





Part I – General information

Project: DELTA LADY - Floating Cultures in River Deltas

Partner organisation: Po Delta Park; ART-ER

Other partner organisations involved (if relevant): not relevant

Country: Italy

NUTS2 region: Emilia-Romagna

Contact person: Irene Diti, Francesco Goggi and Massimiliano Costa

email address: irene.diti@art-er.it;francescogoggi@parcodeltapo.it;

massimilianocosta@parcodeltapo.it

phone number: n/a

Part II - Policy context

€ European Territorial Cooperation programme

X Other regional development policy instrument

Name of the policy instrument addressed: Po Delta Park Territorial Plan











The DELTA LADY project

The **Delta Lady Interreg project** is focused on river deltas in Europe. These areas are characterized by high biodiversity, natural resources and cultural heritage but, on the other hand, they are financially poor. The main aim of the project is to improve the regional policy instrument to enhance the use of ecosystem services in river deltas and enforce the regional economy.

The project involves **6 delta regions**: Rijn delta in Netherland, Danube delta in Romania, Camargue delta in France, Albufera delta in Spain, Po delta in Italy and River Blackwater delta in Ireland. For each country several partners (regional and local public authorities as well as education and research institutes) are involved in the challenge of enhancement of available natural and cultural resources to develop new opportunities based on ecosystem services valorization.

The project is based on a cross-regional learning and cooperation approach aimed at the exchange of knowledge and experiences, good practices and proposals. The final goal is the development of Action Plans for the improvement of regional policy instrument.

The Italian policy instrument is the Po Delta Territorial Plan.

The Po Delta Territorial Plan is dedicated to the development of Po Delta area through:

- the protection and valorization of natural and cultural heritage, environment and landscape;
- the management and safeguarding of wetlands;
- the protection and valorization of water, forest and habitats;
- the management of agriculture, fishery and hunting activities.

The Plan has measures related to ecosystem services but lacks of financial operative tools (such as Payment for Ecosystem Services) that could valorize ecosystem services.

Thus, according to the main objectives of Delta Lady project, the proposed actions for Italian policy instrument (Po Delta Territorial Plan) are aimed to an economic valorization of Po Delta natural capital through the implementation of ecosystem services in local policies. The action Plan implementation will give to local operators operative tools for the ecosystem services valorisation in Po Delta Park, which are not currently available.

The project involved 2 partners for Italy: the Po Delta Park and ART-ER Join Stock Consortium.











The Po Delta Park

The Po Delta Park of the Emilia - Romagna Region (Figure 1) stands on an area with unique environmental and ecological characteristics. In fact, it extends over a heterogeneous area of over 52,000 hectares, embracing environments rich in biodiversity, from wetlands to pine forests, from brackish waters to fresh waters (Figure 2).

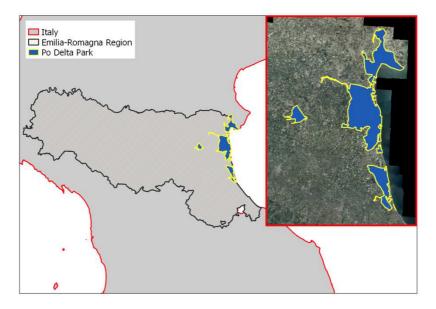


Figure 1: localization of Po Delta Park in the context of Emilia-Romagna Region

This environmental richness is also reflected in the numerous animal and plant species identified within the Park: almost 300 species of birds, 50 species of fish, 10 species of amphibians, 15 species of reptiles, 40 species of mammals and more than 1000 species vegetables.













Figure 2: Po Delta Park landscapes

In addition to the environmental and naturalistic value, the Park is among the most anthropized and economically developed Protected Areas in Italy, testimony of the cultural and economic crossroads between West and East that has been present since the past.

From this encounter between Man and Nature, naturalistic qualities, testimonies of art and culture and historical traditions still exist today, which have allowed the territory of the Park to be recognized as a UNESCO MaB Biosphere Reserve.

The Park territory is divided in 6 "Park Stations (Piani di Stazione)" (Figure 3) (R.L. n. 06/2005):

- o Volano-Mesola-Goro
- o Comacchio historical centre
- o Comacchio Valleys
- o San Vitale's pinewood and Ravenna's "Piallasse"
- o Classe's pinewood and Cervia salt works
- o Campotto of Argenta











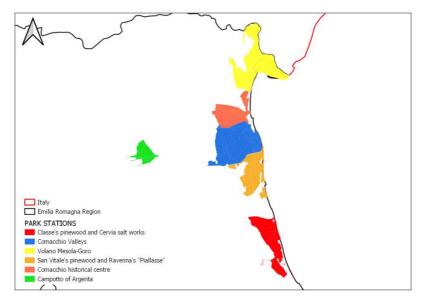


Figure 3: Po Delta Park administrative stations

Each "area" is characterized by unique environmental and cultural features.

Further details on the policy context and the way the action plan should contribute to improve the policy instrument:

In the last years the topic of ecosystem services was more and more urgent in environmental debate at the European, National and Regional levels.

The Territorial Plan of the Park (*Policy instrument*) was approved several years ago and needs an in-deep revision to update a more strategic vision, that integrate measures to enhance the value of natural capital and provide an effective economical valorization of Ecosystem Services (ESs) provided by Park's natural and cultural heritage. Currently, the plan is made of several documents (both descriptive and regulating - a detailed description of the plan structure is annexed) but none of them includes measures for an effective valorization of ESs. The proposed actions are aimed to the integration of ecosystem services valorization into the Park policy instrument and in support of related policies implementation on Park territory. Is important to remind and underlined that, due to the regional planning structure, the Park plan's addresses have to be included in local plan regulation to be effective and that is why Action 1 is addressed to municipalities. Indeed local authorities (municipalities), through operative plans, indicates the short period actions on land use changes.

The implementation of ESs in local planning is a prerequisite introduced and supported by the











current Regional Planning law (L.R. 21.12.2017 n.24 "Regional regulation for protection and use of land - Emilia-Romagna Region). The Regional law recognizes the need for the identification and valorization of ecosystem services in the planning process at each planning level (from region to municipalities). Since the Po Delta Territorial Plan is an instrument of regional planning framework, it requires that ESs will be considered in the definition of planning regulations. At the moment in Emilia-Romagna Region, there are no common procedures for the ESs issue implementation in local plans.

The actions proposed in this Action Plan for the local policy instrument are also linked to the recent EU Biodiversity Strategy for 2030 "*Bringing nature back into our lives*" (COM(2020) 380 final), which is part of the EU Green Deal. The Strategy highlights the relevance of measuring and integrating the value of nature and biodiversity into public and business decision-making at all levels. "Building on existing work, the Commission will develop in 2021 methods, criteria and standards to describe the essential features of biodiversity, its services, values, and sustainable use".

Collecting indications derived from the above-cited regulation the Action Plan is developed based on the development of tools aimed to support the implementation of actions for ecosystem services valorization in park area. The identification and assessment of ecosystem services (*Action 1*: ecosystem services' maps and value assessment) will become part of the revised Park Territorial plan and need to be transposed in local planning instrument (municipality plan), as established by the regulation, to be effective. The explicitation of links between scope of application of the Policy Instrument and identified ecosystem services and joined administrative procedure charged by Park Managing Authority (*Action 2*: orientation tool for PES design) and the development of Payment for Ecosystem Services schemes (*Action 2*: feasibility study for tourism related PES) will enhance the economic valorization of ESs in Po Delta Park. Moreover, more schematically (referring to the Interreg Manual 4.3.1) two areas of improvement of the policy instrument could be identified:

- change in the management of the policy instrument (improved governance)

The Action Plan actions will introduce and enhance the ESs in the policy instrument. New approaches for ESs valorization will be adopted thanks to the lessons learnt from other regions, in particular a new methodology for developing, monitoring or evaluating the plan measures considering ESs. This change of view will affect not only the Park Territorial Plan but also the development of local (municipalities) plans as they are strongly joined. Also, the governance will be improved because Action Plan introduce a new participatory approach that directly involved local stakeholders (such as policymakers and economic operators) in the definition of ESs value.

- Change in the strategic focus of the policy instrument (structural change)

Po Delta Territorial Plan managing authority, in the revision process of its policy instrument, will modify existing measures implementing ESs in new regulations through the proposed tools as the mapping of ecosystem services to support the definition of land use changes regulation and the implementation in other policies and the economical valorization of ESs using PES scheme. Local











policymakers of municipalities that are in Park area are required to implement Territorial Plan indications for ESs in local plans (General Urban Plan) to putting into effect the new approach for ESs assessment and valorization. It is important to underline that Action Plan will act on the policy instrument revision process but the procedure may not be concluded by the end of the project as it involves several actors at the local and regional level.











Part III - Details of the actions envisaged

ACTION 1

Mapping the value of ecosystem services in Po Delta Park: a tool for the municipalities.

1. Relevance to the project

Interregional exchange of experiences was the main driver for the development of this action. Discussions with other partners highlighted the need to improve the knowledge basis of ecosystem services quantification, identifying how the natural capital value could be valorised in the local planning process.

Irish partners suggestions were inspiring for this action. In particular their approach to economic evaluation of ESs in the Blackwater catchment sent to us after the 3rd Interregional Learning Event held in Italy (September 2019) (reference to document "Ecosystem Services in the Blackwater catchment" drawn up by O'Higgins T.)

Using a codified territorial approach (CICES), they identified the main ESs provided in the study area and highlighted the main related socio-economic benefits, describing in detail for each one the economic value, the investments made and related generated incomes.

The action will show to stakeholders and policy planners the relevance of ESs in Po Delta Park favouring their inclusion in territorial planning, as required by the Regional planning law ((L.R. 21.12.2017 n.24 "Regional regulation for protection and use of lands)

2. Nature of the action

The action is focused on a **detailed description of ESs in Po Delta Park area**.

Ecosystem service have been identified (during Phase 1 of the project) thanks to the collaboration with academia and the contribute of Regional Stakeholder Group members.

Among the identified ESs the partners have chosen to make in-depth analysis and maps for the following ecosystem services:

- Water depuration;
- Carbon stock;
- Blue Carbon stock;
- Agricultural production;











- Hunting and fishing;
- Energy production.

The assessment has been performed in the **first instance for the Volano Mesola-Goro park station** (Figure 4), considered as the more performing for the expression of the above-cited ESs.



Figure 4: Goro lagoon landscape

Each ecosystem service will be presented by a description of its role in Po Delta Park, a physical assessment and an economical evaluation (€/ha). Data are presented also as maps (Annex 1). These documents will become an integral part of park's policy instrument. Municipalities shall integrate those information about ESs in the local planning process. In particular, during Phase 2, Delta Lady partners will indicate to municipalities' policymakers how to include these tools (ESs description and cartography) in the "Context description" document of their main planning instrument (Piano Urbanistico Generale - General Planning Plan - PUG) (Figure 5). Context description is usually supported by territorial data, often represented through maps and indicators. Goro municipality (Figure 6) has been chosen as case study area to test the transposition and application of these new policy instrument tools for ESs integration in a local planning instrument.











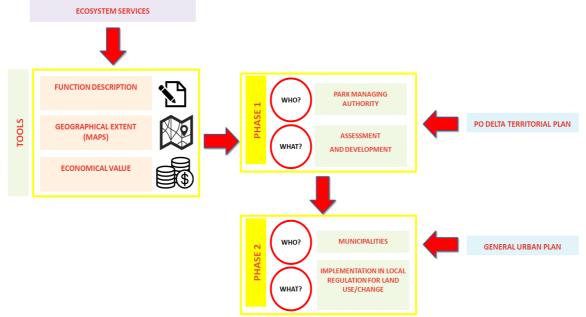


Figure 5: scheme of action 1 structure.

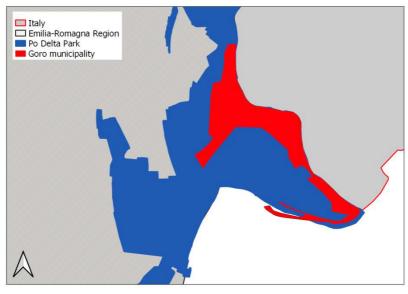


Figure 6: localization of Goro Municipality











As written before, the adoption of maps and indicators of ecosystem services developed in Phase 1 in the Municipalities urban planning will strongly support the implementation of Po Delta Territorial Plan, because will warrant the transposition of Po Delta Territorial Plan choices, that to become effective need the coherence of local planning.

3. Stakeholders involved

Action 1 tools (description and maps of ESs in Po Delta Park area) will be proposed and then applied in the Goro municipality PUG planning process. Goro is one of the local authorities part of the Volano Mesola-Goro Park station. The main stakeholders involved will be the responsible for Planning Division and its technicians, the Major and his council. The above-cited actors will be in touch with ART-ER and Park Managing Authority for the inclusion of the information provided in the Context description of PUG, but not only that; the implementation of proposed tools would give them indication for the development of natural capital valorisation policies.

4. Timeframe envisaged for action 1

Tools of Action 1 such as description, mapping and economic evaluation of ESs in Po Delta Park area and expecially in the Volano Mesola-Goro park station have been developed during Phase 1. Tools will become an integrating part of revised Po Delta Territorial plan by the end of revision process. At the beginning of Phase 2 ART-ER and Park Managing Authority will contact and meet the above-cited stakeholders of Goro municipality to present them the tools developed for regulating ecosystem services identified for the above-cited park station during the Phase 1. Partners will collect also information for stakeholders on the timetable for the development of Goro's PUG (in particular the state of the art for the context description chapter in which tools should be included). The implementation of action tools in PUG and the following identification of specific rules and/or indications aimed to highlight the natural capital value for park areas of Goro's municipality should be completed by the end of Phase 2.

5. Indicative costs

10.000 €

6. Funding sources

Own resources.











ACTION 2

Linking territorial policies to ecosystem services through the development of a PES feasibility study linked to tourism and biodiversity in Po Delta Park

1. Relevance to the project

Exchange of experiences and discussion during Interregional Learning events highlighted the **need** for the inclusion of the natural capital concept in the planning process. In particular, during the 3rd and 4th Interregional Learning Event, the Irish partners presented the BRIDE project (then presented also as good practice) that clearly links payments for biodiversity measures and related ESs. The schematic visualization through the use of a matrix of these connections was inspiring for Delta Lady partners to meet the need to increase awareness of local stakeholders about benefits of ESs linked to areas of application of the decision-making process. This approach was also presented by local municipality (Cervia) during the 4th Regional Stakeholder Group Meeting (July 2020) in which we asked participant to present best practices for the implementation of ESs in their planning process.

2. Nature of the action

The action is focused on the identification of links between policy instrument's areas of application and ESs giving to users indication on tools for their economical valorization. An innovative **orientation tool for PES design** have been developed in Phase 1 to assist step-by-step the Park Managing Authority and the local stakeholders in the **design and developing of PES mechanisms for economic valorization of ecosystem services in Po Delta park.** This tool (Figure 7, Annex 2) may lead to an improvement of the policy instrument of Po Delta Park as for each scope of application of park plan's addresses (regulation of land use changes, zoning, hunting regulation, crops production, fishery and aquaculture, water protection etc.) it will highlight the **connection** with ESs groups (regulating, supporting, cultural and provisioning as define by literature) (Table 1 and Table 2) and suggest way of economical valorization made by Park Managing Authority. The approach is defining a simplified and driven path to link Po Delta Territorial Park areas of application and ecosystem services economic valorization opportunities. The tool will permit to standardize the approach and replicate it for different ecosystem services and sectors. Figure 7 shows the logical flow's architecture of the developed tool. The tool was developed in Excel using Visual Basic language.











At first user have to choose which is the scope of application of Park Plan for which the PES should be assessed, after that the application shows, for each voice of the list, only the linked ecosystem services (as defined during Phase 1) (Table 1 and Table 2) so the user can choose the ecosystem service for which he want to verify if it is possible to develop a PES. In the following step user has to indicate if there are some procedure for which the Park Managing Authority is responsible. If the answer to the previous question is affirmative the flow go on with the request of the stakeholders involved and their role (suppliers, beneficiary or intermediary); if the answer is negative the tool asks if other agencies are involved in procedures related to the chosen ecosystem service and, if the Park Managing Authority can act on these with some tools. At the end of the process the tool give to the user a summary table with all the elements needed for the development of a PES scheme for the selected ecosystem service.

The information given by the tool are the following:

- scope of application of Park's plan
- Category of ESs (regulation, provisioning, support, cultural)
- Ecosystem service
- Monetary value of Es
- Responsible for the procedures
- Involved stakeholders
- Role of involved stakeholders

An example of the tool flow (for "hunting regulation" is annexed to this report (Annex 2)











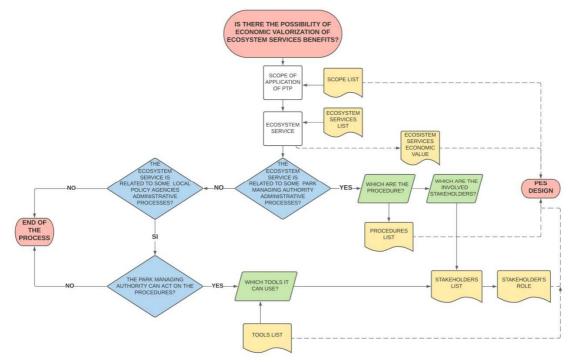


Figure 7: logical flow underlying the development of the Orientation Tool for PES design

Table 1: matrix of correlation between scope of application of Park Territorial Plan and Ecosystem Services categories

		ECOSYSTEM SERVICES						
		REGULATING	SUPPORTING	PROVISIONI NG	CULTURAL			
NO I	REGULATION ON LAND USE CHANGE	x	x	x	X			
PPLICATION RRITORIAL AN)	HUNTING REGULATIONS			X	X			
APPLICERRITC	CROPS PRODUCTION	X	x	x	X			
LE FA	FISHERY AND AQUACULTURE	x	X	X	X			
SCOPE O	NATURE AND BIODIVERSITY CONSERVATION	x	x	x	x			
	WATER	X	X	X	X			











PROTECTION				
AGRICULTURAL				
LANDSCAPE	X	X	X	X
PROTECTION				
TRADITIONAL				
AGRICULTURE				
AND TYPICAL	X	X	X	X
PRODUCTS				
VALORIZATION				
TRAFFIC	x			x
PLANNING	^			^
TELECOMMUNICAT				x
ION NETWORKS				^
TOURISM		X	X	X
ZONING	X	X	X	X

Table 2: matrix of correlation between scope of application of Park Territorial Plan and Ecosystem Services

		REGULATING	SERVICES		SUPPORTING	SERVICES		PROVISIONING					CULIUKAL SEKVICES	
	WATER DEPURATION	WATER REGULATION	ARIA DEPURATION	CARBON SEQUESTRATION	BIODIVERSITY	NUTRIENT CYCLE	CROP PRODUCTION	FISHING AND AQUACUL TURE	MUSHROOM AND TURFLE	HUNTING	ECO-TOURISM	RICREATION	EDUCCATION	SENSE OF IDENTIY
REGULATION ON LAND USE CHANGE	X	X	X	X	X	X	X	x	X	X	X	X	X	x











		REGULATING	SERVICES		SUPPORTING	SERVICES		PROVISIONING SEPVICES					CULIUKAL SEKVICES	
	WATER DEPURATION	WATER REGULATION	ARIA DEPURATION	CARBON SEQUESTRATION	BIODIVERSITY	NUTRIENT CYCLE	CROP PRODUCTION	FISHING AND AQUACUL TURE	MUSHROOM AND TURFLE	HUNTING	ECO-TOURISM	RICREATION	EDUCCATION	SENSE OF IDENTIY
HUNTING REGULATIONS										X		x		
CROPS PRODUCTION	X	X		X	X	X	x		X					X
FISHERY AND AQUACULTURE	X	X			X			X			x	x		
NATURE AND BIODIVERSITY CONSERVATION	X	X	X	X	X			x		x	x	x	x	x
WATER PROTECTION	X	X	X	X		X					x	x	x	
AGRICULTURAL LANDSCAPE PROTECTION	X	X		x	X		X				X	X	X	x
TRADITIONAL AGRICULTURE AND TYPICAL PRODUCTS VALORIZATION		X		x	X		x				x	x	x	x
TRAFFIC PLANNING				x							X	X		











		NOIT		
×	×		WATER DEPURATION	
×	××		WATER REGULATION	REGULATING
×× ××		ARIA DEPURATION	SERVICES	
		CARBON SEQUESTRATION		
×	×		BIODIVERSITY	SUPPORTING
×	×		NUTRIENT CYCLE	SERVICES
×			CROP PRODUCTION	
×			FISHING AND AQUACULTURE	PROVISIONING SERVICES
×			MUSHROOM AND TURFLE	SERVICES
×			HUNTING	
×	×	×	ECO-TOURISM	
×	×		RICREATION	
	×		EDUCCATION	CULTURAL SERVICES
			SENSE OF IDENTIY	



ATTRACTIVENESS
RESEARCH
TERRITORY

ART-ER







The logical flow was developed in the Phase 1 inspired by interregional exchange of experience and the feedback from RSG meetings, and during the Phase 2 it will be applied in Po Delta Park developing an innovative **Payment for Ecosystem services scheme** (at the moment as feasibility study, hoping that by the end of Phase 2 there will be the opportunity of a direct application).

Ecosystem service chosen for the development of the PES scheme is the "biodiversity" (supporting ecosystem services) linked to "tourism" as the area of application (Figure 9). The proposed scheme have to be confirmed by feedback receiving during Phase 2 from involved stakeholders.

The topic of this study was chosen considering both the highlighted links between areas of application of policy instrument and ESs (through the developed matrix) and the needs of managing park authority

The scheme could be based on the existing tourist visit quote, indeed in natural areas of the park there are still several tourism activities and services managed by tour operators (kayak, guided visits, boat trips etc.), moreover in the park area there is a rich network of accommodation facilities (B&B, farm houses...). Some of the proceeds of these economical activities could be collected by the managing authority (or they can be set aside by tourist operators) and then invested in biodiversity conservation and valorisation actions for the above-cited natural areas.

At the moment there is no similar payment scheme in Po Delta Park.

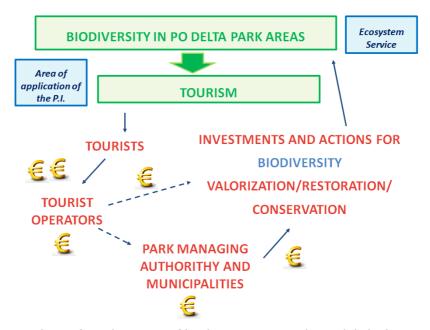


Figure 8: preliminary PES scheme for valorisation of biodiversity in Po Delta Park linked to tourism activities











3. Stakeholders involved

Development of the proposed tourism PES scheme in Phase 2 for the application in the Park area of the orientation tool developed during Phase 1 will involve different actors:

- *Tourist*: they represent the main actors of the proposed scheme as they decided to visit natural areas, paying for services that tour operators and hosts offer.
- Stakeholders involved in tourism activities in Po Delta Park (as tourism operators and hosts): they offer several opportunities to enjoy and appreciate biodiversity in the park's natural areas. They also could invest part of their income for biodiversity conservation and valorisation.
- Park managing authority: it will collect a part of tourism activities in protected areas income and will decide how to invest it in conservation and valorisation actions.
- *Municipalities*: they collaborate with Park Managing Authority in the identification and realization of conservation and valorisation activities.

4. Timeframe envisaged for action 2

During the Phase 1 the partners have been developed the orientation tool for PES design made the logical flow and the associated matrix table and descriptive documents.

The PES feasibility study will be developed during the Phase 2, but it was already discussed during the 5th RSG meeting in November 2020 and the 6th RSG meeting in May 2021 with stakeholders involved in tourism activities. At the beginning of Phase 2, partners will meet again with involved stakeholders to discuss about the identification of main economical fluxes and ways of revenue investments for biodiversity valorisation. The PES scheme will strongly improve the existing policy instrument also as feasibility study but a real application of the scheme before the end of the Phase 2 cannot be excluded.

5. Indicative costs

16.800 €

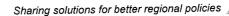
6. Funding sources

Own resources











Date: 14/06/ 2021

DELTA PARK P0 Name of the organisation(s):____

Signature(s):

Stamp of the organisation (if available):

Ente di gestione per i Parchi e











ANNEX 1

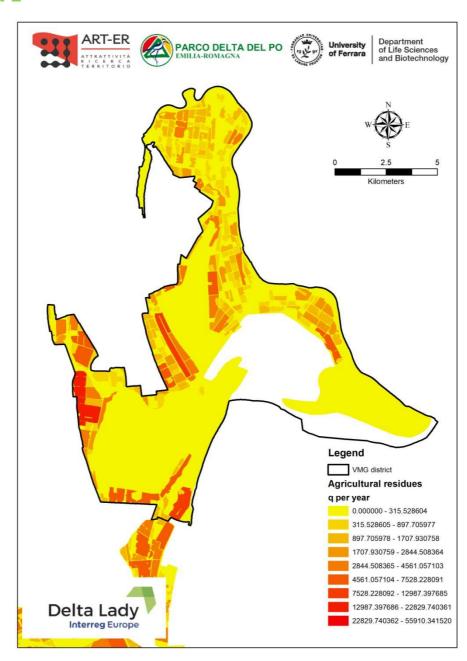


Figure 9: Agricultura residues (Potential for energy production)











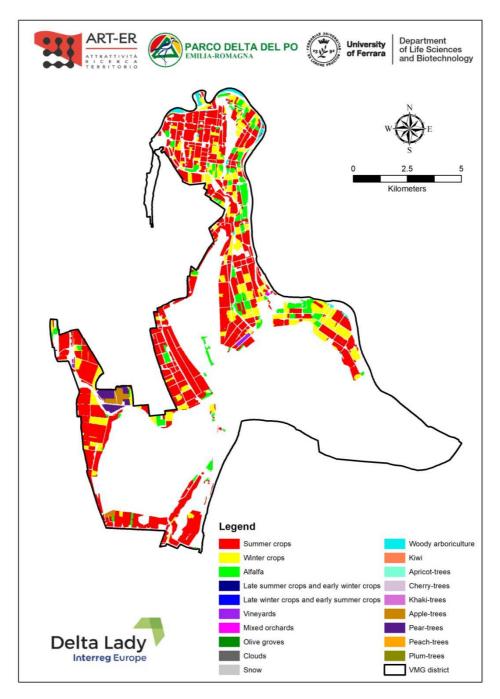


Figure 10: Agricultural production











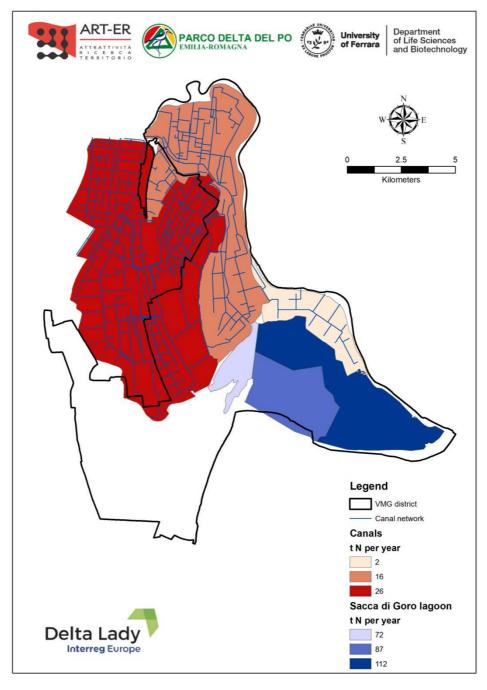


Figure 11: Water depuration - N removal











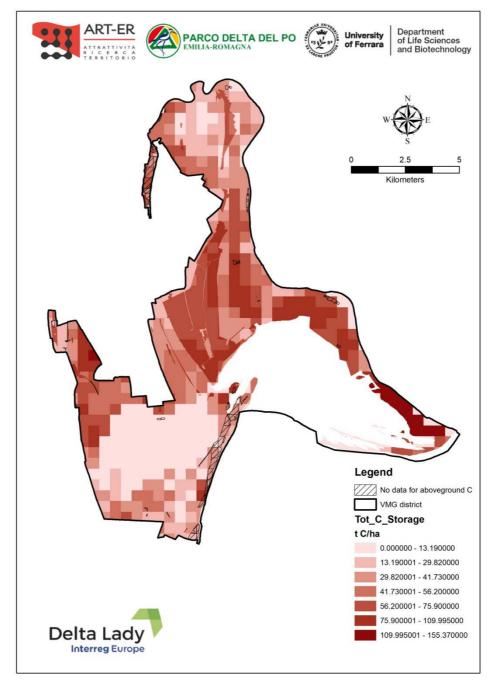


Figure 12: Total Carbon stock











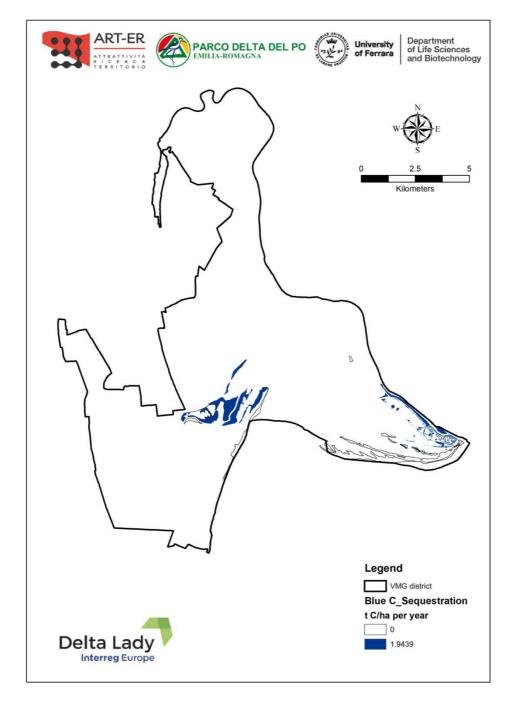


Figure 13: Blue Carbon Stock











ANNEX 2

1. Choise of the scope of application of Park Territorial Plan:

Prientation tool for PES design - Delta Lady Project	
A quale ambito di applicazione delle NTA si fa riferiment	:0?
AMBITI DI APPLICAZIONE DELLE NTA DEL PIANO DE	L PARCO
uso e trasformazione del suolo (piani urbanistici attuativi, patrimonio edilizio, infrastrutture)	C tutela del paesaggio agrario
ि gestione dell'attività venatoria	$_{\mbox{\scriptsize C}}$ valorizzazione dell'agricoltura tradizionale e dei prodotti tipici
C raccolta dei prodotti della terra	C viabilità
C pesca a acquacoltura	○ reti di telecomunicazione
c misure di conservazione della natura e della biodiversità	C accessibilità e fruizione
C tutela delle acque	C zonizzazione

2. Choise of ecosystem services for which the PES scheme may be develop:





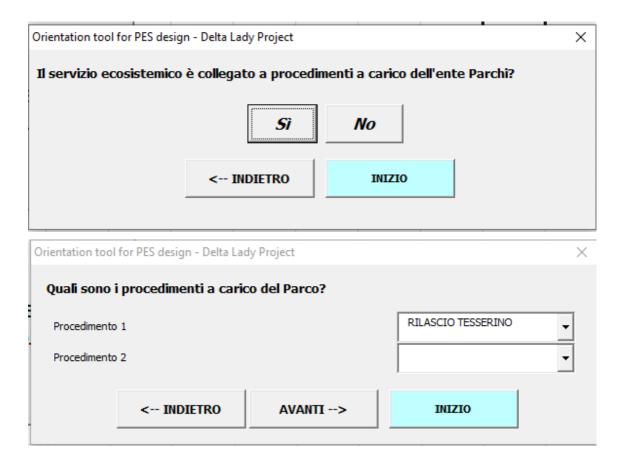








3. Identification of administrative procedure associated with the choosed ecosystem service:













4. Identification of involved stakeholders:

ndividuare gli attori che svolgono il I possibile selezionare una sola voc		d eventualmente intermediari	
e colonne con asterisco sono obblig			
STAKEHOLDERS	RUOLO -		
	FORNITORE*	BENEFICIARIO*	INTERMEDIARIO
Regione	Г	Г	Г
Provincia	Г		Г
Comune	Г	□	Г
Consorzio di bonifica	Г		Г
Impresa	Г		⊏
Associazione	Г		
Operatore turistico	Г		
Cacciatore	Г	₽	
Pescatore	Г		
Turista	Г	⊏	
Cittadino	Г		
Albergatore	Г		
Ente Parco	□ □	Г	Г











4. Summary table:

Orientation tool for PES design - Delta Lady	Project X
TABELLA RIASSUNTIVA DE	GLI ELEMENTI COSTITUTIVI DEL PES
AMBITO DI APPLICAZIONE DELLE NTA DEL PIANO DEL PARCO	STIONE DELL'ATTIVITA' VENATORIA
SERVIZI ECOSISTEMICI	
CATEGORIA	RVIZI DI APPROVVIGIONAMENTO
SERVIZIO ECOSISTEMICO CA	ACCIA
VALORE ECONOMICO 14	.300€
PROCEDIMENTI	NTE PARCO
PROCEDIMENTI A CARICO DELL'ENTE PARCO	RILASCIO TESSERINO
ATTORI TERRITORIALI COINVOLTI	FORNITORE BENEFICIARIO INTERMEDIARIO ENTE PARCO CACCIATORE
ALTRI ENTI STRUMENTI DI INFLUENZA DELL'ENTE PARCO	
	STAMPA INIZIO



