

Some useful info on Sardinia for the EFI annual meeting participants

GEOGRAPHY

- Area: 24089 km²
- 1.6M inhabitants, 68 inhabitants km⁻² (30-120 depending on the province)
- Highest elevation 1,834 m asl (Punta Lamarmora, Gennargentu)
- 13.6% of the land is above 600 m asl, 18.5% is lowland
- Reservoir full capacity: >2,000 Mm³ over an area of 29 km²; only one natural lake (Baratz, 40 ha)
- Longest river: Tirso, 130.2 km

CLIMATE

- Average annual rainfall 764 mm (441-1119 mm), 75% of the precipitation from October to March
- Annual reference evapotranspiration: 900-1100 mm
- Aridity index 0.45 – 0.75 (semi-arid to sub-humid)
- Average annual temperature: 13.5 – 17-6°C depending on altitude (-0.57°C every 100 m altitude)
- Wind: west quadrant (SW-W-NW) represent on average 55% of the total wind directions and the main direction of the strongest winds (ARPAS 2014). In the Strait of Bonifacio heavy winds (>13.5 m s⁻¹) were recorded on 33.8% of the days of the year (one every three).

GEOLOGY AND SOIL TYPES (<https://www.tandfonline.com/doi/pdf/10.1080/17445647.2015.1084544>)

- Almost all geologic eras are represented. Paleozoic (Granit rocks) dominate most of the island landscape.
- 28% of the island is covered by rocks and Leptosols (< 15 cm depth)
- 18% of the area is suitable for irrigation but half of it has some limitations
- 54% Cambisols, Leptosols and Regosols (agropastoral and agrosylvopastoral activities)

PARKS AND PROTECTED AREAS

- 3 National Parks (Asinara; La Maddalena; Gennargentu - not yet institutionalized)
- 3 regional parks (Porto Conte; Molentargius – Saline; Tepilora). Another 8 regional parks have been identified but not yet institutionalized
- 50 Natural reserves, 6 marine reserves: Asinara; Capo Caccia; Tavolara; Sinis – Mal di Ventre; Capo Carbonara; Capo Testa – Punta Falcone
- 6 Ramsar wetlands: Corru s'Ittiri; Cabras; Mistras; Pauli Maiori; S'Ena Arrubia; Stagno di Cagliari
- >20 Natural monuments
- 17 areas of relevant naturalistic interest, 5 WWF/LIPU oases
- 93 Sites of Community interest (20% of the island area), 21 Special conservation areas
- 55 habitats of Community interest

FLORA AND VEGETATION

- The flora of Sardinia includes some 2500 entities belonging to 175 families and 826 genus. Of these, 350 are endemic species (mostly Sardinian-Corsica). Of these, 38% Therophytes, 29% Hemycryptophytes, 11% Gepophytes, 10% Chamephytes, 9% Phanerophytes, 3% other.
- Vegetation has been classified in 28 vegetation series.
- Sardinian potential vegetation map (paper and map) <http://eprints.uniss.it/3544/>
- Forestry regional plan (PFAR, in Italian) description of the vegetation series https://www.regione.sardegna.it/documenti/1_73_20080129175640.pdf

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AGRICULTURE (3% of the regional value added)

Agricultural land use (ISTAT, 2013)

Type of land use	Land area (ha)
Field crops	383,414
Permanent grasslands	694,760
Fruit crops	62,488
Vegetables	1,345
Used agricultural land	1,142,006
Forest land	211,959
Wood crops	3,227
Other	75,255
Total agricultural land	1,432,448

- 37,000 farmers in 86,000 farms

Main crops	Land area (ha)
Durum wheat	47,372
Maize (silage)	2,432
Other cereals (barley, oats, rice...)	67,916
Legumes	10,896
Vegetables (mostly artichokes)	9,325
Forage crops	224,983
Other crops and fallows	20,490
Total field crops	383,414

LIVESTOCK (ISTAT, 2013)

Livestock type	Heads
Cattle (mostly beef)	236,886
Sheep (almost all dairy)	2,950,877
Goats (dairy)	238,394
Horses	12,082
Birds	584,425
Pigs	128,457

Why is African swine fever still present in Sardinia?

([Jurado et al, 2018, Transbound Emerg Disease](#))

African swine fever (ASF) is an infectious disease of swine that has been present in Sardinia since 1978. Several control and eradication programs failed so far. In the past, scarcity of swine data in Sardinia complicated the evaluation and study of ASF on the island. In this study, the

identified drivers were the no. of medium-sized farms, the presence of brado animals and the combination of estimated wild boar density and mean altitude above sea level. The regions in eastern and central Sardinia are at greatest risk of ASF persistence. Recommended control measures are based on the reduction of wild boars, the reduction and monitoring of family farms, new slaughtering protocols, the increment of biosecurity protocols during animal movements, the penalization of farms not willing to perform annual censuses. The measures can be effective only if uniformly applied across the island and if the social dimension of conflicts over brado practices can be addressed.

FORESTRY

12.000 km² forested areas, +10% since 2005. 220,000 ha of forest-related land (10% of the total island) managed by Forestas (regional forestry dep).

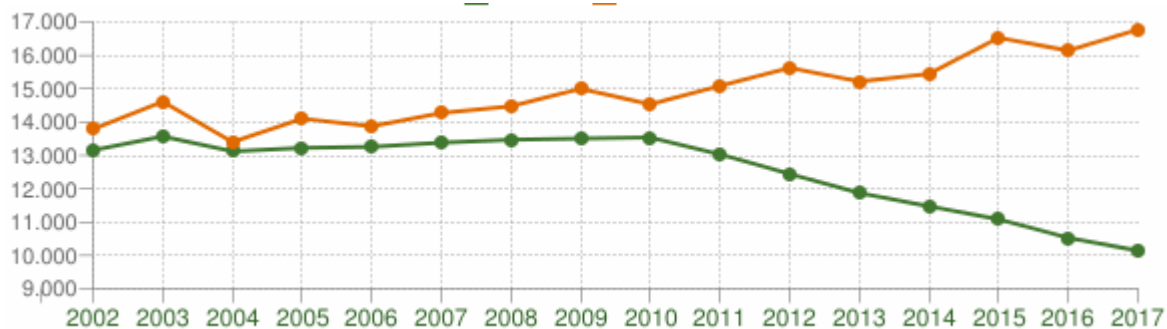
Most relevant native forest plant species: Deciduous oaks (*Quercus pubescens* sensu lato), *Ostrya carpinifolia*, *Taxus baccata*, *Laurus nobilis*, *Q. ilex*, *Q. suber* (some 20,000 t year⁻¹, 80% of the Italian cork), *Olea europaea*, *Juniperus* sp.pl., riparian woods (*Alnus glutinosa*, *Populus* sp.), *Pinus* sp. pl. (almost all planted).

In the XIX century Sardinian forests were almost completely cleared by the Savoia colonization, to build railways and make charcoal. Changes in the total forest cover (km²) in Sardinia in the last century were dramatic and associated to changes in the demography and to population movements from the inland to the coastlands (Puddu et al, 2012, Agrofor Sys). Changes in the population structure are occurring rapidly in the last decade.

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DEMOGRAPHY

Orange line: deaths. Green line: births. Source: Istat.



Unemployment rate (2017): Total (>15 y old): 17% (national average: 11.2%). Youth (15-24 y old): 47% (national average: 34.7%)

HISTORIC CHRONOLOGY OF SARDINIA

PERIOD	EVENTS
400,000-120,000 BC	First human settlements found
10,000 BC	Human settlements with with different characters than those of H sapiens
8,000-6,000	Extinction of almost all fauna species and replacement with introduced domestic species from immigrants
6,000-2,000 BC	Ancient, medium and recent neolithic: menhirs, giant burials, ceramics
2,000-750 BC	Nuragic civilization (four phases) see specific document
800-550 BC	Phoenician immigration
509-245	Punic immigration
240 BC – 900 AC	Romans, Visogots, Vandals, Bizantins, Arabs, Longobards...
900-1300	“Giudicati” period, with attaks from Arabs, Pisa, Genoa...
1323-1720	Catalan-Aragon crown kingdom. The University of Sassari is founded by the Jesuits in 1617.
1720-1860	Kingdom of Sardinia (Savoia)
1861-	Italian union
1946-50	The Rockefeller Foundation contributes to eradicate malaria (DDT)
1948	Autonomous Region of Sardinia

TOURIST INFO: <https://www.sardegnaturismo.it/en>

INFO AND TOOLS FOR THE ASINARA NATIONAL PARK EXCURSION (Friday 28 Sep 2018)

Info on the vegetation of the Asinara island can be found here: Pisanu et al 2014. Vegetation and plant landscape of Asinara National Park www.scienzadellavegetazione.it/sisv/documenti/Articolo/pdf/332.pdf

An online portal for plant species detection in the park is available here: <http://dryades.units.it/asinara/>

An App for smartphones for plant species detection in English language is available on Google Play: install the KEYtoNATURE app, select “Le mie guide” and search (cerca) “Asinara”. Download may require fast web connection as all photos will be downloaded on the phone as it must work offline (internet is not always available on the island).