

# Chapter 11

## Friuli Venezia Giulia

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### 11.1 Introduction

There is a definition of Friuli that its people and those of the Giulian area seem to be especially pleased with: it is the phrase “little compendium of the universe”, coined by Ippolito Nievo for his *Confessioni d'un italiano*, which still stands, one hundred and fifty years later, as an especially apt characterization of the landscape of Friuli Venezia Giulia, a region with a great environmental variety and a contrasted history. Friuli Venezia Giulia boasts highly diverse environments, including vast mountain ranges occupying over a third of the region along the borders with Austria and Slovenia, many foothill areas, a fertile plain that is an eastward extension of the Po River Plain,

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and a diverse littoral area extending from the bay of Venice to Istria; to quote Nievo again: “Alps, plains and lagoons within sixty miles from north to south”. Woods today cover 45 % of the region’s surface, while the utilized agricultural surface amounts to 30.4 % (83 % cropland, 17 % pastureland). There was a remarkable increase of forest surface during the last century, concomitantly with the decline of agriculture. The region thus has a range of environmental features that are universal and, as such, extraordinarily diverse. This diversity forces landscape scholars to employ formulas such as Nievo’s quoted above to provide a preliminary definition of the elements that distinguish Friuli Venezia Giulia from the other northeastern regions in Italy.

Nievo’s literary characterization effectively highlights the complexity of the local environment. At the same time, it is misleading in that it ignores the changes that have taken place in the landscape. A later, more lucid literary gaze, instead, has helped to gauge the deep gap between what is here and what no longer is. Pier Paolo Pasolini’s rewriting of the verses of the *Dedication* opening his first collection of poems, *La meglio gioventù*, reflects the dramatic acceleration of the transformation of the region’s landscape, especially in the plain, in just three decades, or little more. From the “*meglio*” to the “*nuova*” *gioventù*, from the first drafts (1942) and editions to the “*seconda forma*” (1974), the water of the Casarsa fountain has gone from *frescia* (fresh) as no other to *vecia* (old). This land, says the poet, is no longer *me*, mine, it is unrecognizable. When one looks at what once was and no longer is, and what today people have trouble recognizing as “historical”, some aspects that have characterized the history of the region’s agricultural landscape can be made out. The complex landscape architecture of Friuli Venezia Giulia is not solely a consequence of the region’s morphology and of economic changes. Being a region whose formation was the result of a strong political will, here there has been a stronger effort than elsewhere to emphasize the historical productive factors that contributed to the formation of the local landscape. Friuli Venezia Giulia remained divided between two different states until after World War I. Its dual political history influenced the region’s economic and social, and, as a consequence, agricultural and landscape evolution. The region was a passage area, with a complex pattern of the circulation of goods and trade over borders. This situation that endured for a long time, in spite of attempts to address the problem. On the other hand, internal trade allowed a harmonious development of the region’s different areas down until recent times. The forest resources of the mountains, for example, supplemented the fecundity of the plain. Essential commodities were exchanged between the two areas allowing a balanced and shared development. A distinctive development factor was the belated growth of the urban population, a gap that was only made up for from the eighteenth century onward, when demographic growth was accelerated by Trieste’s rapid expansion. Another factor is an unusual persistence of traditional land ownership models. The nineteenth-century modernization of agriculture occurred here much later than elsewhere; when it finally did, however, the impact on landscape structure was significant. Land reallocation in the last decades of the twentieth century culminated in the ill-advised choice of monoculture, especially of maize and soy.

Today the economic and demographic imbalance between the plain and the mountain is constantly growing. The strong industrial and tertiary vocation that has

developed in the region since the 1976 earthquake has further contributed to radical changes in the rural landscape. Today, deep changes in agricultural models and crops are making it increasingly difficult to recognize elements of historical continuity and conservation in the landscape. All these elements make it difficult to provide an exhaustive picture of the region's rural landscapes, even if restricted to those of historical interest. While there was an inevitable degree of arbitrariness in our choice, we have picked five areas striving for the highest degree of representativeness: the mountains and forest of Ampezzo; the eastern hill area with the Abbazia di Rosazzo hill; the hills of Polazzo in the Carso Monfalconese; the countryside of Plasencis; and the *magredi* of Vivaro in the upper western plain.

## 11.2 The Hills of Polazzo in the Carso (45° 50' 41" N; 13° 31' 01" E)

This typical karstic pasture landscape extends over 150 ha, both publicly and privately owned, within the municipalities of Fogliano Redipuglia, Doberdò del Lago/Občina Doberdob e Ronchi dei Legionari, in the calcareous plateau extending between the Isonzo plain to the north and the Doberdò Lake valley to the east, which marks the limit of the Isonzo karst. The hills of Polazzo, a locality in the municipality of Fogliano Redipuglia and the central part of the area, lie in the southern portion of the plateau, whose most conspicuous features are elongated depressions with an average altitude of 114 m a.s.l. and the small lakes of Doberdò and Pietrarossa, which herald the Monfalcone coast. The area is included in the “Altire di Polazzo” rural park and two sites of the Natura 2000 network: ZPS Karstic Areas of Venezia Giulia, and SCI Triestine and Gorizian Karst. The town of Polazzo can be reached by SS 305 from Fogliano Redupuglia. Shortly before reaching the military cemetery, take Via della Stazione and continue on Via Fornaci, which leads to the Rural Park. The area's definition as “karstic landscape” highlights one of its main peculiarities. While “normal” landscapes are modeled by superficial water runoff, a karstic landscape is shaped by an intricate network of underground flows. In the Polazzo hills, the corrosion and dissolution of calcareous rocks has given rise to undulated plateaus and closed depressions known as *doline*. The latter are sub-circular or oval hollows of variable sizes, with diameters ranging between a few meter and several tens of meters. They are found by the thousands in karstic plateaus (Fig. 11.1).

The area owes its significance to the uniqueness and historical persistence of its karstic landscape. The Polazzo hills are especially remarkable for their traditional use as grazing grounds. The local vegetation is dominated by shrubs—notably sumac—and some sessile oak and Turkish oak woods. In autumn, sumac develops typical shades of red that give the karstic landscape a special tinge. This is a plant of very ancient origin. Pliny the Elder refers to it in his Natural History, mentioning its employment in skin tanning and in the preparation of medicament. Its leaves were used to make red dye for cloth, its wood for yellow dye. It is a hard and compact wood with a yellow and green grain, used in the past for turning by ebonists, luthiers,



**Fig. 11.1** The denuded landscape of the Carso is a unique feature of the Friuli region. Harsh battles were fought in the area during the First World War

and pipe makers. Sumac is exceptionally hardy. It only needs to sink its roots in a few centimeters of earth into the cracks of the rocks. It is also resistant to fire. In our area, shrubland alternates with vast spaces traditionally set aside for free-roaming grazing, which is propitiated by the area's high relative humidity. The Isonzo karst lay at the border between the Monfalcone area, placed under the rule of the Republic of Venice, and the County of Gorizia, a Habsburg hereditary dominion. All it had to offer was its lean grazing grounds. The difficulty in gathering fodder here and the consequent need for transhumance towards the Pivka plateau, in the Postumia hollow in the Slavonian Karst/Notranjska, resulted in a scarcity of bovines, whereas sheep were more abundant. In the late nineteenth century, there was a considerable increase of the flocks—of goats as well as sheep—and a concomitant cutting down of sessile oak woods, which the Austrian administration gradually replaced with black pine. To make the land more suitable to agricultural production, surface stones were cleared out of fields and used to make dry-stone walls delimiting cultivated plots. Some of these walls, once a ubiquitous feature of the local karstic landscape, are still visible today. The area was one of the main battlefields of the First World War, and a combat theater during the Second as well. In 1938 a memorial shrine was erected at Redipuglia, on the slopes of Mount Sei Busi at the southern limit of the area, to house the remains of over 100,000 soldiers who died here between 1915 and 1918.

The landscape appears to be essentially intact in its principal features, partly because it has not been impacted by urbanization. Some farms are rediscovering the raising of the *carsolino* goat and lamb, both autochthonous breeds along with bovines and donkeys. To improve pastures, over the last few years a rotation grazing system has been adopted for free-roaming animals: first goats, then donkeys, and finally, when the grass cover has emerged, sheep. These practices and the persistence of livestock grazing have helped to preserve the integrity and distinctiveness of the area. The institution of a Rural Park here is a commendable initiative that can contribute to safeguard the local historical rural landscape.

As regards vulnerability, the encroaching of the forest on vast areas formerly destined to grazing has already changed the landscape, and threatens to further undermine it. Once the transition from shrubland to forest is completed, the land may lose the typical denuded appearance of karst, since the local landscape owes its uniqueness not just to its geomorphology, which has limited the development of agriculture to a few areas, but also to the enduring of free-roaming grazing.

### 11.3 The Plasencis Countryside (46° 04' 37'' N; 13° 03' 53'' E)

The selected area comprises a portion of the Plasencis countryside characterized by tree rows bordering narrow, elongated fields that are a typical landscape feature of the Friulan plain. The area extends over about 300 ha, mainly privately owned, within the municipalities of Mereto di Tomba and San Vito di Fagagna. It is accessible by taking SS 464 from Udine to San Vito di Fagagna and then continuing southwest towards Trieste. Geomorphologically, the area is part of the upper Friulan plain; more specifically, of the district called “Medio Friuli”, which lies at the foot of the morainic amphitheater, between the Torre torrent to the east and the Tagliamento river to the west. Its plain landscape is animated by the Corno torrent, which originates from the morainic amphitheater and forms shallow alluvial terraces in the plain. The soil of the area being thin and permeable, superficial water is scarce, in spite of high annual rainfall. The relatively thin fertile substratum, formed through oxidization, has low rainwater-retaining capabilities. Water scarcity is one of several factors that has affected the development of this strip of the plain (Figs. 11.2 and 11.3).

The area owes its significance to the persistence of a patchwork of closed fields delimited by hedges and rows of trees that is a characteristic feature of the historical landscape of the Friulan plain. Traces of human settlement in the area date all the way back to the third millennium B.C. They include a burial site and a fortified village. The toponym Mereto derives from Latin. It is a contracted form of “Melareto” or “Melereeto”, meaning a place where apples are grown. The addition of the specification “Tomba”, officialized by a royal decree of 1931, refers to an ancient prehistoric tomb found here. The Ledra artificial canal, fed by the Tagliamento and Ledra rivers, runs through the municipal territory and branches out into the San Vito canal. It was built in 1881 but its use for irrigation only began in the 1930s. The local landscape has the appearance of a patchwork where spaces (known as *blave*) exclusively set aside for



**Fig. 11.2** The countryside of Plasencis

intensive agriculture—which in Friuli is largely synonymous with maize-growing—alternate with areas that have retained their traditional features. Here, as in most of the plain, closed fields bordered with hedges and trees were a distinctive feature of the agricultural landscape. Unlike the rest of the municipal territory, the selected area has not yet been affected by the land reorganization undertaken since the late 1970s in the surrounding district to improve agricultural yields. This reorganization has involved the unification of previously fragmented property and the consequent removal of trenches, hedges and trees, regarded as obstacles to the increasing of cultivable surface and the mechanization of agriculture. This has indeed increased yields, but at the cost of collateral problems that have made a partial reforestation of the area necessary. The reorganization also involved the establishment of a rigid hierarchy between arable land, which has expanded over the last few decades, and pastures and meadows, which have contracted, partially as a consequence of a decline in the numbers of livestock. The hierarchy of cultivated spaces originally radiated out from the center of the village, from the private plots of peasant families near their homes to extensive farm and pastureland mostly belonging to large landowners. Hence the popularity of mixed rent, which for a long time was the prevalent type of contract between producers and landowners.

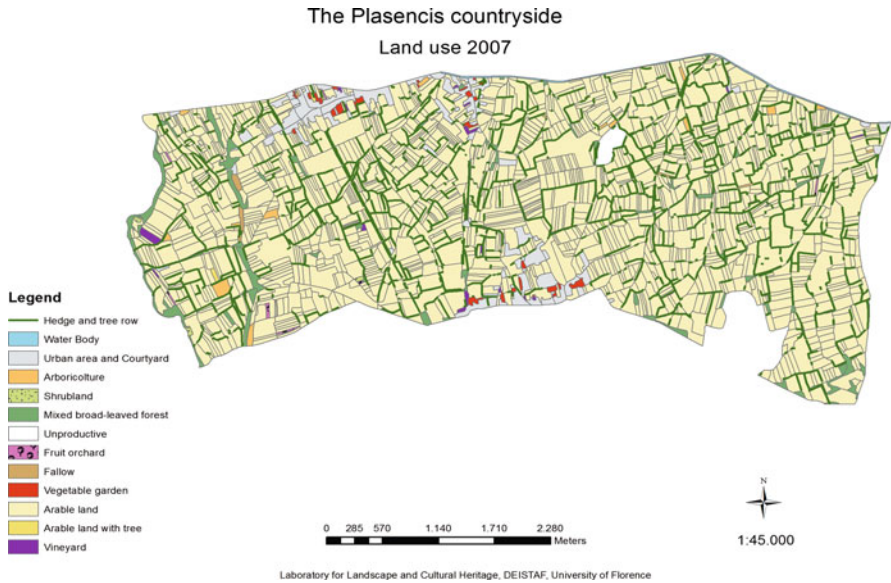
As regards integrity, the conservation of this area contrasts sharply with the decline of original features in the rest of the municipality. Here plots are still divided by rows of trees—pedunculate oak, ash, maple, locust, elderberry—also used to mark property boundaries. Plots are sometimes also delimited by rows of mulberry trees, introduced in the late 1700s with the massive spread of sericulture. Grapevine was

also common in treed vineyards, but today it is only grown at the fringes of settlements, in the so-called *braides/beàrz*, formerly enclosed or walled livestock shelters. These closed or half-closed fields are used as plough land and grazing meadows. They are a holdover of the formerly widespread natural meadows for the grazing of livestock, whose importance at the time surpassed that of cereal production. The gradual disappearance of meadows was indeed one of the most noticeable changes in the landscape of Friuli. In the Plasencis countryside there are still some communally owned meadows and pastures. These used to be widespread in the Friulan plain at least until the early 1700s. The Plasencis commons are presently under the authority of the local sub-municipality, but they used to be managed by councils of family heads called *vicinie*.

As regards vulnerability, one of the threats to the integrity of this landscape is that it may be reorganized like the rest of the territory of municipality, although along different lines. Involving the local population in actions to safeguard crop diversity and the organization of agricultural spaces may prevent actions that would undermine the identitarian relationship between the land and its inhabitants. Other risks could derive from further changes in farming methods resulting in the disappearance of what survives of the closed-field patchwork.

Land uses 2007	Surface (ha)	Surface (%)
Water body	6.4	0.33
Urban area and courtyard	77.8	3.95
Arboriculture	11.6	0.59
Shrubland	1.6	0.08
Mixed broad-leaved forest	55.3	2.81
Unproductive	8.5	0.43
Fruit orchard	2.6	0.13
Fallow	3.3	0.17
Vegetable garden	8.6	0.44
Arable land	1,786.4	90.75
Arable land with tree	1.0	0.05
Vineyard	5.4	0.28
<i>Total</i>	<i>1,968.5</i>	<i>100.00</i>

Evaluating indices of landscape	
Number of land uses	12
Number of patches	1,974
Total surface area (ha)	1,968.5
Average surface area of patches (ha)	0.99
Average surface area of arable land patches (ha)	1.00
Hedges density (m/ha)	68.84
Length of hedges (m)	124.396
Hill's diversity number	1.58
Class of landscape integrity (I–VI)	VI



**Fig. 11.3** The area of Plasencis presents tree rows bordering narrow, elongated fields, that are a typical landscape feature of the Friulan plain. The fragmentation of landscape mosaic is high and the average size of agricultural patches is small (1.00 ha) compared with the rest of the lowland areas of the region. The area shows a high degree of integrity, due to the conservation of traditional crops and to the network of hedges and rows (70 m/ha)

#### **11.4 Rosazzo Abbey Hill (46° 00' 31'' N; 13° 25' 18'' E)**

This hill is covered with a patchwork of woods, fields and vineyards extending over 500 ha. It stands at the east limits of the municipality of Manzano and in the western part of the municipality of Corno di Rosazzo, in the east-central Friulan plain. It can be reached from the road to Corno di Rosazzo, from Villa Trento, or from the road to Cividale del Friuli, exiting near Oleis. The hill rises to about a 100 m above the surrounding plain (itself about 100 m a.s.l.). On it are several scattered clusters of farmhouses, which together form the community of Rosazzo (*Rosàcis, Badie*). The hill is formed of aeolian deposits, alluvial deposits arranged in terraces, and a Pleistocene travertine substratum (Fig. 11.4).

The area owes its significance to the presence of an abbey complex on top of one of the gentle hills that mark the transition from the Friulan plain to the Giulie Prealps, which in their turn decline towards the Gorizian Collio. Rosazzo was a Benedictine venue founded in the eleventh century, whose jurisdiction extended to the upper Isonzo valley. The Benedictine monks relinquished the abbey in 1423. It was taken over by the Augustinians, who contracted it out as a *commendata*. It became much coveted for the high profits it yielded to its *commendatores*, who were subject to the competing interests of the emperor—the territory of the Empire adjoined the plain near the course of the Natisone river—and the Republic of Venice. The patriarch of





**Fig. 11.4** The historical landscape of the Rosazzo Abbey is characterized by vineyards

Aquileia and the archbishop of Udine, his successor, who until recently still held the title of Marquis of Rosazzo, used to spend the summer here, overseeing the peasants' work, which they depended on, in part, to supply their table. To demonstrate Rosazzo's long-standing record of excellence in wine production, the integrity of its landscape, and the economic significance of monastic communities even after the end of the Middle Ages, it is customary to cite a work entitled *Itinerario* by Marin Sanudo (1483), who tasted Rosazzo's "very perfect wines"; or the following verses by Francesco Berni (*Rime*, XXIV), an administrator of the abbey: "A path cuts through the church/Trod by people and animals" (*Per mezzo de la chiesa è una via,/ dove ne van le bestie e le persone*), and "Every room is a cellar/Bedroom, living room, breakfast room, and sick room/ But especially a natural stable" (*Ogni stanza è cantina/camera, sala, tinello e spedale/ma sopra tutto stalla naturale*).

Most of the hill's terraced slopes facing south are reserved to its landscape mosaic. The woods are composed of the most common hill species: lime-tree, manna ash, and field maple. Maize and wheat are grown in the fields, grapevine—especially *pignolo*, *picolit*, and *ribolla gialla*—on the hill slopes. The arrangement of the fields and vineyards in *ronchi* (*ròncs*) is a typical feature of the eastern Friulan and Slavonian Collio. After decades of abandonment, the abbey complex and the vast vineyards owned by the Archdiocese of Udine have been restored. From the terrace adjoining the main room of the abbey one can look out onto the plain, where the so called "Chair Triangle" lies. This is formed by the municipalities of Manzano, San Giovanni al Natisone and Corno di Rosazzo, and is one of the most important industrial districts in Friuli, with leading chair-producing companies. The landscape is thus

marked by a contrast between the plain, which was defaced by the strong industrial and residential expansion of the 1970s, and the hill area. Today the production of local wines has increased, thanks to very favorable soil and climate conditions. A conservative approach has been adopted to preserve the quality and distinctiveness of the final product. Recently the decision has been taken to reintroduce olive trees, of which only sporadic specimens survive, partially thanks to imports from Istria. Oil production is documented in the area at least as early as the 1700s, when olive-growing was ruined, here as in the Gorizian Collio, by the Little Ice Age. The local vineyards produce the DOC (Controlled Origin Denomination) wine “Colli Orientali del Friuli—Rosazzo”.

As regards landscape integrity, increasing demand for quality wine has led to an expansion of the vineyards, but their growth in extension and number of plants has not been such as to become invasive. However, the concern to preserve landscape integrity is often seen as a hindrance to economic expansion. Other surviving original features include the association of grapevine and fruit trees (cherry, pear, and fig) in “orchard-vineyards”. The fruit used to be sold on town markets, notably in Udine and Cividale.

Today the abbey houses a homonymous Foundation with a strong cultural vocation. Its patronage is essential for the conservation of the area’s historical and agricultural heritage, which has known sudden spurts of growth alternating with periods of abandonment, before the recent restoration.

As regards vulnerability, the permanence of wine-growing and making farms, while on the one hand it ensures the preservation of the landscape, on the other, if intensified, could lead to the further expansion of monoculture. The present industrial crisis in the chair sector could pose a threat to the integrity of the hill’s landscape. It may lead to its being abandoned anew, or, on the contrary, to overexploitation.

## **11.5 The Ampezzo Forest and the Lumiei Valley** (46° 25' 00" N; 12° 42' 50" E)

The vast Ampezzo forest is mainly composed of fir and spruce, with some beech. It extends over about 3,000 ha along the right bank of the upper stretch of the Lumiei river. The forest is prevalently publicly owned and lies within the municipalities of Ampezzo, Sauris and Forni di Sotto. Altitudes range from 560 m a.s.l. at Ampezzo to 1,428 m a.s.l. at Passo Pura. The area is under landscape restrictions as per law n. 1497 of 1939 and law n. 431 of 1985. The town center of Ampezzo can be reached by driving by the road to Sauris, which goes up the Lumiei valley to the Buso Bridge and through a tunnel to the opposite side of the valley. One then goes through the dam on the Lumiei lake, skirting the south shore of the lake, and then up steep U-turns to the Tita Piaz shelter and the Pura Pass. As regards its geology, the area has sedimentary formations dating back to the Mesozoic, composed partly of rocks in the proper sense of the word, such as dolostone and dolomitic limestone, and partly of less compact formations, such as marl and clay.

This area in the Carnic Alps owes its significance to the historical persistence of its forest and to the beauty of its landscape, which also includes pastures and dense mountain-pine groves in the highest areas. The Carnia woods had been renowned ever since the Roman period for the quality of their coniferous wood, which was already a trade article back then. The area came under the control of Venice in 1420. In 1581 the Council of Ten placed its forest, as well as many others in Carnia, under exclusive rights of use for the Arsenal and other public uses. Venice had already applied such restrictions to many forests in Veneto and Istria, to safeguard a resource it regarded as essential both for its navy and for the growth of the city. After the Republic fell due to Napoleon in 1797, the end of state control led to a decline of all the forests in the Venetian dominions. In spite of this, the Ampezzo forest fared quite well. In 1874 it became the property of the Carnic Woods Consortium. From the Middle Ages to the early twentieth century, lumber was usually transported by floating it down watercourses in the spring. The felled logs were conveyed down the mountain slopes to the streams by means of wooden chutes called *risine*, made slippery by frost and snow during the winter. Where the Lumiei dam, erected in the 1930s, presently lies there was a *stua*, a wooden barrier forming a small artificial basin, which was opened to allow the force of the current to carry the logs downstream. Along with the historical vestiges of Venetian rule, the landscape's most durable features are a result of the local forms of resource ownership: municipal for woods and *malghe*, private for meadows and pastures. Communally owned vast areas provided the means of livelihood for individual communities or groups of villages. Besides the settlement cluster formed by the three villages of Ampezzo, Oltris and Volois along the state road leading to the Mauria Pass, there are small scattered settlements where the few surviving farms are. During the modern age, as pastureland slowly but continuously expanded, several groups of families settled in the area. This short range immigration—they came from the valleys of the Pordenone foothills and especially from the adjoining Cadore area—added to the importance of pastures in the local economy. Today several actions are in course to promote tourism in the area by revitalizing the local rural economy, which is gradually losing importance (Fig. 11.5).

The landscape's integrity is still essentially preserved. At different altitudes we still observe the area's traditional coexistence of grazing meadows (*prât, passòn*), woods (*bosc*) and high-altitude pastures (*mònt, màlga/Olbe*). In the Lumiei hollow are the villages of the municipality of Sauris, inhabited by German-speaking communities who established themselves in the valley in the 1200s. These villages still retain much of their original architectural and landscape qualities. In spite of the difficulties the agricultural sector is facing, and of the investment in the building of several forest tracks that have partially undermined the integrity of the landscape, thanks to the excellent quality of the local wood its cutting and commerce have endured over time. Today, a large part of the Ampezzo forest has obtained PEFC (Programme for Endorsement of Forest Certification schemes) certification for having been properly managed. Unfortunately, in spite of some references to cultural value in the criteria and indicators for Sustainable Forest Management—promoted by the Ministerial Conference on the Protection of Forests in Europe—certification criteria specifically aimed at the conservation of cultural-historical and landscape values are still lacking;



**Fig. 11.5** Forested landscapes also owe their scenic beauty to the seasonal chromatic variability of the species they are composed of

a shortcoming that is seriously jeopardizing the conservation of important aspects of Italian and European historical forests.

As regards vulnerability, the main threats to the conservation of the area's traditional landscape features are posed by the crisis of the forest and livestock sectors, and population decline. The advancing of forests onto pastures as a result of drastic diminution of livestock, and the transformation of pure spruce forests into mixed stands are gradually altering the historical identity of the local landscape. The threatened building of a highway between Belluno and Carnia to connect the A27 and A23, which would graze this area, would compromise the valley bottom below the confluence of the Lumiei and the Tagliamento. As to the Lumiei torrent, its bed is almost always dry downstream of the Sauris lake dam, which replaced the old *stua* to produce hydroelectric energy.

## 11.6 The *Magredi* of Vivaro (46° 05' 47" N; 12° 45' 25" E)

The *magredi* ("lean lands") of Vivaro form a dry and arid steppic landscape extending about 800 ha in the two municipalities of Vivaro and Maniago, between the Alpine and Prealpine area and the spring-rich Pordenone plain, both areas characterized by abundant water and rainfall. The *Magredi di Vivaro* have been included among the European Union's Sites of Community Importance (*Magredi del Cellina SCI*) and Special Protection Zones (*Magredi di Pordenone SPZ*) for the protection of avifauna. The area is reachable by the south stretch of the road going from Spilimbergo to Maniago through the high plain on the left side of the Tagliamento river, driving along the triangle formed by the torrent Colvera to the north and the confluence of the Meduna and Cellina torrents to the south. The *magredi* occupy the part of this area delimited by the torrents, on the right side of the Meduna and along the left bank of the Cellina. Going up the latter they join the so-called *magredo evoluto* ("evolved *magredo*") at Dandolo, in the commune of Maniago. The arid and gravelly soil of the *magredi* is the result of the Cellina and Meduna torrents' gradual erosion of the overlying mountains. When these torrents reach the foothill road, their impetuosity decreases and they wash rock fragments eroded into gravel and round and smooth stones onto the land on either side. The area's aridity is a result not only of the permeability of its soil, but also of its windiness, especially in the spring (Fig. 11.6).

The *magredi* landscape owes its significance to its uniqueness in the region, its historical persistence, and its special allure. The area is characterized by expanses of stone and grass, vast natural prairies, and sporadic shrubs and trees which gradually increase as one moves away from the *grave*, the broad riverbed. The result is an open area extending northward, where the Carnic Prealps grade into the western part of the upper Friulan plain. At the confluence of the torrents that formed this landscape, in the part of the area where humus is thick enough for cultivation, are the three historical local settlement units: Tesis (along the Colvera torrent shortly before its confluence with the Meduna), Basaldella, and Vivaro, presently all included in



**Fig. 11.6** The landscape of Magredi di Vivaro shows evidence of agricultural settlements dating back to the Bronze Age

the municipality of Vivaro. Over the last few years archaeologists have discovered vestiges of many settlements dating back to the Bronze and Iron Ages, and the Paleo-Venetic, Celtic, and especially Roman periods, as well as some traces certainly dating from the Lombard age. The objects are kept at the Antiquarium of Tesis. These finds have shown that agriculture, livestock raising, crafts and commerce were practiced a lot more intensively than the present landscape would suggest. The *magredi* portion in Vivaro is defined as “primitive” for the sparseness of its shrubs. Where the shrubs reach more fertile terrain, they contribute to the formation of arid meadows. These, being unsuitable for cultivation, have essentially retained their original appearance. Degraveling and the piling of large rocks in mounds (locally known as *masaròns*) were among the strategies deployed by farmers to increase cultivable land. These actions, although necessary to counteract the aridity caused by the periodic exundation of the torrents, were carried out with “immense toil and expense”, as the compilers of the Preliminary Acts for the Austrian Cadaster disconsolately observed. In these lands, as in all *magredi*, small and large animals grazed freely, with contradictory and controversial effects: on the one hand, they helped to fertilize the land, on the other, as they increased in numbers, they ravaged it. In the long history of the reclaiming and fertilization of the *magredi*, some stages especially significant stages stand out. A sizable portion of the land—which during the Venetian domination were the property of the Signoria, but were granted in use to the local communities—were purchased in the second half of the 1600s by noble Venetian families with capital to invest. Transhumant cattle from the north and the

west grazed in the *magredi*, as well as the local livestock. In the early 1930s, the Cellina Meduna Reclamation Consortium was founded. It built dams at the foot of the Prealps to help to control and channel the torrents. More recently, new production techniques have favored the expansion of agriculture, and especially of grain fields, fruit orchards, and vineyards.

As to their integrity, the local *magredi* still retain much of their original appearance. However, today the improving of the water supply—and thus the removing of one of the main hindrances to the area's agricultural development in history—has allowed the introduction of intensive cultivation, or simple tillage, at the expense of the natural meadows. This evolution has led to alteration of some portions of the traditional landscape.

As regards vulnerability, one of the risk factors for these areas is that until recently a large part of it was an off limits military zone. As the military gradually relinquish the area, formerly protected areas are threatened by the consequences of abandonment. Besides, the conservation of the area's environment, as required by its inclusion in two protected zones, appears an especially complex issue in this case, since conservation actions need to strike a balance with local socioeconomic activities.

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