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CONVENTION ON THE CONSERVATION OF EUROPEAN WILDLIFE
AND NATURAL HABITATS

Standing Committee

40th meeting
Strasbourg, 1-4 December 2020

REPORT

**ON THE SPOT EXPERT APPRAISAL OF THE
REGIONAL PARK OF MIGLIARINO, SAN ROSSORE
AND MASSACIUCCOLI
(ITALY)
13-15 MAY 2019**

*Document prepared by
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1. INTRODUCTION

The European Diploma was awarded to the Regional Park of Migliarino, San Rossore and Massaciuccoli in 2005. An on-the-spot visit was carried out on 11 and 12 June 2009, resulting in renewal until 2020. A further visit took place in May 2019, with a view to a decision on Diploma renewal scheduled for 2020.

The visit took place in excellent conditions from 13 to 15 May; I warmly thank the Park's management, the head of forestry and the numerous participants in highly instructive talks throughout the visit. The list of individuals and organisations met during the visit and the visit programme are appended.

Particularly noteworthy is the quality of the annual reports prepared by Ms Francesca Logli, who has remained at the helm of the park since the initial diploma award. It was Ms Logli who coordinated the visit, provided all the information required and answered all the questions in a highly professional manner.

A letter from five conservation organisations was handed to us during the visit (original and translation appended). It sums up fairly well the overall difficulties of nature conservation at regional level, underlines the success and crucial role of the Park in protecting the coastal area near Pisa and lists the most serious threats for the coming years.

2. SITUATION AND VALUE OF THE PARK

The Regional Park of Migliarino, San Rossore and Massaciuccoli lies on the Tuscan coast, between the localities of Viareggio in the north and Livorno in the south. It is close to the city of Pisa and flanks the Mediterranean all the way down from Viareggio to the mouth of the Arno river. In its southern sector, it is separated from the sea by buildings and facilities serving seaside tourism. It extends over the territory of the municipalities of Massarosa, Pisa, San Giuliano Terme, Vecchiano and Viareggio, in the provinces of Lucca and Pisa.

The Park is made up of a highly complex mosaic of:

- natural areas of great interest such as relict wetland coastal forests, dunes and wooded areas, Massaciuccoli lake with marshes and bog moss at sea level
- breeding centres for ancient breeds of horses and cattle
- several estates (tenuta) of great historical interest featuring woodland and farmland
- military bases, including an American base.

The Park's location and structure also gives it great landscape value.

The fact that vast natural or relatively untouched expanses still remain on the Tuscan littoral is due to the continued existence of several large historical estates, which have changed ownership over the centuries (Medicis, Florentines, House of Savoy, Italian government) but have remained relatively unchanged since the tower of Pisa was built. These estates have made it possible to preserve the area from creeping urban sprawl, generated particularly by seaside tourism. It is thanks to a long and powerful popular struggle against a scheme to develop tourism and urbanise one of these estates in the Vecchiano region that the regional park was originally set up by the Tuscany region in 1979. The Park is celebrating 40 years of existence in 2019.

For further details, see the Park's website (www.parcosanrossore.org) and the very numerous publications that exist. A detailed description of landscapes and ecosystems is given in the application file, in the 2009 expert appraisal report and in the file on the expansion of the *Selve Costiere di Toscana* Biosphere reserve submitted in 2015. Unfortunately, there are virtually no documents in languages other than Italian, except for the European Diploma and MaB application files which say very little indeed about governance and the integration of the different labels. This is prejudicial to recognition of the site at international level, despite the treasured tourist destination of Pisa being so close by.

3. LEGAL BASIS AND ADMINISTRATION

The main legal basis consists of regional laws of 1979 and 1994 setting up the regional park, supplemented by other regional laws. The most interesting natural areas protected by the Park's territorial plan for nature reserves, the EU's habitats and birds directives, the forestry law and national laws protecting landscape beauty. The very comprehensive Park Regulations were revised and adopted on 7 July 2008.

The Park is run by the Ente Parco Regionale Migliarino San Rossore Massaciucoli (park administration body), which has a staff of 45. The President is responsible for managing policy and chairing the seven-member Park Council (representing municipalities and environmental and economic interests). The director is responsible for the practical aspects of management. The Park directly manages the San Rossore estate, which covers some 4,800 ha of farmland and woodland. Formerly a presidential estate, it is now owned by the Tuscany region, which has entrusted the Park with its management.

After a transition period, with an interim director, a new director took up his post at the beginning of 2019. His excellent knowledge of regional institutions is a valuable asset for ensuring effective management in a particularly complex situation.

A scientific council supervises research activities in the Park, as well as programming and planning tools. The council benefits from the expertise of Pisa's university and colleges as well as that of other Italian universities.

Around two thirds of the Park's surface area are in public ownership (State, Region, Provinces, Pisa University) with the other third in private hands. The Park has purchased plots of private land around Massaciucoli lake and manages woodland owned by Pisa University.

The budget is provided by the Region, the provinces and the five municipalities concerned. Self-financing stands at 45% and comes essentially from profits generated by the San Rossore estate: rents paid by employees, equestrian centre, sale of forest products and wild and farmed animal meat, contracts with tourism organisations.

Other designations

The Regional Park is included in the *Selve Costiere di Toscana* Biosphere Reserve, designated in 2004 (*Selva Pisana*) and extended and renamed in 2016 with the following surface areas and zoning:

- Surface area (terrestrial and marine): 43,132.56 ha
- Core area(s): 8,253.58 ha
- Buffer zone(s): 16,874.58 ha (terrestrial: 15,927 ha; marine: 947.58 ha)
- Transition area(s): 18,004.4 ha

A marine reserve off the coast was set up in 2010; it covers a coastal area of 9,000 hectares and its management is entrusted to the Park.

Massaciucoli lake and its marshes were designated as the *Massaciucoli lake and marsh* Ramsar site with the following characteristics:

- Site number: 2311
- Surface area: 11,135 ha
- Registration date: 22-06-2017

The Park also comprises several sites of European importance (SCIs and SACs)

4. MANAGEMENT

The Park's goal is to protect the natural and historical features of the Pisa and Lucca littoral, depending on the social use of such assets, and to promote scientific research and education on the natural environment.

Very detailed management plans have been drawn up and are implemented for the Park's different sectors. They may be consulted on the Park's website.

Given the complexity of the site (zoning patterns, protection regimes, property statutes, uses etc), as well as the different international designations, it would be highly desirable to pull these different strands together in a global management plan, including a vision of the Park in its current regional context. Such a document should include an overview of the governance system and be translated into English and/or French.

a. Zoning

The Park has an inner or central zone occupying 61% of its surface area and an outer or buffer zone occupying 38.4 %. The latter zone enjoys the same protection status as the central zone, except where the hunting ban is concerned. This is an exceptionally strict level of protection for the buffer zone of a protected area and remains safeguarded. The draft law envisaging the transfer of management of the buffer zone to the municipalities was amended to clearly maintain the Park's prerogatives.

The Italian Law on Parks (1991) had defined "contiguous areas" as having a function of buffer zones. For the national law on parks, the contiguous areas are zones where the park has no direct prerogatives but only indirect power (management and regulation by agreement with the municipalities concerned), in which case the parks are not competent to grant permits (building permits etc) and hunting is obviously permitted.

Where the Migliarino San Rossore Massaciuccoli Park is concerned, the general development plan was approved in 1989, prior to the national law, and introduced "outer zones" included within the Park, the sole difference being that hunting was allowed. This means that the Park has the unique characteristic of not having "contiguous areas" but rather "outer zones", in which the Park has so far retained all its power, despite pressure from local authorities. The NGOs would additionally like to have a "real" contiguous area (within the meaning of the 1991 Law) beyond the Park's limits, with the function of a buffer zone.

year			
1989	Development Plan for Migliarino San Rossore Massaciuccoli Park	Zona interna (inner zone)	Zona esterna (outer zone)
1991	National law no. 394/1991 on Parks	Area interna (inner area)	Area contigua (contiguous area)

The nature reserves harbour the most precious sites, with a priority objective of nature protection. They cover 9.7% of the surface area and each have specific regulations. For most of them, public access is heavily restricted or prohibited.

The zones covered by the special regulations of the Habitats Directive or the Birds Directive represent over half the Park's surface area.

There are numerous activities in certain parts of the Park, with substantial areas (avenues of maritime pines, grasslands around buildings etc) accessible to the public. Guided group visits, including in horse-drawn carts, are organised on a regular basis. An equestrian centre is located in the Park. Several information centres are open to the public free of charge.

Limits on vehicle access are planned, with one or more car parks located outside the Park. In particular, it is intended to introduce a fee for vehicles, while keeping access for pedestrians and cyclists free of charge. It is to be noted that there is no bus service to the Park from the city of Pisa.

Old farming estates have been given over to the preservation of two ancient breeds of horse and three ancient breeds of cattle, with crops grown on adjacent areas to provide the necessary feed on the spot.

Large areas in the southern part and around Massaciuccoli lake have been drained; the water is drained by pumping as the fields lie partially below sea level. Some of it is then emptied into the lake, which creates major problems of eutrophication for which various solutions have been proposed and are being experimented with. The substantial efforts made in and around the Park to convert to organic farming must be emphasised.

Finally, there are military activities, with an area for exercises by the Italian army and military bases including one major American base, used chiefly for the storage of equipment, for which a railway line is under construction following an impact assessment by the Park.

Notwithstanding all these activities, the state of conservation is remarkable and is worth underlining.

b. Fauna

The Park is home to numerous mammals, including the Porcupine (*Hystrix cristata*), a sizeable colony of Greater horseshoe bats (*Rhinolophus ferrumequinum*) and an abundant population of Fallow deer (*Dama dama*) and Wild boar (*Sus scrofa*). The local strain of Wild boar appears to be very close to the sub-species typical to the Maremma area, which is under threat from hybridisation (*Sus scrofa majori*).

Birdlife includes several species which are good indicators of environmental quality, such as the Eurasian bittern (*Botaurus stellaris*) and the Purple heron (*Ardea purpurea*), alongside numerous wetland and open habitat species such as the European roller (*Coracias garrulus*) and the European bee-eater (*Merops apiaster*). Many passing or wintering migratory birds take advantage of the Park's resources.

Reptiles include a strong population of European pond turtle (*Emys orbicularis*), and amphibians the Agile frog (*Rana dalmatina*) and the Italian tree frog (*Hyla intermedia*).

The problems caused by the over-population of boar and fallow deer must be underlined. Despite hunts, culling and the relocation of some 800 deer, the population does not appear to be diminishing, and it is estimated that some 5,000 fallow deer live in the Park! For that reason, the crops have to be protected to guarantee enough forage for the cattle and horses.

c. Vegetation and flora

The vegetation is highly diverse and includes:

- coastal dunes with *Juniperus oxycedrus*, which are well conserved and harbour an abundance of rare species;
- large forests of Stone pine (*Pinus pinea*) and Maritime pine (*Pinus pinaster*) planted as far back as the 17th century;
- mixed relict forests of *Quercus robur*, *Quercus ilex*, *Fraxinus angustifolia*, *Alnus glutinosa*, *Ulmus minor* and *Ostrya carpinifolia*, with a new combination of *Laurus nobilis* and *Quercus cerris* about to be recorded in detail;
- coastal wet grasslands with halophytes;
- forest ponds;
- Massaciuccoli lake, with its varied groupings of open water and, at its edge, its marshes with *Cladium mariscus*, *Phragmites australis*, *Typha angustifolia*, *Sphanium* and *Drosera rotundifolia*; also noteworthy is a fine population of *Osmunda regalis*;
- large expanses of pasture and farmland.

The vegetation map, dating from 2004, should be revised. It comprises 30 phytosociological units.

In addition to overgrazing by deer and the damage caused by boar, there have also been massive insect infestations of the Maritime pines on the seashore, causing them to dry out. There is also, sadly, a multiplication of certain invasive exotic species (*Ailanthus*, *Yucca* etc). On a more positive note, no fires have been reported inside the Park in recent years; on the other hand, a vast expanse of woodland was burnt out in the mountains behind Pisa, in the Biosphere reserve.

d. Cultural and landscape heritage

The entire regional park is laden with history that is well documented. The coast was settled from Neolithic times, through the Roman period, up to the Middle Ages, which left behind the extraordinary 11th-century San Pier a Grado basilica. In the Neolithic period the Coltano area was an island surrounded by lagoons and marshes and it has been continuously inhabited for over 2,000 years.

From the 16th to the 19th centuries, it was the great family dynasties of the period that marked the territory with their villas and hunting lodges. At the beginning of the 19th century, the San Rossore estate became the

property of the royal family of Italy before becoming the president's residence and then being handed back to the region.

The Park is marked by other historical associations, such as the building where Marconi sent his first radio signals, now turned into a museum.

The landscape has largely been modelled by human activities and aristocratic families' eagerness to lay out harmonious surroundings, evidenced by the beautiful long avenues of monumental pines, the longest of which measures five kilometres.

e. Spatial planning

The Park's spatial planning is regulated by the management plan and is pursued in collaboration with the municipalities concerned, which tend to concentrate their planning and supervision activities in urban areas, while the Park supervises the sectors encompassed within the protected area.

There is heavy pressure from certain municipalities to develop activities, particularly tourism, at the expense of the Park. The building of a structure for mooring large vessels in the northern sector of Livorno port is particularly worrying.

Very heavy beach erosion can be seen in some sectors; it is difficult to establish a relation of cause and effect with human activities, such as the breakwaters at river mouths or protecting port facilities. The structures for preventing erosion are relatively ineffective.

The Habitats Directive now enables the Park to also have a say in schemes located outside the Park which could have an impact on it, such as the planning of new roads.

f. Forestry and agriculture

A small amount of pinewood is produced when areas are cleared of trees and plantations are renewed. There has been a slump in the production of previously abundant pine kernels owing to attacks by a parasite. Agriculture is geared to the production of the highly sought-after local Pisana beef and produce such as sheep's cheese and honey, the breeding of horses and the growing of various crops, chiefly cereals in the Coltano area.

Organic farming is actively promoted, as is agritourism. Operations aimed at culling ungulates, fallow deer and wild boar in particular, also provide a quantity of meat which is capitalised on.

The Park is heavily involved in advising farmers, with a view to ensuring management that is as compatible as possible with protected area status. The Park provides machines capable of sowing seeds without the need to turn the ground over and carries out soil analyses in order to limit the amount of fertiliser used, for example.

5. EDUCATION, INFORMATION AND TOURISM

Education and information form part of the major activities of the Park, which has developed good information material and welcomes numerous visitors. There are several visitor centres at key points around the Park (San Rossore, Coltano, Massaciuccoli lake). A new information and research centre has been installed in the La Brilla former rice field, near Massaciuccoli Lake. The splendid Medici villa was entrusted to the Park for 40 years by the municipality of Pisa. Several wheelchair-accessible itineraries have been laid out. The coastal dune conservation project includes substantial information and planning aspects. Most of the public information work continues to be assigned to nature protection associations or cooperatives of guides and educators under special agreements.

6. RESEARCH

The closeness of Pisa, with its university and colleges, together with interest coming from other training centres, are an incentive for major research activities in the Park. There are numerous ongoing applied research programmes, notably in the spheres of mapping and good agricultural management. This

encouraging of research in the Park is apparent in a sharp increase in publications on a very wide variety of subjects (see appended list of publications). Given the interest they represent, it would be useful to more systematically include summaries in English so that they can reach a wider audience.

The Life project on the dunes has provided an inventory and detailed maps of coastal dune vegetation together with a good list of measures which are now being implemented, such as limiting paths to a few laid-out routes and combating invasive exotic species, particularly the Yucca.

Very substantial research work has been carried out on the hydrology of the entire basin, and the findings are extremely useful for the Park and for water management.

7. RELATIONS WITH THE OTHER PARTNERS

Following its creation, the Park was regarded by certain communities as a prohibitive body, particularly as it often had to step in to remind them of the rules. However, relations with most of the municipalities have gone from confrontation to constructive collaboration, notably within the framework of discussions on management plans, which are regularly revised following consultation. The Park works well with several NGOs active in the field of conservation. We met a delegation of five NGOs, mostly local branches of national NGOs. They expressed their concerns in a letter, which is appended to this report. These relate above all to overall conservation issues at the level of the regional authorities and have more to do with other protected areas than the Park itself. Some organisations, notably the LIPU, actively contribute to the conservation of Massaciuccoli lake (maintaining of walkways and observation hides, upkeep of a visitor centre etc).

8. RELATIONS WITH NEARBY PROTECTED AREAS AND INTERNATIONAL COOPERATION

As already mentioned, the Park lies entirely within the Selve Costiere di Toscana Biosphere reserve. The central zone of the Biosphere reserve is partly constituted of the Park's nature reserves. The Ente Parco Regionale Migliarino San Rossore Massaciuccoli is its manager, and the two entities have the same President. This reserve forms a link between the Regional Park and the urban planning and socio-economic development scheme of the municipality of Pisa, which hinges on sustainable agriculture, forestry, tourism and preservation of the ecosystem, and seeks to reduce the city's ecological footprint on the zone.

The Alpes Apuanes Nature Park lies 20 kilometres or so to the north of the Regional Park of Migliarino, San Rossore and Massaciuccoli. It protects totally different environments, present in steep mountains of over 1,800 m in altitude, featuring numerous karstic phenomena. In 2009, discussions were under way to forge a link between the two protected areas and develop a system of joint management. The NGOs have reported major environmental damage in this Park (see letter appended).

There is more regular contact with the Maremma Regional Park, located 130 km further south, which preserves around 20 km of coastlines of a very different type. For a certain time, the two parks had the same director. Relations with the Tuscany Archipelago National Park, which protects above all the islands, are limited.

The Regional Park of Migliarino San Rossore Massaciuccoli has collaborated with Unesco since being included in the Selva Pisana Biosphere reserve.

Massaciuccoli lake and its marshes have been designated as the *Massaciuccoli lake and marsh* Ramsar site.

9. MAIN MANAGEMENT PROBLEMS FACING THE PARK

Overall management of biodiversity at the level of the region – weakening of the regional parks

Sadly, there is a generalised weakening of nature protection at regional level, which is having serious effects at the level of the regional parks in particular. Fortunately, there has been little or no impact on the Migliarino San Rossore Massaciuccoli Park for the time being, despite pressure from certain municipalities.

Integration of the park into the community; relationship with private owners

The Park must pursue its efforts to become better integrated at local level. It is still often perceived solely as a constraint, and its value is not sufficiently recognised.

Funding and staff

Staffing is stable, but the new tasks (participation in preparing an integrated management plan for the Biosphere reserve, management of the marine reserve etc) require reinforcements. It appears that money is available, but the procedures to free up the necessary appropriations are extremely complex.

Management Plan

There are numerous plans, reflecting the highly complex legal and regulatory situation. A summary document, brought up to date and incorporating all the protection statutes of the area, would be welcome and help to clarify the situation. It would also be helpful in terms of communication.

Status of the outer zones

Pressure to weaken protection of the outer zones is constantly applied; until now, the Park has managed to resist. The NGO community would like to see an additional buffer zone, outside the park boundaries.

Urban pressure, traffic, sound and light pollution

The Park's location between the built-up areas of Livorno and Pisa, and surrounded by seaside tourism areas, puts its managers under constant pressure. Efforts have been made to reduce light and sound pollution, and measures are envisaged to cut motorised vehicle traffic in the park.

Military zone – American base

There are military bases, including a substantial American base, in the Park, which is also used for exercises by the Italian army. These activities are carried out in consultation with the Park's management and do not create any particular problems at present. A rail access route is being built for the American base; the impact has been assessed by the Park and will be compensated for.

Coastal erosion and impact on the sand dune area

Substantial erosion is visible in some places whereas there is an accumulation of sand in others. It is difficult to gauge what role is played by human activities in this phenomenon (construction of breakwaters protecting the ports, river development). There is substantial pressure from tourism in the sand dune area, on top of the erosion. Steps have been taken to inform and educate, and these must continue.

Invasive species

There are recurrent problems with the following groups in particular:

- plants
- fallow deer and wild boar
- turtles / crayfish

The Park has taken steps but it does not have adequate means to really control these species. Efforts must continue and be stepped up where required.

Water management

This is an issue that goes substantially beyond the limits of the Park but calls for measures and substantial resources. The scientific knowledge exists, and works have been undertaken. It is a very long-term endeavour but some progress has already been made.

Information and communication

Good-quality information is available to visitors (illustration panels, information centres); unfortunately, the information is only in Italian! The complexity of regulations and zoning makes communication difficult. An effort should be made to simplify things. It is essential that the network of information centres be maintained if not developed.

Agriculture, label and regional produce

Substantial efforts have been made to gear agricultural production to organic produce. Different types of regional produce have been developed or tailored to suit current tastes. However, a "Park" label is lacking but it would appear that, administratively speaking, this would be very complicated.

10. REVIEW OF THE RECOMMENDATIONS MADE DURING THE RENEWAL IN 2010

1. *Care should be taken to ensure that new activities or developments do not harm either the natural or landscape heritage;*

No problems at present, but there is constant pressure from certain municipalities.

2. *The deer- and boar-culling measures should be continued;*

The situation was exacerbated by a reduction in shooting and trapping in the period 2013-2014 (lack of staff and budget). Major operations started up again in 2015 but the results are still well short of the objectives set. (cf. annual reports 2015-17)

3. *Consideration should be given to nature conservation in water management, especially when implementing hydrological measures;*

A very thorough study of the area was published in 2013 and lays down real bases for integrated water management. Steps have been taken and experimentation, with lagooning for example, must be continued and stepped up.

4. *More active consideration should be given to natural assets in the management of areas outside the nature reserves, especially in forest and agricultural areas;*

A register of agricultural zones and a code of practice for sustainable agriculture have been produced. The policy of clear-cutting to renew pine forests has been reviewed to take the needs of ecology into account.

5. *The implementation of measures to minimise the negative impact of risks to the Massaciuccoli Lake, especially from pollution caused by agriculture, should be speeded up and further efforts made to improve the quality of the lake's water;*

Plots of land have been purchased and rewetted. Lagooning has been trialled for water pumped from farmland ditches running into the lake. See also point 3 above.

6. *The measures to better protect coastal dunes and to raise awareness of their importance should be continued and strengthened;*

There have been regular clean-up operations. Public information is provided and training for guides has been stepped up on this topic. But the pressure is unrelenting!

7. *The efforts to combat invasive exotic species should be continued;*

The efforts continue but it is an uphill struggle. Selective use of glyphosate is unfortunately the only effective solution in certain cases! And, of course, the culling and relocation of deer and boar (cf. point 2) must continue.

8. *Use should be made of every opportunity to improve wildlife crossing corridors under or over roads and railways;*

Corridors established within the Camp Darby military base; the Park is very attentive to this issue when projects are carried out within its sphere of influence.

9. *Noise pollution in recreation areas should be minimised;*

Measures have been taken, particularly in the critical "Marina di Torre del Lago" zone, in coordination with the Lucca Prosecutor's office (cf. reports 2014-15)

10. *The process of relocating craft activities from the area around Massaciuccoli Lake should be completed.*

In 2012, in the light of a report highlighting that 90% of activities had not moved from where they were, the Park's Governing board noted that planned relocations had proven to be impracticable. The situation is highly complex; this is one of the issues that will be addressed when the new Integrated Plan for the Park is drawn up and will necessarily involve the municipal authorities of Viareggio and Massarosa.

11. CONCLUSIONS AND RECOMMENDATIONS

The Regional Park of Migliarino, San Rossore and Massaciuccoli preserves an exceptional set of natural, landscape and cultural assets which justifies its European interest. Its protection is ensured by laws and precise and detailed management plans, but lacks an overview updated in line with recent developments, notably the extension of the Biosphere reserve. It is managed in a highly professional manner and has become an important, indispensable and recognised player in the management and conservation of the region's natural and landscape resources. For the time being, it is putting up fairly good resistance to the numerous external sources of pressure resulting from its proximity to a heavily built-up area (Pisa: 90,000 inhabitants)

We therefore recommend that the European Diploma awarded to the Regional Park of Migliarino, San Rossore and Massaciuccoli be renewed for a period of 10 years, with the following recommendations attached to the renewal:

1. Pursue efforts to integrate the Park into the regional fabric; do even more to include the local community, interest groups (farmers etc) and nature conservation bodies in discussions. Exploit the recent extension of the Biosphere reserve to that end.
2. Draw up a summary management document covering all activities and setting out all the protection regimes (regional park, reserves, Natura 2000 zones, Ramsar site, Biosphere reserve, marine reserve) and translate this document into English and/or French; review the zoning if necessary, consider the possibility of a continuous Site of Community Importance (SIC) and envisage extending the diploma-holding area.
3. Bring in replacement staff to cover retirements and annual leave. Envisage an increase in staff to meet new demands resulting from responsibility for the marine reserve, the extension of the Biosphere reserve and the designation of the Ramsar site.
4. Continue research and monitoring activities, and in particular:
 - Update the vegetation map;
 - Implement and monitor water management measures linked to the drainage of farmland and Massaciuccoli lake;
 - Monitor the state of the dune area and continue protection activities there.
5. Continue and if necessary step up programmes to combat invasive species and control fallow deer and wild boar populations. Pursue a policy geared to the Park's protection regime where the renewal of forest cover is concerned.
6. Pursue efforts to control sound and light pollution in the Park's vicinity; introduce measures restricting motorised vehicle traffic in the park and negotiate the setting up of a public transport system with the competent authorities.

7. Pursue efforts to develop sustainable agriculture *inter alia* by reducing use of fertilisers and pesticides which have an adverse effect on water quality; consider the introduction of a regional label for products and services in connection with the extension of the Biosphere reserve.
8. Translate the website and public information material into foreign languages so that the numerous foreign tourists attracted by the city of Pisa and its region can appreciate the Park's assets. Publish and provide to visitors at least a list of the species illustrated on the information panels, with their names in four languages, in addition to the scientific name.
9. Maintain and consolidate the network of centres providing information on the region's nature, culture and history. Make more systematic use of international designation logos, particularly that of the European Diploma, providing suitable explanation.
10. In the context of preparing the new Integrated Plan for the Park, pursue discussion on relocating craft activities from the area around Massaciuccoli lake.

APPENDICES

- I. GENERAL SITUATION OF THE PARK**
- II. PROTECTION REGIMES**
- III. VISIT PROGRAMME**
- IV. LIST OF PEOPLE MET**
- V. LETTER FROM NGOS (ITALIAN WITH TRANSLATION)**
- VI. SCIENTIFIC BIBLIOGRAPHY**

REFERENCE DOCUMENTS:

APPLICATION FILE
ANNUAL REPORTS

APPENDIX I: General situation

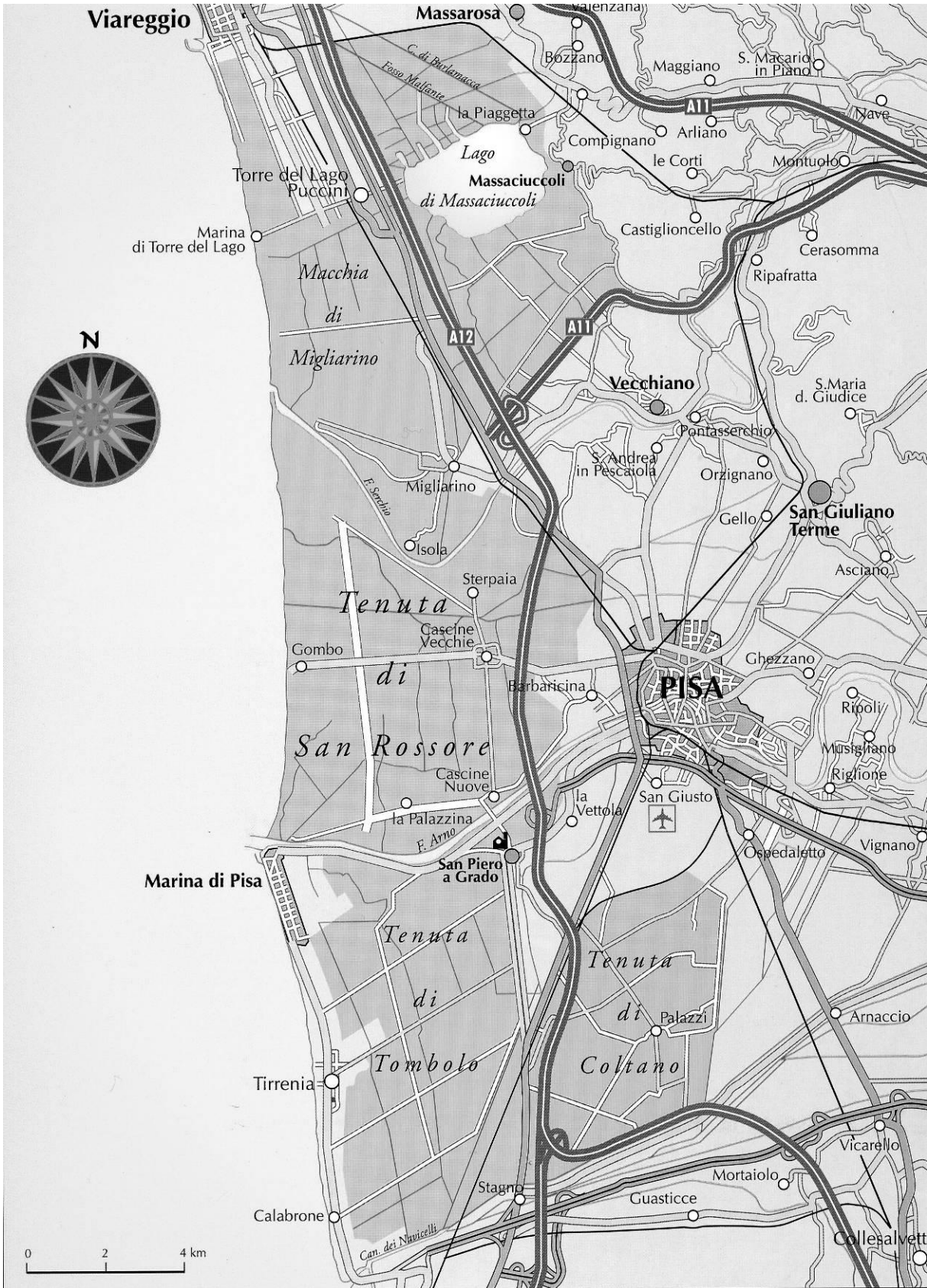




Tavola 1: Il Parco cuore e motore dell'area urbanizzata Viareggio, Pisa, Livorno, evidenziata in giallo. Del Parco sono indicati in rosso il perimetro interno e in arancione quello esterno, dove è ammessa la caccia

APPENDIX II: Protection regimes



APPENDIX III:

Expert appraisal of the Regional Park of Migliarino, San Rossore and Massaciuccoli by the Council of Europe

Visit programme

Monday 13 May 2019

- Arrival (2.30 pm, Pisa Central station)
 - o Welcome by the Park Authorities (Director, President) and members of the park team
 - o Meetings with the municipal and regional authorities (depending on availability)
 - o Meetings with stakeholders with an interest in the Regional Park (NGOs, associations, forestry workers, hunters, fishermen, farmers) – depending on availability
 - o Meetings with representatives of the scientific community carrying out research projects in the Park

Tuesday 14 May 2019

- Visit of the Regional Park

Meetings during the visit with the nature protection associations which manage woodland, dune or wetland areas

Possibility of meetings with other stakeholders in the territory

Wednesday 15 May 2019

- Meetings with the municipal and regional authorities
- Additional park visits
- or additional meetings (depending on availability for the Monday meetings)

1.30 pm departure

APPENDIX IV: List of people met

EUROPEAN DIPLOMA FOR PROTECTED AREAS. VISIT OF 13-15 MAY 2019 LIST OF PARTICIPANTS

13 May

Park staff

- Mr Giovanni MAFFEI CARDELLINI President
- Mr Riccardo GADDI Director
- Ms Patrizia VERGARI Administrative service manager
- Mr Andrea PORCHERA Technical Service Manager for Territory Planning and the protected marine area "Secche della Meloria"
- Ms Francesca LOGLI Technical Service Management of Natural and Forestry Resources, Scientific Research and Environmental Evaluations
- Mr Raffaele ZORTEA Journalist, Communication manager

Park Management Council

- Ms Angela Pia GIUDICEANDREA
- Mr Maurizio BANDECCHI
- Mr Antonio GHIONZOLI

CIBM (Centro interdipartimentale di Biologia Marina), University Centre that deals with the scientific point of view of the protected marine area "Secche della meloria".

- Prof. Carlo PRETTI

Vecchiano Ciommune and Province of Pisa

- Mr Massimiliano ANGORI Mayor and President of the Province

14 May (Park visit)

Park Guards

- Mr Alessandro GIORGI (visit of the Palazzetto reserve and Fortino Nuovo route)
- Mr Fabrizio GUAZZINI
- Mr Mario FRANCESCHI

Farmers

- Mr Furio SALVADORI Agritourism, meat
- Mr Ulisse STEFANUCCI Cereals

Association of Coltano

- Mr DELL'OMODARME Pro-Loco Coltano

Associations of nature protection (in order of intervention)

- Mr Andrea FONTANELLI LIPU (Oasi Massaciuccoli) – visit of the lake
- Mr Jacopo SIMONETTA Amici della Terra
- Mr Michele IMBRENDA Legambiente Pisa
- Mr Antonio DALLE MURA Italia Nostra Versilia
- Mr Riccardo CECCHINI Legambiente Versilia
- Ms Letizia DEBETTO Legambiente Versilia
- Mr Marcello MARINELLI WWF

Other associations

- Mr Leonardo DI SACCO Federazione Toscana Canoa e Kayak
- Mr Andrea ARRIGHINI Città Infinite (management of "La Brilla")

15 May

Scientific meetings

- Prof. Nicola SILVESTRI (came on Monday 13th, agronomist)
- Dr. Andrea BERTACCHI Botanist
- Dr. Marco ZUFFI Herbotologist
- Dr. Luca PUGLISI Ornithologist

Agriculture management of the Domaine San Rossore

- Mr Marco RICCI Agronomist technician, contracted by the Park
- Mr Antonio PERFETTI Biologist, formally in charge of the Sector
- Mr Luca BECUZZI Logistics manager
- Mr Stefano MICHELETTI Agriculture worker
- Mr Francesco PARDINI Agriculture worker
- Mr Antonio VALENTINI Agriculture worker

APPENDIX V: Letter from NGOS (translation)



Viareggio 14/05/2019

Dear Mr Galland,

At this moment in time nature parks throughout Italy are facing difficulties, and the very idea of biodiversity conservation is under attack.

Regarding Tuscany, one only has to think of the proliferation of quarries at the heart of the Alpi Apuane Park, the amendment of Regional law 48/1994 to allow motocross and four-wheel-drive vehicle races through woodland, and cuts in staff and funding for nature parks and reserves, some areas of which have been abandoned.

Where the Regional Park of Migliarino, San Rossore and Massaciuccoli is concerned, despite mounting external pressure and the adverse context, it has persevered in its core mission in recent years, achieving important results, which include the following:

- it has prevented land being eaten up within it, conserving a precious heritage of biodiversity, despite the strong push towards construction of recent years. In 2015 alone, in the provinces of Lucca and Pisa, 36,366 hectares were urbanised (ISPRA), an area one and a half times the size of the Regional Park of Migliarino, San Rossore and Massaciuccoli (24,000 ha). Urbanisation along the coast increased by 9% over the same period.
- It has paved the way for the setting up, in 2004, of the "Selva Pisana" Biosphere reserve, within the UNESCO-MAB programme, which, in 2016, was extended towards Monte Pisano, the Livorno hills and Massarosa, and given the title of "Selve Costiere di Toscana".
- In priority habitats within the meaning of European standards, the Park has supported the fight against invasive species such as *Ailanthus altissima*, *Phytolacca americana*, *Amorpha fruticosa* and *Yucca gloriosa*.
- It has made it possible to restore special conservation areas in the Bosco del Palazzetto Nature Reserve (in Poggio di Mezzo) with the reintroduction of *Hypericum elodes* e *Sphanum* sp.
- In collaboration with environmental groups, it has promoted the safeguarding of the Kentish plover (*Charadrius alexandrinus*) by protecting nests and raising awareness among visitors.
- It has managed the impact assessment for the construction of the "Tombolo DOC" (inside the Camp Darby military base), securing mitigation and compensation measures by way of replacement of felled trees, the creation and restoration of wetlands, the adoption of measures to prevent the infiltration of seawater from the Canale dei Navicelli and the creation of road and railway crossing points for amphibians.
- It has promoted and coordinated the "Territoriale Pianura Pisana" integrated project, financed with 3 million euros of European funding, for the adoption of measures to counter climate change in agriculture.
- It promotes the building of road crossing points for wild fauna in and around the Park, as well as the linking up of priority areas devoted to the survival of amphibians, yielding positive results boosting their survival rate during seasonal migrations.

Despite all this, the overall context threatening the existence of protected areas for the benefit of financial speculation pursuing different aims is exacerbating the difficulties faced by the Regional Park of Migliarino, San Rossore and Massaciuccoli, which include the following:

- The Park is losing its professional expertise in the conservation of natural assets, one example being the closure of the visitor centre of the Villa Borbone at the initiative of Viareggio municipality.
- There are not enough wardens because retiring staff have not been replaced; the last competitive recruitment of a park warden dates back to 1992. The volunteers (Guardie Ambientali Volontarie) are of help but this does not resolve the critical level of staffing, which is now very low with a high average age. It is a matter of urgency to bring in more staff and not cut back on competencies as has been suggested.
- The Park's obvious weakness against pressure from local authorities needs to be addressed. Their tendency to consider the Park's "aree esterne" (outer zone) as a contiguous area is particularly dangerous. The outer zones are an integral and functional part of the Park and have been included within its boundaries since its institution by regional law in 1979. "Contiguous areas" are a notion created by the national law (Legge Quadro delle Aree Protette - Law no. 394 of 6/12/1991) and are "buffer zones" outside a park itself. In principle, the management of the "outer zones" is the prerogative of the park, whereas the "contiguous areas" (of which the Regional Park of Migliarino, San Rossore and Massaciuccoli currently has none) are managed by the municipal authorities. It is a matter of urgency therefore that the Park also be provided with contiguous areas to protect it from pressure from urban development, but by adding to the current surface area and not by subtracting from it.
- The restoration of Massaciuccoli lake has not been completed, despite funding and the efforts of the Park to coordinate the competent authorities.
- Also critical is the situation of the coastal dunes, besieged by car parks and seaside facilities, periodically vandalised and damaged by the trampling of too many tourists. And here we speak of what is left, as most of the dunes have already been swallowed up by sea erosion, with nothing done to stop it, while plans are made for pharaonic projects which can only make the situation worse. The most dangerous of these is the potential creation of the "Europa Platform" of the port of Livorno which would almost reach the "Secche della Meloria" protected marine area and special conservation area (IT5160018), a national protected area managed by the Regional Park of Migliarino, San Rossore and Massaciuccoli. The impact of such an infrastructure has not yet been assessed but would certainly pose a serious problem for what is left of the sand beaches, already seriously damaged by works in the port of Pisa (which has not generated the jobs and prosperity promised).
- Another critical issue is the increase in access roads to protected areas, despite the presence of the Park, one example being the so-called "Asse di Penetrazione di Viareggio": a major road for which it is wished to cut down a swathe of pine forest at the Park boundary, right next to the "Macchia Lucchese" SPA-SAC (IT5120016) and the "Dune litoranee di Torre del Lago" SPA-SAC (IT5170001). The project is being pushed for on the pretext of helping the shipyards but the road layout put forward by the municipality leads not to the port but to the seaside facilities and restaurants of the "Costa dei Barbari" enclaved within the Park, restaurants which people are aiming to extend and convert into B&Bs.
Another critical project is the Ciclovía Tirrenica (for which an application for European funding has been submitted) which was supposed to be routed through the Park using the existing road systems. But information has leaked out more recently that, on the contrary, two bridges would be built to cross the "Tenuta di S. Rossore" estate - despite the obvious impact on the "Selva Pisana" SPA-SAC (IT5160002) – and on the dunes, in the Lecciona nature reserve, at the junction between the "Macchia Lucchese" SPA-SAC (IT5120016) and the "Dune litoranee di Torre del Lago" SPA-SAC (IT5170001). Such an infrastructure alone would compromise the Park's habitats and priority species.
The environmental groups are also opposed to all these projects, fearing that the subsequent fragmentation and sub-structuring of the Park could lead to the entire area being opened up to speculators.
- Despite the initiative to mitigate light and noise pollution, music concerts having a major impact are allowed right next to the Park and the "Nature 2000". Two Jovanotti Beach Party concerts are being held in Viareggio for example and, for each of them, over 20,000 people are expected, very

close to the nesting area of the Kentish plover (*Charadrius alexandrinus*), a species on the IUCN red list.

- The craft activities installed on the banks of Massaciuccoli lake have not been relocated as planned. On the contrary, they have been allowed to expand, taking up even more land at the heart of the Park and the "Lago e padule di Massaciuccoli" SPA-SAC (IT5120021).
- Even in the "Selva Pisana" (IT5160002), forestry follows criteria that are distinctly more commercial than ecological, by clear-cutting the oldest pine forests while neglecting to thin out young pine forests, which is urgently required but not profitable. Moreover, cutting is carried out by very heavy machinery which has a strong impact on the ground and undergrowth, while the young deciduous trees that are somehow spared by cutting are being killed off by too much sun and dryness.

This is not an exhaustive list of issues, but it reveals the dramatic situation faced by the Park today, as the proverbial "clay jug among iron pots".

We therefore ask that:

- the European Diploma be renewed, while pointing out the actions that have to be taken to guarantee the Park's survival over time. A removal of the diploma would only favour the Park's enemies;
- information channels be activated with local environmental groups for the sharing of annual reports, involving processes of effective participation;
- Europe keep a close eye on the projects it is requested to fund, to avoid supporting initiatives that are dangerous for the Park, such as the few already mentioned;
- contiguous areas be set up when the next Integrated Plan for the Park is drawn up, by adding to the current surface area and not by subtracting, as a number of influential figures are scheming to do, and also that, at that time, the "Selva Costiere di Toscana" Biosphere reserve be included in the Park or its contiguous area;
- the Park work to promote the creation of a Site of Community Importance comprising the residual wetland and woodland zones of the Versilia de Viareggio plain as far as the Lac de Porta SPA (IT5110022) and the Forte dei Marmi Dunes. This would conserve what remains of a rich biodiversity and an important bird migration route, as well as removing these fragments of territory from the influence of unbridled speculation, pursued above all by the municipal authorities at the behest of small but powerful local lobbies and business committees that have a very strong foothold in the territory.

We remain open to all further involvement.

Yours sincerely,

APPENDIX VI: Scientific bibliography**List of scientific publications from 2004-2018 by subject****Mammals:**

- Agnelli P., Guaita C., Vergari S. 2005. "Un contributo per la pianificazione degli interventi nella Tenuta di San Rossore (Pisa): lo studio della chiroterofauna". [p. 80]. In: Prigioni et al. (eds.) V Congr. It. Teriologia, Arezzo 10-12 novembre 2005, Hystrix, It. J. Mamm., (N.S.) Supp.: 1-160. (comunicazione).
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- Cammelli C., Jackson N.L., Nordstrom K.F. and Pranzini E. (2006) - Assessment of a gravel-nourishment project fronting a seawall at Marina di Pisa, Italy. *Journal of Coastal Research*, S.I. 39, 770-775.
- Cannetiello M., Filogari D., Gambogi R., Tigano A., Perfetti A. 2010. The presence of wolf (*Canis lupus*) in a strong anthropical area: the case of Migliarino San Rossore Massaciuccoli Regional Park. "Wolf Conference. Lupi, genti e territori. La gestione del lupo in Europa: tutela, monitoraggio, prevenzione e riduzione dei conflitti". Torino 24, 25, 26 Maggio 2010, Book of abstracts.
- Maltagliati G., P. Agnelli and S. Cannicci. 2013. - Where and at what time? Multiple roost use and emergence time in greater horseshoe bats (*Rhinolophus ferrumequinum*). *Acta Chiropterologica*, 15(1): 113-120
- Maltagliati G. 2012. - Behavioral ecology of bats in urban and suburban areas: an eco-ethological approach to conservation. Università degli Studi di Firenze, Dipartimento di Biologia Evoluzionistica "L. Pardi". Tesi del Dottorato di Ricerca in Etologia, Ecologia Animale e Antropologia. Coordinatore Prof. Alberto Ugolini Tutor Dr. Stefano Cannicci et Dr. Paolo Agnelli, Università di Firenze, 88 pp.

Marine / Coastal Systems, Conservation / Dune Systems

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- Pranzini E. e Simeoni U. (2005) - Morfologia delle dune costiere. In. *Le dune costiere in Italia*, a cura di Ugo Macchia, Enzo Pranzini e Paolo Emilio Tomei. Felici Editore, Pisa, pp. 93-113.
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- Cammelli C., Jackson N.L., Nordstrom K.F. and Pranzini E. (2006) - Assessment of a gravel-nourishment project fronting a seawall at Marina di Pisa, Italy. *Journal of Coastal Research*, S.I. 39, 770-775
- Pranzini E. e Farrell E.J. (2006) - Shoreline Evolution And Protection Strategies Along The Tuscany Coastline, Italy. *Journal of Coastal Research*, S.I. 39: 843-848..
- AA.VV. "Conservazione degli ecosistemi costieri della Toscana settentrionale 2005-2009"(a cura di Antonio Perfetti), 2010. pp 246
- Cipriani L.E., Perfetti, A., Pranzini E. e Vitale G. 2010 "Azioni di tutela delle dune costiere del Parco Regionale Migliarino San Rossore Massaciuccoli (Toscana settentrionale)". *Studi costieri* 17: 165-179
- Perfetti A., Cavalli S., Lombardi L., Gattai P., Vernina P., Mastroianni O., Favilla A., Puglisi L. 2010. "A long term ecological restoration project for the dune habitats in northern Tuscany". 7th SER European conference on Ecological Restoration 23-27 August 2010 Avignon France Ecological restoration and sustainable development establishing links across frontiers, Book of abstracts.
- Perfetti A., Lombardi L., Logli F., Puglisi L., Colligiani L., Porchera A., Mastroianni O., Labriola M. 2010. "Ecological restoration of coastal wetlands in the central Mediterranean area". 7th SER European conference on Ecological Restoration 23-27 August 2010 Avignon France Ecological restoration and sustainable development establishing links across frontiers, Book of abstracts.
- Bertacchi A, Lombardi T (2012). "The coastal habitats of Migliarino-San Rossore-Massaciuccoli regional park (north tyrrhenian coast-Tuscany-Italy)." In: *Dune scrub and woodland conference Liverpool Hope University*. 2012, Hope University press p. 4
- Bertacchi A., Zuffi M.A.L., Lombardi T., 2016. *Foredune psammophilous communities and coastal erosion in a stretch of the Ligurian sea (Tuscany - Italy)*. *Rendiconti Lincei - Scienze Fisiche e Naturali*
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- Bertacchi A., Fagaras M. (2017) *Comparison Of Dune Habitats Of North Mediterranean Coasts - Tuscany (It) With Those Of Black Sea Coasts - Dobrogea (Ro, Bg): Similarities And Differences*. 112° Congresso della Società Botanica Italiana onlus Parma, 20 - 23 September 2017. Iv International Plant Science Conference (Ipsc). (poster)
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- Giannini V., Bertacchi A., Enrico B., Silvestri N. (2018) *Rewetting in Mediterranean reclaimed peaty soils and its potential for phyto-treatment use*. Journal Of Environmental Management. 208:92-101.
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 - Mastroianni O. e Perfetti A. 2013. - Ripristino ambientale delle aree costiere dunali. pp 61-73. In AA.VV. 2013. *Corem*
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Erosion

- Bertacchi A, Lombardi T (in press) “Diachronic analysis (1954-2010) of transformations of the dune habitat in a stretch of the northern tyrrhenian coast (Italy) “. *Plant Biosystem*, in press.
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Monitoring/ methodologies

- Reichstein et al., 2007. Determinants of terrestrial ecosystem carbon balance inferred from European eddy covariance flux sites. *Geophysical research letters*. Vol.34
 - Boscalieri F., Perfetti A., Russu R., Travaglini D., Vettori C. 2010. “Pollen flow evaluation of crops cultivated in the Migliarino-San Rossore-Massaciuccoli regional park (North Tuscany, Italy)”. 54° Convegno SIGA, Book of abstracts.
 - Buonamici et.al. 2013 - “Pollen flow of *Brassica napus* cultivar and possible breeding with *Sinapis arvensis*”.- Abstract 57° Convegno SIGA (Società Italiana Genetica Agraria)
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Genetically modified organisms

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Biodiversity

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Mushrooms/fungi

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Lichenes

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