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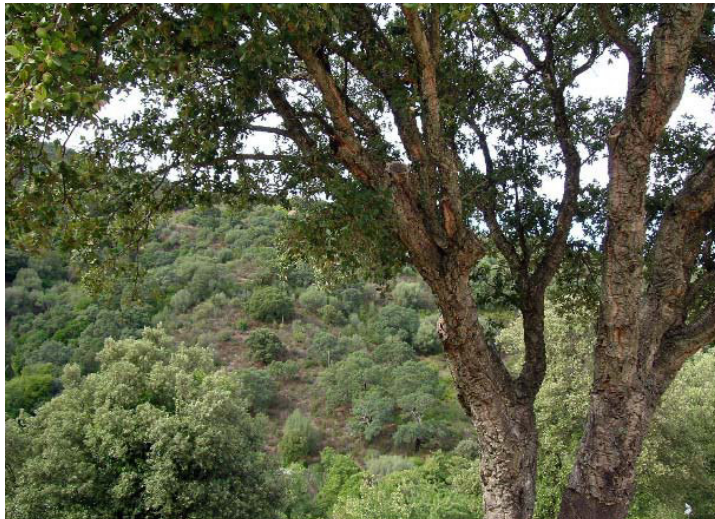


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INTERNATIONAL CONGRESS ON CORK OAK TREES AND WOODLANDS

**Conservation, Management, Products
and Challenges for the Future**



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Tipiditappi



*Sughero d'albero fatto a pezzetti,
tipi di tappi , quelli che vuoi.
Tagliali lunghi, tagliali stretti,
tipi di tappi, fatti da noi.
Taglialo bene, taglialo tondo,
tipi di tappi, quanti ne vuoi.
Tappi di sughero per tutto il mondo,
tipi di tappi fatti da noi.*
(Cecchi-Tognolini, Filastrocche e Canzoni)

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ORAL PRESENTATION

Session 3: *Multifunctionality of cork oak systems, biodiversity, climate change mitigation and landscape/ecosystem services*



MODELLING GOODS AND SERVICES FROM CORK OAK FORESTS

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Forest ecosystems provide multiple essential ecosystem services (ES) for ecological and human well-being. In forest management, understanding of the services and functions distribution, interactions and assessing the economic value of forest ES represent an important future challenge to balancing trade-offs among them. In this study we consider three ES related to cork oak forest management: (i) carbon storage and sequestration, (ii) water yield, and (iii) cork production. We used the InVEST (Integrated Valuation of Environmental Services and Tradeoffs) model to compare current forest management (business as usual) with alternative management options over about 2,300 ha of cork oaks forests owned by Sardinia Region (Italy) and managed by the public Forestas Agency. Taking into account four carbon pools (above ground biomass, below ground biomass, dead organic matter, soil organic carbon), the current carbon stock value of the considered cork oak forests is estimated in about € 15 millions. Regarding the water yield assessment, we have considered two destinations, namely domestic and agricultural: a total of more than 120,000 m³ of water yield was reached. Finally, the number of stems, the period between two cork extractions, and the presence of pasture were used as factors affecting cork production. This approach, applied for the first time worldwide in cork oak forests, appears to be feasible and useful to support forest management and planning strategies in environmental contexts with similar characteristics.

Keywords: Spatial Decision Support System, InVEST model, carbon storage and sequestration, water yield, cork production.