A4b Natural assets: WATER AIR SOIL

by Lorenzo Micheli

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SNIA VISCOSA

3 ASSET

WATER

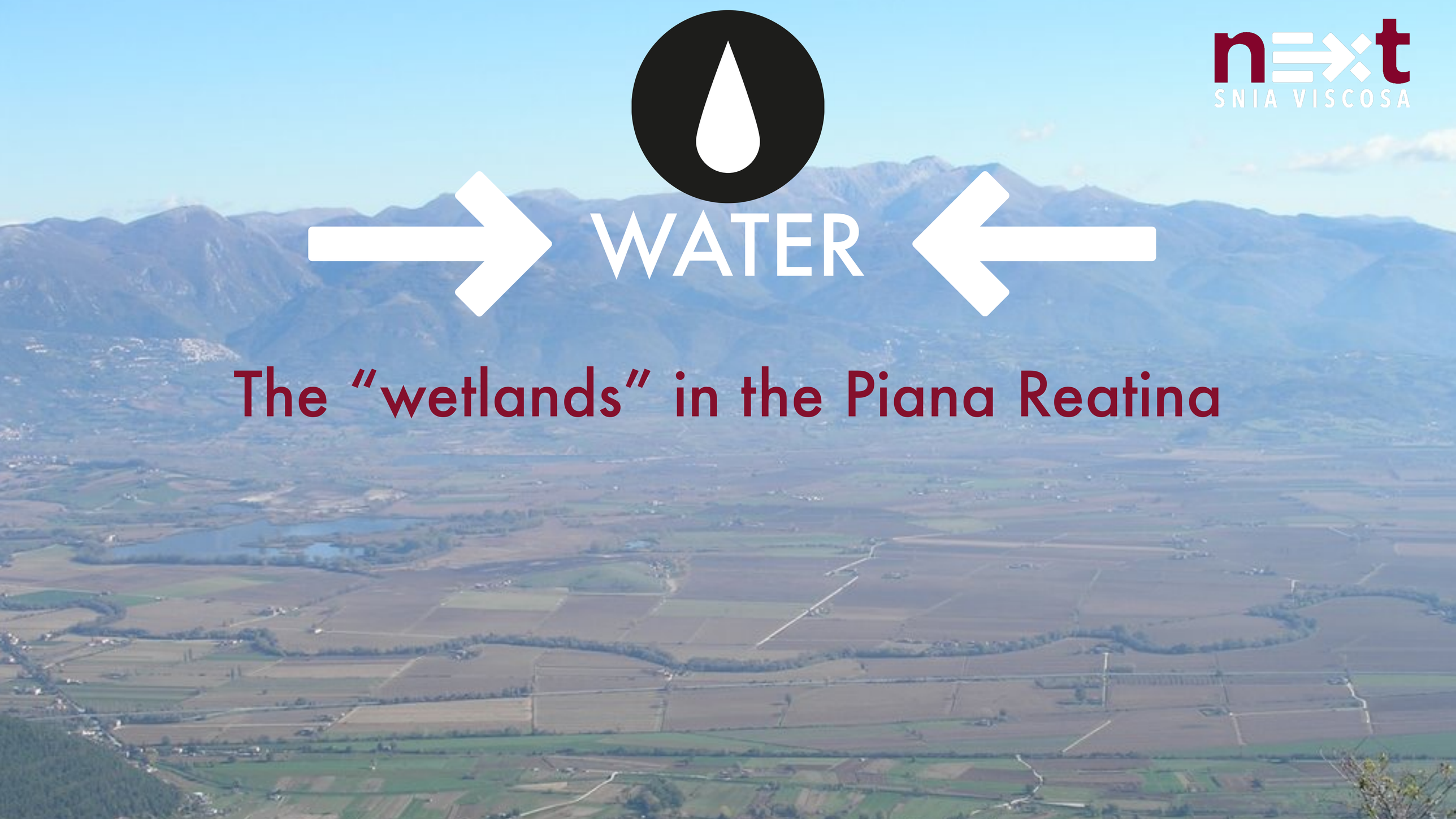
AIR

SOIL


WATER
"A blessing and a curse of the territory"

WATER

Freshwater is abundant and historically relevant in the territory of Rieti, where it is present in many forms: from the wetlands of the **Piana Reatina** to springs, rivers, lakes and thermal areas.

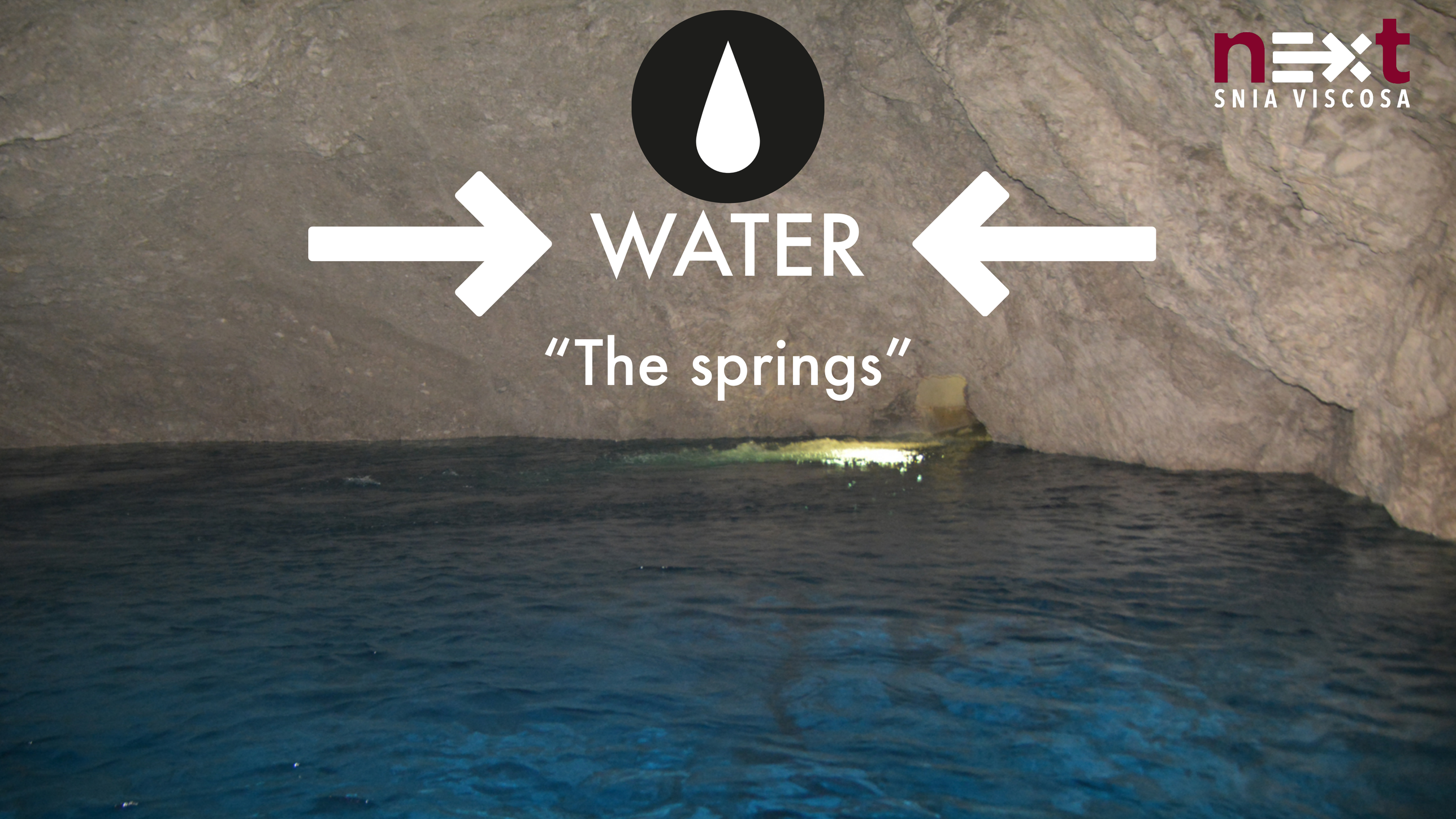


WATER

The “wetlands” in the Piana Reatina

The wetlands in the Piana Reatina

The millenarian history of the Piana Reatina is generally defined by the rich presence of water.. In ancient times, it was largely covered by a big lake – **Lacus Velinus** – that strongly influenced the life of the rural populations, which were forced to cultivate the land near the shores of the lake. In 290 BC, a complex yet impressive intervention of reclamation on the Plain was performed by the Roman consul Manius Curius Dentatus, who diverted part of the waters of the Nera river to the Cascate delle Marmore.


WATER
"The springs"

The springs

The hydro-geological system of the **Valle Reatina** is strongly influenced by the hydrodynamics of the areas of the Sabinia and Rieti, where 4 main medium-flow basal aquifers come to the surface:

Peschiera Springs in Santa Susanna
Le Capore Springs
Santa Susanna Le Capore Spring
Cantaro Springs

Peschiera Springs

13 km from the ex-SNIA Viscosa

Municipality of Castel Sant'Angelo – The springs, formed by a big karst cave with a diameter of 20 m, are located on the slopes of Monte Nuria. The water comes out of the cave and a wide network of tunnels from the aquifer inside the mountain, and has a **flow rate capacity of over 20 m3 per second**. The water flows from a big "central pond" and then tunnels into a big gallery, from which the aqueduct starts.

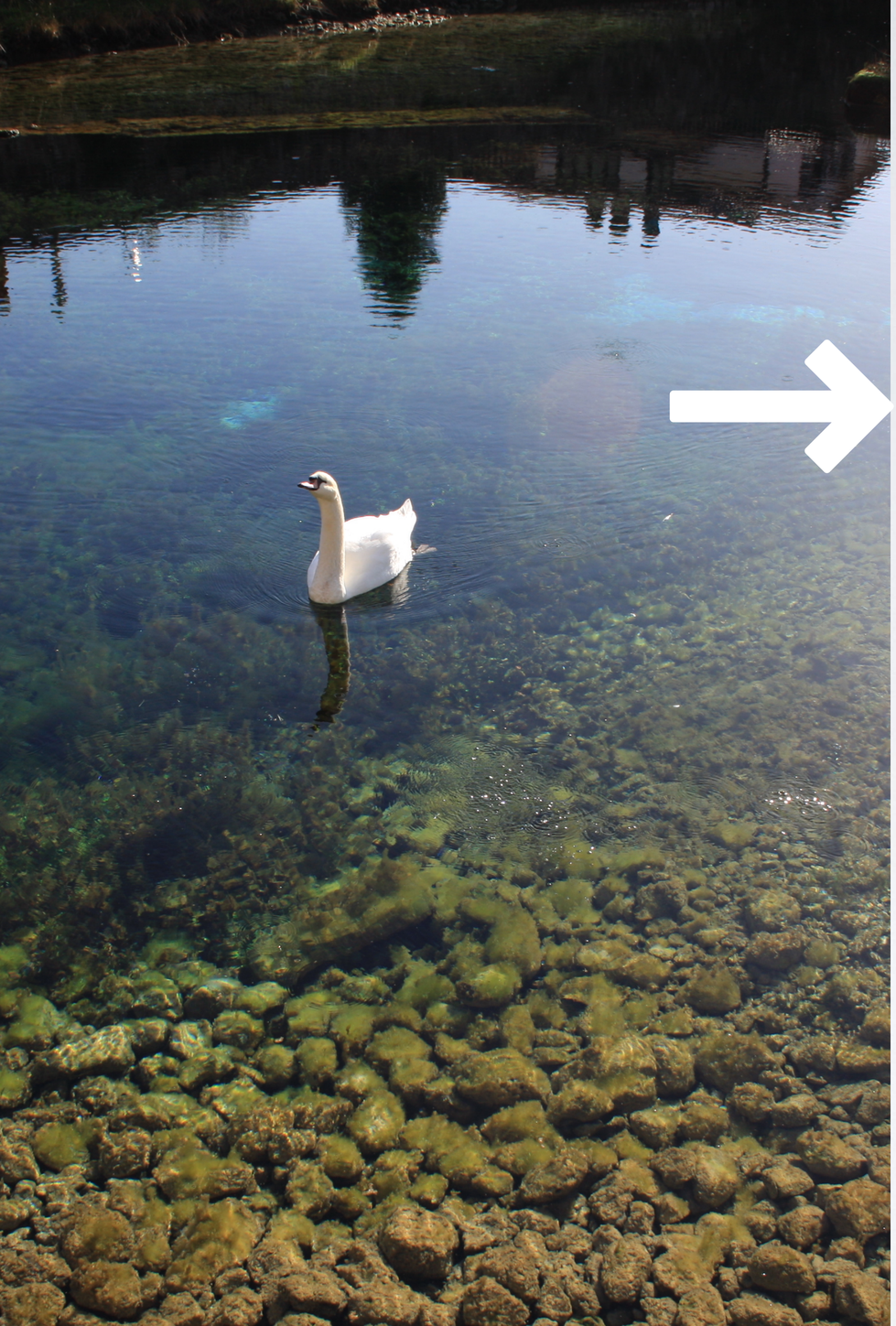
Le Capore Springs

20 km from the ex-SNIA Viscosa

Municipality of Frasso Sabino – With a **flow rate of 5 m3 per second**, the water springs out of at the bottom of the valley of the river Farfa. The water flows from catchment basins through a 7 km gallery into the Peschiera aquaduct, before getting to Rome.

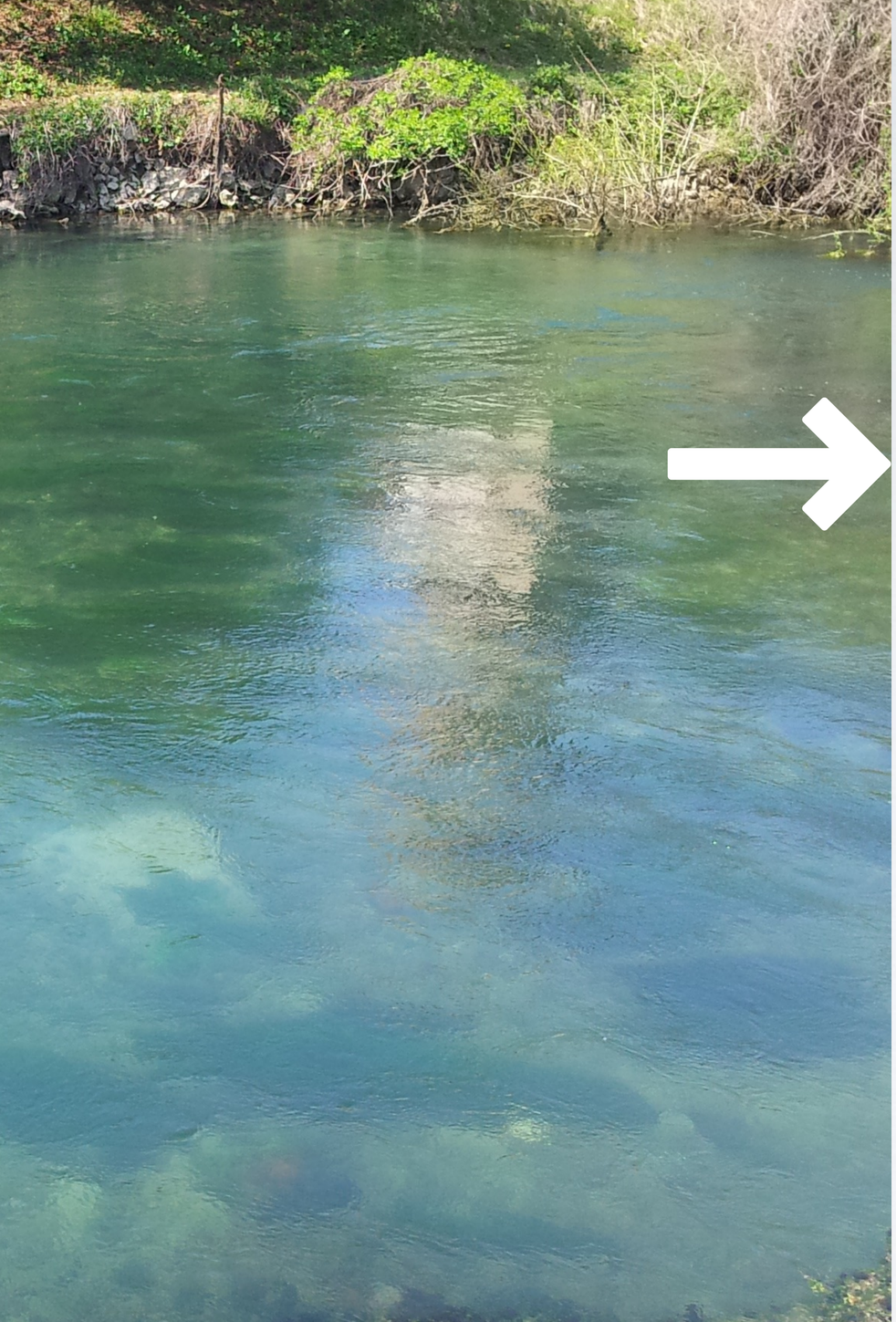
Peschiera - Le Capore aqueduct system

The complex of Peschiera-Le Capore aqueduct system is among the biggest in the world in terms of the flow of water coming only from springs, and with its mean **flow rate of around 14 m3 per second**, it constitutes the main water supply source for the city of Rome.



Santa Susanna Springs
12 km from the ex-SNIA Viscosa

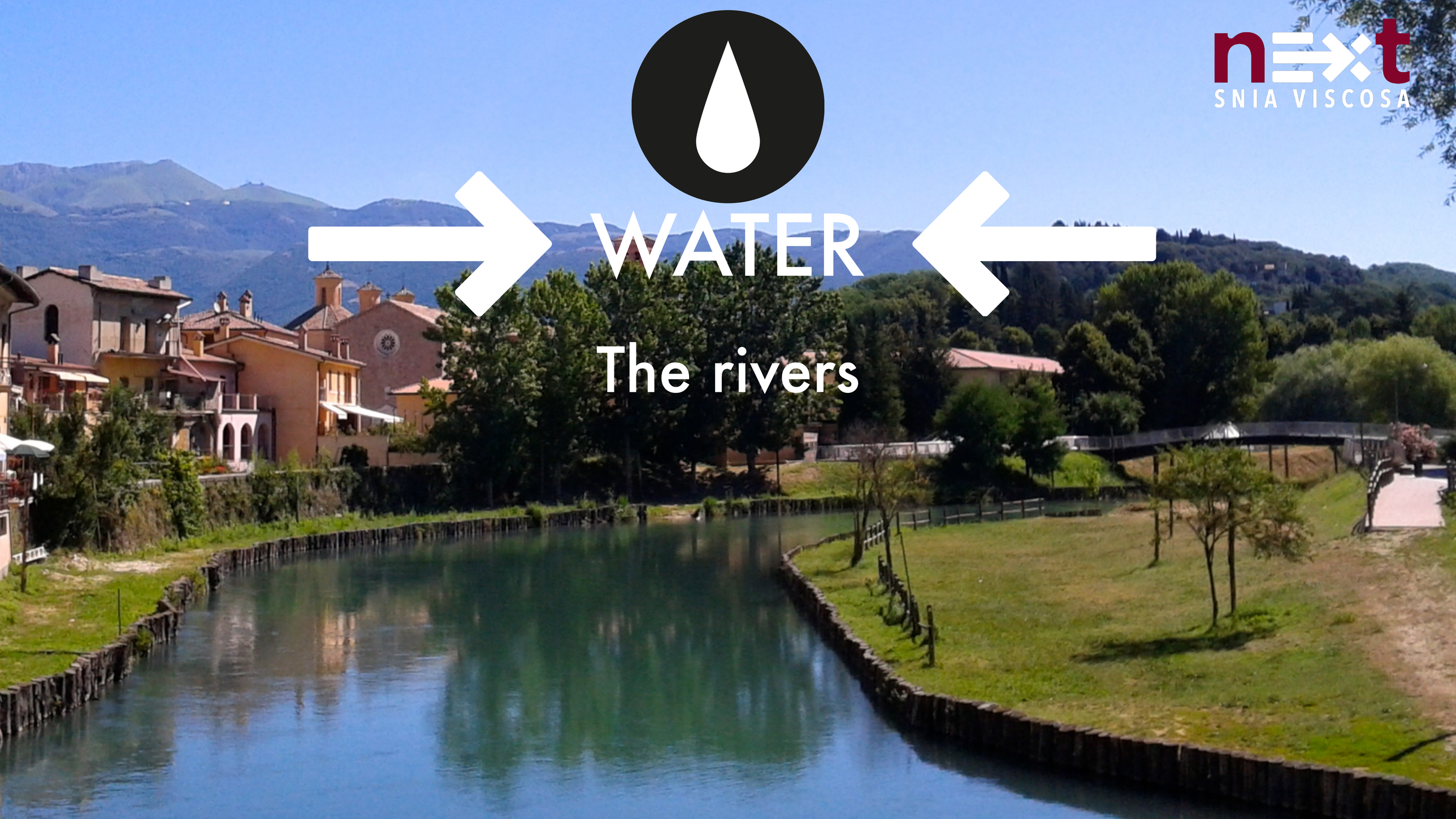
Municipality of Rivodutri – Located in the northern side of the Piana Reatina, the springs have a **flow rate of around 5,5 m3 per second** in the north-eastern area of the Piana Reatina and form part of the natural reserve of the lakes Lungo and Ripasottile. Given their huge flow rate and environmental characteristics, they have been declared a "Natural Monument" (L.R. 46/77).



Cantaro Springs

2 km from the ex-SNIA Viscosa

Municipality of Rieti – Tthe geological spring located 450 meters above sea level near the small village of Vazia, on the slopes of Mount Terminillo, and have a **flow rate of around 500 l/sec**. Since 1400 they have been used as the main water source for the city of Rieti and for a number of mills. Even today, one of these karst springs is the main water supply for the city of Rieti.


WATER
The rivers

The lakes

The Piana Reatina is located at the intersection of two rivers, namely **Velino** and **Turano**

The Velino river

flows right behind the ex-SNIA Viscosa

It originates from the slopes of Monte Pozzoni (1.903 m above sea level), close to Cittareale. It flows through the city of Rieti and the Piana Reatina, from south-east to north-west, until the Cascate delle Marmore, where it merges into the Nera river.

The Turano river

The Turano river originates from two streams in the Municipality of Carsoli, and is a tributary of the Velino river. In 1939, the river was blocked by a dam built in a narrow area in the Cicolano valley, close to Posticciola, in the Rocca Sinibalda Municipality, thus creating the artificial Lake of Turano.

WATER

The lakes

The lakes

The ancient Lacus Velinus does not exist anymore, but small residual lakes still remain: **Piediluco**, **Ventina**, **Lungo and Ripasottile**. During the 1940s, the flow rate of the Velino river was adjusted by damming its main tributaries, the Salto and Turano rivers, and forming the mountain lakes **Salto and Turano**. These lakes are connected though a 9 km natural gallery, thus forming an important hydroelectric basin.

Il lago di Piediluco

22 km from the ex-SNIA Viscosa

The lake, located at 375m above sea level in the province of Terni, has an irregular shape, and a perimeter length of around 13 km. The flow and outflow of water of the lake is completely controlled in order to satisfy the energetic needs of the plants of the nearby city of Terni. The effluent Velino river has been diverted towards Marmore, where it merges into the Nera river and forms the Cascate delle Marmore.

The Lungo and Ripasottile lakes

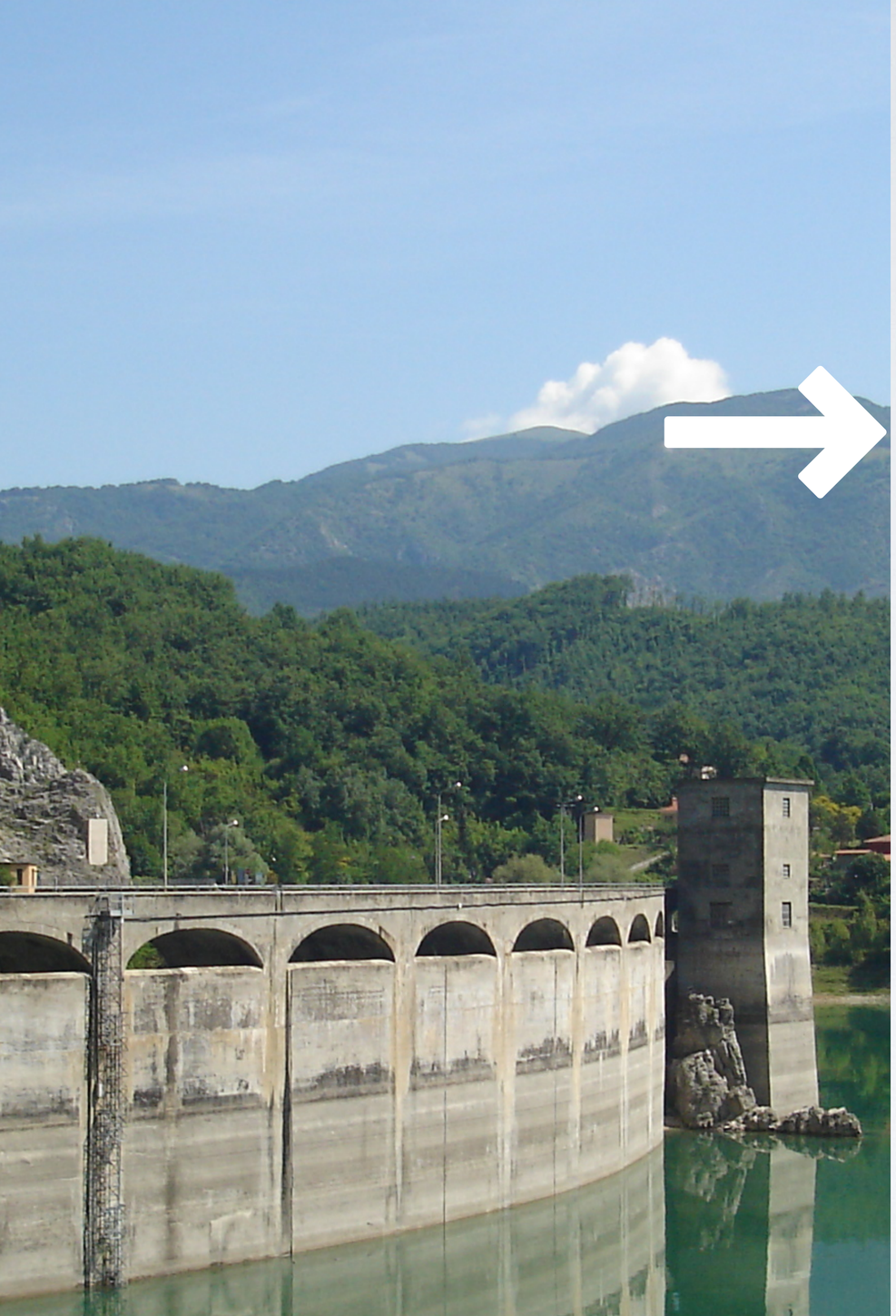
7 km from the ex-SNIA Viscosa

They are two small lakes with an area of 60 to 80 hectares respectively, located 1,5 km from each other and connected by the Vergara channel. In 1985 a Natural Reserve, which takes the name of the two lakes, was established: it has an area of 3278 hectares.

The Ventina lake

16 km from the ex-SNIA Viscosa

is a small natural lake (with an area of 0,12 km^2) in the Municipality of Colli sul Velino. Its water comes from several springs, that keep its level intact even during the summer.



Salto lake

30 km from the ex-SNIA Viscosa

It is the biggest artificial lake in the region of Lazio. It was created in 1940 when a big 90 m concrete dam (at the time of construction it was the highest dam in Italy) was built on the river Salto and the Cicolano Valley was submerged. The lake, located at an altitude of 535 m above sea level and measuring about 10 km long, is an ideal spot for water sports.

Turano Lake

30 km from the ex-SNIA Viscosa

The lake, located at an altitude of 536 m above sea level at the slopes of Monte Navegna (1506 m above sea level) is an important hydroelectric basin. It was created on the river Turano through a dam, built in 1939. The lake is located inside the natural reserve of Mount Navegna and Mount Cervia. This reserve is characterized by a really low level of urbanization: over 70 % of its area is covered by forest.

WATER

Thermal baths

Cotilia thermal baths

15 km from the ex-SNIA Viscosa

Municipality of Castel Sant'Angelo – The thermal bath area of Cotilia includes a number of springs and small streams, which together form a rich cool freshwater basin (10 – 12°C). The water supply is almost unlimited, and the chemical and physical properties make these waters ideal for the treatment of many ailments.

Cottorella thermal baths

3 km from the ex-SNIA Viscosa

Municipality of Rieti - Cottorella is a spring flowing from the aquifer of Monte Belvedere. The Cottorella water is an oligomineral bicarbonate, alkaline and terrene water. Thanks to its highly diuretic properties and its low sodium content, it is indicated for low sodium diets.


AIR
“Rieti as the center of air sports”

AIR

The valley of Rieti is a high-level site for air sports.
Gliding is the most important of such activities in the area.

Orography and weather conditions

The microclimatic conditions are ideal for the practice of gliding: pollution is absent, it is possible to catch four or five different thermal winds during the same flight (a condition that is found in very few other places worldwide) and the mountains surrounding the area form vast valleys where it is possible to land.

Sports events

Rieti hosted the World Gliding Championships in 1985, 2007 and 2008, and it will host the European Gliding Championships in 2015. Two gliding schools at the airport of Rieti are active.

History

During the 1940s, the area of Rieti hosted the Officine Reatine Lavorazioni Aeronautiche (Orla), an airplane factory built by Gianni Caproni and Francesco Mosca.

AIR & TERRITORY

ASSET 1 – Ciuffelli airport
1km from the ex-SNIA Viscosa

Designed in 1936, it became a strategic site for military air forces during World War II. For this reason, the airport was bombed in 1944. After being restored, it resumed operations in 1952, and until 1996 it was operated by the Italian Air Force. Since 1997, the airport has been operated by Enav (Ente Nazionale Assistenza al Volo). The airport has a grassy, 908m-long runway and hosts a weather station.

AIR & TERRITORY

In the last few months, the local institutions and stakeholders, together with ENAC (the company administrating the airport) expressed the need for important improvements to enhance the accommodation capacity of the structure, both for normal operations and for hosting sports events.

The development of training and productive areas not strictly related to air sports has yet to be considered.


SOIL
“Rieti, the homeland of wheat”

SOIL

The **Piana Reatina** (on the west side of the ex-SNIA Viscosa) has always been home to wheat cultivation, specifically the Rieti originario strain, valued for its high productivity and high resistance to wheat rust (one of the worst diseases affecting crops). During the second half of the 19th century, the development of communication media and the arrival of the railroad in the area (in 1883) fostered the propagation of this wheat strain in many Italian regions. This famous wheat had a flaw (that is however considered a virtue today): as it was cultivated far from its natural habitat, over a 3-4 year cycle, it lost the characteristics that made it unique, and had to be replaced by local wheat. However, the success of the wheat industry was not matched by that of Rieti's entrepreneurial sector. The man who understood this situation better than anybody else was, without doubt, **Nazareno Strampelli**.

Source: R. Lorenzetti, *Strampelli, La Rivoluzione Verde*, Archivio di Stato di Rieti, 2014.

Strampelli, the “father of wheat”

From the beginning of the 20th century to the 1940s, Rieti hosted one of the most significant periods of wheat cultivation worldwide. The “Special chair for wheat cultivation”, established in 1903 and renamed the “Experimental Station” in 1909, together with other structures linked to the National Institute of Genetics for Cereal Crops of Rome and grow stations in Foggia, Cagliari, Badia Polesine, S. Michele all’Adige, Montagnana etc., all originated from the scientific experience developed and coordinated in Rieti by Nazareno Strampelli, the founder of Italian agricultural genetics.

In the grow station of Rieti, Strampelli stopped the traditional techniques for the selection of wheat practiced more or less in the same way for thousands of years, and introduced genetic manipulation techniques that became the standard procedure worldwide. The grains that monopolized the industry in Italy and deeply influenced the production worldwide were created in Rieti. By the 1930s, almost 70% of the Italian agricultural surface was cultivated with wheat created in Rieti, that gradually spread to the rest of the world. The Strampelli wheat does not belong only to the past, as it survives both in the genotypes he created (today crossbred with other types of wheat) and in what he accomplished in Rieti.

SOIL & TERRITORY

ASSET I - Nazareno Strampelli Research Institute

2.5 km from the ex-SNIA Viscosa

The Institute, managed today by CRA (Consiglio per la Ricerca e la Sperimentazione in Agricoltura – supervised by the Ministry of Agricultural, Food and Forestry Policies), was founded in 1904 as the Royal Experimental Station for grain crops. The Research Institute Nazareno Strampelli, created in 1967 and once a highly important center, lost its leadership role to become a secondary operative section of the Research Institute for Soil Study and Conservation, located in Florence. Following the creation of CRA in 2004, the Institute was renamed Unità di Ricerca per i Sistemi Agropastorali dell'Appennino centrale (Research Unit for Agropastoral Systems of the Central Apennines).

SOIL & TERRITORY

Significant evidence of the scientific activities of Nazareno Strampelli is still present in the Institute: his private office, the historical archive and the library, the laboratories equipped with technical and scientific instruments, glass ampoules containing the grains (3000), an extraordinary herbarium containing 4819 types of spikes and vintage tools for company use.

The institute is owned by the Italian State Property Office, and the property includes agricultural land and some rural buildings, for a total area of 14 hectares (141,920.00 sq. m.). The building that hosted the wheat cultivation station is the biggest and most important in terms of functionality (around 1000 sq. m.).

SOIL & TERRITORY

Lately, the need for initiatives intended to preserve and enhance the value of the cultural and scientific heritage hosted in the Institute have become stronger. For this reason, a project aiming to re-launch the structure involving schools and universities, as well as the entire cultural and scientific world is highly needed.