

Terms of Reference

Project: Overarching Project Saltpan Initiative and Socioeconomic Valuation of Coastal Wetlands

Consultant on the economic valuation of wetland ecosystem services for the S'Ena Arrubia pilot site

October 2018

1 Context

1.1 Pressures applied on coastal wetlands

Coastal wetland ecosystems are heavily impacted and degraded ecosystems due to human activity (UN- millennium ecosystem assessment). The main pressures applied on these ecosystems are land conversion for agriculture and urban development, and overexploitation of resources (water, food products). The Mediterranean region hosts between 1% and 2% of the world's wetlands. It is estimated that half of the Mediterranean wetlands disappeared during the 20th century due to human activities. Most Mediterranean wetlands have been historically drained because of water-borne diseases and agricultural uses.

There are strong and growing pressures on water resources and multiple causes of degradation on Mediterranean wetlands. Causes of degradation include land conversion to agriculture and cities, changes in the water regime, eutrophication and pollution by toxic substances, overexploitation of wetland resources and introduction of alien species. Activities from different sectors; agriculture, urban, industry, fishing, tourism, energy, transport and hunting, exert a pressure on wetland ecosystems and the services they provide.

1.2 Importance of wetlands

Mediterranean wetlands provide a wide range of ecosystem services to people, including climate change regulation, harvestable products (e.g. fish), cultural services, water provisioning, water quality regulation and flood protection, among others. Wetlands are of extreme importance to biodiversity, and more specifically to migratory birds.

The value of such services is rarely taken into account during decision-making by governments, businesses and land-owners, often owing to a lack of understanding about their importance and/or a lack of relevant data, leading to management decisions that often have negative consequences for both biodiversity and the ecosystem services upon which people depend. Stakeholders (especially decision-makers) need to know how changes to a site, whether development or restoration, would affect the delivery of multiple ecosystem services and the distribution of the benefits they provide.

The Mediterranean Wetlands Initiative (MedWet), Ramsar regional initiative established in 1991, has for mission to ensure and support the effective conservation of the functions and values of Mediterranean wetlands and the sustainable use of their resources and services.

1.3 Economic valuation of wetland ecosystem services

In this context, the project "Overarching activities addressing Wetland Conservation in the Mediterranean Region: Saltpan Initiative and Socioeconomic valuation of coastal wetlands" (2017-2020) was initiated by a consortium of partners, including BirdLife International (Project Lead), Plan Bleu, the MEDSEA Foundation, Association "Les Amis des Oiseaux", Center for Protection and Research of Birds (CZIP), Doga Dernegi (DD) and Tour du Valat. This project is supported by the Mava Foundation for Nature and tackles the issues of nature-inclusive Saltpan management and valuation of ecosystem services provided by coastal wetlands.

The main objective of the project is to support the valorisation, restoration and sustainable management of Mediterranean wetlands and saltpans. Specific objectives of the socio-economic valuation initiative are to:

- Carry out an ecosystem services assessment on 3-4 pilot sites during the duration of the project (in Montenegro, Albania, Tunisia and Italy).
- Ensure that the ecosystem services assessments inform business and management plans developed at each target sites.
- Whenever applicable, identify potential sustainable income streams (eco-tourism, bird-watching, sustainable salt production, and others) that can contribute to the sustainable management of the target sites.
- Create or enhance the capacity of local communities living in the selected sites to understand and assess ecosystem services
- Communicate the results of the ecosystem services assessment to all relevant stakeholders (industry, practitioners, conservationists, land managers, politicians, etc).
- Improve the usability of the TESSA Toolkit, particularly with regard to its use in coastal wetlands and promote concrete case studies.

The project involves using the Toolkit for Ecosystem Service Site-based Assessment (TESSA) to understand and evaluate the ecosystem services generated by coastal wetlands, and to inform decision-making. TESSA can help identify the services that are important to people from a site, demonstrate how these services would change under different land management options, and assess the value of these services so that the impact of different choices can be compared. It follows a stakeholder engagement approach, where results are generated together with stakeholders to facilitate their integration in management plans.

TESSA was developed by BirdLife International along with five other organisations, such as academic institutions (e.g., the University of Cambridge), and other conservation organisations. The project also aims at testing the implementation of the TESSA toolkit in wetland ecosystems and providing recommendations to adapt and enhance it. TESSA implementation involves 6 main steps (Figure 1) and provides assessment methods for eight types of ecosystem services presented in Table 1.

Table 1. TESSA Ecosystem Services

Types of ecosystem services
Coastal protection services
Cultivated goods (crops, livestock, fish, timber...)
Cultural services
Global climate regulation (carbon storage, greenhouse gas fluxes)
Harvested wild goods (food, fibre, energy, fodder for livestock...)
Pollination services
Water-related services (flood protection, water provision, water quality)
Nature-Based recreation services (Tourism & Recreation)

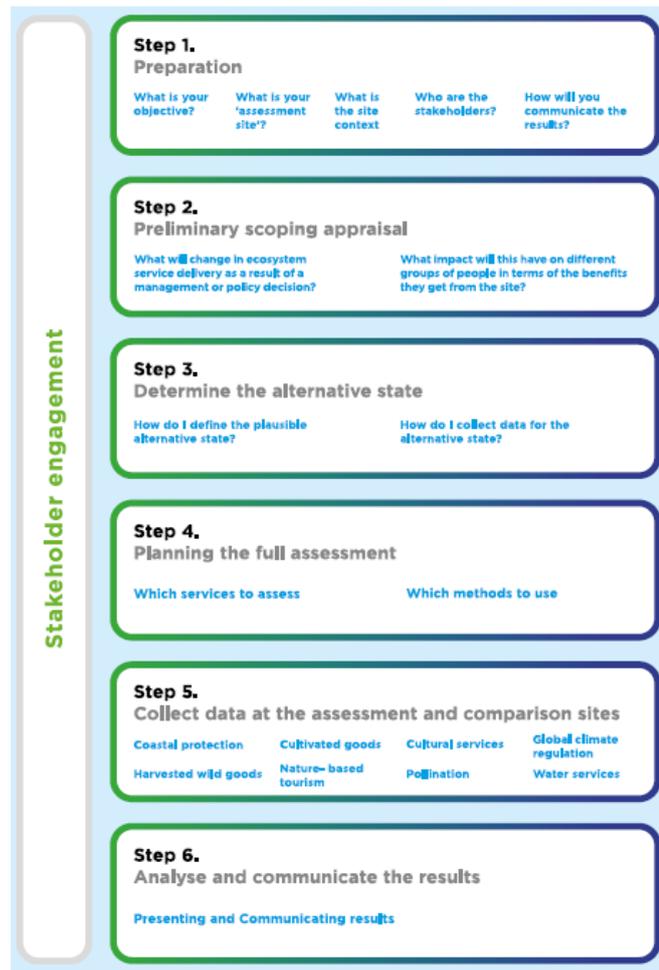


Figure 1 TESSA Step-by-step framework

The S'Ena Arrubia lagoon, one of the pilot sites for the TESSA implementation, is located in the Gulf of Oristano in Western Sardinia, Italy (39°50'N 008°34'E, Figure 2). It was designated as a 223 hectares RAMSAR site (site no. 132), follows the Special Protection Area EC Directive and is considered a Wildlife Sanctuary. The freshwater lagoon represents the last remnant of a once extensive complex of marshes and lagoons, converted to agriculture in the 1930s. The site is fed with runoff from irrigated agricultural land and is connected with the sea via a channel and sluice gate. The vegetation consists of submergent species, extensive fringing reed beds and salt-tolerant plants.

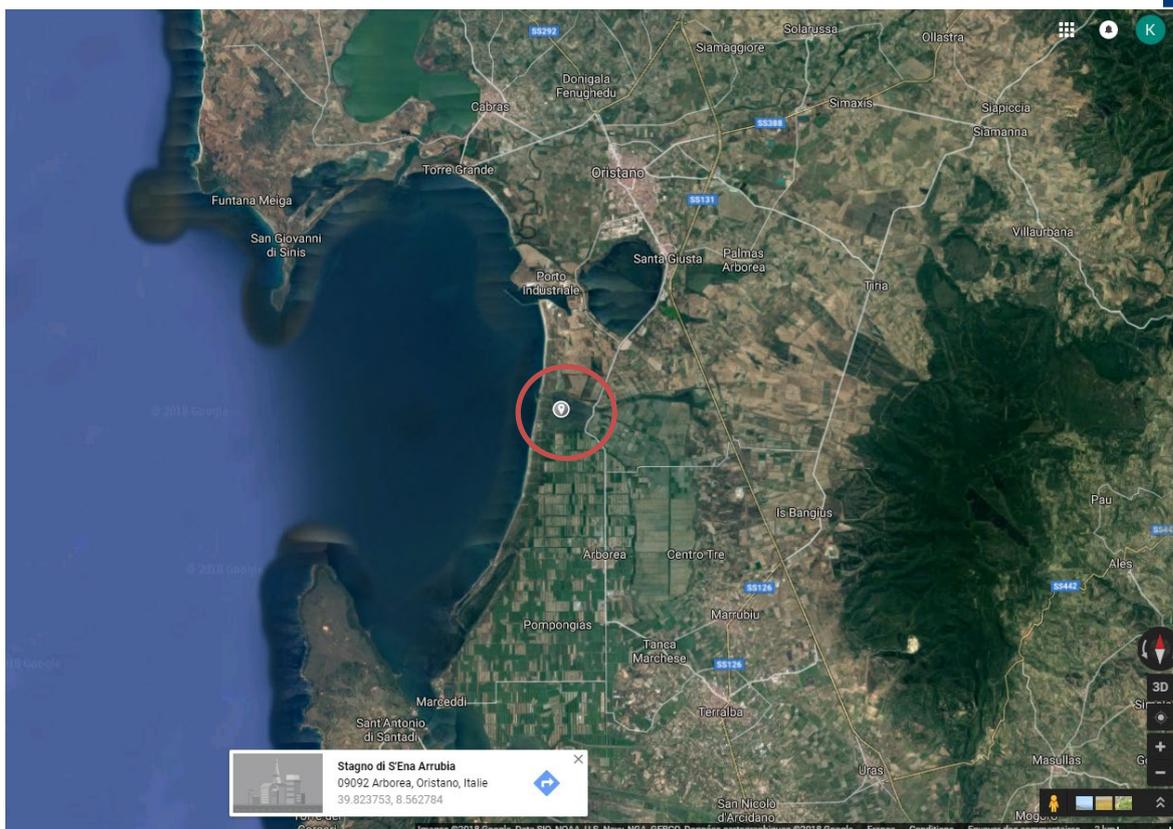


Figure 2 Location of the S'Ena Arrubia lagoon within the Gulf of Oristano

The MEDSEA Foundation is leading the ecosystem services assessment and economic valuation activities in S'Ena Arrubia, following TESSA guidelines. The Preliminary Scoping Appraisal phase of TESSA was concluded, including a local stakeholder meeting which took place in Oristano on July 16th 2018. Agricultural and tourist activities were identified as the main pressures on the lagoon ecosystem. The most important ecosystem services in S'Ena Arrubia are cultivated goods (crops), harvested wild goods (fish), water cycle regulation (water provisioning, water quality regulation and flood protection), recreation and tourism and cultural services.

1.4 Plan Bleu

Plan Bleu is one of the Regional Activity Centres of the Mediterranean Action Plan (MAP) of the United Nations Environment Programme (UNEP) and established in 1977. The objectives of Plan Bleu include raising awareness of Mediterranean stakeholders and decision-makers regarding environment and sustainable development issues in the region, notably through socio-economic analyses. In this project, Plan Bleu will support the MEDSEA foundation in the implementation of TESSA at the S'Ena Arrubia pilot site, in the Gulf of Oristano, Sardinia.

Plan Bleu was already involved in economic valuation exercises, including the project Med-ESCWET "Economic assessment of ecosystem services provided by Mediterranean wetlands in terms of climate regulation" (2013-2017). For this project, an economic valuation of three regulating ecosystem services associated with climate change - coastal storm protection, flood control, and carbon sequestration - was completed in four Mediterranean pilot sites,.

Plan Bleu is currently involved in the project MARISTANIS, which started in 2017 and aims to define an integrated management strategy for the coastal wetlands of the Gulf of Oristano; specifically for six RAMSAR sites: Stagno di Sale 'e Porcus, Stagno di Mistras, Stagno di Cabras, Stagno di Pauli Maiori, Stagno di S'Ena Arrubia, Stagni di Corru S'Ittiri, Marceddi, San Giovanni. The S'Ena Arrubia lagoon is therefore connected to the larger Oristano Lagoon-Gulf system.

2 Objectives

The main objective of the consultancy is to support the economic valuation of three ecosystem services provided by the S'Ena Arrubia lagoon, and pilot the site for the implementation of TESSA in Mediterranean wetlands.

The consultant will work in close collaboration with MEDSEA and the pilot site's Steering Committee. The consultant's main responsibilities will be to:

- Provide strategic accompaniment for choices to be made during the economic valuation process,
- Share methodological knowledge and experience,
- Capitalise on the economic valuation exercise.

3 Tasks

The consultant will have the following tasks:

- Participate in the Steering Committee virtual meetings and discussions (continuous).
- Review the feasibility study already being undertaken by the Steering Committee.
 - Conduct a review of existing economic valuation methodologies for the five ecosystem services classified as most relevant for the S'Ena Arrubia lagoon, considering the methodologies proposed in the TESSA guidelines, as well as other relevant methodologies (if any). Inform and report to the Steering Committee, Plan Bleu and Birdlife International about the methodologies found
 - Define the most realistic alternative state/site or scenarios to be considered in the assessment with the Steering Committee during a first "scoping meeting" (virtual)
 - Provide comments and advices for improvement on the feasibility study already drafted by the Steering Committee.
 - Propose criteria to be considered in the selection of three ecosystem services to be evaluated economically, considering the potential sustainability of each service.
 - Evaluate TESSA methodologies for economic valuation, as well as other relevant methodologies (if any), and advise the Steering Committee on the methodologies to be used after discussing with and getting approval from Birdlife Int.

- Support the team in the analysis of the data available and the identification of the data needed to be collected.
- Make a field visit to meet the members of the Steering Committee, map ecosystem services, gather existing data and complete the feasibility study (agree upon methodologies to be used and data to be collected).
- Assist in the biophysical survey (remotely).
 - Review the methodological approach elaborated by the Steering Committee to collect data adapted to the pilot site (e.g. questionnaires, material list). Consider methodologies from TESSA as well as other methodologies, in order to assess the tool's appropriateness in a Mediterranean wetland context.
 - As relevant methodologies to use are often site-context based, the consultant should evaluate in priority whether the TESSA methodologies are convenient for the ES assessment at S'Ena Arrubia. If one or more ES assessment needs the use of one or several different methods than the ones proposed in TESSA, the consultant should justify the reasons of this and report back to Birdlife International prior to any collection of data.
 - Give a two days training to surveyors (webinar).
 - Give feedback on the first questionnaires completed.
 - Compile, analyse and interpret the data collected.
- Support the economic valuation of the wetland ecosystem services of the site (focus on 3 ecosystem services).
 - Lead the economic valuation data analysis and calculations.
 - Share tips with the Steering Committee.
 - Review documents prepared by the Steering Committee.
 - Assess the impact of the economic valuation's results in relation to the main sectors and stakeholders affected by the ecosystem services provided by the lagoon.
- Synthesise the results of the economic valuation, and disseminate them.
 - Summarise the economic valuation assessment done for S'Ena Arrubia, including details on the methodology used (details on the reasons and description of the methodologies used), data analysis undertaken, and results found.
- Improvement of TESSA
 - Write a report to BirdLife International providing 1) full description and justification of the methodologies used for the ecosystem services assessment, if applicable the reason of the non-use of TESSA methodologies for each specific ecosystem service, 2) recommendations to improve the economic (or non-monetary) valuation capacity of TESSA.
 - The Consultant will also discuss via call with Birdlife international about these recommendations and methodology improvement for TESSA.

4 Deliverables and deadlines

The consultancy will extend on the period November 2018 to November 2019.

The deliverables, estimated duration and timeline to accomplish the work are listed in the table below.

Deliverable	Estimated duration (for indication only - this can vary according to consultant's experience and daily rate)	Timeline
Review of the feasibility study	3 days	November 2018
Communication with the Steering Committee	5 days	Monthly exchanges
Field visit	5 days with travel to S'Ena Arrubia via Cagliari Airport	November or December 2018
Mid-term activity report (2 pages)	1 day	End of March 2019
Biophysical survey	5 days (including 1 day training)	April-May 2019
Economic valuation	6 days	September-October 2019
Synthesis of the results of the economic valuation	2 days	October-November 2019
Report with recommendations for the improvement of TESSA	3 days	October-November 2019

5 Communication and reporting

The consultant will be under the supervision of Céline Dubreuil, Programme officer for Water & Climate change, and Kelly Fouchy, Project officer for Water & Wetlands, at Plan Bleu.

The consultant will work in close collaboration with members of the other organizations involved in the project, especially Birdlife International and the MEDSEA Foundation.

The consultant will join the Steering Committee for the implementation of TESSA in the S'Ena Arrubia pilot site, composed of MEDSEA, Birdlife International and Plan Bleu staff members and other consultants (ecology, ornithology, agronomy, tourism and cultural preservation) working in the Gulf of Oristano with MEDSEA.

6 Qualifications

The consultant should be able to demonstrate the following competences:

- Master in Economics or equivalent
- Experience in socio-economic valuation of ecosystem services, preferably of Wetlands
- Understanding of the Toolkit for Ecosystem Service Site-based Assessment (TESSA): <http://tessa.tools/>

- Professional experience of 10 years, with experience in the Mediterranean region
- Excellent capacity to produce syntheses; writing and oral communication skills
- Relevant projects and publications
- Capacity to mobilise existing information and knowledge effectively and rapidly
- Required languages (speaking and writing): English and French