetation.

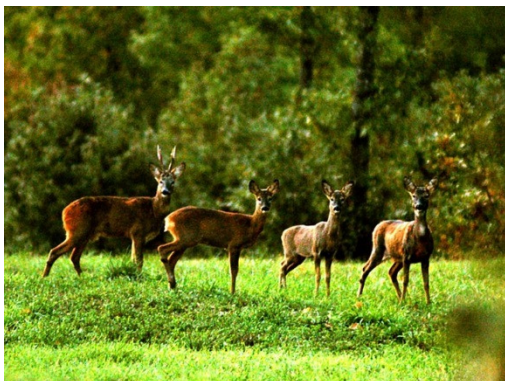
In the richest groups, beech trees are flanked by mountain maples, mountain beetles and rowan siblings.

At the bottom of the valley are easily found rows of maples, wild cherries, ash trees, oaks, downy oaks and hornbeams, sometimes with centuries-old specimens. The chestnut groves are widespread near the inhabited areas, having been for centuries the main source of livelihood of the locals. The undergrowth is composed mostly of knotty geranium, woodland lettuce, angelica minor, wood anemone, odorous starlet and sorrel, flanked by rare species such as aquilegia, dentarie, seal of salomon, grass crociana, martagon lily and variety of unusual orchids in Emilia-Romagna, as the listera cordata and the epipogium aphyllum. In the undergrowth there are also white and red firs, larches, black pines and Scotch pines. Coniferous woods, like the one surrounding Lake Ninfa, are widespread on the slopes and help to consolidate the landslide and to recover abandoned pastures.

Around 1'700 meters, the woods give way to the vaccines, whose vegetation is composed of low shrubs of blueberry and false blueberry, alpine rose, juniper nano and sporadic specimens of heather baccifera and cranberry. On the moor it is also easy to meet plants usually rooted at higher altitudes, such as the ferruginous rhododendron. On the summits of the reliefs the vaccines are partially replaced by the grasslands, in which are found graminaceous plants among which the brachipodio and blooms of the gentian of Koch, of the genzianella campestre and of the violet with spur. In the most inaccessible places, where the signs of the glaciations remain, it is possible to admire some rare varieties, such as the silver geranium and the fern woodsia, the alpine columbine, the narcissus flowered anemones, the alpine pulsatilla, the alpine star, some survivors and saxifrages and the "vedovella delle Apuane", with its characteristic blue flowers.



The particular microclimatic conditions of the slopes of the highest mountains, such as Cimone and Giovo, finally allow the presence of limited nival valleys, very rare in Emilia-Romagna, where the vegetation is mainly composed of mosses and grasses including the glacial canapicchia, the plantain of the Alps and the rare soldanella pusilla.



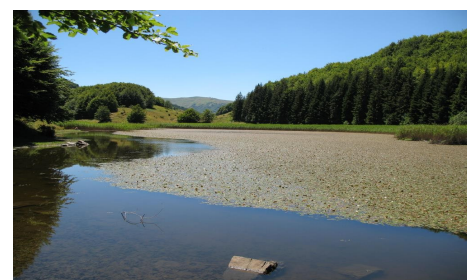
The Regional Park is located in the middle of a vast region of protected areas - it borders to the south with the Orecchiella Park, to the west with the Parco del Gigante and to the east with the Parco del Corno alle Scale - in an ideal position to preserve and increase a rich and varied fauna. The territory is in fact populated by some rare species such as the wolf, until recently considered “endangered”, the goshawk, the marten, the golden eagle and the eagle owl. At high altitudes there are numerous marmot colonies, while deer are often seen in the meadows that intertwine the woods. In the areas bordering the Corno alle Scale Regional Park (in the Bologna’s Province), it is

possible to observe the agile movement of the mouflon, and recently the porcupine has also appeared. The roe deer, the fallow deer, the marten, the weasel, the wild boar, the badger, the fox, the squirrel, the dormouse and the tiny dormouse are the most common and widespread. In the highest grasslands it is easy to come across the snow vole, a thick-hued rodent that does not hibernate, and under the blanket of snow digs a dense network of tunnels that leap into the eyes with the thaw. There are also numerous birds of prey, among the most common the kestrel, the sparrow-hawk and the buzzard. Among the chestnut trees that stand out in the valley bottom the tawny owl and the common owl. The environmental wealth of the park allows numerous species of birds to find their ideal habitat: from peaks to them, from merlons to siskins, from larks to finches. In the coniferous forests, the ruler, the flower-head, the bullfinch, and the cruise are common. Among the rocky walls it is easy to see the wallcreeper, with its wonderful pink livery. The nuthatch instead lives in the coppice woods together with a blue tit and a big tit. Fanelli and white whites fly over the prairies of the ridge, while the solitary sparrow, easily recognizable by the dark blue colour, nests between the rocks. In the arid areas near the rocks, instead, the codirossone lives. In the numerous streams it is possible to come across some examples of cinerone heron, predator of small fishes and amphibians, of yellow wagtail and dipper. In the same waters they also house the brown trout, which can reach considerable dimensions, the alpine newt, the frog and the spotted salamandra. Finally, in autumn, it is possible to watch the passage of storks that head to the south, while large flocks of wood pigeons, thrushes and chesens find shelter and refreshment in the wooded expanses.



#### 4.1.2. Pratignano Lake

Located between two parallel ridges, Lago Pratignano was born from the phenomenon of doubling of the ridges and is one of the most delicate biotopes of the park, which must be approached with the utmost respect. Next to the transformation into a peat bog, it hosts a marsh vegetation inside which large clusters of sedges can be recognized. Where the peaty mass rises in small isolated cushions appears the *Drosera rotundifolia*, a glacial residuum carnivorous plant that’s very rare in the Apennines.





The pilot area of Lake Pratignano consists of a peat bog with one of the highest values of biodiversity in the northern Apennines thanks to its habitats, its fauna and its flora.

Although the area is classified with the highest conservation rate by the authorities (A and A1), the absence of physical barriers exposes Lake Pratignano to different types of invasions and damage from both domestic and wild animals and from visitors.

The presence of tourists is not so significant in terms of numbers compared to other areas of the Park, but incorrect behaviours and attitudes in the bog endanger

habitat and biodiversity. It is necessary to monitor and understand the main threats to peat bog habitats and influence visitor behaviour and access to the entire area, including surrounding forests and pastures, preserving traditional activities as a site for agriculture and mountain breeding and its unique landscape.

### 4.1.3. Santo Lake

At the foot of the steep north-eastern slope of Monte Giovo, the Lago Santo, with a perimeter of 1,5 kilometres and a depth of about 20 meters, is the largest of the High Modenese Apennine Regional Park and has glacial origins, like many other lakes in the area. Powered by very cold subterranean sources, it is surrounded on the eastern shore by a beech wood undergoing conversion to the high trunk, while on the other side there are a series of shelters near which fishing is allowed.



The Pilot Area of Lago Santo Modenese is subjected to high visitors' numbers, mainly during July and August. The place is seen by visitors mainly for its recreational use, less as a treasure of natural and landscape value, especially out of the main season.



The main problem is related to traffic jams, overcrowded parking spaces and lack of safety along the access roads (both for trekkers and drivers). Moreover, the behaviour of visitors which is not always adequate (illegal camping), contributes to a general sense of chaos and disorder. There is a need to try to control these tourist flows and to distribute them a broader period of time (seasonal adjustment), especially during autumns and winters, and to develop some activities in order to enhance a more conscious use of the territory, sustainable and low carbon transportations, and promote the tradition and hospitality in the whole area of Tagliole valley.

## 4.2. Salse di Nirano Nature Reserve



The Salse di Nirano Nature Reserve stretches over the first slopes of the Modenese Apennines on 209 hectares in the municipality of Fiorano Modenese and protects the largest and most peculiar "sauces" complex in the region and, with that of Aragona (Agrigento), the most important in Italy and one of the most complex in Europe.

The "salse" are clayey formations that emit mud mixed with hydrocarbons and originate from mainly gaseous hydrocarbon deposits (methane bubbles) and, to a small extent, liquids (petroleum), which, coming to the surface, soften the clays resulting in typical cone formations: a phenomenon known since ancient times and

studied by famous scientists of the past, who have exalted the interest, with observations often very imaginative.

The Nature Reserve of Salse di Nirano was established in 1982 as the first Natural Reserve in Emilia-Romagna. It protects the largest and most peculiar complex of "salty mud-volcanoes" in the region. In 2004 the European Commission identified the entire area of the reserve as a Site of Community Importance (SCI), thanks to the presence of 7 natural and semi-natural habitats, as well as animal species and plant essences to be protected. The core area, an integral reserve of about 10 hectares, is made up of a large basin in which about twenty apparatuses (between cones and springs) emerge, from which saltwater mixed with clay and hydrocarbons naturally outcrop since immemorial time.

The Salse di Nirano is an important geological phenomenon of international importance. "Salse" originate from mainly gaseous hydrocarbon (methane bubbles) and to a small extent liquid (petroleum) deposits, which, coming to the surface, soften the pliocenic clays and give rise to the typical cone formations. Salse are particular sources of muddy and salty water in which bubbles of gas, constituted by 98% of methane gas, gurgle.



These "mud volcanoes" are the surficial expression of the presence, in depth, of hydrocarbon deposits accompanied by salty waters of marine origin. "Salse" are considered "pseudo-volcanic" phenomena, as they have characteristics similar to volcanoes, but they have completely different origins, not being connected to igneous activities and being absolutely cold. Moreover, they are salty: hence the name sauces. Another important recognition of the geological and geomorphological value of the area took place in 2016 when the Emilia-Romagna Region identified a geological site of regional importance due to the presence not only of mud volcanoes but also of gullies and hilly landscape.

### Riserva naturale Salse di Nirano

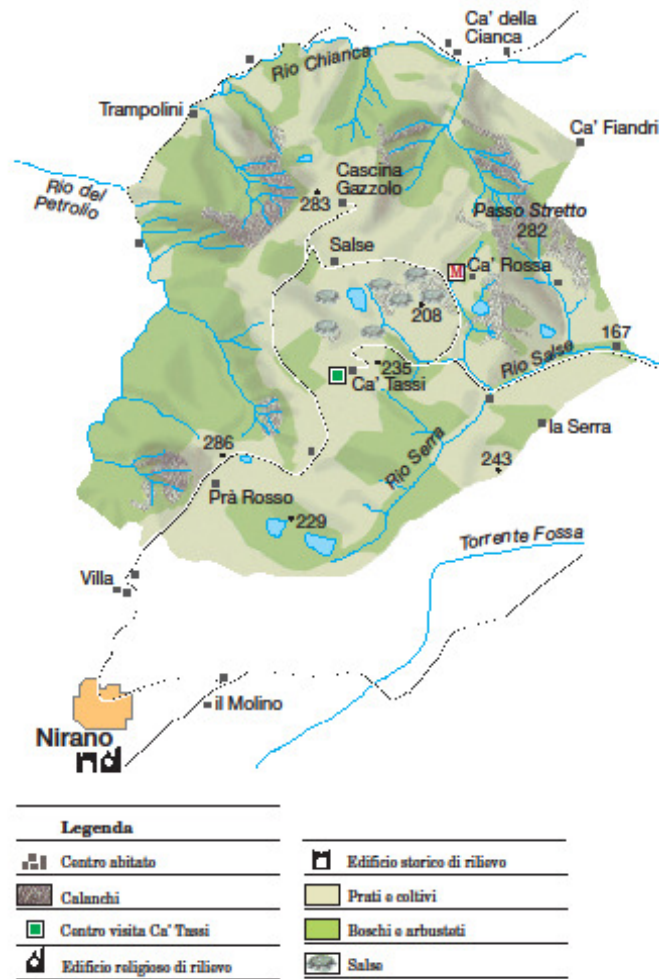


Fig. 5. Simplified map of the area of the Nature Reserve.

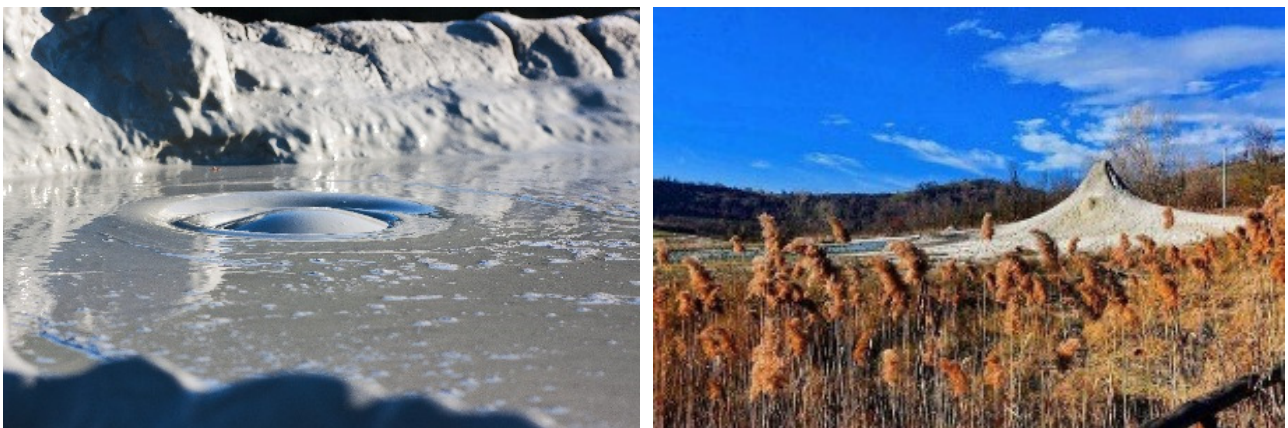


Fig. 6 - Details and panoramic view on the "Salse" (Mud Volcanoes).

#### 4.2.1. Flora and Fauna

Particular attention is not usually paid to the vegetation that grows near the mud "cones", but these seedlings with an inconspicuous appearance are different from those that grow all around and represent a beautiful example of typical and specialized vegetation, linked to precise environmental conditions. The muddy deposits that surround it are, in fact, an extremely selective environment for plant life, especially due to the high clay content and the considerable salinity of the soil. The latter is the factor that most influences the presence and distribution of plants, determining, with its gradual decrease as we move away from the sauce, the characteristic arrangement of vegetation. Near the mouths the vegetation cover is sparse and fragmented, almost exclusively formed by scattered tufts of gramignone reclamation (*Puccinellia fasciculata*), whose abundance around the lutivoma cones was among the reasons for the establishment of the Reserve in 1982. *P. fasciculata*, also known as Gramignone delle bonifiche, it is a species belonging to the Poaceae or Gramineae family, included in the subfamily Pooideae. *Puccinellia fasciculata* is typical of sandy or clay subsoils both continental and coastal and is a native species of Western Europe and Africa, with Mediterranean-Atlantic distribution. In Italy (Pignatti, 1982) *P. fasciculata* is distributed along the northern Adriatic coasts from Friuli-Venezia Giulia to Abruzzo, along the north-western coasts and in the large islands. The only 3 hinterland populations known in Italy are exclusive to Emilia-Romagna; among these, the largest is located in the Natural Reserve of Salse di Nirano. The presence of the species in the hinterland is linked to the existence of alomorphic soils associated with the phenomenon of Saucers, in which the concentration of NaCl shows a remarkable seasonal variability strictly dependent on climatic events (Miselli et al., 1991). *P. fasciculata* is a myalophilic species able to colonize soils characterized by considerable periodic variations in the sodium chloride content. The highly selective conditions, such as fluctuations in the degree of salinity and the clayey soil, allow a few plant species the ability to colonize the slopes of lutivoma cones. The vegetation has a characteristic configuration of concentric rings, each of which has a different composition: the innermost ring, close to the mouths of the lutivome, is almost completely aphoric; the second is characterized by *P. fasciculata*; the third is occupied by *Elymus athericus* (Link) Kerguélen, together with *Atriplex patula* L., *Lotus tenuis* Waldst. et Kit. and *Bupleurum tenuissimum* L.



Fig. 8 - Distribution of the *Puccinellia fasciculata* in Italy (<http://dryades.units.it/trieste/>).





Going further, the salinity of the soil decreases until it becomes about nothing and the miaalophilous vegetation merges into a polyphite prairie, with a semi-ruderal character. The population of *P. fasciculata*, together with the aforementioned species and with *Hainardia cylindrica* (Willd.) Greuter, constitutes a rare example of continental alophile grassland corresponding to the habitat 1340\* "Continental flooded pastures", a priority for conservation under the Directive 92/43 / EEC and characterizing the IT Site 4040007. *P. fasciculata* is a flag species for the Natural Reserve of Salse di Nirano. It is evaluated as vulnerable (VU) at regional level (<http://ambiente.regione.emilia-romagna.it/>), based on the criteria of the IUCN Red List (<http://www.iucn.it/>), mainly by way of the size of its range and its fragmentation. Among the species present is the more distinctly halophilous one (salt lover), able to survive high concentrations of sulphates and sodium chloride. With the arrival of spring, even the thin seedlings of corregiola grass (*Atriplex patula*) appear, a common crop



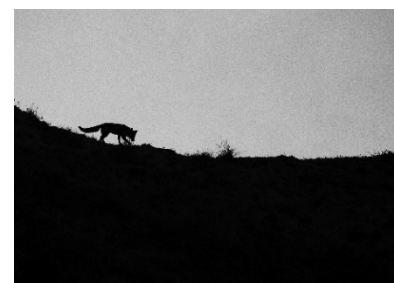
infestation present here in the variety *angustifolia*, with particular adaptations to the aridity and salinity of the soil. Moving slightly away from the cones vegeta the buplero grappoloso (*Bupleurum tenuissimum*), a umbrellifer with predominantly coastal distribution and takes over the coastal grass (*Agropyron pungens*), which forms denser grasslands, enlivened by the yellow blooms of the scorzonera of the clays and the rare gorse with narrow leaves. Among these species, which most characterize the vegetation of the sauces, there are also common herbaceous plants: marsh reed in the points where the water stagnates, wild carrot, stumps, vulgar aspraggine, crisp romice, common weeds and others adapted to the aridity of the clay soils



more marginal position, to mark the gradual passage towards the surrounding meadows. Thanks to the stipulation of a multi-year research agreement (ref. 1254/2017) between the Municipality of Fiorano Modenese, the Emilia Central Parks Authority, the University of Parma, the University of Modena and Reggio - Emilia and the University of Bologna studies are monitoring over time the genetic variability and the dynamics of the halophilic vegetation for the conservation of the priority habitat 1340\*, aimed at the enhancement of the flag species of the reserve and to better understand the origin of this apparently insignificant plant since

it is a herbaceous species, glaucescent, often characterized by forms of dwarfism, with simple inflorescences called spikelets and easily confused with field herbs but with reproductive strategies and resilience to the environment that have perhaps made it a living fossil species.

In the Reserve, in spite of the modest dimensions, there are a good part of the species of mammals and birds typical of the hilly area of the northern Apennines, among which those related to the environments adjacent to the gullies are more important. As far as mammals are concerned, the area hosts predators such as weasels, foxes and badgers and ubiquitous species such as mole, hare and numerous micro-mammals.



The most interesting birds are those that live in small oak woods and bushes that grow along the ridges and at the foot of the gullies. The most characteristic species are turtledove, small, tottavilla, cardellino, verdone, gazza, cinciarella, canapino, lui bianco, sterpazzolina, saltimpalo and strillozzo. In areas with little or no vegetation, located in the gullies or around the sauces, we can observe, instead, the white



wagtail, with the unmistakable jolt of the tail and the whiteman, a migrant that mostly frequents stony ground and dry lands. Among the birds of prey the easiest species to observe is the kestrel, a small hawk that feeds on insects, lizards and small mammals. There are also amphibians and reptiles, such as the common toad, the arboricola raganella, the agile frog and the newt crested and dotted. Among the reptiles, in addition to the most widespread ones such as wall and field lizard, green lizard, and small snake and, among the snakes, white snake, hearse and collar nymph, it is worth mentioning the luscengola.

## 5. Strategy

The “Ente di Gestione per i Parchi e la Biodiversità Emilia Centrale” is a Public Authority established in 2011 by Emilia Romagna Region to manage protected areas of the Modena and Reggio Emilia provinces. Despite the institution's recent establishment, the strategy implemented in recent years has not been limited to the construction of the new body, but a broad environmental policy has been set that looks beyond just the safeguard and protection action, a mission as fundamental as granted.

In a more advanced vision of the function of the Protected Areas Managing Authorities, a policy has been set up to overcome the logic that has often characterized their perception that is that of . The qualitative leap that we tried to set up was to reverse this widespread perception by making protection and environmental protection an opportunity for development for the territory.

The richness and the quality of our natural environments are a factor of attraction for tourism and for all the activities connected to it and the same environmental quality is also synonymous with the quality of the agri-food products that the same territory expresses.

In order to develop these potentials, a work program has been launched focusing mainly on three areas:

1. environment and tourism;
2. environment and sport;
3. environment and quality of typical and natural productions.

An important work was then dedicated to improving the forest heritage, the landscape and the environmental infrastructure.

The strategy and the development project envisaged by the institution to be concrete in the next few years are: to make environmental quality, culture and traditions the driving force behind our tourist attraction and the credentials of our agri-food products and our companies.

The work of the next few years will therefore be priority oriented in the following directions:

- 1) To consolidate the holistic and systemic vision of Parks and Protected Areas as systems of environmental excellence, heritage of a wide territory;
- 2) to protect and safeguard the environment and biodiversity in relation to progressive climate changes;



- 3) to preserve and enhance the environment as a fundamental resource for tourism development and attractiveness;
- 4) to promote the environment of our Parks and Protected Areas as a gym for sports activities and leisure activities;
- 5) build and maintain infrastructure for green tourism and sport in the environment;
- 6) to promote environmental quality as a synonym of quality and genuineness of our typical agro-food and gastronomic products;
- 7) to enhance natural spaces, forest heritage and ecosystem services;
- 8) to integrate the protected areas of the Institution with the MAB-UNESCO area of the Tuscan-Emilian Apennines and its expansion in the Modenese Apennines;

Regarding point 3), tourism now represents a sector in which the research of the relationship with nature and the environment is constantly growing. The leap in quality that must be accomplished is to build tourism proposals in an integrated way and shared with local operators.

The CEETO project has contributed to establishing closer links between local stakeholders and the managing body by promoting a participatory system for the development of the Sustainable Tourism Action Plan through the implementation of Pilot Actions in the two identified areas of Santo Lake and Salse di Nirano Natural Reserve.

## 5.1. Vision for sustainable tourism

The main challenge faced by the Authority of the High Modenese Apennine Regional Park concerns the possibility that the Sustainable Tourism Action Plan can become the first step towards obtaining the European Charter for Sustainable Tourism promoted by Europarc/ Federparchi:

*Quality Sustainable Tourism, that will be good for Parks and good for People.*

### 5.1.1. Vision

Sustainable Tourism in European protected areas provides a meaningful quality experience, safeguards natural and cultural values, supports local livelihoods and quality of life and is economically viable.

### 5.1.2. Future Search

The Future Search carried out during the participatory processes meetings during the meetings led to the definition of the following priorities:

1. Giving priority to protection;
2. Engaging all stakeholders;
3. Planning sustainable tourism effectively;
4. Pursing continuous improvement.



The Sustainable Tourism Strategy and Action Plan should be based on local circumstances and priorities as assessed and agreed through the consultation process. Key and relevant actions to be implemented are associated with each strategic theme:

**A) Protecting valuable landscapes, biodiversity and cultural heritage:**

- 1) Influencing land use planning and the control of potentially damaging developments;
- 2) Influencing the location, type and design of tourism developments;
- 3) Managing visitor flows, activities and behaviour in sensitive areas and sit.

**B) Supporting conservation through tourism:**

- 1) Encouraging visitors and tourism businesses to support conservation, through donations, volunteering and other activity;
- 2) Using revenues obtained from tourism-related activity to support conservation;
- 3) Establishing, supporting and promoting tourism-related investments, projects and activities that help to conserve the natural and cultural heritage.

**C) Reducing carbon footprint, pollution and wasteful resource use:**

- 1) Working with tourism businesses to improve environmental management, including use of energy and water, waste management, and noise and light pollution;
- 2) Promoting the use of public transport and other alternatives to cars.

**D) Providing safe access, quality facilities and special experiences of the protected area, available to all visitors:**

- 1) Providing a wide range of access opportunities, with attention to safety and risk;
- 2) Improving the quality of visitor facilities and services;
- 3) Providing visitors with specific tourism offers which involve discovery, interpretation and appreciation of the area's special natural and cultural heritage;
- 4) Providing facilities and information for visitors with special needs.

**E) Effectively communicating the area to visitors:**

- 1) Ensuring that marketing materials and activities promote the area effectively and responsibly;
- 2) Providing good quality and effective visitor information and interpretation;
- 3) Ensuring that tourism businesses and other local stakeholders are well informed about the area and provide relevant and accurate information to visitors;
- 4) Providing specific information and interpretation for young people, schools and student groups.

**F) Ensuring social cohesion:**

- 1) Anticipating, monitoring and minimising any existing and potential conflicts with local residents;
- 2) Maintaining good communication and engagement between local residents, businesses, visitors and the protected area authority;
- 3) Encouraging and developing appropriate partnership activity with and between stakeholders.

**G) Strengthening prosperity in the local community:**

- 1) Promoting the provision and identity of local produce and services and their purchase and use by visitors and tourism businesses;
- 2) Supporting the economic viability and performance of local tourism businesses and the provision of local employment in tourism.

**H) Providing training and capacity build:**

- 1) Providing relevant training for staff of the protected area authority in sustainable tourism development and management;
- 2) Providing and encouraging relevant training and capacity building for tourism businesses and other stakeholders in sustainable tourism.

**I) Monitoring tourism performance and impacts:**

- 1) Monitoring of visitors - volumes, patterns, spending and satisfaction;
- 2) Monitoring of tourism businesses - performance and needs;
- 3) Monitoring of tourism impacts - on the environment, economy and community;
- 4) Monitoring progress in implementing the action plan.

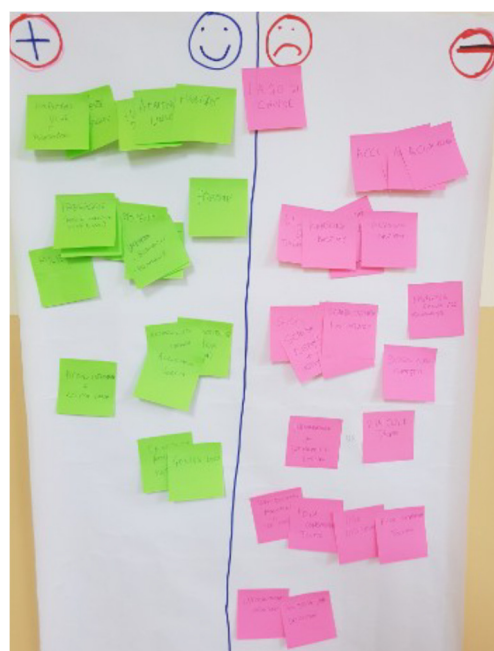
## 5.2. Future Search for Pratignano Lake

During On-the-Spot Workshop, in Fanano, held on 10/10/2018, the Future Search activity gathered 13 “visions” of the area, enlightening the positive and negative aspects of human activities in the area (not only linked to tourism).

The outcomes confirmed the main assumptions of the Park: to protect this fragile and unique area, its habitat and landscape, it is necessary to collect information and objective data on the spot, and on the other side try to influence the behaviours of the visitors, guiding them in the correct approach to the site.

A particular attention has to be addressed on the mountain breeding and farming, a positive aspect - since it represents the local tradition and culture of the mountain populations - but also a problematic human activity for the sensitive habitat of Pratignano, if not well managed and monitored.

The analysis of the positive and negative aspects concerning the pilot area underline these two main aspects, among others like accessibility and strict nature conservation measures and produced a first draft of the strategic themes for the related Action Plan:



*Fig. 9 - Results of the Future Search carried out with stakeholders on the Lake Pratignano area.*



1. (PRIORITY 1) - Conservation of biodiversity and landscape/contrast to habitat deterioration and abandonment of the territory;
2. (PRIORITY 2) - Information, education and control;
3. (PRIORITY 3) - Accessibility, fruition and services;
4. (PRIORITY 4) - Management and valorisation of the traditional mountain farming.

Fig. 10 - WotS for Pratignano Lake (Fanano - MO).

### 5.3. Future Search for Santo Lake



During the On the Spot Workshop, held in Pievepelago, on 11/10/2018, the participatory activity to identify strategic issues (Future Search) generated 16 "visions" of the area, highlighting the positive and negative aspects deriving from the presence of man above all linked to tourist activity. The results of the workshop confirm that the environment - woods, water bodies, landscape - remain the aspects to be preserved: Lake Santo Modenese is suitable both as a point of arrival for those who want to stop and enjoy the landscape and nature as a starting point towards paths that lead to the surrounding mountains and lakes (Baccio and Turchino).

Furthermore, traditional hospitality and typical products (mainly from the woods) must be promoted and preserved, as many participants have stated. Among the negative aspects, accessibility by car and the relative congestion of roads and parking lots is the most cited, followed by safety problems for hikers and the "disrespectful" use of the area by tourists

The analysis of the positive and negative aspects, concerning the pilot area, with the participants, produced a first draft of the strategic themes for the related Action Plan:

Fig. 11 - Results of the Future Search with stakeholders for Santo Lake area.

1. (PRIORITY 1) - Seasonal adjustment of the tourism offer;
2. (PRIORITY 2) - . Information, education and control;
3. (PRIORITY 3) - Accessibility, mobility and trekking paths;
4. (PRIORITY 4) - Conservation, protection and monitoring of the environment and landscape;
5. (PRIORITY 5) - Hospitality, tradition and local typical productions.



*Fig. 12 - WotS for the Santo Lake (Pievepelago - MO).*

## 5.4. Future Search for Nature Reserve “Salse di Nirano”

Following discussions with the regional offices of the Protected Areas Service, Forests and Mountain Development and some inspections carried out in collaboration with the technical office of the Municipality of Fiorano Modenese, it was useful and feasible to plan the fielding of a series of actions aimed at the conservation, enhancement and best use of the Natural Reserve of Salse di Nirano.

Given the high use of the Reserve by visitors throughout the year, the main objective concerns the conservation and protection of the Reserve, flanked by the provision of a varied and well-structured offer of educational-recreational activities for schools, families, associations. To this end, it is strategic to acquire the greatest data number of documenting the main threat factors for the Reserve deriving from poor or inadequate use, even by visitors, in support of possible and possible defence actions, in support of what has already been existing. During the Press Conference, held at the Cà Rossa Visitor Center, on 03/19/2019, a moment of sharing of the actions intended to be undertaken through the Interreg CEETO project was carried out. Participatory activity to identify strategic issues (Future Search) involved local associations active in the area.

In order to better protect and preserve this unique and delicate area, its habitats and the landscape, it was first of all necessary to gather in the field the greatest number of objective information and data regarding the current level of use and the behaviour of visitors. The collected data can then be used in order to sensitize visitors and tourists and to



*Fig. 13 - Press Conference for presentation of the Pilot Action of the CEETO Project in Salse di Nirano (Fiorano Modenese - MO).*





stimulate correct styles and behaviours, leading them to a responsible use of the areas of the reserve, and in particular the area A, the most significant and delicate one.

A first idea of the strategic themes connected to the Action Plan, which emerged from the meeting, with the relative priorities, turned out to be:

1. (PRIORITY 1) - Acquisition of useful information for the management and protection of the area;
2. (PRIORITY 2) - Conservation of biodiversity and landscape;
3. (PRIORITY 3) - Accessibility and use;
4. (PRIORITY 4) - Information, education and supervision.

## 6. Action Plan

During the sharing and meeting phase through the Workshops on the Spot carried out within the CEETO project (Chapter 5), the Parks Authority presented a draft proposal for the pilot actions that they want to carry out. After this presentation, the participants were involved in order to receive their contribution and integrate the Park's proposal and / or propose new ideas to add, starting from the strategic themes that emerged in the first part of the workshop.

This part of the meeting (called Ideas Factory - Session 4 of the CBW - Capacity Buildings Workplan - D.T2.1.1), allowed the Park to have different solutions and proposals with respect to the problems / opportunities in the management of pilot areas with respect to tourist pressure.

The combination of the proposals made, after an economic evaluation by the body and the subjects involved, led to the design of the pilot actions on the two pilot areas chosen for the CEETO Project.

The two pilot actions, described below, are part of the activities that the Management Authority will carry on in the coming years to achieve the objectives indicated in the Strategy (Ch.3). In addition to the strategies promoted and approved by the Executive Committee, the most significant actions that the Authority plans to carry out now and over the next 5 years are also reported.

### 6.1. Action Plan in Salse di Nirano: “Riserva Riservata” Nature Reserve

The following is the Pilot Action diagram for the Salse di Nirano Reserve area, which refers to the following points of the Vision for sustainable tourism described in Chapter 5.1.2:

- A) *Protecting valuable landscapes, biodiversity and cultural heritage;*
- B) *Supporting conservation through tourism.*



<b>Title</b>	<b>Riserva riservata (Reserved Reserve)</b>
<b>Proponent</b>	Ente per i Parchi e la Biodiversità Emilia Centrale
<b>Partner</b>	Comune di Fiorano Modenese (MO)
<b>Target</b>	Enhancing and preserving the integral protection areas of the Natural Reserve of the Salse di Nirano trying to stimulate correct access and visit behaviour to the area by monitoring and informing visitors of its great naturalistic importance through the positioning of video cameras able to rework images and shapes in this way to return information on behaviour and inflow data.
<b>Short description</b>	<p>The actions to be implemented are possible through the collaboration with the Municipality of Fiorano Modenese, as a territorially competent local administration:</p> <p>Realization of a Video Contents Analysis system for detecting the presence of animals and people in area "A" (integral protection zone), through the installation of 3 video cameras placed on supports and poles already existing along the perimeter of the area, whose data will be analysed by a software with artificial intelligence, aimed at detect and count shapes of animals or people with particular reference to the cases of intrusion in the fenced area.</p> <p>In the case of humans, the system will not identify individuals but only the profiles and will detect statistical data without any violation of privacy.</p> <p>The purpose of the system is, in fact, to acquire as many data as possible that document the main threat factors for the Reserve deriving from poor or inadequate use, even by visitors, in support of possible and possible defence actions to set of what already exists.</p> <p>From the hardware point of view, the system requires three digital video cameras that will be placed on an existing ENEL property pole, near the fenced protection area, so as to be able to frame the widest possible perimeter of the area from an elevated viewpoint.</p> <p>The intervention to be implemented will exploit the Power Over Ethernet (PoE) technology which allows the use of a single Ethernet cable to carry both data and electricity to devices and network devices with low power consumption, without having to resort to individual localized power supplies, thus simplifying wiring, installation and operational management. In fact, it is feasible to install 3 video cameras which, in this way, will be connected to an apparatus within the existing and functional Cà Rossa technical cabin. The data will then continue to be transmitted on a network cable to a processing unit (embedded PC) to be installed inside the visitor center that will process the data and, using the internet connection that Cà Rossa already has, will eventually be sent on a web platform available to the Emilia Central Parks Authority for subsequent surveys and evaluations.</p>



<b>Timetable</b>	<p>The CEETO project ends in May 2020 but it may be statistically significant to record the data by September 2020, therefore the monitoring activities described above could be concluded indicatively during this period.</p> <p><b>May 2019:</b></p> <ul style="list-style-type: none"> <li>▫ realization of a computerized visual control system.</li> </ul> <p><b>June 2019 - November 2020:</b></p> <ul style="list-style-type: none"> <li>▫ implementation of access monitoring;</li> <li>▫ intensification of supervisory activities with a specific coordination of all the supervisory bodies involved.</li> </ul> <p><b>May - December 2019:</b></p> <ul style="list-style-type: none"> <li>▫ definition of an awareness and communication program for a correct use of the Salse di Nirano area.</li> </ul>
<b>Results</b>	<p><b>June 2019 - November 2020:</b></p> <p>Implementation of access monitoring with the aim of implementing an increase in responsible and aware use of the area:</p> <ul style="list-style-type: none"> <li>▫ N. incursions into the fenced areas by visitors and the local wildlife (roe deer, etc.) by the detection system</li> <li>▫ Minutes following the control activity by official supervisory bodies (park guard) and volunteers (GGEV, GEFI)</li> </ul>

## 6.2. Action Plan in Santo Lake: “Liberiamo il lago” (Let’s set the lake free)

Below is the diagram of the Pilot Action for the area of the Holy Lake called "Liberiamo il lago" which refers to the points:

D) *Providing safe access, quality facilities and special experiences of the protected area, available to all visitors;*

E) *Effectively communicating the area to visitors:*

<b>Title</b>	<b>LIBERIAMO IL LAGO SANTO (Let’s set the lake free)</b>
<b>Proponent</b>	Ente per i Parchi e la Biodiversità Emilia Centrale
<b>Partner</b>	Municipality of Pievipelago, ASBUC Barga, Mountain Hut managers, GGEV Modena, CAI



<b>Target</b>	Better manage the access of cars and people in the area of Lake Santo Modenese and increase the rate of correct and conscious use of the area
<b>Short description</b>	<p>As part of the strategic information and hospitality theme, the following is expected:</p> <ul style="list-style-type: none"> <li>▫ Improvement of the InfoPoint above all with regard to historical, cultural and tradition-related issues;</li> <li>▫ Touristic promotion of the area using innovative information and promotion tools (eg. social networks, etc.);</li> </ul> <p>Within the strategic theme of mobility and accessibility of the area is expected:</p> <ul style="list-style-type: none"> <li>▫ Organization of a shuttle service, from the village of Tagliole, on the weekends with maximum tourist influx (July and August);</li> <li>▫ Creation of a free E-Bike rental point in the village of Tagliole;</li> <li>▫ Restoration and securing of the trail that connects Tagliole to Lago Santo;</li> <li>▫ Activation of a shuttle service to connect with the Val di Luce to allow the “completion” of a hiking ring;</li> <li>▫ Issue of a speed limit order during the summer months to facilitate safe access to the Lake by alternative means (es. bicycles or E-Bikes).</li> </ul>
<b>Timetable</b>	<p><b>February - June 2019:</b></p> <ul style="list-style-type: none"> <li>▫ definition of a shuttle service from the inhabited area of Tagliole on weekends in the summer period, for maximum tourist influx;</li> <li>▫ definition of a shuttle service for the connection with Val di Luce in the summer period, for maximum tourist influx;</li> <li>▫ promotion of the use of e-bike in the summer, for maximum tourist influx;</li> <li>▫ restoration and signposting of a CAI trail from Tagliole to Lago Santo.</li> </ul> <p><b>July - August 2019:</b></p> <ul style="list-style-type: none"> <li>▫ Activation of the shuttle service from the village of Tagliole and for the connection with Val di Luce during the weekends of July and August</li> <li>▫ Activation of an e-bike rental service in collaboration with local companies on dedicated days in the summer period;</li> <li>▫ Setting of a speed limit ordinance during the summer period to favour safe access to the Lakes area with alternative means to motor vehicles such as Bikes.</li> </ul>



<b>Results</b>	<p><b>July - August 2019:</b></p> <p>implementation of access monitoring with the aim of reducing motor vehicles in the upper Tagliole valley and implementing an increase in responsible and aware use of the area and, in particular, in areas of greater protection:</p> <ul style="list-style-type: none"> <li>▫ n. people / days who use the Minibus service;</li> <li>▫ car influx in the parking lot of the Lake (n. Parking ticket August 2019 vs parking ticket no. August 2018/2017);</li> <li>▫ increase in receptivity in the structures of Tagliole / Pievepelago (no people in Tagliole by filling in questionnaire or feedback from bars / accommodation facilities on site);</li> <li>▫ n. e-bike/day rented;</li> <li>▫ n. people who have travelled on foot via ad hoc questionnaires;</li> <li>▫ km of marked and signposted routes.</li> </ul>
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### 6.3. Action Plan for Sustainable Tourism Development

In addition to the two pilot actions that emerged in the framework of the Interreg CEETO project and described in Chap.6.1 and 6.2, it is strategic to identify which actions and projects may be fundamental to implement the strategy that it was decided to pursue as the Central Emilia Management Body.

Each action will be identified by a table containing the following information:

- Description of the Action;
- Reference Vision (Chapter 5.1);
- Priority: High (high), Medium (medium), Low (low);
- Times: Reference time horizon for the implementation of the Action (if applicable, current status of implementation):
  - > Short-term = up to two years;
  - > In the medium term = from three to four years;
  - > Continuous = permanent;
- Responsibilities: Person, Entity, Association or Reference Company.



## Strategic Theme 1: GIVING PRIORITY TO PROTECTION

	Action	Vision	Priority	Times	Responsability
1	<p>Improve the conservation status of habitats in Protected Areas by ensuring the maintenance of biodiversity of the populations present:</p> <ul style="list-style-type: none"> <li>- Project LIFE14 NAT / IT / 000209 - EREMITA as partner of the Emilia-Romagna Region;</li> <li>- LIFE Project "URCA PROEMYS ITALY with WWF Italy (leader) and partner UNIMORE, UNIGE, UNIFI, UNIFE, Acquario di Genova, admitted to the second phase for financing.</li> </ul>	A)	High	Medium-long term	Ente di gestione E.C., Regione E.R., WWF Italia
2	<p><u>Territorial supervision and control activities management:</u></p> <ul style="list-style-type: none"> <li>- coordinating environmental supervision, strengthening its service in the June-November period;</li> <li>- in addition to supervisory activities in the strict sense, the personnel is engaged at the beginning of the season in surveying, maintaining and enhancing the paths (Alta Via dei Parchi, Sentiero dell'Attente, etc.);</li> <li>- activate collaborations with: <ul style="list-style-type: none"> <li>1) the Voluntary Ecological Guards of both the Province of Modena and Reggio Emilia, coordinating the relative auxiliary supervisory activity, particularly important in the territories of the protected areas of the Sassi di Roccamalatina and the Riserva del Secchia;</li> <li>2) the Abetone Valorisation Company for the performance of auxiliary supervisory functions concentrated in particular in the area of the Holy Lake concentrata in particolare nell'area del Lago Santo;</li> <li>3) the Mountain Rescue Emilia-Romagna, extending it also to the territory of the Parco dei Sassi of Roccamalatina, for the search and rescue services for wounded and / or missing.</li> </ul> </li> </ul>	A) - B)	High	Continuo	Ente di Gestione E.C., Guardie Ecologiche Volontarie sia della Provincia di Modena che di Reggio Emilia, Società Valorizzazione Abetone, Soccorso Alpino Emilia-Romagna



## Strategic Theme 2: CONTRIBUTING TO SUSTAINABLE TOURISM

·	Action	Vision	Priority	Times	Responsability
3	<p><u>Environmental education and dissemination:</u></p> <ul style="list-style-type: none"> <li>- to manage the Sustainability Education Center set up at the Authority and accredited in the INFEAS regional network, in relation to activities designed for school users, proposing an environmental education catalog "In school park" with over 50 proposals that are developed on the whole territory of competence of the Authority;</li> <li>- consolidate and expand collaborations with other companies active in the sector (Burana and Emilia Central Reclamation Consortia, Vignola Foundation, territorial CEAS, CNR, Military Aeronautics, AUSL, Naturalistic Groups etc.);</li> <li>- carry out a training project, "Parks in the Legislative Assembly", consisting of a series of thematic educational / informative meetings on the protected areas of the Body, offered free of charge to primary and secondary schools in the regional territory and held at the central headquarters in Bologna;</li> <li>- developing the segment of school tourism through stay proposals;</li> </ul>	C)	Medium	Continuo	Ente di Gestione E.C., Multi-centro di Modena, Consorzi di Bonifica della Burana e dell'Emilia Centrale, Fondazione di Vignola, CEAS territoriali, CNR, Aeronautica Militare, AUSL, Gruppi Naturalistici, ecc.



### Strategic Theme 3: ENGAGING ALL STAKEHOLDERS

N.	Action	Vision	Priority	Times	Responsability
4	<p><u>Coordination of operational sites Office parks and services:</u></p> <ul style="list-style-type: none"> <li>- to favor the participation of all the services and venues of the Entity as well as the exchange with other local bodies for the issues of greater overall importance;</li> <li>- establish permanent forums for the participation of local stakeholders;</li> <li>- implement periodic meetings with the municipalities involved in the management of nature reserves to define the annual action programs, the reporting of expenses, specific projects, the general actions of the Entity.</li> </ul>	F)	Medium	Medium-short term	Stakeholders
5	<p><u>Process for the inclusion of the Modena Apennines in the MaB- UNESCO area of the Tuscan-Emilian Apennines:</u></p> <ul style="list-style-type: none"> <li>- start the process leading to the inclusion in the MAB of the Tuscan-Emilian Apennines of the regional protected areas and sites of the Natura 2000 Network in the Modenese Apennines as well as a coherent part of the surrounding territory.</li> </ul>	H)	Low	Long term	





## Strategic Theme 4: PLANNING SUSTAINABLE TOURISM EFFECTIVELY

N.	Action	Vision	Priority	Times	Responsability
6	<p><u>Environment, Sport and Tourism</u></p> <ul style="list-style-type: none"> <li>- implement a specific project for the enhancement of the territory through the trail running sport, by organizing a circuit of four high-level competitive events in the Modena and Bologna parks;</li> <li>- collaborate in the creation of the Ultra Trail AVP 501 event organized by the Emilia-Romagna Region and the Circuito del Frignano running event, staging actively in particular in the events held in Pievepelago and Montecreto and in the "Alpicella Trail" event in Piandelagotti (Frassinoro) ;</li> <li>- organize a program of excursion-sports events even in winter, "Winter in the Park", consisting of initiatives aimed at discovering the area with snowshoes;</li> <li>- Protocol of agreement between the UISP and the CIS and FISI regional and calendar of joint initiatives;</li> <li>- Co-organization of specific sporting events: Project "Parchi Parks Emilia" and "Secchia in Festa";</li> <li>- Promote tourist packages related to sporting events;</li> <li>- Promote and disseminate the activities through its own press office (eg newsletters, press releases, editorials, etc.).</li> </ul>	F)	High	Medium	associazioni sportive, Enti ed operatori turistici locali, ottenendo un contributo da APT Servizi, con operatori economici locali (rifugi e ristoranti)
7	<p><u>Tourist management and reception</u></p> <ul style="list-style-type: none"> <li>- guarantee the management of tourist reception infrastructures, activating the presence of visitor centers and information points in the various operating offices of the Institution with particular reference to the information points of Roccamalatina, Pievepelago and Lago Santo;</li> <li>- increase the number of days open to the public.</li> </ul>	G), I)	Medio	Continuo	Consorzio di Solidarietà Sociale



8	<p><u>Valorization of Typical Products</u></p> <ul style="list-style-type: none"> <li>- "Park of the Parks" project: registration of the "Quality Parks of Emilia Central" trademark, a voluntary environmental certification procedure with the aim of enhancing the typical local productions even in the marketing phase;</li> <li>- Organization of events in collaboration with the Slow Food Frignano and Vignola pipelines;</li> <li>- Participation in other promotional initiatives also through the Emilia-Romagna Region;</li> <li>- Start of the project on traditional and typical local products of the Emilian Apennines with COOP Alliance 3.0.</li> </ul>	G)	High	Continuo	Operatori singoli ed associazioni di categoria.
9	<p><u>Lake Santo area management - Pievepelago:</u></p> <ul style="list-style-type: none"> <li>- guarantee the correct functioning of the Lago Santo car park and the neighboring paid area;</li> <li>- guarantee the correct management of the Park's information point at the present wooden house, in the distribution of information material in the protected area and in other areas promoting the area, assisting the visitor in the area through the supply of news and information on the area on the trails and on all the opportunities that the area offers.</li> <li>- in reference to what emerged in the participatory process envisaged with the CEETO project: <ul style="list-style-type: none"> <li>  Creation of mushroom picking packages affiliated with Park Authority and shelters around Lake Santo for the activation of services and tourist offers;</li> <li>  Implementation of a helicopter rescue station in collaboration with the territorially competent local authorities and administrations to strengthen and consolidate accessibility and security for refuge managers and area users;</li> <li>  Possibility to create an area equipped for camping in agreement with the facilities at the lake and in collaboration with the territorially competent subjects and local administrations.</li> </ul> </li> </ul>	D),H)	High	Continuo	Ente di Gestione E.C., Comune di Pievepelago



10	<p><u>Path maintenance interventions:</u></p> <ul style="list-style-type: none"> <li>- guarantee adequate routine maintenance activities for the usability of the trails, thematic routes and equipped areas of the Frignano Park;</li> <li>- Update the CAI-REER network (Emilia-Romagna Hiking Network), adapting the tracks to the REER standards;</li> <li>- Ordinary maintenance interventions of the multi-use trail network of the Sassi di Roccamalatina Park and the external areas of the Municipalities of Guiglia, Zocca, Montese, Marano s / P;</li> <li>- Maintenance interventions on the reserve network of the reserve and cycle paths of the river Secchia with particular reference to the cycle and footpath Path Secchia Nature on the Modena side of the river from Sassuolo to Novi di Modena;</li> <li>- Construction of a route on the right bank of the artificial lake of Fontanaluccia and Gazzano, in the municipality of Frassinoro, within a wider project of tourist enhancement of the area;</li> <li>- Greenway del Secchia as part of the interventions for the promotion and development of the regional cycling system (L.R. 10/2017).</li> </ul>	D)	Medio	Continuo	Ente di Gestione E.C., CAI, RER,
11	<p><u>Implementation of promotional and information material of the Entity:</u></p> <ul style="list-style-type: none"> <li>- planning and printing of publicity, information and promotional materials of the Entity, such as the brochures "Winter in the Park", "Viviparchi", "Running in the Parks", the environmental education catalog "At school Park";</li> <li>- guarantee the up-to-date reprint of the Frignano Park brochures, the Parco dei Sassi di R., the general brochure of the Ente, the Excursion Map of the Parco dei Sassi di Roccamalatina.</li> <li>- update the new Excursion Card of the Modena Apennines published by the C.A.I. guaranteeing the distribution of free materials at the tourist reception points of the Authority, at external tourist information facilities (Municipalities, pro-loco etc.) and at fairs, events and events useful for promoting the image of the Entity;</li> <li>- in reference to what emerged in the participatory process envisaged with the CEETO project, creation of themed events to relaunch the tourist offer during all seasons.</li> </ul>	E)	Medio	Continuo	Ente di Gestione E.C.,



## Strategic Theme 5: PURSING CONTINUOUS IMPROVEMENT

N.	Action	Vision	Priority	Times	Responsability
10	<p><u>Definition of an environmental certification system of the institution:</u></p> <ul style="list-style-type: none"> <li>- carry on the path, already started last year, of environmental certification for EMAS certification.</li> <li>- work for the dissemination and promotion of the Emilia Central Parks Quality brand to agro-food companies in the entrepreneurial fabric, with particular attention, in this first phase, to that of the upper Apennines.</li> <li>- launch the process for the candidacy for the European Charter for Sustainable Tourism - CETS for Step 1.</li> </ul>	C)	Medio	Medium-term	Ente di Gestione E.C.