



(Italy - Latium) VELINO RIVER: AN URBAN RESTORATION OF THE VEGETATION IN THE NATURA 2000 NETWORK

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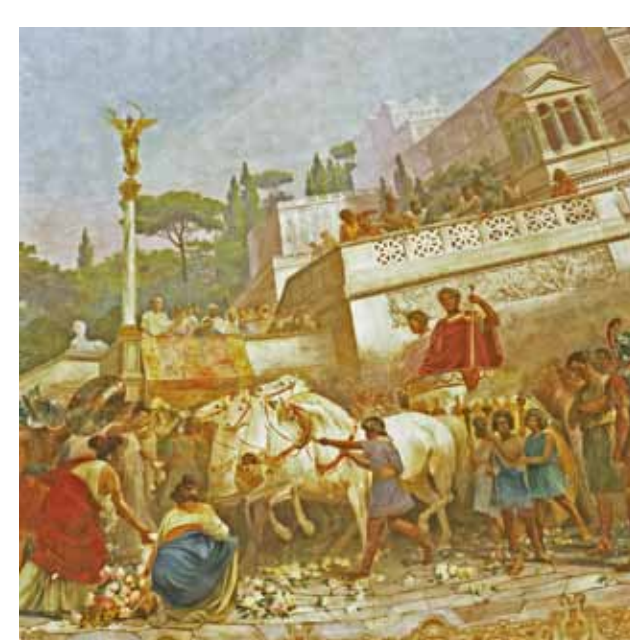
The Peschiera springs have a flow of 18.000 l/sec. Part of this waters are among the major tributaries of the Velino river, the remaining form the aqueduct carrying fresh and potable water to Rome.



The Lungo and Ripasottile Natural Reserve is the heart of the Velino river. It's what remains of the pleistocene lake called Lacus Velinus. Today, it's an important wintering and breeding site for migratory birds.



Marmore falls are the highest in Europe (175 m.), carrying 60 m3/sec. of water from Velino to the Nera river, then to the Tiber river.

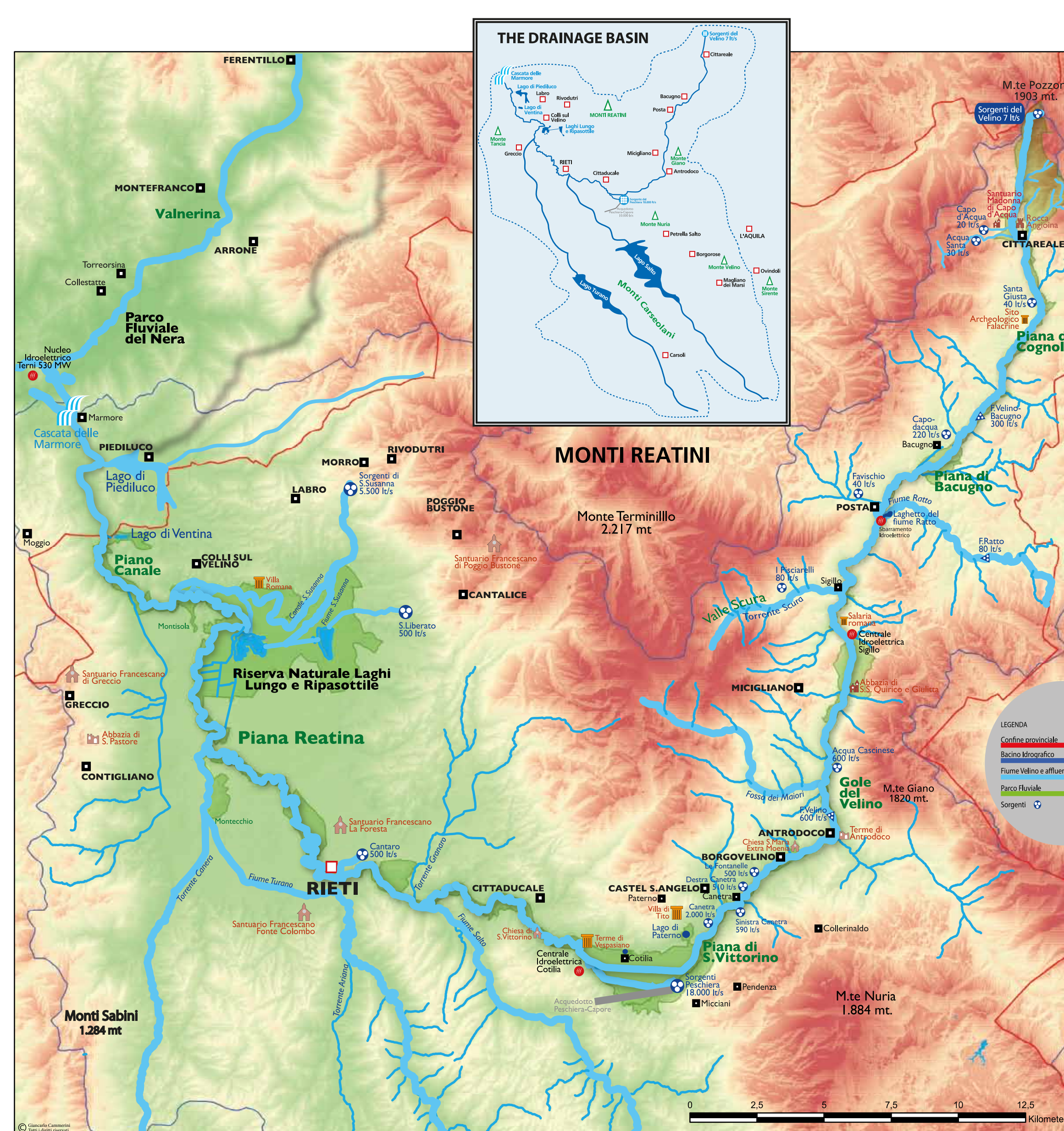


AN EXTRAORDINARY RIVER

An extraordinary river. This is the Velino. Its fascinating history is tied to the development of the surrounding territory, which it feeds with an abundance of water, while preserving its biodiversity and supplying drinking water and energy thanks to an exceptional hydraulic system.

The Velino river is also the symbol of Rieti, the capital of the Sabine region, the monument that best represents and summarizes its history and landscape. His course combines historical, architectural, archaeological and naturalistic elements, so intertwined that they cannot be separated. It's their harmony which makes the course of the Velino river a "monument" in the broad sense of the word.

The source is located near Cittareale, where the Emperor of Rome Vespasiano was born. Afterwards, the river flows through a narrow valley, and near Cittaducale it receives the Peschiera springs, which have a discharge of some 23 m³/s of water (part being sent to Rome through an aqueduct). After crossing the town of Rieti and its historical centre, its deep green waters hosting trout and ducks and flowing alongside the ancient buildings like a Venezia on the river, the Velino enters the Piana Reatina (the plain surrounding Rieti). With its Natural Reserve full of waters, the plain of Rieti is the very heart of the Velino: springs, rivers, irrigation channels, and wetlands famous for hosting many bird species. In pre-Romans times, the river ended into a marsh within the plain of Rieti; the falls were created by a Roman consul and later on enlarged during the Renaissance. Surrounded by mountains such as Mount Terminillo (2.217 m.), this plain has a circular shape. Four Franciscan Sanctuaries are located within this natural amphitheatre. Many reasons lead Saint Francis to Rieti and one of them is surely the breathtaking charm of its nature. The river continues its flow into the Umbria region meeting the lake of Piediluco, then it spectacularly falls into the Nera river forming the famous Marmore Falls.



Along the Velino river there are some important Natura 2000 habitat:

- Natural eutrophic lakes with *Magnopotamion* or *Hydrocharition*-type vegetation;
- Calcareous fens with *Claudium mariscus* and species of the *Caricion davallianae*;
- *Salix alba* and *Populus alba* galleries, Alpine rivers and their ligneous vegetation with *Salix elaeagnos*;
- Waters courses with the *Ranunculion fluitantis* and *Callitriche-Batrachion*.

THE VELINO RIVER NETWORK PROJECT

The Velino is one of the most significant rivers in the Lazio Regional Ecological network and particularly in the Province of Rieti.

Along its course of about 90 km long, running almost entirely within the province of Rieti, there are five Sites of Community Importance (SCI). Its catchment area includes three Special Protection Areas (SPAs) – which shows the strategic importance of the river basin and the Velino river for the Ecological Network.

Its course combines areas of natural interest and connects territories, forming an ecological network of paramount importance. Springs, streams, perfluvial areas, wetlands, areas affected by the presence of riparian vegetation, formations or hydric (?) spawning areas for fishes and birds, rest and feeding areas for birds, as well as mountain habitats. Given that only a small section of the river flows through urban areas (less than 5 km), the river maintains its natural appearance, despite the changes in the territory over the past 50 years.

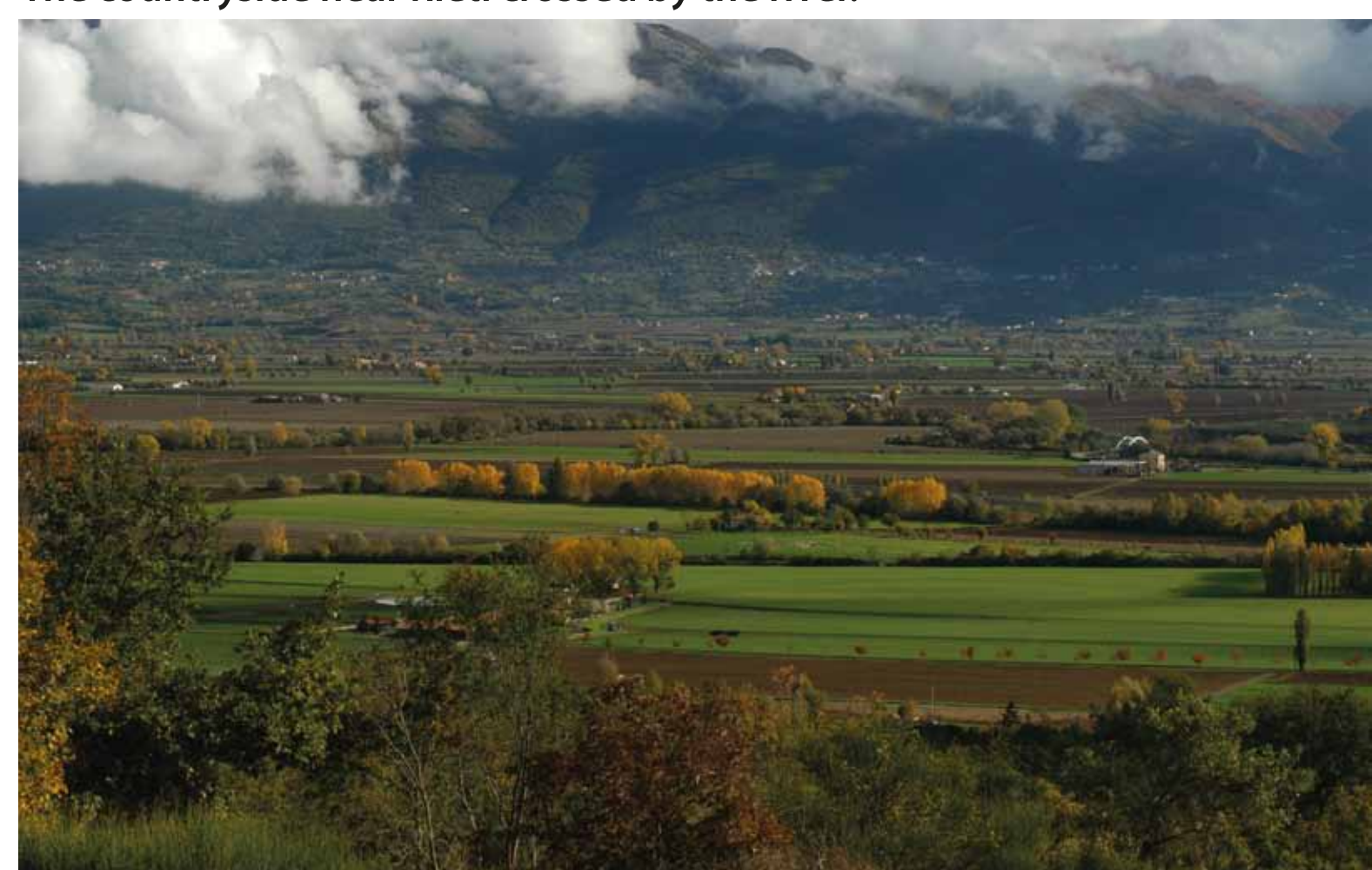
One cannot however disregard the fact that the Velino river constitutes a resource at the urban, territorial and regional scale, by providing drinking water and electricity. Proper management and judicious use of the resource is therefore necessary. In order to implement an effective redevelopment of the river system at different levels, actions must be taken aiming at coordinating a unified management.

The initiatives for the protection and enhancement of the river are supported by a legislative side project, since 1998, initiatives have been undertaken for the creation of a riverside park that includes the river from its sources to the Marmore waterfalls. This biodiversity corridors linked many habitat, from the mountain to the plain.

Returning to the Velino river his dignity also means giving it a featured role in the life of the inhabitants of its territory, a role it had in the past in relation to economy, technology and history, as source of water, food, soil fertility, energy.



Rieti, the river in the background the Terminillo mountain.
The countryside near Rieti crossed by the river.



The restoration project of the Velino banks is part of a larger project of regional ecological network that uses the river to connect the protected areas of the great national parks of the Apennines with the "Natura 2000" network sites. Within the city of Rieti the river restoration plays a positive role in urban regeneration by providing a wide range of social and environmental benefits:

- recreating natural habitats and landscapes for the benefit of wildlife and citizens
- increasing the sense of community for the local population
- encouraging the use of new walking and cycling routes
- creating a dynamic area with businesses to help attract investments
- connecting a large sports area (home of the 2013 European Athletics Junior Championships) with green areas along the river.

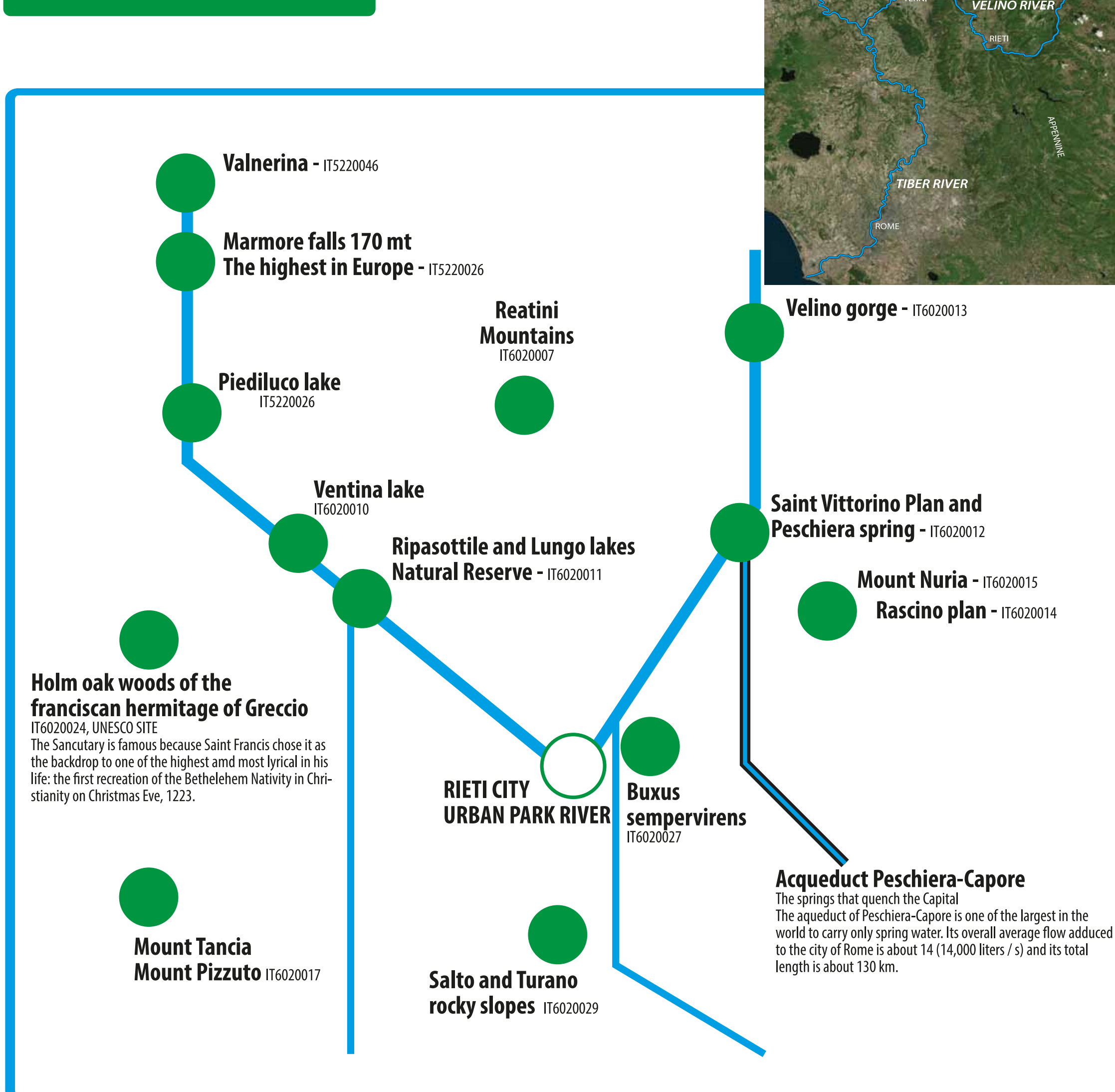
The project used an innovative, large scale model of intervention and environmental planning, as the definition and set up of the ecological network has been addressed at the level of the overall river basin, thus involving the entire course of the Velino river from the source to Marmore Falls.

Summary of project interventions

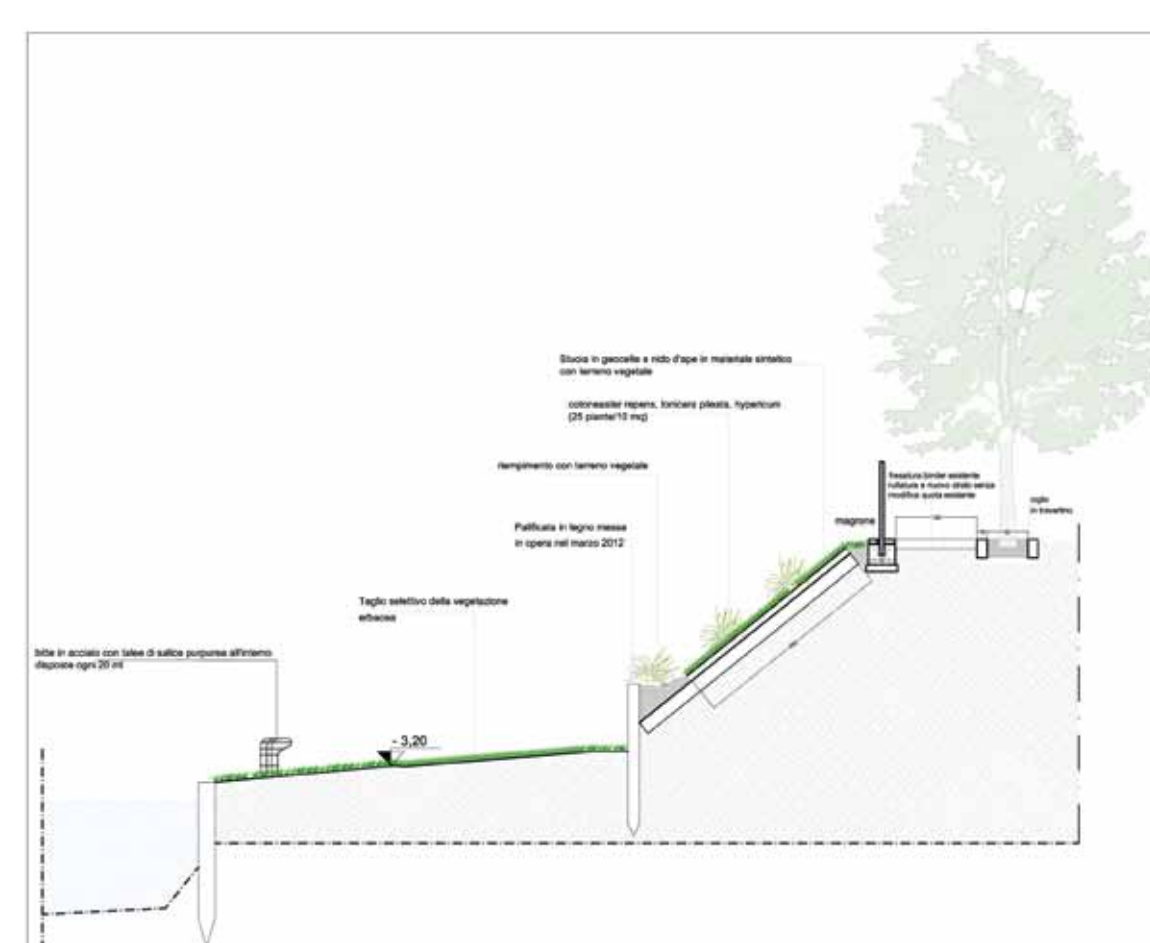
The project includes the planting of:

- 2,330 willow cuttings: 1.510 within the city of Rieti, 520 along the river path to the external SIC "Piana di San Vittorino" and the Reserve "Laghi reatini", and 200 for the restoration of a lowland forest within the Reserve;
- 78 grown trees within the city of Rieti and along the cycling path, where the river is the border between the town and the agricultural area, in order to rebuild the relationship between the town and the river in the areas of more recent urbanization;
- 300 bushes forming hedges within the city and along the cycling path;
- 540 climbing plants along the concrete embankment at the border between the medieval old town and the modern city, creating a natural slope

Natura 2000 Velino river network



In ancient times the city of Rieti was located between the medieval walls and the river.



The project has enabled the restoration of the fluvial zone, improving the quality of the relationship between the population and the river.

