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2020-1-ES01-KA226-SCH-096057  
GAMIFICATION AS AN EDUCATIONAL TOOL  
FOR UPPER SCHOOLS ON PARKS  
AND ENVIRONMENT [GET UP!]

# CENTO LAGHI REGIONAL PARK

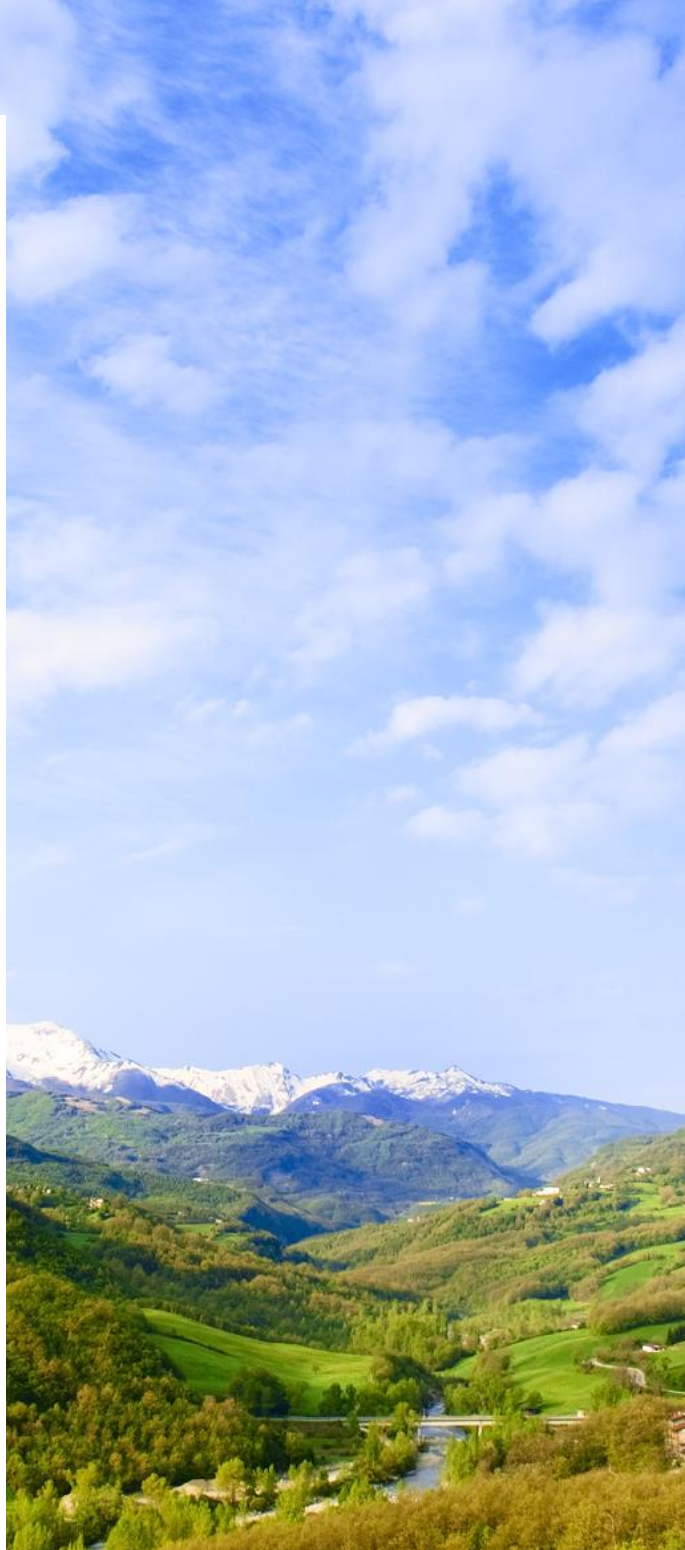
## Report

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**ENTE DI GESTIONE PER I PARCHI E LA BIODIVERSITA'  
EMILIA OCCIDENTALE**

**Management Body for Parks and Biodiversity –  
Western Emilia**





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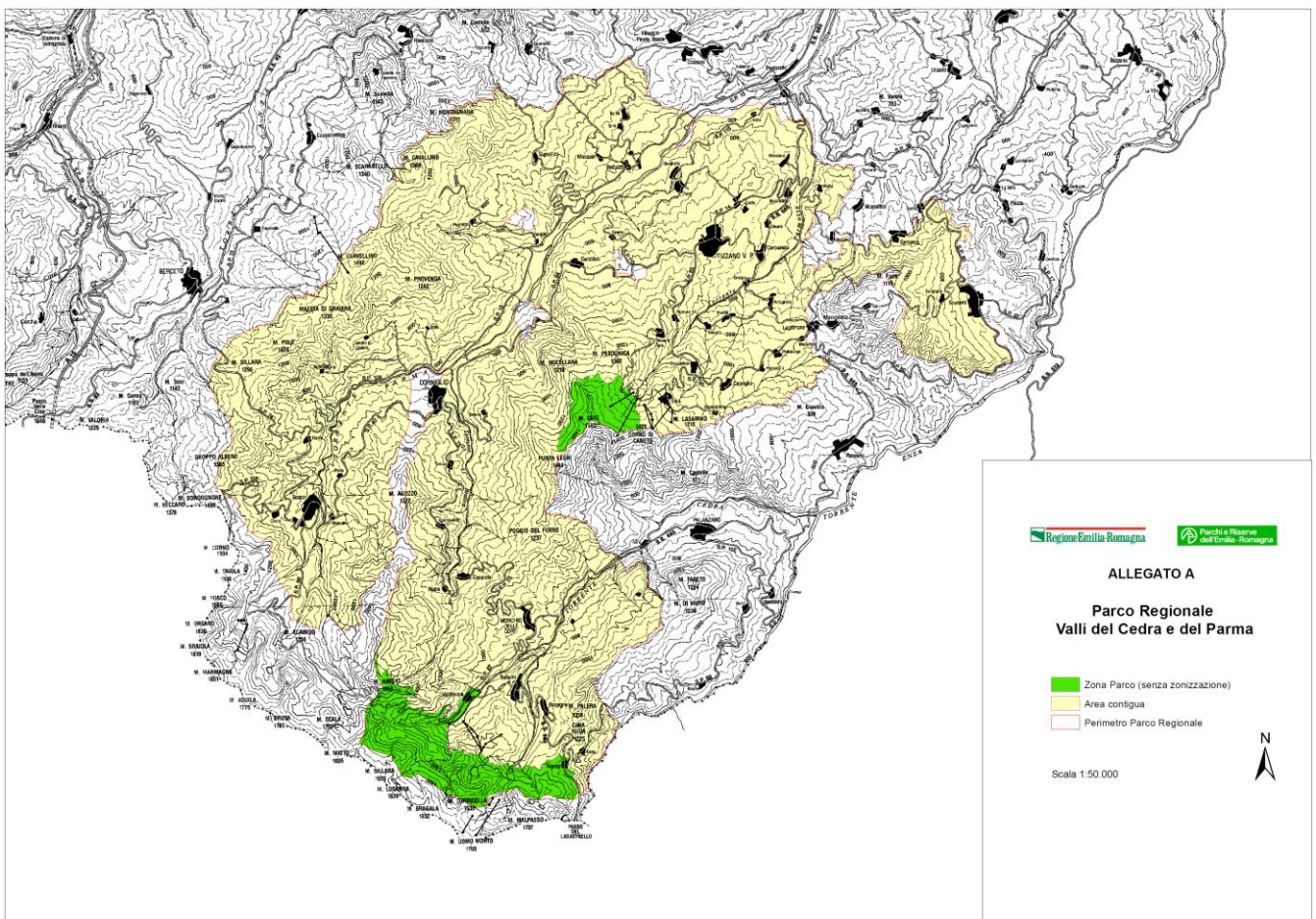
# NATURE

## Cento Laghi Regional Park

**Cento Laghi Regional Park** was established in 1995; located in Italy, in the Province of Parma (Emilia-Romagna Region), involves the Municipality of Corniglio, Monchio delle Corti, Neviano degli Arduini and Tizzano Val Parma, in the Apennines. From 2012 is managed by **Ente di Gestione Per i Parchi e la Biodiversità Emilia Occidentale** (Management Body for Parks and Biodiversity – Western Emilia).

Born to protect natural areas of the main Apennine ridge, after the establishment of Appennino Tosco-Emiliano National Park (2001), the Regional Park lost the management of higher areas and reconfigured its territory, widening it towards the valley and joining to its original "mission" that of the enhancement of typical products and of agrobiodiversity.

**“ A noteworthy variety of environments and a high level of biodiversity.”**



Cento Laghi Regional Park map - Source: Emilia- Romagna Region  
<https://ambiente.regione.emilia-romagna.it/it/parchi-natura2000/aree-protette/parchi/pace/mappa>

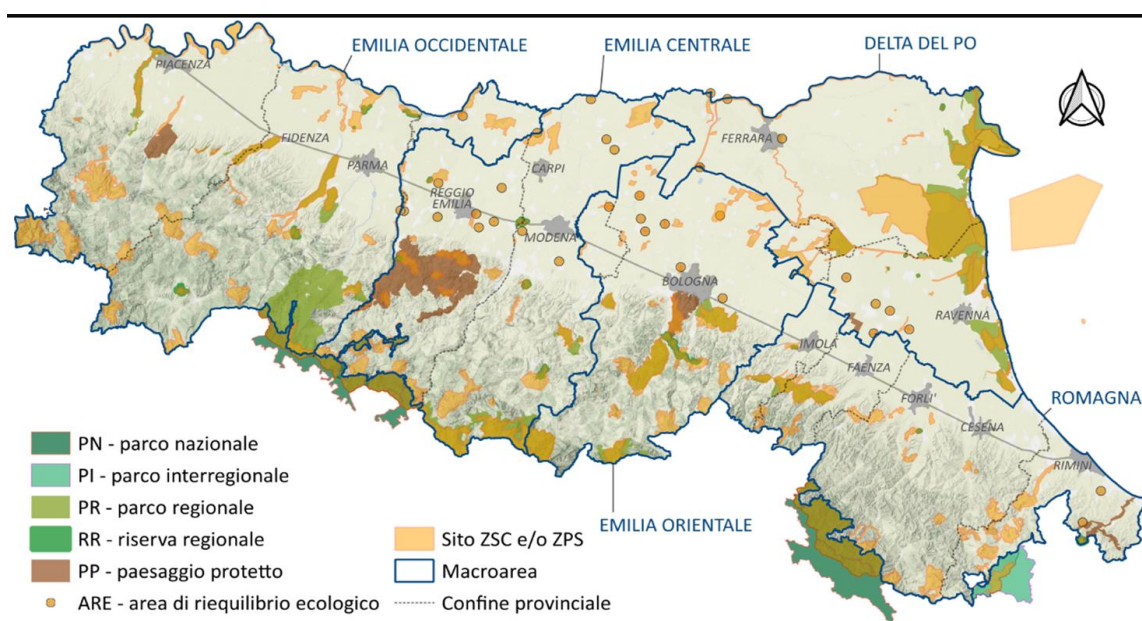
The presence of different altimetric levels in the Regional Park (ranging between 400 and 1.650 m. above sea level) guarantees a **noteworthy variety of environments and a high level of biodiversity**. From the green and agricultural hill to the mountainous areas, where the glacial traces are still evident (between 75.000 and 10.000 years ago), is a succession of different environments, each with its own natural, cultural and landscape characteristics.

At lower altitudes there is a gentle agricultural landscape where arable land alternates with stable meadows, surrounded by long hedges and mixed broad-leaved forests and chestnut woods. Rising of altitude increases the forest cover, interrupted at times by meadows and meadows-pastures, scattered with small villages and crossed by a thick network of forest roads and trails. From 900-1.000 m. up to 1.700 m., the beech woods cover the mountain slopes, interrupting at grassy clearings and rocky outcrops.

The mountain ridges, arranged perpendicular to the main ridge (Tosco-Emiliano) in a northeast direction, mark a beautiful succession of small valleys, carved by clear streams and dominated by some peaks, that are real natural "balconies" (**Monte Caio** 1584 m., **Monte Navert** 1657 m., **Monte Torricella** 1728 m, **Monte Cervellino** 1492 m).

The millennial presence of man and his activities is an integral part of landscape, as well as cultural and historical heritage of the Park. Where the presence and activities of man are most significant, one can meet beautiful historic villages, ancient remains of imposing castles, medieval churches. It is a living and vital territory from which man has been able to create agri-food products appreciated worldwide: Parmigiano-Reggiano PDO and Prosciutto di Parma PDO are the best-known.

The Park includes some **Nature Network 2000** sites and is part of the Appennino Tosco-Emiliano **Unesco MAB (Man and Biosphere) Reserve**.



*Emilia-Romagna system of protected areas*

## Geology

The landscape's shapes of Cento Laghi Regional Park are the result of modelling actions made by **Würm glaciation** (from 110.000 to 20.000 years ago). During its life, the glacier flows towards the valley digging between the slopes and dragging with itself rocks and debris. When it disappears, the signs of its erosion remain: glacial cirques (depressions in the ground, basins like natural amphitheatres), U-shaped valleys and moraine deposits. In the glacial cirques glacial lakes have found their space. In the area there are a lot of Glacial Lakes, most of them in Appennino Tosco- Emiliano National Park but some of them also in Cento laghi Regional Park, like **Lago Verde and Lago Ballano**.



*Lago Verde – Source: Ente di Gestione per i Parchi e la Biodiversità Emilia Occidentale*

**On the spectacular slopes of Monte Navert (1657 m. asl) and on Monte Caio (1584 m. asl),** emerges a rocky formation that takes its name from this last mountain range: **Flysch di Monte Caio**. It consists of alternations between clear calcareous and calcareous-marly layers and thinner dark-colored marly-clayey layers. These rocks, so clearly visible here, are linked to underwater landslides that occurred between the upper Cretaceous and the Eocene (**76-66 million years ago**) on deep seabeds, when the closure of the Ligurian Ocean was still in place and well before the uplift of the Apennine chain. Inside the layers, there are fossil traces left by the labyrinthine *helminthoidean* organism that moved in search of food on the muddy seabed according to systematic curved trajectories.



*Flysh di Monte Caio – Source: Ente di Gestione per i Parchi e la Biodiversità Emilia Occidentale*

Another evidence of the ancient Ligurian Ocean is the presence in the Park of **ophiolitic rocks**, sections of oceanic crust and the underlying mantle that have been raised or superimposed on the continental crust until they emerged. "Ophiolite" is a term derived from the Greek *ofios* (snake) and refers to the variegated coloration green-black of the rock, which recalls the livery of these animals

## Habitat

The territory of the protected area is heterogeneous and differentiated, thanks to the extension of its surface. These characteristics make the Park a **complex mosaic of Habitats**.

## Flora and vegetation

In the lowest part of the park, up to 900-1,000 m asl, the vegetal landscape is more influenced by the secular presence of man: mixed deciduous forests governed by coppice for the production of wood, alternate, first with arable land, then with stable meadows for mowing and grazing, bordered by hedges, rows of trees and stone walls, more frequent around the little villages.



*The agriculture landscape – Source: Ente di Gestione per i Parchi e la Biodiversità Emilia Occidentale*

On the fresh slopes facing north in the mixed woods, of natural origin, Turkey oaks (*Quercus cerris*) and hornbeam (*Ostrya carpinifolia*) prevail, flanked by *Acer campestre*, orniello (*Fraxinus ornus*) and sorbi (*Sorbus L.*); sporadic is the roverella (*Quercus pubescens*), an oak typical of sunny slopes. In the undergrowth are frequent laburnum, hazel, hawthorn, blackthorn and, among the herbaceous, abound the early blooms of primroses, hellebores, anemones, pulmonary and violets; in summer the inflorescences of **orchids** and bluebells stand out.

The woods grown on the morainic debris have in the past been replaced with **chestnut trees** which have been very important for the people of Apennine Mountains in the past. They provided firewood and timber for the construction of furniture and tools; moreover the fruit of the chestnut was at the base of the feeding in mountains; from it drying and grinding the flour was obtained and used to prepare a lot of disse. Most of the Chestnut woods have been slowly abandoned since the post -II World War period, but still today in some areas of the park there are well-kept chestnut forests.



*Chestnut Wood – Source: Ente di Gestione per i Parchi e la Biodiversità Emilia Occidentale*

From 900-1.000 m. up to 1.700 m., the beech woods (*Fagus sylvatica L.*) cover the mountain slopes, interrupting at grassy clearings and rocky outcrops. The cool and humid climate and the centuries-old exploitation of beech woods have favored the development of this tree.



*Fagus Sylvatica L. Wood – Source: EPEO*

Abundant and spectacular are also the blooms in the Park, which sometimes represent a true and incredibly rarity as in the case of the *Primula apennina*



*Fagus Sylvatica L. Wood – Source: EPEO*



## Fauna

Among the species symbol of the park the **Apennine wolf (*Lupo appenninico -Canis lupus italicus*)** is certainly the most interesting and important. It is a subspecies of the grey wolf native to the Italian Peninsula. It inhabits the Apennine Mountains. It is protected in Italy since 1970 and the population has been increasing in the last years, though illegal hunting and persecution still constitute a threat. Cento Laghi Park manage, in collaboration with other Public Body and researchers, an important monitoring activity of this species.



*Lupo appenninico -Canis lupus italicus* – Source: EPEO

The **roe deer**, species typical of lower environments, is present thanks to a series of past reintroductions and in recent years its density is increasing. the most evident and widespread species is the **wild boar**.



*Roe Deer and Wild Boar* – Source: EPEO

In the park the birds are, among the vertebrates, the group that includes the greatest number of species. The most significant and fascinating is the **Royal Eagle (*Aquila Chrysaetos*)**, that for several years  **nests in the few and precious rocky walls of the Park.**

Among the birds of prey are surely nesting Honey buzzard (*Pernis apivorus L.*), goshawk (*Accipiter gentilis L.*), sparrow hawk (*Accipiter nisus L.*), buzzard (*Buteo buteo L.*), kestrel (*Falco tinnunculus L.*), hound (*Falco subbuteo L.*) and peregrine (*Falco peregrinus T.*)



*Aquila Chrysaetos* – Source: EPEO

Typical of the wooded ecosystems are axiole, hoopoe and lesser red woodpecker. Where the beech prevails, however, we find grey tit, tuft and great red woodpecker. Streams and in some cases high altitude lakes are the habitat of the rare dipper (*Cinclus cinclus L.*)

Next to all these there are then different species that are part of the so-called “minor fauna”. Among the fish the brown trout (*Salmo Trutta L.*) is now widely present in the streams and lakes of the park. Among the other amphibians present are crested newt, spotted salamander, toad common toad, temporaria frog (*Rana temporaria L.*)

## Fruition

Living the Cento Laghi Park: a territory which offers extraordinary leisure opportunities and amazing landscapes. **Everybody will be satisfied:** besides the many opportunities to **walk** or to **go hiking**, along the many paths of the park, visitors can also play many **sports** (both in summer and in winter), and experience the **acrobatic paths** among the trees. **Everybody will have fun:** here you can ski, walk with the snowshoes, go mountain biking, go horse riding, practice recreational fishing and mushroom hunting; and many areas are equipped with games for children.



*Outdoor Activities in the Park – Source: EPEO*

**Tourists** will find many **equipped areas** to spend their relaxing moments and to go on picnics in. Also many festivals take place, during which visitors will find the same atmosphere of the past.

Lake Ballano and Lake Verde are the two glacial lakes in the park, which is full of peaks that are “natural balconies” from which you have a 360-degree vision on landscape. The most important peaks are Monte Caio (1584 m), Monte Navert (1653 m) and Monte Torricella (1728 m). The lower territory of the park is dotted with historic villages where you can discover the local culture and taste typical products.

## HISTORY

The first traces of settlements, in this part of Apennine, date back to the Paleolithic, but it is during the period of development of the **Romans** that the territory takes on **strategic importance** thank to its geographic position, between continental and mediterranean regions, as evidenced by archaeological findings.

During the Middle Ages the territory had its maximum development, through the spread of autonomous feudal institutions that gave life to castles and courts. The Park is crossed by ancient pilgrimage routes (like Via di Linari) and historical routes (**like Via Longobarda**), that connected Emilia and Tuscany.

In the following centuries the typical characteristics of architecture have been maintained in the buildings of the villages and in smaller constructive elements, like “**maestà**”, small votive niches placed to protect streets, fountains and houses.



*Maestà – Source: EPEO*

At the beginning of XX century the Apennines was very inhabited thanks to the availability of natural resources. After the II World War many inhabitants emigrated to the cities to find work and left mountains. Today the quality of life and the natural features are favoring a return to the mountain by people looking for a quiet place to live or in which to spend the holidays.

## STAFF

A premise is necessary. Up until 2012 the Cento Laghi Park was managed by a consortium and therefore had its own staff. However, from 2012 onwards, these management consortiums for regional parks were abolished and a new managing body took over (**Ente di Gestione per i Parchi e la Biodiversità Emilia Occidentale**) which manages all five regional parks, i.e. the Cento Laghi Park, Stirone Park, Taro Park, Carrega Park and Trebbia Park.

This Managing Body has an unified staff working for all the parks, divided into the following services:

- Administrative department;
- Sustainable development, culture, tourism, communication and territorial marketing Area;



- 
- Conservation of Nature and European Projects service;
  - Vigilance and wildlife management service;
  - sustainability education and museology area;
  - technical department.

For the same reason , also the budget for the Park is included in the bigger budget of Ente di Gestione.

# ANNEX I: Practical activities in Cento Laghi Park

## Introduction

The activities described below were carried out with the Istituto di Istruzione Secondaria Superiore Carlo Emilio Gadda (High School in Langhirano, in the Province of Parma), that has been involved in the project by Ente di Gestione per i Parchi e la Biodiversità Emilia Occidentale. This School is organized in two study courses, one connected to Economy and marketing and one with ICT.

The activities took place during the school year 2021/2022, involved the class 2 BL of the high school (that includes 16 students) and were carried out by Ente di Gestione with the collaboration of environmental experts of Astrea Soc. Coop. And of Around Srls. Moreover also the project partner Eco&Eco collaborated in the activities

## Activities

In the preparation stage the experts have selected the teaching material to support the activities; then the operating phase has been started.

### 24th February 2022 – Online Meeting with teachers

The meeting with the teachers of Istituto di ISS C.E. Gadda had the following objectives:

- Introduce GET UP! Project;
- Define the general and specific contents of the didactic activities and fix the dates of the meetings for the students.

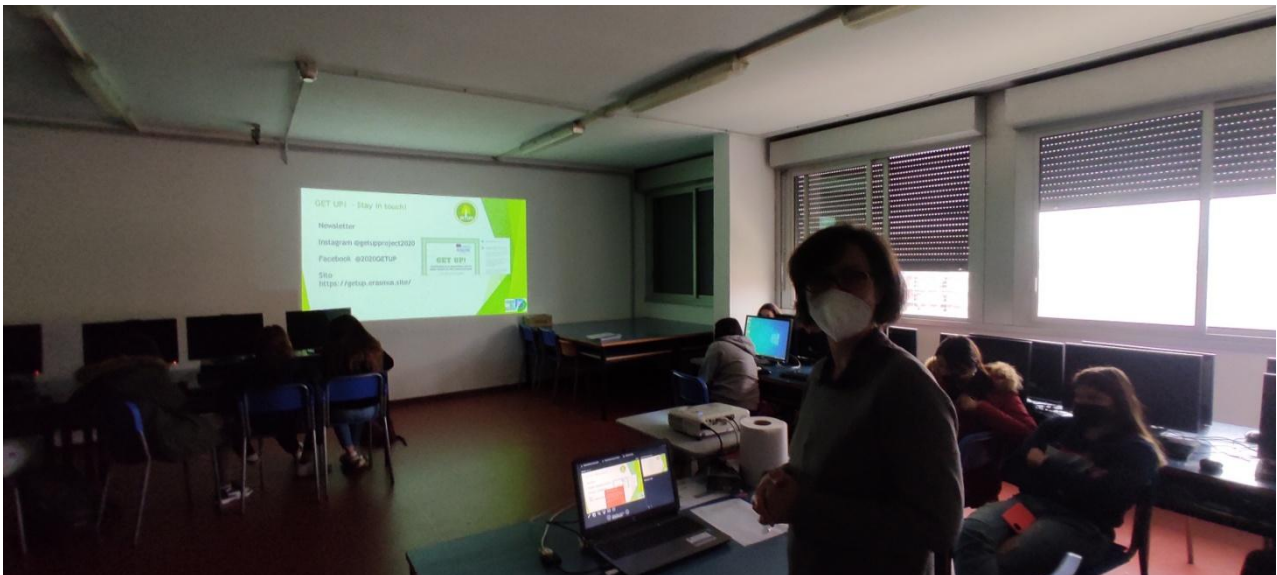
### 17th March 2022 – First Lesson in classroom with students

The first part of the lesson was dedicated to the dialogue with the students to understand the level of knowledge and awareness they have of the role and importance of Cento Laghi Park (some of the students live in the perimeter of the Park).

The second part was dedicated to search and illustrate the online and paper resources where is possible to find information material about the Park, useful for these activities. Students were **divided in five thematic groups** to which have been assigned different thematic areas of work, with the aim of finding as much information as possible, useful to the developers of the game.

The five thematic areas were:

- Group 1) Tourism, Environmental Education, mushrooms picking;
- Group 2) Flora and Forests;
- Group 3) Fauna, Hunting, Fishing, wild fauna compensations;
- Group 4) Agriculture and economic activities;
- Group 5) Park zoning and building permits.



### 31st March 2022 - Second Lesson in classroom with students

Between the first and the second meeting, the students worked at the project with their teachers. The activities of the second lesson were finalized to analysis and sharing of the job carried out by the groups and to its correction and integration. In this way we tried to build a **solid base of information** to share with the others partners of the project with the aim of having a realistic vision of the Park, useful for the game.

In the second part of the meeting was made a first list of questions, divided into thematic areas, to ask the staff of the Park during the interview scheduled for the month of April.

### 06th April 2022 – Field-visit to Cento laghi Park.

The excursion took place in **Monte Caio Area**, one of the most important Peaks of the Park. Before the walk, the students spoke with **some stakeholders**, operators of services and economic activities in this area of the Park and knew the opinions and issues of those who live and work in the Protected Area. The excursion have had the objective to show the natural features of the Park.



*Dialogue with stakeholders of the Park*



*The students during the Field-Visit*



## 12nd April 2022 – Third Lesson in classroom with students

The meeting was focused on gamification for education and communication. Students have participated in a brainstorming to understand the cause-effect logics that underlie the games and in particular the simulation games like GET UP! In the second part of the lesson were analysed the questions prepared by the students for the interview.

Then was shown to the students the video interview realized by Slovak partner

## 29th April 2022 – Interview to Park staff

At the headquarter of Ente di Gestione per i Parchi e la Biodiversità Emilia Occidentale, located in Collecchio (Province of Parma) inside an ancient medieval court, students made the interviews at Park staff, with the support of a professional videomaker.

in particular were interviewed:

- ALESSANDRA MAESTRI (Administrative Manager)
- RENATO CARINI (Natural Resources Conservation, Research and Monitoring Area Technician)
  
- MARCO ROSSI (Head of Sustainable development, culture, tourism, communication and territorial marketing Area)
- ENRICA MONTANINI (Head of the sustainability education and museology Area)

**In addition to the interview were made video shooting of the backstage, of the building complex and the museums inside it.**

after the video shooting, the editing and the post production and the final video has been subtitled in English and made available to the partners of the project



*The students during the interview*

## Assessment

The students and teachers valued the activity very positively. Teamwork and cooperation have been promoted, the students have learned about all the aspects related to the management of a park and have developed their skills about parks.

The same class will be involved in the test of the game in Italy, scheduled for February