

Ecosystem services certification supports the resilience of Mediterranean woodlands in Sardinia (Italy)

The experience of Agris Sardegna in supporting FSC® certification of sustainable forest management and eco-systemic services.



Forest Stewardship Council FSC Logo.
Author: FSC | © FSC



Cork stopper made from cork from certified cork forests.
Author: S. Maltoni | © Agris

/// Context ///

The use of wood instead of synthetic materials has gained importance worldwide, so ensuring that it is produced sustainably is an added value for derived products. Forest management certification ensures that forests adhere to principles that guarantee sustainability and eco-friendly management.

The most widespread international forest certification systems are FSC® (Forest Stewardship Council ®) and PEFC™ (Programme for the Endorsement of Forest Certification Schemes), which guarantee forest management in compliance with environmental, social and economic standards. There are various options to get certified: Single certification, for individual forest owners/managers; Group certification, for multiple forest owners/managers united in a single certificate; SLIMF (low intensity and commercial forests) for small, low-intensity forests, such as cork oak woodlands.

The Chain of Custody (CoC) certification, according to the FSC® and PEFC™ schemes, guarantees the traceability of materials from certified forests and is essential to be able to apply the FSC® and PEFC™ labels to products. It controls all the steps of the raw materials to ensure that the resources used are treated correctly by all the companies involved in the supply chain.

The certified products bear the FSC logo which guarantees that the product has been made with raw materials deriving from forests correctly and chain of custody of derived products.

forest certification guarantee that a forest is managed in compliance with rigorous environmental, social and economic standards.

Ecosystem service certification is possible, for a set of services that natural systems generate for humans, such as biodiversity conservation, carbon sequestration and accumulation, soil protection, protection of water resources or tourist-recreational-educational services.

The recent trends in 'Closer-to-nature Forest management' suggest the increasing role of such a schemes in guaranteeing final consumers and communities at large on the quality of management, and opens up new opportunities for forest managers connected to "conservation finance" or social accountability schemes for companies.

In recent years in the Region of Sardinia, considerable efforts were devoted to apply such standards in public and private forests, to support the increasing demand for sustainable rural development and forest management projects.

Forest Ecosystem Service certification case studies in Sardinia (Italy).

Ecosystem services are the set of services that natural systems generate for humans.

/// Solution for a Resilient Future ///

The Cusseddu Miali Parapinta was the first cork oak forest in the world to achieve the certification of sustainable forest management and all five ecosystem services according to FSC standard (SA-FM/COC - 001436; Code FSC® C018351). It is a public forest managed by the regional agency AGRIS. In the following years several other public and private farms achieved certification for ecosystem services.

These case studies certify the interest of public and private entities to achieve ecosystem services certification, though it implies several requirements. Fundamental to achieve certification is the drafting and implementation of a "Forest Management Plan" (PGF) valid for twenty years. The process to obtain FSC certification typically involves the following steps:

- Pre-assessment: The forest owner or manager evaluates their operations against FSC standards to identify areas needing improvement.
- Application: Submit an application to an accredited certification body, detailing forest management practices and commitment to FSC principles.
- On-site assessment: Certification body conducts a thorough audit of forest operations, including field inspections, interviews with stakeholders, and verification of compliance with FSC principles.
- Certification decision: Certification body evaluates audit findings and decides whether to grant FSC certification.
- Issuance of certificate: If compliance is confirmed, the certification body issues an FSC certificate, allowing the use of the FSC logo on products derived from the certified forest.
- Surveillance audits: Regular audits are conducted to ensure ongoing compliance with FSC standards and continuous improvement in forest management practices.
- Renewal: FSC certification is typically valid for a limited period, after which the forest owner or manager must undergo renewal audits to maintain certification status.

The objective of sustainable forest management is the application of forest management pursuing the production of cork raw material favouring natural renovation of the stands, in a closer to nature management attempt. The silvicultural interventions are often aimed at converting the forest from even-aged to uneven-aged and at preventing fires. Thinning of the adult tree layer and established renewal is carried out, as well as periodic clearing of the plots which affects only the aerial part of the shrub layer.



Cork extraction in the certified cork oak forest.

Author: FSC | © CC BY-NC

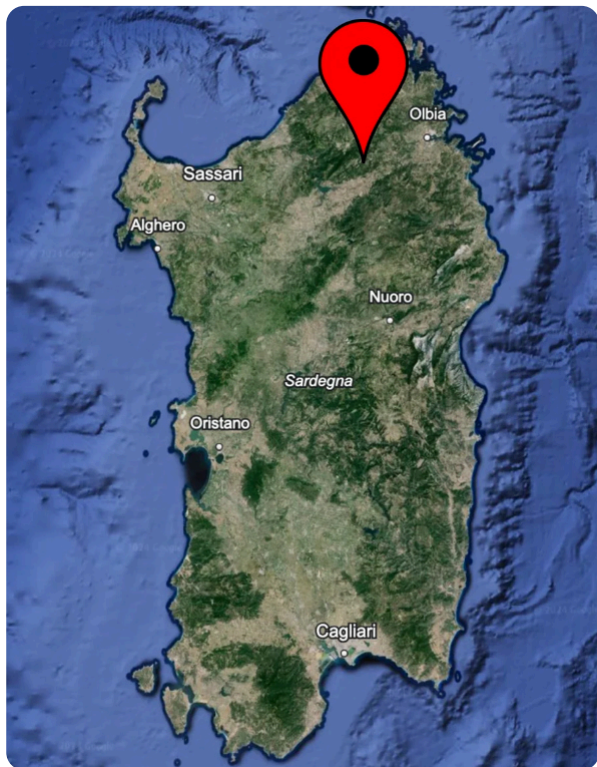
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The data to be collected are those that demonstrate active management for the conservation or enhancement of ecosystem services:

- Examples for carbon stock include:
 - Reforestation implementation.
 - Plant inventory.
 - Creation of test plots.
- Demonstrating both the amount of carbon (stable or increasing) and your commitment to enhance the service.
- Examples for biodiversity include:
 - Floristic or faunal surveys.
 - Creation of refuge islands.
 - Maintenance of water points.
- Examples for water resources protection include:
 - Canal maintenance.
 - Hydraulic engineering interventions.
 - Ccreation of fire-fighting basins.

The foreseen duration is 5 years, and the audit entails a field audit and documentary audit. The FSC certification scheme is independent and third-party. In fact, inspections are carried out by over 30 certification bodies around the world. The certification bodies are themselves

Cork from sustainable forest: case studies and how to do it?



The certified cork oak forest is located in north-eastern Sardinia.

Author: S. Maltoni | © Forestas

In terms of economic returns, the products of the cork forest are multiple, highlighting the possibility of multiple uses.

accredited by a third-party international accreditation body, the Assurance Services International (ASI). Obtaining the FSC forestry certification implies drafting and implementation of the Forest Management Plan designed on a twenty-year basis: a guiding tool for compliance with the criteria underlying the certification. The Plan contains all the actions aimed at guaranteeing the conservation and self-renewal of a complex ecosystem of fundamental importance for the Mediterranean Basin.

In terms of economic returns, the products of the cork forest are multiple, highlighting the possibility of multiple uses:

- Cork: sold on the plant or stacks with a public auctions.
- Firewood
- Acorns: used as a supplement for grazing and as controlled seed (seed forest).
- Mushrooms: sold in the local market, such as Black porcini mushrooms (*Boletus aereus*).

/// Always Moving Forward ///

Results: Five organisations and companies, both in the public and private sector, were certified for ecosystem services with the FSC standard between 2020 and 2023 in Sardinia (Italy) for a total of approximately 790 hectares:

- A private agro silvo-pastoral farm got certified for biodiversity and Carbon sequestration: the cork oak woodland of Masala Antonio – Villanova Monteleone (ICILA-FM/COC-004378; code FSC®- C173151).
- In the same year the private cork oak woodlands of Masu Gianna, in Luogosanto of around 28 hectares got certified for Carbon sequestration (ICILA-FM/COC-004356; code FSC®-165617).
- In 2022 the public forest of Monte Sant'Antonio de Macomer, managed by Agris for around 76 hectares was certified for biodiversity and Carbon sequestration (ICILA-FM-004413; code FSC® C174874) .
- In 2023 the Municipality of Alà dei Sardi certified around 464 hectares of cork oak woodlands and silvopastoral areas for all 5 ecosystem services (ICILA-FM/COC-004514; code FSC® C184531).

This represents a solid base for market-based instruments to increase investments in forest management and especially fire prevention measures, costly activities in low-revenue Mediterranean woodlands.

Forest certification is spreading through Sardinia.

Challenges: There is an increasing need for specialised technical consultancy for quantification of ecosystem services. Certification costs can be daunting: approximately 6,500-7,500 euros for 5 years, including ecosystem services. The price varies depending on the number of days needed for field audits, which in the case of cork oak are two as they are classified as SLIMF (low impact). The extreme fragmentation of forest properties is often a barrier for certification, for costs may be high with respect to the economic benefits.

Facilitation measures: At the national and international level, the interest of large companies in Italy (such as Conad, Gucci, Zegna, etc.) in investing in the sustainable management of forest areas is growing, as evidenced by the funding received from AGRIS and other ongoing negotiations. A factor that positively affected the results is the experience and professional support by the regional public agency AGRIS, and the competence of its staff on the agro-silvicultural certification. Another Agency, FoReSTAS, is seeking certification of large areas of regional forests, and may be the future case for large-scale adoption at the individual, group or regional level.



Ulteriori informazioni sono sul web
SardegnaAgricoltura
www.sardegnaagricoltura.it

Aerial view of the cork oak woodland of Miali Parapinta.
Author: Agris | © Agris

Certification gives the opportunity to access emerging markets and partnering with investors.

One or more public entities, catalysing private first certification initiatives would be desirable to speed up the adoption of ecosystem services certification schemes.

The tools developed by FSC make it possible to expand the concept of forest management, opening up innovative management directions, monitoring and verification of the impacts of management activities, and new opportunities for collaboration.

The Ecosystem Services Impacts of Sustainable Forest Management can be monitored through the guidance developed and made available to public and private owners of forest complexes by FSC "Guidance for Demonstrating Ecosystem Services Impacts" Guidance Document (GUI) V(1-1)28, which enables forest owners and managers to actively participate in safeguarding and enhancing ecosystem benefits for the community, while simultaneously taking advantage of the opportunity to access emerging markets and partnering with investors willing to promote their commitment to forest improvement and conservation.

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Further information

- European Commission: Directorate-General for Environment 2023. Guidelines on closer-to-nature forest management, Publications Office of the European Union. <https://data.europa.eu/doi/10.2779/731018>
- FSC search website. All certified companies under the FSC standard mentioned in the factsheet may be found in the FSC database, selecting for the region of Sardinia (Italy). <https://search.fsc.org> (Accessed 24 September 2024)
- MEA – Millennium Ecosystem Assessment. <https://www.millenniumassessment.org/en/index.html> (Accessed 24 September 2024)

Acknowledgment / Contribution

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