



# Summary report on methods integration and MAES implementation in regional projects

Deliverable n° D.3.6

May 2023

**Citation:** MOVE-ON project (2023), European Commission Directorate General Environment Grant Agreement no. 07.027735/2019/808239/SUB/ENV.D2. Deliverable D.3.6 – Summary report on methods integration and MAES implementation in regional projects.

Coordinated by:



Partners:



Supported by:



This project has received funding from the European Union represented by European Commission Directorate General Environment under grant agreement N° 07.027735/2019/SI2.808239/SUB/ENV.D2. This document only reflects the views of its authors. The Commission is not responsible for any use that may be made of the information it contains.

<b>Project Acronym</b>	<b>MOVE-ON</b>
<b>Project Title</b>	<b>From case studies to anchor projects - setting the ground to advance MAES in Europe's overseas.</b>
<b>Grant Agreement n°</b>	07.027735/2019/808239/SUB/ENV.D2
<b>Start of the project</b>	May 2020
<b>Duration</b>	36 months
<b>Project coordinator</b>	Regional Fund for Science and Technology, Regional Government of the Azores (Portugal)
<b>Website</b>	<a href="http://www.moveon-project.eu">www.moveon-project.eu</a>

<b>Deliverable title</b>	<b>Summary report on methods integration and MAES implementation in regional projects</b>
<b>Deliverable n°</b>	<b>D.3.6</b>
<b>Activity title</b>	Activity 3 - Methods integration and implementation in regional projects
<b>Task title</b>	Task 3.1 - Coordination of regional anchor projects
<b>Task Leader(s)</b>	LUH/FRCT
<b>Lead authors</b>	Sieber, I.M.; Montero-Hidalgo, M.; Benjamin Burkhard
<b>Contributing authors</b>	Carolina Parelho, Cathleen Cybèle
<b>Due date of deliverable</b>	30/04/2023
<b>Actual submission date</b>	24/05/2023
<b>Dissemination level</b>	Public

## Summary

This document describes the methods integration and MAES implementation in regional projects conducted by the MOVE-ON EU project between 2020 and 2023. The aim of this was to monitor the progress in the EU Overseas Regions of French Guiana, Reunion Island, the Canary Islands in Macaronesia and the South Atlantic UK Overseas Territories. In a first step, an identification of preconditions and needs of each Anchor Project (AP) was conducted in 2020. A Score Board was created to set a baseline assessment for each anchor project and to monitor the implementation progress between anchor regions in a comparative, structured manner. In close collaboration with MOVE-ON Activity 2, methodological support was created based on the assessed status quo.

For each Anchor Project, a summary of the work is presented in Chapter 3, including the initial project concept, the driving policy and business questions, the methodological approach and results.

These results show great progress in MAES implementation throughout the project duration. With different starting conditions, all Anchor Projects obtained progress and implementation levels comparable to EU Mainland during the 3 year project duration. By March 2023, the project had expanded the Score Board to other ORs and OCTs, including Martinique and the Falkland Islands. Such accelerated implementation can be attributed to different factors of continuous 1) institutional presence and 2) scientific advancement.

A detailed analysis shows that overall progress can be found in each category of the Score Board, with case studies and data in each territory. Based on a survey amongst AP leaders in April 2023, the enabling factors for MAES uptake as well as barriers for successful MAES implementation were analysed and presented in Chapter 3. Chapter 4 presents outreach activities of Activity 3, and Chapter 5 focuses on the impact of the Anchor Projects on policy and decision making and the resulting conclusions.

## Table of Contents

1. INTRODUCTION.....	1
2. METHODS AND MATERIALS FOR MONITORING OF ANCHOR REGIONS' STATUS QUO AND PROGRESS.....	5
3. RESULTS .....	10
4. DISSEMINATION AND COMMUNICATION .....	21
5. IMPACT OF THE ANCHOR PROJECTS.....	22
6. REFERENCES.....	24

## List of Figures

FIGURE 1: LOCATION AND IMPRESSIONS OF THE ANCHOR PROJECTS OF MACARONESIA, FRENCH GUIANA, ST. HELENA (SOUTH ATLANTIC) AND REUNION ISLAND (ON A MAP OF PETIT AND PRUDENT, 2008) .....	2
FIGURE 2 & FIGURE 3: SLIDES FROM THE 20 <sup>TH</sup> MAES WG MEETING PRESENTED BY BENJAMIN BURKHARD (LUH).....	6
FIGURE 4: SLIDES FROM THE APUMS .....	8
FIGURE 5: MAES SCORE BOARD BASELINE ASSESSMENT FROM DECEMBER 2020 .....	16
FIGURE 6: MAES SCORE BOARD UPDATE MARCH 2023 .....	17
FIGURE 7: LEVEL OF MAES IMPLEMENTATION IN COMPARISON BETWEEN THE PARTICIPATING ANCHOR PROJECTS AND EXTENDED REGIONS BY 2023 (GREEN REFERS TO BASELINE ASSESSMENT IN 2020, YELLOW TO PROGRESS MADE UNTIL 2023) .....	18
FIGURE 8: BARRIERS AND HINDRANCES IN ANCHOR PROJECT IMPLEMENTATION BASED ON A SURVEY AMONG ANCHOR PROJECT LEADERS IN APRIL 2023 (N=4) .....	20

## List of Tables

TABLE 1: OVERVIEW OF THE MOVE-ON ANCHOR PROJECTS, THEIR THEMES, RELEVANCE TO THE MAES PROCESS, SPATIAL SCALE AND STAKEHOLDER INVOLVEMENT (SOURCE: MOVE-ON 2019) .....	4
TABLE 2: SCHEMATIC REPRESENTATION OF THE ADAPTED ESMERALDA MAES BAROMETER INDICATORS (AFTER KOPPEROINEN ET AL. 2015) FOR THE EU ORS AND OCTS. FULL VERSION AVAILABLE IN ANNEX.....	7
TABLE 3: OVERVIEW OF MEETINGS OF ACTIVITY 3.1.....	9
TABLE 4: LIST OF THE INDIVIDUAL ANCHOR PROJECT ADVICE MEETINGS .....	10
TABLE 5: PROPOSED AND ACTUAL METHODOLOGY PER ANCHOR PROJECT.....	14

## List of abbreviations

AP	Anchor Project
APUM	Anchor Project Update Meeting
BISE	Biodiversity Information System Europe
CICES	Common International Classification of Ecosystem Services
ES	Ecosystem Service
ESP	Ecosystem Services Partnership
ESMERALDA	Enhancing ecoSystem sERVICES mApping for policy and Decision mAKing
EU	European Union
IAPAM	Individual Anchor Project Advice Meeting
InVEST	Integrated Valuation of Ecosystem Services and Tradeoffs
IUCN	International Union for Conservation of Nature
MAES	Mapping and Assessment of Ecosystems and their Services
MOVE	Facilitating MAES to support regional policy in overseas Europe: mobilizing stakeholders and pooling resources
MOVE-ON	From Case Studies to Anchor Projects - Setting the ground to advance MAES in Europe's overseas
(M)PA	(Marine) Protected Area
NCA	Natural Capital Assessment
OCT	Overseas Countries and Territories
OR	Outermost Region

## 1. Introduction

Action 5 of the 2nd Target of the European Union's (EU) 2020 Biodiversity Strategy urged EU Member States to map and assess the state of ecosystems and their services (MAES) in their national territory (European Commission 2011). Biodiversity, ecosystems and their services remain central in the EU Biodiversity Strategy for 2030, with even more ambitious targets (European Commission 2020). Europe's Outermost Regions (ORs) and Overseas Countries and Territories (OCTs) are spread all around the globe and have exceptionally high biodiversity and related multiple values. These territories host more than 70% of all EU biodiversity and include 20% of the world's coral reefs and lagoons. They encompass most diverse ecosystems on often very small scales, from coral reefs and mangroves, tropical rainforests, mountain ecosystems to polar - and subpolar seas (Petit and Prudent 2008). These EU Overseas provide multiple relevant ecosystem services from local to global scale (Sieber et al. 2018).

The MOVE-ON pilot project ("From case studies to anchor projects setting the ground to advance MAES in Europe's overseas") aims to advance the Mapping and Assessment of Ecosystems and their Services (MAES) through the implementation of four Anchor Projects in French Guiana, Macaronesia, Reunion Island and South Atlantic. All four Anchor Projects represent different territories with their specificities typical for the EU Overseas. Located in different regions, biomes and socio-cultural and political contexts, the Anchor Projects differ in their preconditions and needs to initiate the MAES implementation (Sieber et al. 2018; 2022). Therefore, baseline information was needed for each Anchor Project. Such information included for example regional policy frameworks in place, the embedding of MAES in territorial structures and the regional availability of resources and knowledge.

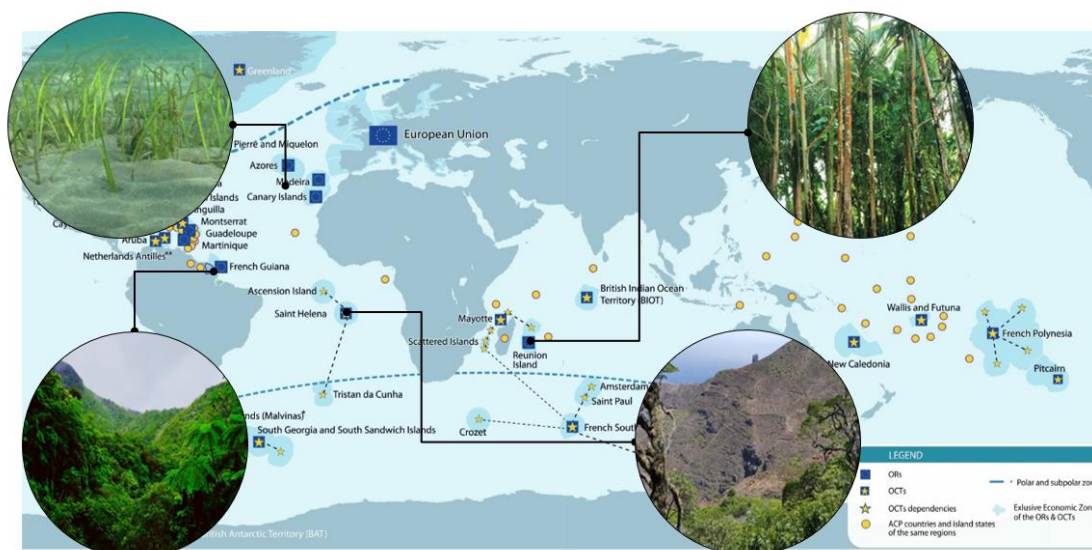


Figure 1: Location and impressions of the Anchor Projects of Macaronesia, French Guiana, St. Helena (South Atlantic) and Reunion Island (on a map of Petit and Prudent, 2008)

This report presents the progress in assessing ecosystems and their services, including the *status quo*, prerequisites and needs for all four MOVE-ON Anchor Projects in regards to achieving the EU Biodiversity Strategy's Target 2. Under Task 3.1, a structured, comparative assessment methodology of the *status quo* and progress monitoring was developed and an overview of the achievements of each AP presented.

## 1.1 Overview of MOVE-ON Activity 3 "Methods Integration and Implementation in Regional Projects"

Activity 3 stands at the core of the project activities (Figure 1) and aims to implement the MOVE-ON Anchor Projects. Within this main aim, Activity 3 is dedicated to further develop and fine-tune methods that were identified to be relevant for MAES implementation in EU ORs & OCTs and that were identified in the MOVE Project<sup>1</sup> and MOVE-ON Activity 2. In addition, Activity 3 promotes the diversity in the implementation of Anchor Projects (including people and stakeholders from different regions, biomes and socio-ecological systems; and integrating terrestrial and marine and coastal ecosystems). Also, it aims to promote the close integration of regional and local policy and decision makers and to support their commitment for the MAES process in their respective region (different spatial scales, decision making contexts and policy levels).

<sup>1</sup> <https://moveproject.eu/>

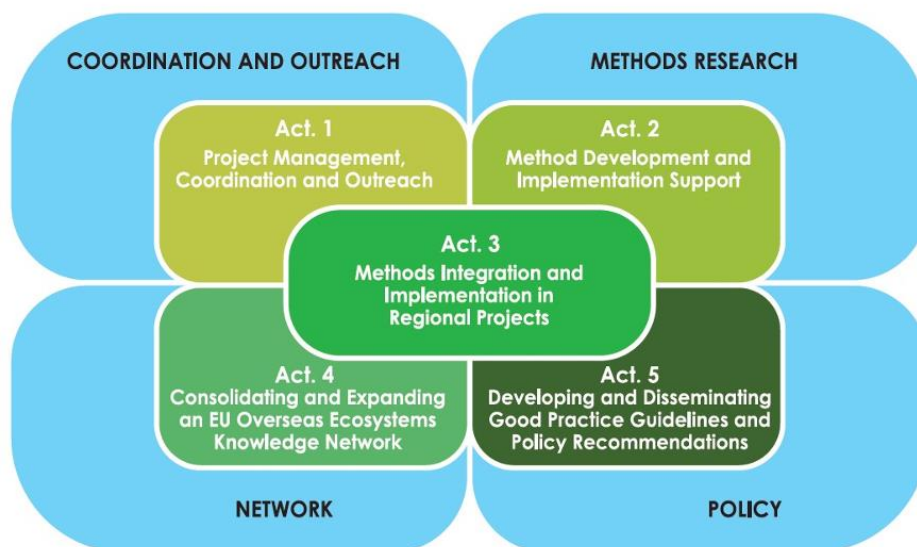


Figure 1: MOVE-ON project structure.

Task 3.1, the Coordination of regional Anchor Projects, aims to provide guidance for MAES implementation to Anchor Regions throughout the course of the MOVE-ON project (Table 1). Specifically, it aims to assist in the initial assessment of preconditions and specific needs of the individual regions in terms of ES mapping and assessment methods, technical support, stakeholder networking and support. Task 3.1 also entails the development of tools and methods to achieve a successful implementation of each Anchor Project. Therefore, the MAES barometer, developed in the EU Horizon 2020 project ESMERALDA to track MAES implementation in EU member states (see Chapter 2.1), is proposed to be adapted to ORs & OCTs specific conditions. In the MAES barometer, the monitoring of MAES implementation is foreseen based on indicators (e.g. MAES implementation status, networking and stakeholder involvement, availability of resources, status of mapping, status of data). Specific objectives of Task 3.1 can be found in MOVE-ON deliverable D.3.1 (MOVE-ON Project, 2021,a).

Table 1: Overview of the MOVE-ON Anchor Projects, their themes, relevance to the MAES process, spatial scale and stakeholder involvement (Source: MOVE-ON, 2019)

Activity 3					
3.1	Coordination of regional Anchor Projects				
	Anchor project	Theme	MAES relevance	Scale	Stakeholder involvement
3.2	French Guiana	Development of sustainable ES management plans	ES supply, use and management assessments and applications	Local/ Municipality	Municipality representatives, Town council, Local scientists from CIRAD or ONF
3.3	Macaronesia	Marine habitat mapping and RLE classification	Marine ecosystem condition assessment and mapping	Regional + local	
3.4	Reunion Island	Assessing ecosystems' functionality and services of a bio-corridor	ES supply, assessments and applications	Local + Regional	Various stakeholders at different levels, namely local institutions, state representatives, regional council, NGO's, local agencies, chambers, municipalities, researchers, engineers, forestry services etc
3.5	South Atlantic	Making MAES outputs meaningfully available for policy and decision-makers	Implementation of ES mapping and assessment outcomes	Regional	Various stakeholders at different levels, policy makers

## 2. Methods and materials for monitoring of Anchor Regions' status quo and progress

The methodology taken to support the Anchor Projects was tripartite:

3. To investigate the status quo and to track the development in the Anchor Projects, a flexible, yet comparable method was needed to assess the starting points, conditions and data availability to implement MAES throughout the four Anchor Projects. To do so, an adjusted version of the MAES Barometer was developed (after Kopperoinen et al. (2015)).
4. To identify the material and methodological needs of each Anchor Project, a questionnaire was conducted under Activity 2 of the MOVE-ON Project ([MOVE-ON deliverable D.2.2.a, 2021](#)). Based on this questionnaire, the specific aims of each Anchor Project and the respective needs and demands for technical support were determined.
5. Monitoring of the progress and reporting was conducted in Anchor Project Update Meetings (APUM's). These meetings took place in a four-month interval, bringing together the project coordination, the task coordination and representatives from each Anchor Project. In addition, representatives from other WPs, such as UNITN and the University of Portsmouth were invited along.
6. A final survey was conducted among Anchor Project leaders in April 2023. This survey included questions on the progress of each Region, enabling factors as well as barriers hindering the implementation of the individual APs.

### 2.1 The MAES Score Board for the MOVE-On Anchor Projects

The MAES Score board, commonly known as MAES Barometer, has proven to be an excellent tool to capture the state of MAES implementation in the EU Member states<sup>2</sup>. The Barometer was initiated in 2015 under the ESERALDA project (Kopperoinen et al. 2015). Since, it has continuously been updated to track progress of the individual EU member states on the different aspects of MAES implementation (Burkhard et al. 2018). Online versions of the score board can be found in the ESERALDA MAES Explorer<sup>3</sup> or on BISE<sup>4</sup> (EU Biodiversity Information System).

---

<sup>2</sup> <https://biodiversity.europa.eu/ecosystems/mapping-and-assessment-of-ecosystems-and-their-services-maes-1>

<sup>3</sup> [http://www.maes-explorer.eu/page/Compete\\_with\\_other\\_countries](http://www.maes-explorer.eu/page/Compete_with_other_countries)

<sup>4</sup> <https://biodiversity.europa.eu/maes>

To assess the status of MAES implementation in the MOVE-ON Anchor Regions in French Guiana, Macaronesia, Reunion Island and the South Atlantic, an adjusted version was needed. Firstly, national MAES implementation differs from regional status of the ORs, adding another level of governance (Sieber et al. 2022). Secondly, OCTs face different challenges as they are not part of the UK, but associated territories (Kochenov et al. 2011). Following the MOVE-ON principles for bottom-up development, a co-creation process (Chapter 2.3) took place. This ensured to capture the implementation efforts of the regions and territories, covering their specificities and individual scientific, political and societal challenges to the implementation of MAES. The outcome is a new Overseas Score Board, adjusted from the 7 categories from the MAES Barometer (Kopperooinen et al. 2015), well fit to Overseas specificities (see Table 2). These categories include (1) the status of overall MAES work in the ORs and OCTs, (2) the Status of networking and stakeholder involvement, (3) Resource availability and (4) Status of territorial involvement in national assessment work, the status of (5) mapping and (6) Data as well as the Availability of case studies and projects (7). The implementation score is calculated based on 25 questions from these seven realms. As shown in Annex, the questions are checked on a simple binary level (yes/implemented = 1; no/not yet implemented = 0) (MOVE-ON deliverable D.3.1, 2021).

Respective answers to these questions were collected in a questionnaire by MOVE-ON Activities 2 and 3 from the Anchor Project leaders, for their respective territory. Provided scores were analysed and clustered for a baseline assessment in December 2020 and continuously updated based on information provided by the Anchor regions twice a year.

The updates of the Score Board were presented at MAES Working Group meetings organised by the European Commission, together with the EU mainland MAES barometer, including the 20th MAES meeting in March 2021 (Fig. 2 & 3) and 21st MAES Meeting on 15th of September 2021.



Figure 2 & Figure 3: Slides from the 20th MAES WG Meeting presented by Benjamin Burkhard (LUH)

Table 2: Schematic representation of the adapted ESMERALDA MAES Barometer indicators (after Kopperoinen et al. 2015) for the EU ORs and OCTs. Full version available in Annex.

1) Status of MAES work Level of MAES implementation, policies to operationalize outcomes of MAES, NCA, etc., or territorial/ country reports
2) Status of networking and stakeholder involvement Availability of territorial/national platforms to facilitate ES/NCA/ES Accounting, involvement of central and regional administration and/or officials, involvement of scientific bodies, NGOs, private sector and/or local communities
3) Resource availability Availability and sufficiency of financial and/or human resources for MAES/NCA/ES Accounting
4) Status of territorial involvement in national assessment work Implementation level of different assessment methods at territorial level, selection and/or prioritisation of assessed ES, availability of territorial indicator framework, with regionally specific data, standardisation of EU Directive reporting indicators or data to measure ecosystem condition
5) Status of mapping Availability of habitat/ecosystem and/or ES maps at regional scale
6) Status of data Availability of national clearing house with MAES relevant data, availability of baseline data for MAES (e.g. LULC), data compatibility, streamlining and harmonisation, etc.
7) Availability of case studies and projects Availability of case studies showcasing examples, methods, best practices, and inclusion in nationwide MAES assessments in future

## 2.2 Co-creation process

On October 1<sup>st</sup>, 2020, the MOVE-ON co-creation workshop took place (13:30 – 15:00 CET, online). During this online Workshop, all Anchor Project leaders (WWF, ABAS, SAERI, NEXA), as well as URJC, LUH, UNITN and FRCT were present. Aim of the workshop was to jointly discuss and create the adjusted MAES scoreboard and the questionnaire to identify needs for methodological support. This session lasted 2h and involved an open follow up process to jointly come up with categories that fit the different realities of ORs and OCTs, governance systems as well as regional and geographic differences. Outcomes and details can be found in the respective report ([MOVE-ON deliverable D.2.2.a, 2021](#)).

## 2.3 Anchor Project Update Meetings

Monitoring and evaluation are crucial to assess the progress of any project. The MAES implementation in the Anchor Project presents the heart of the MOVE-ON Project. As each Anchor Project had different aims, goals and methodological

requirements, constant monitoring and evaluation was needed to streamline efforts and ensure the timely deliverable of needed project activities. Therefore, Activity 3.1 aimed to ensure smooth communication and monitoring of progress of the Anchor Projects. For this, APUMs regularly took place in a 3-5 month interval in an online format. These APUMs brought together key actors from Activity 3, including the Project Coordination, the Anchor Project leaders and relevant other parties. Meetings lasted between 90 and 120 minutes and the agenda involved updates from the coordination, Activity 3 and presentations from the different regions.



Figure 4: Slides from the APUMS

Table 3: Overview of meetings of Activity 3.1

Meeting	Date
1st APUM	04.02.2021
2nd APUM	05.05.2021
3rd APUM	13.09.2021
4th APUM	25.01.2022
5th APUM	08.06.2022
6th APUM	07.10.2022
7th APUM	20.02.2023

## 2.4 Individual Anchor Project Advice Meetings

Based on the status of MAES implementation, the Anchor Project's needs and requirements for successful implementation of their projects differ. Anchor Project Advice Meetings were set up individually with each region and in close collaboration with Activity 2, to support the planning phase methodologically. As a first step, a questionnaire was circulated, investigating the initial aim of each project, the needs and demands and methodological requirements to get there ([MOVE-ON deliverable D.2.2.a, 2021](#)). These IAPAMS and their content are explained in detail in MOVE-ON deliverable [D.2.2.a \(2021\)](#), [D.2.2.b \(2022\)](#), and [D.2.2.c \(2023\)](#).

Table 4: List of the individual Anchor Project Advice Meetings

Meeting	Date
Reunion Island	14.06.2021
Macaronesia	12.07.2021
South Atlantic	07.10.2021
French Guiana	16.11.2021

### 3. Results

#### 3.1. Methods proposed and implemented to assess ES.

Based on the IAPAMS, guidance was developed to address knowledge gaps and support concerning potential MAES mapping and assessment methods (see [MOVE-ON deliverable D.2.2.c, 2023](#)).

##### Reunion Island

For the Anchor Project in Reunion Island, Activity 2 identified a stepwise approach to assess terrestrial ecosystems and their services based on 3 steps: (i) to use sociocultural methods (Participatory GIS and Participatory scenario planning), (ii) to use biophysical methods for specific ecosystem services, or (iii) applying economic methods like cost-benefit analysis. Based on the IAPAM on 14.06.2021, a tripartite methodological approach was developed by NEXA, following (i) to assess ecosystem functions and services in the Mare Longue Nature Reserve, and, going beyond the initial scope of the Anchor Project, including the municipality of Saint-Philippe. Under the umbrella of the creation of a Bio-corridor Forum as presented in [MOVE-ON deliverable D.3.4 \(2023\)](#), a knowledge co-creation process was initiated using focus groups and participatory stakeholder mapping to identify the relevant ecosystem services.

Especially cultural ES, related to the economic development of the municipal area, were prioritised by local stakeholders and key features for cultural ES supply (recreational activities such as hiking, mountain biking and horseback riding tracks), forest take areas for vanilla, as well as historical and research sites were mapped. In a second step, the actual use of ES was modelled using the InVEST Model Suit and the Recreation model - calculating Photo User Days for the different Land Uses and ecosystems in the Saint-Philippe municipality. In a last step, a matrix assessment was added to assess the capacities of ecosystems to supply ecosystem functions and services for the communal area and the Mare Longue Nature Reserve. Bringing this information together obtains a holistic overview of capacity, demand and supply of cultural ES and their spatial distribution and allows to identify areas for future economic development ([MOVE-ON deliverable D.3.4, 2023](#)).

### **Macaronesia**

For this Anchor Project, [MOVE-ON deliverable D.3.3 \(2023\)](#), foresaw an identification of ES relevant for the Canary Islands and the Azores. For this, a Macaronesia Marine Habitat Platform was to be established, delineating important habitats within the marine realm. Such a database aimed to define a baseline for future management of the archipelago's ecosystems and their services, in the face of informed decisions about conservation strategies, supported by data about habitat trend variations. The hierarchical EUNIS habitat classification system (HCS) was applied in order to harmonise the marine habitats. Based on a thorough literature review, a habitat list for the Macaronesia region, including the Canaries, Madeira and the Azores, was presented, focussing on shallow (ca. 100m) marine habitats. In total, 15 habitat categories from EUNIS were applicable to the region. This framework was applied to a pilot study in the Protected Area of the Vila Franca do Campo islet (São Miguel island, Azores). This work showed that a large proportion of valuable shallow habitats was located outside of the MPA, including black coral habitats. Therefore, the study recommends a readjustment of MPA borders for more effective environmental protection.

In a second step, an assessment of the value of ecosystem services supplied by the seagrass meadows was conducted, applying a modelling approach, looking at 3 ecosystem services for the Canary Islands. The study applied the InVEST Blue Carbon model to assess changes in blue carbon stocks for the timeframe from 2000 to 2018. In addition, scenario building was used for a timeframe up to 2050 to predict Blue Carbon storage in uncertain futures. The four developed scenarios include (i) "No Net Loss" scenario (NNL); (ii) "Business-As-Usual" scenario (BAU); (iii) "Collapse scenario" (COL); and (iv) "Intermediate" scenario (INT). The study showed that *C. nodosa* losses reached 50 % of their initial area in the last two decades, and could completely disappear in 2036 ("COL"). This would result in 1.43 MT of CO<sub>2</sub> equivalent emitted with a cost of 126.3 million € (0.32 % of the

current Canary GDP) by 2050. Under extensive seagrass maintenance ("No Net Loss"), 0.75 MT of CO<sub>2</sub> equivalent would be sequestered from now to 2050, corresponding to a social cost saving of 73.59 million € (Montero-Hidalgo et al. 2023).

As a third step, mapping and assessment of recreational activities supplied by coastal ecosystems was conducted, drawing upon indicator and survey data. This last part is still ongoing, and a final compilation of maps is in the preparation process ([MOVE-ON deliverable D.3.3, 2023](#)).

### **French Guiana**

The French Guianese Anchor Project focused on the identification of trade-off, or even better, synergies between environment preservation and economic development as driving policy questions, in a territory with an extraordinary ecological richness as well as high unemployment rate and inequities. Based on this, an approach was proposed that builds upon the information on ES generated in previous projects through the capacity matrix assessment as a starting point to develop sociocultural studies (Del. 2.2) at a local level and finally, to integrate all the previous data generated to build integrated town development plans considering the conservation of biodiversity and ecosystem services. Therefore, a participatory approach was selected, addressing local stakeholders' involvement in order to identify, map and integrate ecosystem services into the territorial planning of a municipality. In consultation with key stakeholders, three ecosystem services of utmost importance for the economic development of the municipality were selected: 1) Recreational activities including eco-tourism and mainly nautical activities in the case of MT; 2) Wild animals and their outputs, mainly through fishing, collecting (oysters) and hunting; and 3) cultural ES, including emblematic or symbolic & heritage and existence values, including historical abandoned sites. In two participatory sessions, areas and features of importance to ES supply were identified by stakeholders. This information was verified with data and fauna observation from the website "faune Guyane". In an additional step, an overlay was created using the gathered data and the regional planning document from 2011. This hoped to obtain information and recommendations for the upcoming regional planning document for the municipality ([MOVE-ON deliverable D.3.2, 2023](#)).

### **South Atlantic**

The South Atlantic Anchor Project ([MOVE-ON deliverable D.3.5, 2022](#)), located in St. Helena, aimed at providing evidence for decision-making concerning biodiversity and environmental information into the new St. Helena Land Development Control Plan. The Anchor Project was driven by the question "How can the gap between evidence and policy on small islands be bridged?". SAERI investigated this question through trialling the use of spatial, environmental data

to inform decision-makers about evidence to support their decisions through real-time environmental spatial data analysis. This addresses two main barriers on remote islands - financial limitations and a lack of evidence-based decision-making in management due to island specificities and lacking data. Therefore, an unconventional setup was taken - human capacities were created in the territorial Saint Helene Governmental GIS Office, working with the local and regional GIS team to promote their services and develop their ability to support decision-making. Much of the environmental and conservation work carried out on St Helena has been focused on the preservation of its endemic biodiversity and the natural capital and services supplied by island ecosystems. The Anchor Project took a bottom-up approach, starting with an assessment of the national stakeholder landscape and interacting with current and ongoing projects Collaboration with other projects including BEST 2.0+ project "A Biological Records Database for St Helena," and the Peaks project. Further, the Spatial Data Analyst identified training needs for the Natural Capital Assessment management plans project, and hosted workshops, leaving a footprint on territorial GIS capacities. 37 mapping activities were carried out, with 8 demonstrations and 29 special requests for partners including the Environmental Management Division, Terrestrial Conservation and Biosecurity, the Statistics Office, St Helena Research Institute, and Sustainable Development Office. Further, the Spatial analyst could contribute to strategy drafts such as the Marine Management Plan. Employing such a "knowledge broker," or "boundary spanner" showed effects on bridging the gap between evidence and policy and reviewed throughout positive feedback from local stakeholders (Deliverable 3.5).

### 3.2 Implementation

The majority of APs was able to implement their projects based on their original plan. In St. Helena, the original plan was set up to be organic in its approach and delivery, therefore the AP was able to develop a detailed action plan based on stakeholder consultation and identification of stakeholder needs. On Reunion Island, the AP as such could be implemented to the original site and even extended to include the municipal and regional scale. The methods originally selected to implement the AP have been modified to the stakeholder needs and limitations set by the COVID pandemic, resulting in a much more participatory approach than intended. In French Guiana, the core plan (ecosystem services mapping at the scale of the town council) has been implemented. It could have gone further in terms of participative approach, but it was difficult to hire a suitable collaborator locally due to availability and capacities required to play such a role. In the Canaries, the actual implementation of the AP included fewer marine habitats in the MHP than foreseen to show the Macaronesia singularity.

This was the result of complications in the GIS participatory process, leading to a lower number of stakeholders reached and less habitats assessed than scheduled (see Table 5).

Table 5: Proposed and actual methodology per Anchor Project

Anchor Project	Methodology proposed	Methodology implemented
Reunion Island	Stepwise approach based on 3 steps: (i) to use sociocultural methods (Participatory GIS and Participatory scenario planning) (ii) to use biophysical methods for specific ecosystem services (iii) applying some economic methods like cost-benefit analysis	Tripartite methodological approach to assess ecosystem functions and services - a Knowledge co-creation process was initiated using (i) semi structured interviews, focus groups and participatory stakeholder mapping, accompanied with a (ii) Ecosystem services modelling and (iii) a participatory expert assessment using a matrix approach
Macaronesia	<p>Creation of a Macaronesia Marine habitat Platform based on IUCN's Red List of Ecosystems (RLE) assessment methodology throughout Macaronesia (Canary Islands, the Azores and Madeira archipelagos)</p> <p>Two scales approach: a general study in the whole archipelago and another one, at a localised scale in Gran Canaria. The ES to be assessed were: coastal blue carbon, coastal recreation, and fisheries. The methods chosen were the InVEST Blue Carbon model, the geo-tagged InVEST model for recreation, and the update of the value transfer model used in the MOVE project for fisheries</p>	<p>Creation of a Macaronesia Marine habitat Platform based on IUCN's Red List of Ecosystems (RLE) assessment methodology throughout Macaronesia.</p> <p>In the Canary Islands, seagrass meadows and coastal blue carbon were mapped and assessed under past, present and potential future scenarios using a modelling approach with InVEST. Besides, a study on recreational services associated with coastal ecosystems is being undertaken.</p> <p>In addition, a study on cultural aspects of ecosystems in the Azores.</p>
St. Helena	Two paths were proposed: (i) to implement existing data on ES assessments into the new St. Helena Land Development Control Plan, and (ii) improving the existing data through developing ecosystem	"knowledge Broker" to bridge the gap between research and policy-making - enhancing human capital in strategic governmental GIS office to provide environmental data for

	accounts assuming the SEEA-EA framework.	informed management decisions
French Guiana	The rationale behind the methodological approach proposed was to use the information on ES generated in the past through the capacity matrix assessment as starting point to develop sociocultural studies at a local level and to integrate all the previous data generated into a "Town Development Plan"	A participatory stakeholder mapping approach including additional information on cultural ecosystems and ecosystem service use, indicating areas of high importance for ES supply in the planning for the town development plan

### 3.3 MAES Barometer or Score Board

The baseline assessment conducted in December 2022 shows that French Guiana is leading the Score Board with a score of 16 out of 25, followed by the Azores (12) and St. Helena (10). Both Reunion Island and the Canary Islands show limited experience with MAES in their territory with a score of less than 10 at the start of the MOVE-ON Project. Based on this assessment, the majority of the participating ORs and OCTs are still in their beginning phase of MAES implementation. This is what Kopperionen et al. refer to as "late adapters" in the EU wide MAES implementation (2015). As shown in Figure 5, This reflects the "implementation gap" that was identified under the MOVE project (Sieber et al 2020).

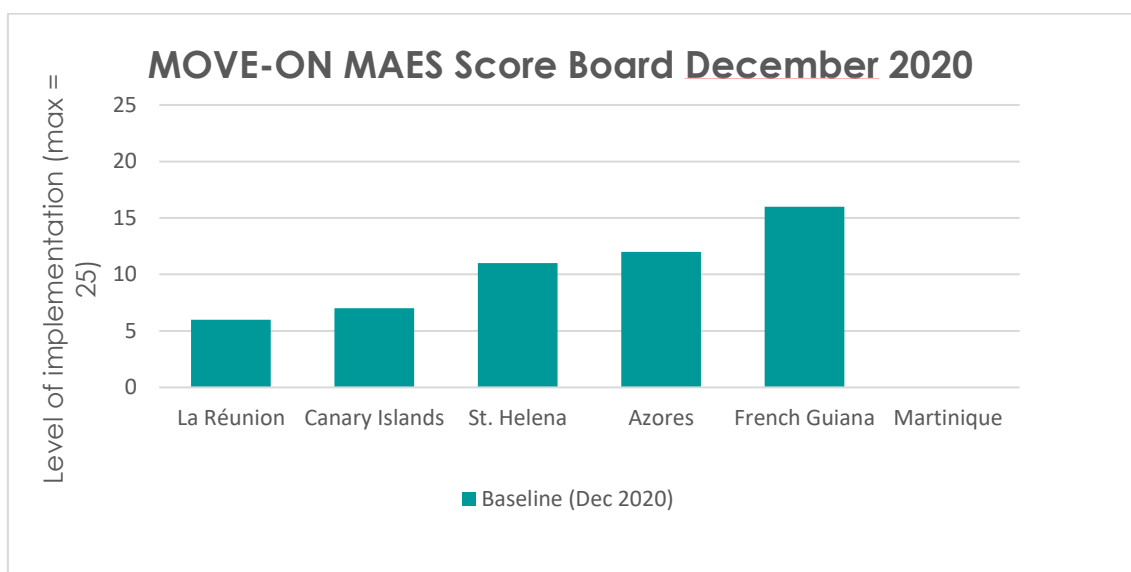


Figure 5: MAES Score Board Baseline Assessment from December 2020

Since 2020, progress has been made. The mid-term progress monitoring in August 2021 shows the improvements made in St. Helena, Reunion Island and the Canary Islands. Further, the French OR Martinique was successfully included in the Score Board in August 2021, as shown in the green colour.

The update in October 2022 shows further advances in MAES implementation (Figure 6). Besides Martinique, the Falkland Islands were successfully included in the analysis. Among the "frontrunners", the Canary Islands, French Guiana and St. Helena are listed with a score of 19 out of 25, with large improvements in their territorial implementation. Also, progress is visible on Reunion Island, the further the MOVE-ON Project proceeds.

The final assessment of March 2023 shows further increases in territorial MAES implementation. The Azores enter the largest improvement, with advancements on the status of data.

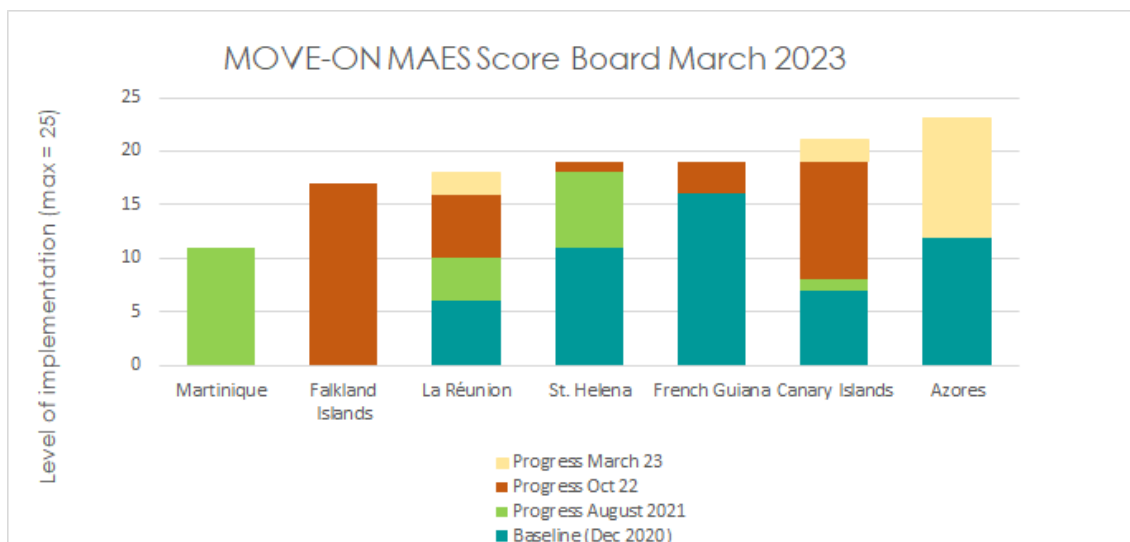


Figure 6: MAES Score Board Update March 2023

### 3.4 MAES Uptake

An analysis of the categories of the baseline assessment and the latest progress update in October 2022 helps identify categories of progress. In [Figure 7](#), the *status quo* from the baseline assessment (green and white colour) and the progress since 2023 is shown per category and Anchor Project region (marked in yellow).

MOVE-ON: Level of MAES implementation 2023		French Guiana	St. Helena	Azores	Canary Islands	La Réunion	Martinique	Falkland Islands
1) Status of MAES work	MAES implemented	y	y	y	n	y	y	y
	Policies supporting MAES	y	n	y	y	n	n	y
	National MAES Report	y	n	n	y	y	n	n
2) Status of networking and stakeholder involvement	Regional/territorial platform available	y	y	y	y	y	y	y
	Central administration	y	y	y	y	y	y	y
	Governmental institutes	y	y	y	y	y	y	y
	Regional administration and officials	n	y	y	y	y	n	n
	Science	y	y	y	y	y	n	y
	NGO's	y	n	y	y	y	n	y
	Businesses	n	y	y	y	y	y	y
Local Communities	y	y	y	y	y	n	y	
3) Resources available	Financial Resources	y	n	n	n	n	n	n
	Human Resources	n	n	n	n	n	n	n
4) Status of territorial/regional assessment work	Regional Scale assessments	y	y	y	y	y	y	y
	Selection of ES	y	y	y	y	y	y	y
	Prioritization of ES or classifications (e.g. CICES)	y	n	y	y	n	n	n
	Indicator framework	n	y	y	y	n	n	n
	Data identified	y	y	y	n	n	n	n
EU Directive Reporting	n	n	y	y	n	y	n	
5) Status of mapping	Regional/Territorial scale maps on ES	y	y	y	y	y	n	y
	Regional/Territorial scale maps on ES or habitats	y	y	y	y	y	y	y
6) Status of data	Regional/territorial/national clearing house on MAES	n	y	y	n	n	n	y
	Data available	y	y	y	y	y	y	y
	Data compatible	y	y	y	y	n	y	y
	Data streamlined	n	y	y	y	n	n	y
7) Case studies	Case Studies available	y	y	y	y	y	n	n
<b>Final Score</b>		<b>19</b>	<b>19</b>	<b>23</b>	<b>21</b>	<b>16</b>	<b>11</b>	<b>17</b>

Figure 7: Level of MAES implementation in comparison between the participating Anchor Projects and extended regions by 2023 (green refers to baseline assessment in 2020, yellow to progress made until 2023)

Reasons for the increase in MAES implementation can be found, for example in increased institutional coverage of the topic, as the Anchor Project in Reunion Island shows. Through a strong institutional focus on the MAEs topic, large advancements in MAES implementation were reached, especially on the status of networking and stakeholder engagement (Barometer, section 2). The presence of Institutions such as SAERI, that work on multiple British OCTs, explain the successful MAES implementation on the Falkland Islands. The effect of the MOVE-ON Project on the individual regions and territories scores is visible in Score Board Section 4), with a selection of relevant and suitable ES for each Anchor Project. Yet, the MOVE<sup>5</sup> Project, as predecessor, needs to be accredited, as it sets the foundation for the successful MAES implementation in many of the participating regions. Examples of this work can be found on the Falkland islands (Bayley et al. 2021), the Canary Islands (Casas et al. 2021, Montero-Hidalgo et al, 2023) or the Azores (Sieber et al. 2021). In French Guiana, the joint forces with the ECOSEO project<sup>6</sup> (Sieber et al. 2020) needs to be mentioned as the driving force

5 <https://moveproject.eu/>

6 <https://www.wwf.fr/projets/protoger-la-foret-amazonienne-du-plateau-des-guyanes>

behind the MAES work, and first applications of MAES methodologies, that explain the high score in the baseline assessment. As WWF was involved in all activities, a strengthened institutional capacity on the topic of ES can be seen over time. Hence, institutional and thematic continuity on the topic of ecosystem services positively affects the effective uptake of MAES into regional policy and decision-making contexts.

### 3.4.1 Enabling factors for MAES uptake

An increase in **human resources** was observed to also enhance MAES implementation, as the Anchor Project of St. Helena shows. Through their gap-bridging approach between policy and decision-making, and repeated presence and guidance of decision makers, the status of data (Score Board section 6) improved from "not available" to a large data availability present in all 4 subcategories. Similarly, in the survey, Reunion Island and the Canary Islands reported the availability of scientific staff in-person in the AP as a major enabling factor. Also, much progress can be attributed to **trainings** and capacity building and **enhanced understanding of MAES**.

Reasons for the increase in MAES application can also be sought in the **scientific realm**. Overall growing attention and implementation of the ecosystem services framework has been established. In addition, a growing body of MAES literature can be found, with excellent documentation of methods and their application and overall experience with the topic throughout the European Union (Burkhard et al. 2018; Geneletti et al. 2020; Palomo et al. 2018). Also, creating and expanding a network around MAES, ecosystems and biodiversity was fostered. Connecting previous, existing and future projects in terms of expertise and network bears a strong potential, also for future continuation of MAES work, as reported in South Atlantic and Reunion Island.

### 3.4.2. Barriers and hindrances for MAES uptake

**Shortcomings and barriers** to enhanced MAES uptake are visible in resources availability (4). Only one AP reported the availability of financial resources. Yet, financial and human resources seem to hinder effective MAES implementation in all other regions.

In addition, St. Helena and the Falkland Islands indicated a lack of national MAES reports and supporting policies. This can be attributed to a former prioritisation of other related concepts, such as Natural Capital, to identify the relation of inhabitants with nature (MOVE Project, 2020), but also to the different legal Status

of the British South Atlantic Territories as OCT, compared to Reunion Island, French Guiana and the Canary Islands as ORs, and therewith, provinces of France and Spain.

Based on the final survey, key barriers can be distilled. Most Anchor Projects faced barriers by time constraints and the ability to reach stakeholders – notably, this is an important barrier, as all, French Guiana, Reunion Island and the Macaronesia Anchor Project took participatory approaches towards mapping and assessing ES in their territory. A lack of methodological knowledge, technical support, and stakeholder resonance are mentioned second, together with barriers presented by the prevailing pandemic (COVID), that limited face-to-face meetings and workshops (see Figure 8). Lastly, barriers due to a lack of human resources, financial resources, standardised processes and data management occurred in the St. Helena Anchor Project.

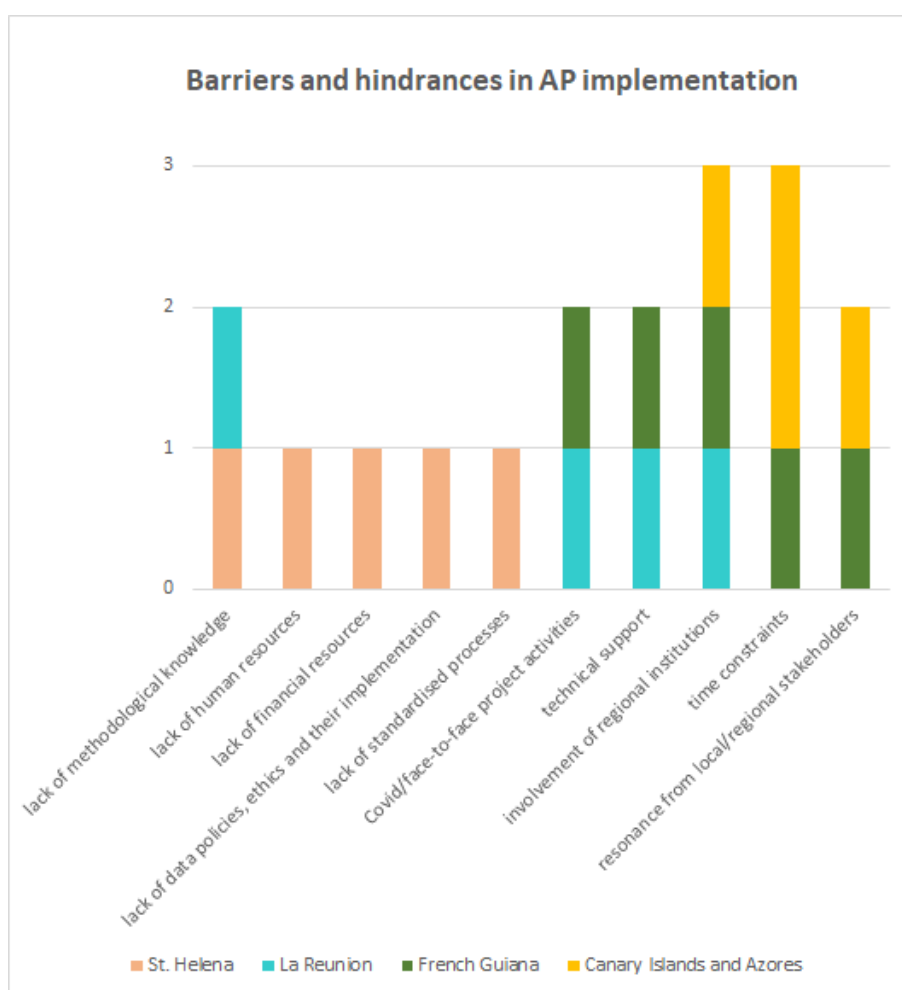


Figure 8: Barriers and hindrances in Anchor Project Implementation based on a survey among Anchor Project leaders in April 2023 (n=4)

## 4. Dissemination and communication

### 4.1 Reports

The results of Task 3.1 are presented in the following Deliverables, as stated in the Inception Report (MOVE-ON, 2020).

#### **D.3.1. Template describing preconditions, needs and monitoring of Anchor projects' implementation**

One document/template describing good practices (including suitable methods identified by Activity 2), preconditions, needs and monitoring, to guide and be filled by MOVE-ON partners during anchor projects implementation and to track progress between Anchor Projects in a comparative, structured manner. The internal report is led by LUH/FRCT and due in September 2020.

#### **D.3.6. Summary report on methods integration and MAES implementation in regional projects**

Report describing and summarising main outcomes of anchor projects, as well as the main considerations to feed into Activities 4 and 5. The public report is led by LUH/FRCT. Delivery date is set to April 2023.

### 4.2 Scientific Outreach

The MOVE-ON Project also had an impact in the scientific realm. The work conducted under the project was represented during numerous conferences. For example, under the umbrella of Activity 3, a session at the 3rd -Ecosystem Services Partnership (ESP) Europe Conference in Tartu, Estonia (2021) was co-organised. This session was dedicated to "National and large scale MAES projects in Europe, including the EU Outermost Regions and Overseas Countries and Territories: challenges, solutions and lessons learned" (T4b). Session organisers included numerous consortium members (LUH, FRCT, URJC) and contributions from Overseas territories. The session took place on 7th of June 2021 from 13:30 to 17:00.

At the ESP10, held in Crete, Greece in October 2022, the work of the MOVE and MOVE-ON Project was represented. In Session T4a "Thematic Working Group sessions: National & large scale MAES projects in Europe - road towards policy

uptake and implementation", LUH, URJC and UNITN reported on "The EU Overseas: lessons learned and implications from first ecosystem services assessments (MAES) for policy and decision-making" (Figure 9).



Figure 9: MOVE-ON representation at scientific conferences

## 5. Impact of the Anchor Projects

The MOVE-ON Project implemented 4 Anchor Projects. Each of the Anchor Projects shows a different baseline and starting condition, different aims and driving policy and societal questions, needs and Overseas specificities. While In French Guiana and Reunion Island, socio-cultural ES are the focus of the assessment, taking qualitative, participatory assessment methodologies, the Canary Islands take a biophysical assessment towards identifying marine habitats with an RLE-method and a case study testing blue carbon modelling. On the South Atlantic islands, a meta-perspective on ecosystem services and environmental spatial information is taken, ensuring informed decision-making in the ultimate node. This means **each MAES implementation process is individual, answering local/regional/territorial needs.** This implies that individual guidance is important when starting a MAES approach. Overseas Entities with previous experience with EU MAES have a head start, as the MAES barometer shows, with French Guiana and the Azores both experienced with the MAES methodology.

Large advancements can be found in St. Helena, where the project was able to provide spatial environmental data analysis for multiple realms. On the island, the

Anchor Project was able to impact numerous policies, including the Invertebrate Conservation Strategy, the Distribution zones for "special-case" plants, contributed feedback on the Marine Management Plan and provided a review of the St Helena Land Development Control Plan, with long term capacity building and strengthening of capacities for multiple governmental institutions and stakeholders.

The Anchor Project of Reunion Island states that their AP has created awareness of Ecosystem Services from its definition, to its application. The AP has influenced the need to include the MAES process in planning such as the regional planning and development scheme.

In French Guiana, stakeholders associated with the MAES and Anchor Project implementation process did positively welcome the process. It led to a positive feedback on a local level, from the mayor of the town council. One the short-term, it is likely that the local urban plan (a mandatory component of the public policy) will include recommendations from the AP and a tangible impact on public policy will be obtained.

The Macaronesian AP combined numerous activities relevant to policy and decision making, including the assessment of marine habitats (Marine habitat Platform) across Macaronesia, various ES for the Canary Islands and the integration of those analysis with the conditions of marine habitat condition maps. Besides, it evaluated the MPA boundaries through acoustic methodologies and the ES associated in a pilot study in Azores. These results theoretically will contribute to the improvement in the perception and appreciation of the marine habitats and their service, advancing in their integration in the design of the community policy of the marine strategy (DMOEM 2014/56 / EU), the Maritime Spatial Planning (DMOEM 2014/89 / EU) and compliance with Action 5 of the EU Strategy on Biodiversity for 2020 to map and assess the status of ecosystem services and their economic value, and promote integration of these values in accounting and systems at the community, national and local levels.

Limited experience with EU MAES does not need to be a limiting factor, as the Anchor Projects of La Réunion and the Canary Islands show. **Dedicated institutions, driven staff, capacity building and training workshops and extensive stakeholder involvement and communication are able to boost MAES implementation regionally**, balancing the initial limitations. These factors enable a quick and efficient uptake of EU MAES, visible in the many activities taking place in the Anchor Projects.

## 6. References

Bayley, D.T.I., Brickle, P., Brewin, P.E., Golding, N., Pelembe, T. (2021) Valuation of kelp forest ecosystem services in the Falkland Islands: A case study integrating blue carbon sequestration potential. *One Ecosystem* 6: e62811. <https://doi.org/10.3897/oneeco.6.e62811>

Burkhard, B., Maes, J., Potschin-Young, M.B., Santos-Martín, F., Geneletti, D., Stoev, P., Kopperoinen, L., Adamescu, C.M., Adem Esmail, B., Arany, I., Arnell, A., Balzan, M., Barton, D.N., van Beukering, P., Bicking, S., Borges, P.A.V., Borisova, B., Braat, L., Brander, L.M., Bratanova-Doncheva, S., Broekx, S., Brown, C., Cazacu, C., Crossman, N., Czúcz, B., Daněk, J., Groot, R., Depellegrin, D., Dimopoulos, P., Elvinger, N., Erhard, M., Fagerholm, N., Frélichová, J., Grêt-Regamey, A., Grudova, M., Haines-Young, R., Inghe, O., Kallay, T.K., Kirin, T., Klug, H., Kokkoris, I.P., Konovska, I., Kruse, M., Kuzmova, I., Lange, M., Liekens, I., Lotan, A., Lowicki, D., Luque, S., Marta-Pedroso, C., Mizgajski, A., Mononen, L., Mulder, S., Müller, F., Nedkov, S., Nikolova, M., Östergård, H., Penev, L., Pereira, P., Pitkänen, K., Plieninger, T., Rabe, S., Reichel, S., Roche, P.K., Rusch, G., Ruskule, A., Sapundzhieva, A., Sepp, K., Sieber, I.M., Šmid Hribar, M., Stašová, S., Steinhoff-Knopp, B., Stępniewska, M., Teller, A., Vackar, D., van Weelden, M., Veidemane, K., Vejre, H., Vihervaara, P., Viinikka, A., Villoslada, M., Weibel, B., Zulian, G. (2018): (2018): Mapping and assessing ecosystem services in the EU - Lessons learned from the ESMEALDA approach of integration. In *One Ecosystem* 3. <https://doi.org/10.3897/oneeco.3.e29153>.

Casas, E., Martín-García, L., Otero-Ferrer, F., Tuya, F., Haroun, R., Arbelo, M. (2021): Economic mapping and assessment of *Cymodocea nodosa* meadows as nursery grounds for commercially important fish species. A case study in the Canary Islands. *One Ecosystem* 6: e70919. <https://doi.org/10.3897/oneeco.6.e70919>

European Commission (2011): Our life insurance, our natural capital: an EU biodiversity strategy to 2020. Communication from the Commission to the European Parliament, the Council, the Economic and Social Committee and the Committee of Regions, Brussels, Belgium, 17pp.

European Commission (2020): EU Biodiversity Strategy for 2030. Bringing nature back into our lives. 20.5.2020 COM(2020) 380 final. Source: Brussels.

Geneletti, D., Adem Esmail, B., Cortinovis, C., Arany, I., Balzan, M., van Beukering, P., Bicking, S., Borges, P.A., Borisova, B., Broekx, S., Burkhard, B., Gil, A., Inghe, O., Kopperoinen, L., Kruse, M., Liekens, I., Lowicki, D., Mizgajski, A., Mulder, S., Nedkov, S., Ostergard, H., Picanço, A., Ruskule, A., Santos-Martín, F., Sieber, I.M., Svensson, J., Vačkář, D., Veidemane, K. (2020) Ecosystem services mapping and assessment for policy- and decision-making: Lessons learned from a comparative analysis of European case studies. *One Ecosystem* 5: e53111. <https://doi.org/10.3897/oneeco.5.e53111>.

Kochenov, Dimitry (2011): The Application of EU Law in the EU's Overseas Regions, Countries, and Territories after the Entry into Force of the Treaty of Lisbon. In Mich.

St. U. Coll. L. Int'l L. Rev. 20, p. 669. Available online at <https://core.ac.uk/reader/228469280>.

Kopperoinen, L., Pitkänen, K., Maes, J., Hellgren, D. (2015): Clustering of EU Member States according to their prerequisites and needs to perform ES mapping and assessment. Deliverable 2.1. EU Horizon 2020 ESMERALDA Project, Grant agreement No. 642007.

Montero-Hidalgo, M., Tuya, F., Otero, F., Haroun, R., & Santos-Martín, F. (2023). Mapping and assessing seagrass meadows changes and blue carbon under past, current, and future scenarios. *Science of The Total Environment*, 162244. <https://doi.org/10.1016/j.scitotenv.2023.162244>

MOVE project (2020). European Commission Directorate General Environment Grant Agreement no. 07.027735/2018/776517/SUB/ENV.D2. Scientific research on mapping and assessment of ecosystems and their services in the EU Overseas. MOVE EU Project Report. [Access here](#)

MOVE-ON project (2020). European Commission Directorate General Environment Grant Agreement no. 07.027735/2019/808239/SUB/ENV.D2. Inception Report (internal)

MOVE-ON project (2021), European Commission Directorate General Environment Grant Agreement no. 07.027735/2019/808239/SUB/ENV.D2. Deliverable 3.1 – Template describing preconditions, needs and monitoring of Anchor Project's implementation (internal)

MOVE-ON project (2021), European Commission Directorate General Environment Grant Agreement no. 07.027735/2019/808239/SUB/ENV.D2. Deliverable D.2.2.a – Report on ecosystem services mapping and assessment methods in ORs and OCTs. [Access here](#)

MOVE-ON project (2022), European Commission Directorate General Environment Grant Agreement no. 07.027735/2019/808239/SUB/ENV.D2. Deliverable D.2.2.b – Report on ecosystem services mapping and assessment methods in ORs and OCTs. [Access here](#)

MOVE-ON project (2023), European Commission Directorate General Environment Grant Agreement no. 07.027735/2019/808239/SUB/ENV.D2. Deliverable D.2.2.c – Report on ecosystem services mapping and assessment methods in ORs and OCTs. [Access here](#)

MOVE-ON project (2023), European Commission Directorate General Environment Grant Agreement no. 07.027735/2019/808239/SUB/ENV.D2. Deliverable D.3.2 - French Guiana Anchor Project report. [Access here](#)

MOVE-ON project (2023), European Commission Directorate General Environment Grant Agreement no. 07.027735/2019/808239/SUB/ENV.D2.

Deliverable D.3.3 - Creation of a Marine Habitat Platform (MHP) including Marine Habitats of the Macaronesia. [Access here](#)

MOVE-ON project (2023), European Commission Directorate General Environment Grant Agreement no. 07.027735/2019/808239/SUB/ENV.D2. Deliverable 3.4 (Report on the evaluation of ecosystem services in Reunion Island focusing on the bio-corridor of Saint-Philippe). [Access here](#)

MOVE-ON project (2022), European Commission Directorate General Environment Grant Agreement no. 07.027735/2019/808239/SUB/ENV.D2. Deliverable D.3.5 – South Atlantic Anchor Project Report. [Access here](#)

Palomo, I., Willemen, L., Drakou, E., Burkhard, B., Crossman, N., Bellamy, C., Burkhard, K., Campagne, C., Dangol, A., Franke, J., Kulczyk, S., Le Clec'h, S., Abdul Malak, D., Muñoz, L., Narusevicius, V., Otttoy, S., Roelens, J., Sing, L., Thomas, A., Van Meerbeek, K., Verweij, P. (2018) Practical solutions for bottlenecks in ecosystem services mapping. *One Ecosystem* 3: e20713. <https://doi.org/10.3897/oneeco.3.e20713>

Petit, J.; Prudent, G. (2008): Climate change and biodiversity in the European Union overseas entities: IUCN.

Sieber, I.M., Borges, P., Burkhard, B. (2018): Hotspots of biodiversity and ecosystem services: the Outermost Regions and Overseas Countries and Territories of the European Union. In *One Ecosystem* 3, e24719. <https://doi.org/10.3897/oneeco.3.e24719>.

Sieber, I. M., Campagne, S. and Burkhard, B. (2020) *Mapping and assessment of the capacity of ecosystems in French Guiana to supply ecosystem services. ECOSEO Project Report*. Hannover: Gottfried Wilhelm Leibniz University Hannover, Institute of Physical Geography and Landscape Ecology. <https://doi.org/10.34657/10770>

Sieber, I.M, Hinsch, M., Vergílio, M., Gil, A., Burkhard, B. (2021) Assessing the effects of different land-use/land-cover input datasets on modelling and mapping terrestrial ecosystem services - Case study Terceira Island (Azores, Portugal). *One Ecosystem* 6: e69119. <https://doi.org/10.3897/oneeco.6.e69119>

Sieber, I.M., Montero-Hidalgo, M., Kato-Huerta, J., Rendon, P., Santos-Martín, F., Geneletti, D., Gil, A., Trégarot, E., Lagabrielle, E., Parelho, C., Arbelo, M., van Beukering, P., Bayley, D., Casas, E., Duijndam, S., Cillaurren, E., David, G., Dourdain, A., Haroun, R., Maréchal, J-P., Martín García, L., Otero-Ferrer, F., Palacios Nieto, E., Pelembe, T., Vergílio, M., Burkhard, B. (2022): Mapping and assessing ecosystem services in Europe's Overseas: A comparative analysis of MOVE case studies. *One Ecosystem* 7: e87179. <https://doi.org/10.3897/oneeco.7.e87179>

## Annex

Schematic representation of the adapted ESMERALDA MAES Barometer indicators (after Kopperoinen et al. 2015) for the EU ORs and OCTs.

<p>1) Status of MAES work Level of MAES implementation, policies to operationalize outcomes of MAES, NCA, etc., or territorial/ country reports</p> <ul style="list-style-type: none"> <li>- Is MAES currently implemented in the OR OCT?</li> <li>- Is there any policy in place for operationalising the outputs of MAES (for nature-based solutions, natural capital, green infrastructure implementation, etc.)?</li> <li>- Is the OR/OCT included in the national MAES report or is a regional report available?</li> </ul>
<p>2) Status of networking and stakeholder involvement Availability of territorial/national platforms to facilitate ES/NCA/ES Accounting, involvement of central and regional administration and/or officials, involvement of scientific bodies, NGOs, private sector and/or local communities</p> <ul style="list-style-type: none"> <li>- Does a national/regional platform facilitating ES work and bringing together stakeholders exist? A platform can be, for example, a specific website, an ES association, a working group or regular events, seminars or workshops.</li> <li>- Is central administration (for example, ministries, and regional institutes) involved in the ES work?</li> <li>- Are regional governmental institutes involved (for example, an environment agency, a nature agency or research institutes under the ministry)?</li> <li>- Are regional administration and officials actively involved?</li> <li>- Are scientific organisations, such as local/regional universities or research institutes, actively involved?</li> <li>- Are local communities involved?</li> <li>- Are non-governmental organisations involved?</li> <li>- Are business, companies or industry involved?</li> </ul>
<p>3) Resource availability Availability and sufficiency of financial and/or human resources for MAES/NCA/ES Accounting</p> <ul style="list-style-type: none"> <li>- Are financial resources for ES mapping and assessment activities sufficient?</li> <li>- Are human resources sufficient? Are there any problems in relation to lacking personnel with appropriate expertise or brain drain?</li> </ul>
<p>4) Status of territorial involvement in national assessment work Implementation level of different assessment methods at territorial level, selection and/or prioritisation of assessed ES, availability of territorial indicator framework, with regionally specific data, standardisation of EU Directive reporting indicators or data to measure ecosystem condition</p> <ul style="list-style-type: none"> <li>- Have any of the following assessment methods been used at regional scale (literature, expert judgement, statistical information, maps and models, workshops / interviews, economic valuation, conceptual thinking / models)?</li> <li>- Has a selection been made of ecosystems to be included in the mapping and assessment?</li> <li>- Is there a prioritisation of ES to be included in a regional assessment or has a classification been selected for the assessment (for example, CICES)?</li> <li>- Is there a regional/national indicator framework ready and published for mapping, assessment or accounting?</li> <li>- Has underlying data been identified for such a framework?</li> </ul>

<p>- Have EU Directive reporting indicators and data (or biodiversity / ecosystem data) been proposed or used to measure the condition of ecosystems?</p>
<p>5) Status of mapping          Availability of habitat/ecosystem and/or ES maps at regional scale          - Are maps available at regional/territorial scale for some ecosystem services?          - Are maps available at regional/territorial scale for habitats or ecosystems?</p>
<p>6) Status of data          Availability of national clearing house with MAES relevant data, availability of baseline data for MAES (e.g. LULC), data compatibility, streamlining and harmonisation, etc.          - Is there a regional/national clearing house with data on MAES available? (With a clearing house it is meant that there is a website dedicated to MAES related activities (such as the <a href="http://www.biodiversity.fi/en/home">http://www.biodiversity.fi/en/home</a> or the Dutch atlas of natural capital).)          - Are data available, updated and sufficient for ES mapping and assessment?          - Are data compatible (for example, different databases and statistical sources)?          - Are data streamlined, harmonised and used consistently (for example, no big regional differences, similar precision etc.)?</p>
<p>7) Availability of case studies and projects          Availability of case studies showcasing examples, methods, best practices, and inclusion in nationwide MAES assessments in future          - Are there case studies available that could serve as examples (upscaling) for a national assessment?</p>