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Workshop : Marine protected areas as living labs : lessons learned & future perspectives

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HAL Authorization



INTERNATIONAL WORKSHOP



Marine protected areas as living labs : lessons learned & future perspectives

November 2023



Photo : Manuelle Philippe - Port de Molène - 2022

Organisation team:

Olivier Thébaud - workshop coordinator - olivier.thebaud@ifremer.fr

Claire Macher - co-chair of the HOPOPoP project - claire.macher@ifremer.fr

Grégory Charrier - co-chair of the HOPOPoP project - gregory.charrier@univ-brest.fr

Frédérique Alban - workshop coordination Team- frederique.alban@univ-brest.fr

Manuelle Philippe - workshop coordination Team- manuelle.philippe@univ-brest.fr

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Workshop context and objectives

There has been increased recognition of the importance of stakeholder engagement in the design, conduct and dissemination of research in support of Ecosystem-Based Management (EBM) of marine social-ecological systems. The complexity of such stakeholder engagement increases with the diversification of sectors, concerns and jurisdictions that must be accounted for, as development of the blue economy accelerates, particularly in coastal areas. Marine Protected Areas (MPAs sensu lato, including e.g. Marine Parks, Multiple Use Management Areas, Special Management Areas for certain maritime activities, ...) constitute opportunities to establish integrated governance arrangements that bring multiple stakeholders together, in arenas which may support the long-term co-construction of policy-relevant research programs. They seem to offer a perfect test of the “living lab” concept which is on the rise.

The aim of the workshop was to review and confront past experiences (both successes and failures) with respect to the co-design of EBM research in MPAs, and identify future needs and opportunities for the development of such research. Our guiding questions were:

1. What knowledge is relevant to supporting MPA management? Considering disciplinary perspectives, observation methods, data, models, local knowledge, etc.
2. What are effective collaboration approaches to integrate research and management in day-to-day operations of MPAs? How can we best deal with diverging expectations?
3. How can we track the impacts of collaborative approaches and outcomes?

Workshop approach

The workshop was structured as follows.

First, experiences by researchers and managers of the research-management interface in different regional settings were presented, with specific focus on the above three questions.

Second, sub-groups were organised, mixing researchers and managers, to discuss lessons learned and key priorities relating to each question. The conclusions of this sub-group work were shared and discussed in plenary.



We provide a brief summary of the key outcomes of these discussions hereafter. A more detailed publication of workshop results will also be produced.

Workshop Programme

>>> Tuesday 14th November – Ifremer- Plouzané

- 12.00: Welcome lunch at Ifremer restaurant
- 13.15: Setting up in room and online –
- 13.30: Workshop introduction
- 13.45: Self-presentation of workshop participants

International experiences

- 14.45: Living Labs experiences/projects presentations: German Experience (Marie Catherine Riekhof)
- 15.30: coffee break
- 16.00: Case study presentation: Canada (Raphaëlle Dancette)
- 16.30: Case study presentation: US (Ben Haskell)
- 17.00: Case study presentation: Spain Os Miñarzos Marine Reserve (Pablo Pita)
- 17.45: Case study presentation: UK (Andrew Bell, Mike Elliott)
- 18.30 - 20.00: Social event

>>> Wednesday 15th November - Ifremer- Plouzané

- 8.45: Setting up in room and online -
- 9.00: Case study presentation: Australia (Darren Cameron, Fabio Boschetti)

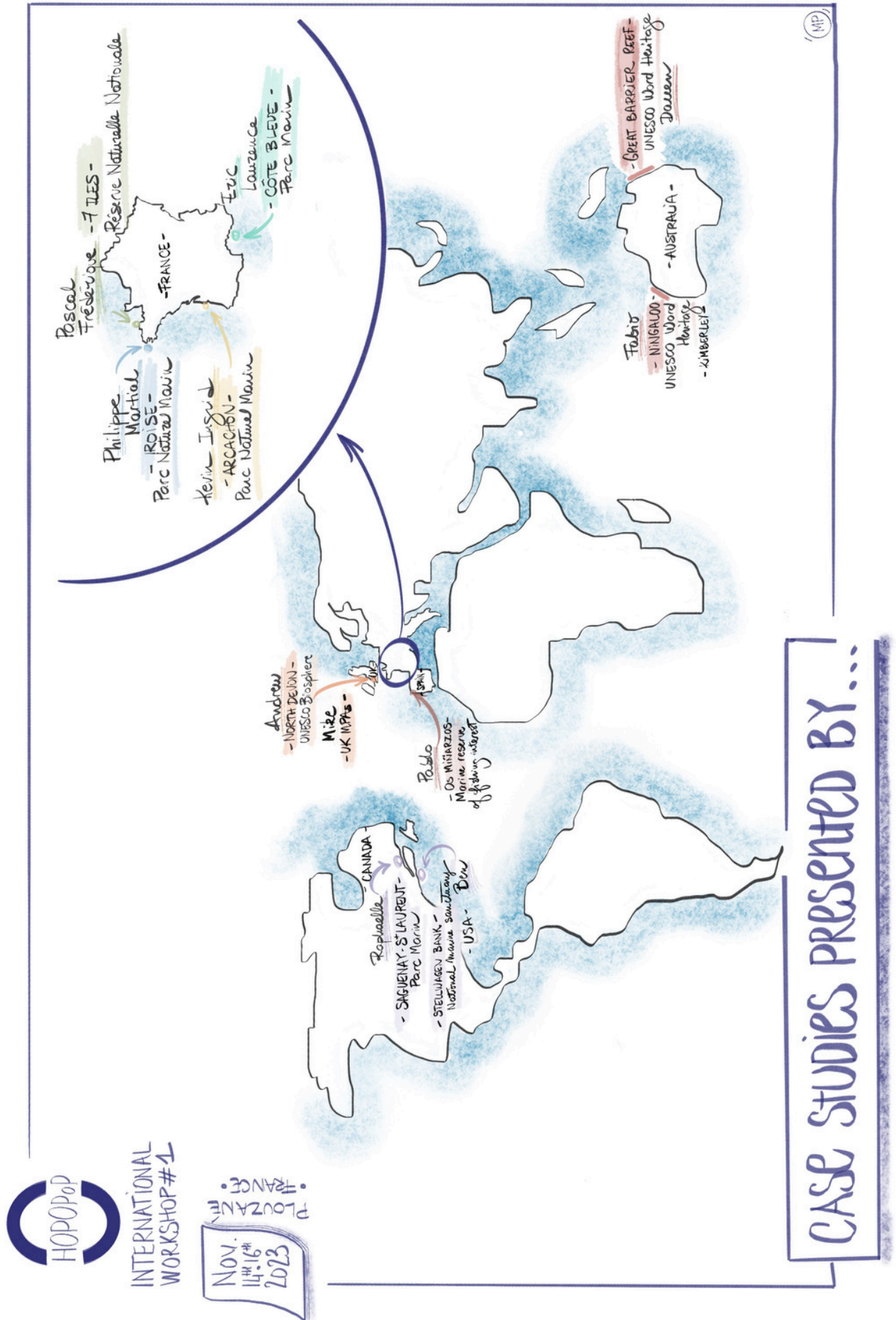
French Experiences

- 9.45: Case study presentation: Iroise Marine Natural Park (Philippe Le Niliot, Martial Laurans)
- 10.30: Case study presentation: Marine Natural Park of Arcachon Bay (Kevin Leleu, Ingrid Peuziat)
- 11.15: Case study presentation: Côte Bleue Marine Park (Eric Charbonnel, Laurence Le Direach)
- 12.00: Case study presentation: 7 îles Marine Reserve (Pascal Provost, Frédérique Alban)
- 12.45: lunch
- 14.00: Working groups organisation – Only in room- no ZOOM link for this afternoon session
- 14.15: Working groups - TIME#1
- 15.15: coffee break
- 15.45: Working groups - TIME#2
- 16.45: Working groups - TIME#3
- 17.45 – 18.30: Debrief (plenary session)
- Evening : social dinner

>>> Thursday 16th November – Pole Numérique Brest- Iroise

- 8.45: Setting up in room and online
- 9.00: Plenary session- Information Sharing and Debrief
- 9.00: Collaboration between MPA management and social sciences research- Marie Guingot
- 9:15: Ocean Decade - Marie-Alexandrine Sicre
- 9.30: Wrap up and conclusions about “What science is relevant to supporting MPA management? Considering disciplinary perspectives, observation methods, data, models, local knowledge, etc.”
- 10.30: Wrap up and conclusions about “What are effective collaboration approaches to integrate research and management in day-to-day operations of MPAs? How can we best deal with diverging expectations?”
- 11.30: Wrap up and conclusions about “How can we track the impacts of collaborative approaches and outcomes?”
- 12.30: Looking forward
- 13.00: closing lunch

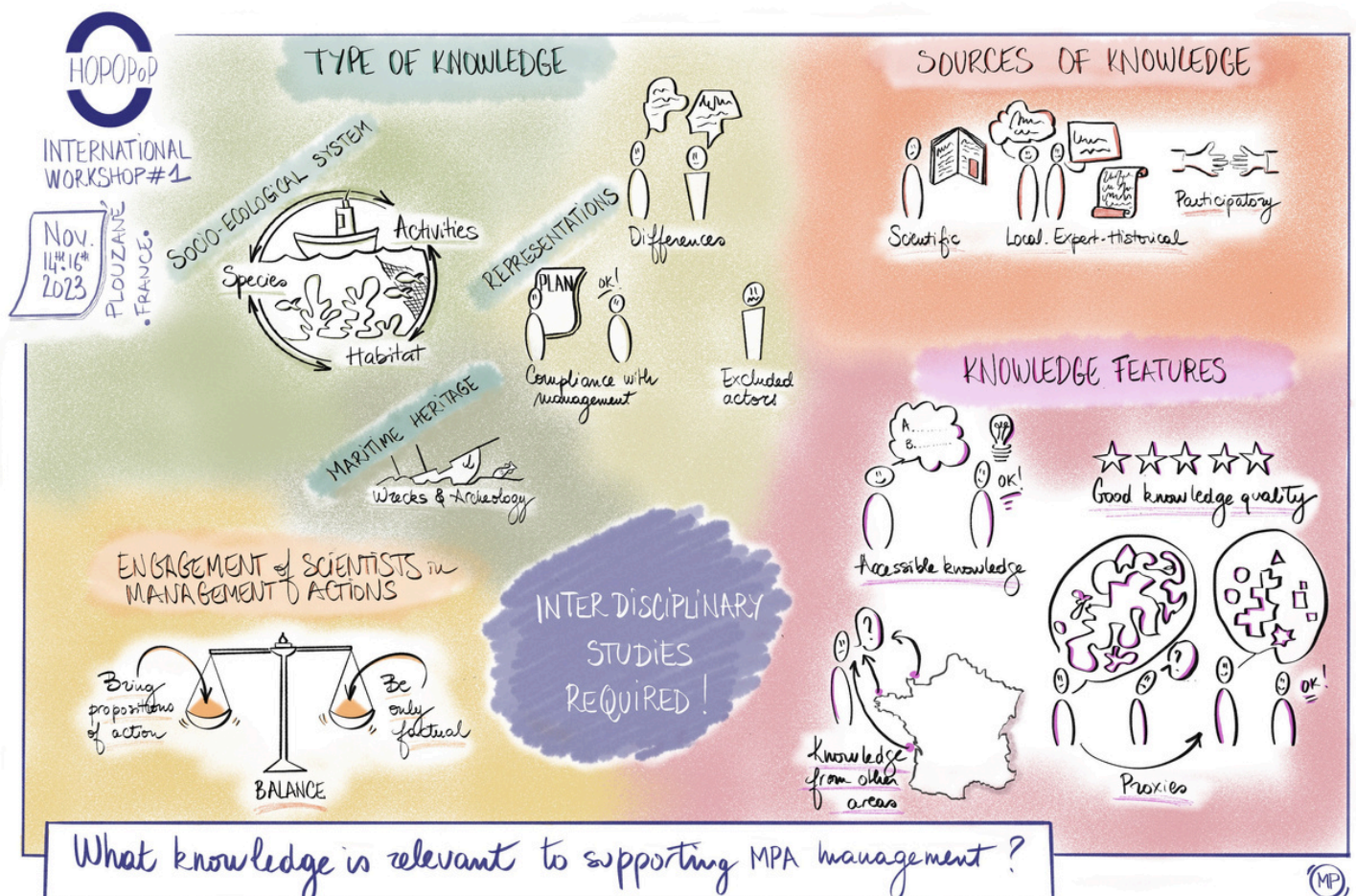
The workshop brought together **27 participants**, 19 scientists from various disciplinary backgrounds in natural and social sciences, as well as 8 MPA managers **from multiple geographical regions in France, the UK, Spain as well as North America and Australia.**



Summary of key workshop outcomes

1 - What science is relevant to supporting MPA management? Considering disciplinary perspectives, observation methods, data, models, local knowledge, etc.

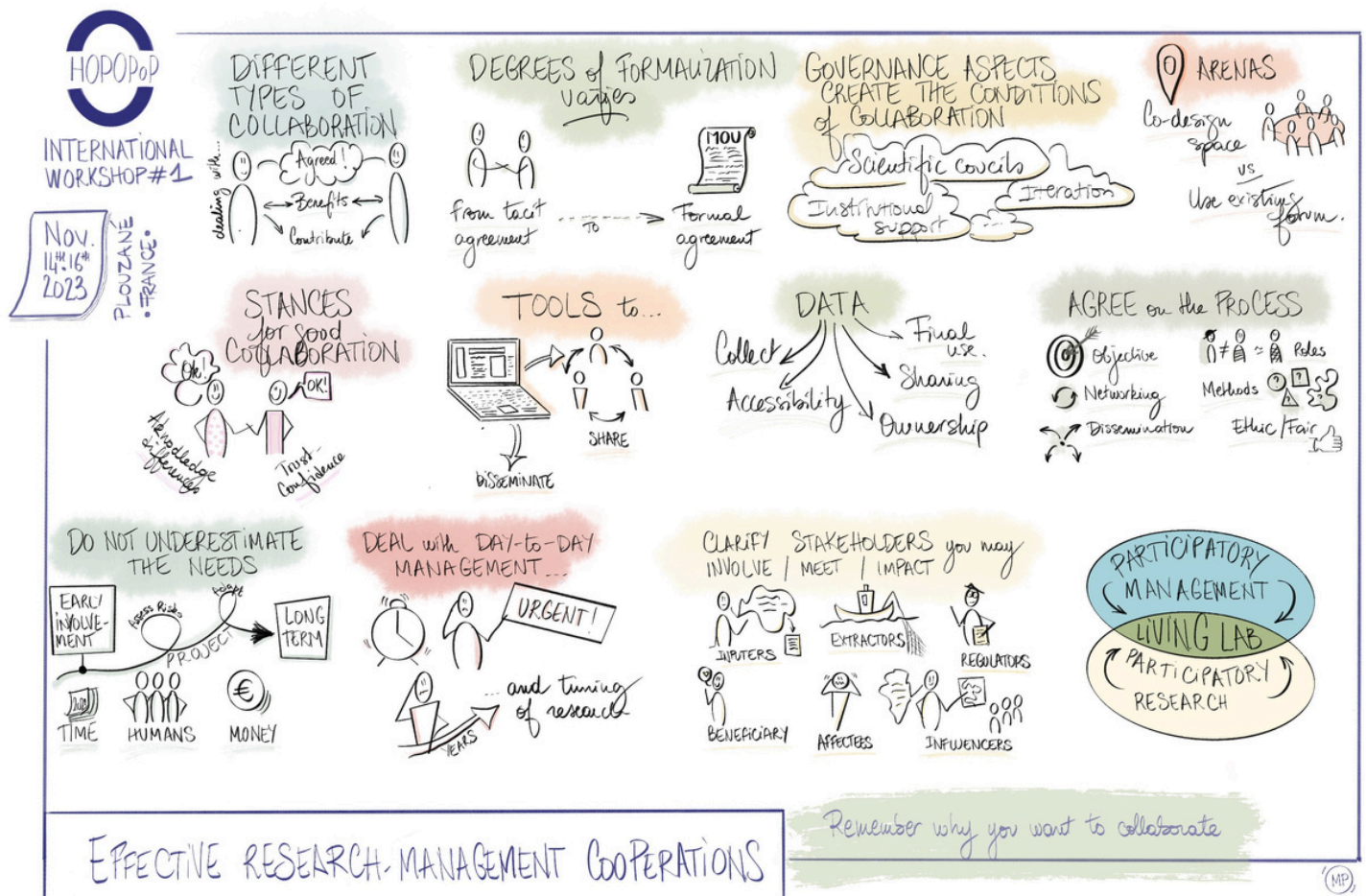
- There is a need for an interdisciplinary understanding of social-ecological system components (habitats, species, marine uses and associated values, including heritage values), the interactions between them, and the drivers of change.
- This must consider multiple spatial scales and connectivity patterns, within and outside MPAs, as well as multiple temporal scales, including the need for long-term data on the different components, to help elicit nature, intensity and directions of changes.
- It is key to also consider stakeholder perceptions, how they may differ, and how this may affect their behaviour with respect to management (compliance).
- Collaborative research should follow the principles of findable, accessible, interoperable and reusable (FAIR) knowledge production, in particular with respect to open, quality verified data that ensures it can be trusted by stakeholders.
- Useful information also derives from other categories of knowledge such as traditional ecological knowledge, which can be integrated with scientific knowledge to support management decision-making.
- A question arises regarding the role of scientists in collaborative research, between usual information provision and actual recommendation of possible courses of action, which researchers should be consciously addressing.



2 - What are effective collaboration approaches to integrate research and management in day-to-day operations of MPAs? How can we best deal with diverging expectations?

- While their degree of formalisation varies from informal/tacit to formal agreements, **collaborations are frequently informal and based on trust**. A higher degree of formalisation may be required when people do not know each other well and/or when situations/people change and expectations diverge. Institutionalized governance arrangements help specify roles and responsibilities, creating conditions for successful long-term collaborations.
- In the day-to-day operations of MPAs, researchers face the need to elaborate concrete answers to urgent questions. **Medium to long-term collaborations contribute to the development of actionable knowledge to answer immediate questions**, as they lead to improved knowledge of the system and actors, as well as to the scoping of data needs, models, research outputs and thematic expertise.
- **Diverse forms of collaborations may exist in MPAs**, scientists considering these as a means for stakeholder engagement in participatory research projects, and managers as the engagement of science to support management processes. Living lab approaches promote reciprocal collaborations at the interface of these two perspectives.
- Workshop participants highlighted that:
 - We need to remember why we want to collaborate. **A reflexive approach contributes to build more effective collaboration approaches!**
 - We should use informal contacts but **be aware of the flows of information** between people, and transfers between different levels of collaborations;
 - We should **think about the appropriate degree of formalization**, from person-dependent, trust-based, tacit to more formalized arrangements.

> Take inspiration from examples of collaborations that work!

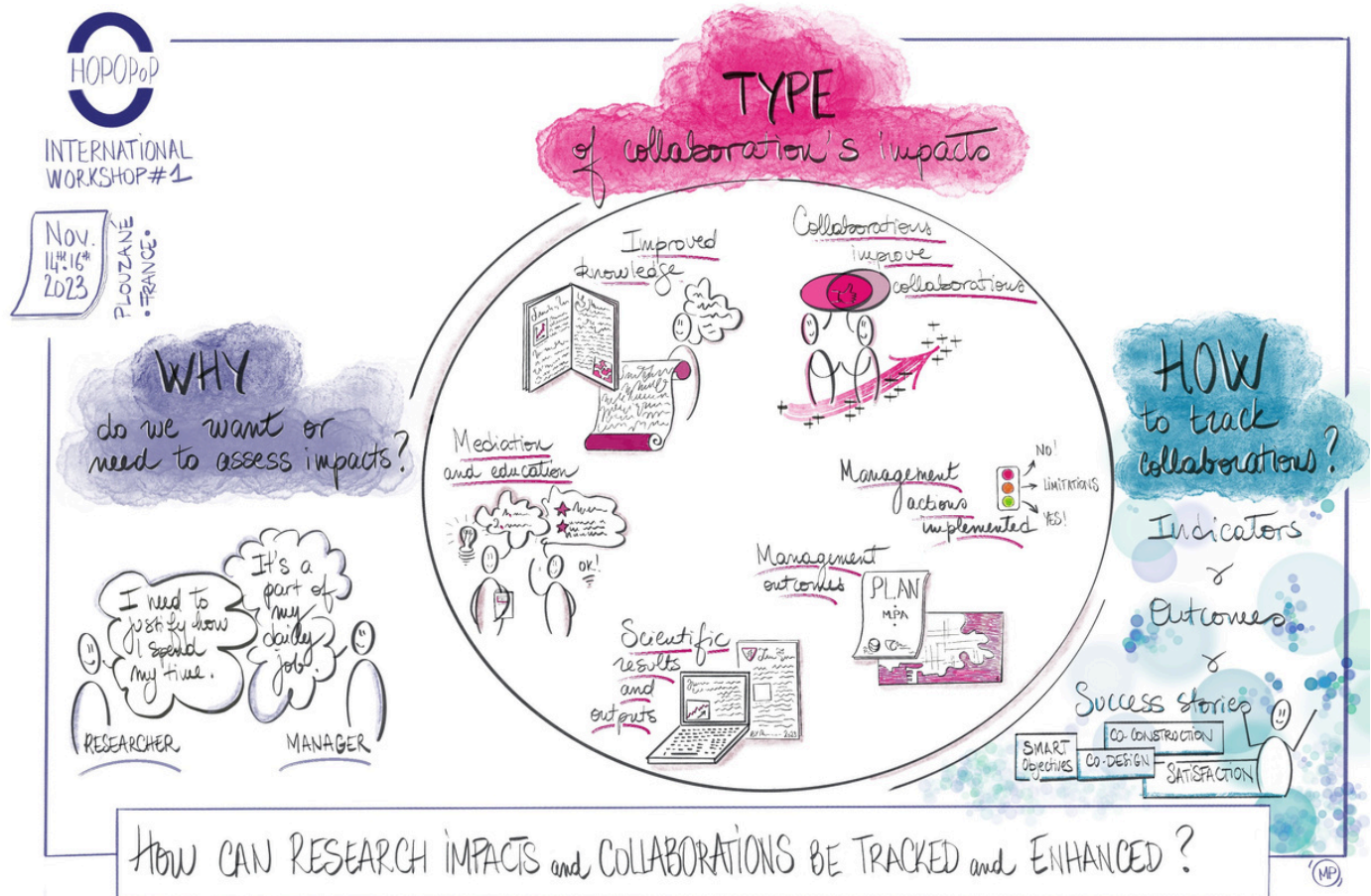


3 - How can we track the impacts of collaborative approaches and outcomes?

- **We first need to ask the question of why we want or need to assess impacts ?** Researchers need to demonstrate tangible outcomes of time spent in collaborations; Managers may consider this as part of their daily job but in practice also need to justify time allocated to these collaborations. Evaluating impacts is also important for further replication and/or scaling up of collaborations which have positive impacts.
- In practice, **many collaborations rely on informal relationships** between individual managers and scientists, the quality and outcomes of which are difficult to monitor formally. So they may go largely untracked ...

> **There is a need to think more about this, and who should take on such evaluations**

- **This requires identifying the objectives of collaborations which can include:** (i) improved knowledge (problem identification, solutions), (ii) scientific outputs (data, methods, impact), (iii) mediation and education, (iv) management actions implemented, (v) management outcomes. Noting that collaboration improves collaborations!
- There are many indicators to **formally track collaboration impacts on both the process and the associated outcomes of collaborations.** But we also need to: (i) acknowledge principles in the co-design, (ii) assess satisfaction and perception of collaborators (at the beginning and at the end), (iii) co-construct data collection and (re)use systems ... **as well as stories of successes & failures!**



Workshop conclusions & perspectives

The workshop confirmed that MPAs have in many ways been operating as living labs for a long time, leading to many lessons learned from practical experience. The participants also noted that in many cases, MPAs may represent a fraction only of the social-ecological systems that could be included in living lab experiences, such that the question of scalability of the experiments led within their perimeter seems of the utmost importance. There would thus be great value in further developing reflexive approaches such as the one conducted during the workshop, building on cross-study comparisons to identify actionable research approaches and results to support Ecosystem-Based Management in living labs. The question of how the impacts of collaborative research in MPAs, both in terms of process and outcomes, can better be tracked is key to these reflexive approaches and will require further analysis, taking into account the diversity of collaboration set-ups and degrees of formalization.

These preliminary conclusions will be further developed in a synthesis publication of workshop results, under preparation by the workshop participants.



Workshop Participants - 15th November 2023- Ifremer- Plouzané

Workshop Group Work in photos



LIST OF PARTICIPANTS



UMR AMURE - Université de Bretagne Occidentale
Brest - France
Area of expertise : Fisheries Economist / MPA Economist
Involved in the study sites/MPA : RNN Sept Iles and Iroise Sea

Frédérique Alban



North Devon Biosphere / North Devon - UK
Area of expertise : Director of UNESCO Biosphere, Experienced Manager of integrated landscape scale sustainable development, with a strong experience of working with intergovernmental, government and NGO sectors. Skilled in Forestry, catchment, coastal and marine systems, sustainable Development, Corporate Social Responsibility, Sustainable Business, Lecturing, and Biodiversity.

Andrew Bell



CSIRO Environment
Perth - Western Australia
Area of expertise : Ecological Modelling, Applied Mathematics, Management of Natural Resources.
Involved in the study sites/MPA : Ningaloo Marine Park, and Kimberly region, W. Australia

Fabio Boschetti



Dalhousie University/Ocean Frontier Institute
Montreal - Canada
Area of expertise : Interactions between biodiversity conservation, resource-based livelihoods, and tourism. Decision-making processes of MPAs and other effective conservation measures.
Involved in the study sites/MPA : The Galapagos Marine Reserve (GMR) - Galapagos Islands (Ecuador). Eastern Canyons Marine Refuge (OECM) - Atlantic Canada. The Iroise Marine Park - Brest

Diana Burbano



Great Barrier Reef Marine Park Authority - Australia
Area of expertise : Accomplished fisheries and aquatic natural resource management executive with over 30 years related professional experience in Queensland and internationally. Demonstrated high level strategic vision and policy development in public sector with outcome focus. Advanced communication and negotiation skills in fostering partnerships to deliver optimal sustainable fisheries and marine resource use outcomes.

Darren Cameron



Parc Marin Côte Bleue
Mediterranean sea - France
Area of expertise : Coordination of scientific monitoring in MPA, specialist of fish UW counting, MPA, reserve effect, fisheries, artificial reefs.
Involved in the study sites/MPA : Parc Marin Côte Bleue

Eric Charbonnel

LIST OF PARTICIPANTS



**Gregory
Charrier**

LEMAR - Université de Bretagne Occidentale
Brest - France

Area of expertise : Population genetics and genomics of marine fish and invertebrates
Involved in the study sites/MPA : Iroise Sea



**Raphaëlle
Dancette**

Parc marin du Saguenay-Saint-Laurent
Montréal, Québec - Canada

Area of expertise : relationships between stakeholders (including humans and non-humans), activities and uses associated with marine environments, governance and community vulnerability, including issues of adaptation to global change.

Involved in the study sites/MPA : Saguenay-Saint-Laurent



Michael Elliot

University of Hull / IECS Ltd
United Kingdom

Area of expertise : the ecology and the governance and management of estuarine and marine areas.

involved in the study sites/MPA : English East- coast and other areas as part of HorizonEurope projects



Marie Guingot

Coordinator of GIS HomMer - Université de Bretagne Occidentale
Brest - France

Area of expertise : The GIS HomMer (Group of Scientific Interest) is gathering social scientists in economics, geography, law, sociology, anthropology, history... and MPA managers in France. The goal is to foster and facilitate research in social sciences on MPAs and to bring together the two communities.

involved in the study sites/MPA : The GIS HomMer aims at working with any MPA in France (metropolitan and overseas).



Ben Haskell

NOAA/Stellwagen Bank National Marine Sanctuary
Scituate, Massachusetts - USA

Area of expertise : MPA management and administration, maritime heritage management, applied science.

Involved in the study sites/MPA : Stellwagen Bank National Marine Sanctuary

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**Martial
Laurans**

IFREMER - Brest
France

Area of expertise : In charge of stock assessments of crayfish and kelps
Involved in the study sites/MPA : Parc Naturel de la Mer d'Iroise



**Laurence
Le Direac'h**

GIS POSIDONIE - Université Aix-Méditerranée
Marseille-France

Area of expertise : Fish - Marine protected areas - Evaluation of catches and effort small scale fisheries and recreation fisheries - UVC - Embarkations
Involved in the study sites/MPA : Méditerranée



Kévin Leleu

Office Français de la Biodiversité OFB - Parc Naturel Marin du Bassin d'Arcachon
Bassin d'Arcachon / Arcachon Bay -France

Area of expertise : Usages maritimes (en particulier Pêche, conchyliculture) et ressources marines (hors granulats) / Maritimes activities & marines resources.
Involved in the study sites/MPA : Marine naturel park of Arcachon Bay



**Philippe
Le Niliot**

Parc Naturel Marin d'Iroise
Le Conquet - France

Area of expertise : MPA manager
Involved in the study sites/MPA : Iroise Sea



**Sophie
Leonardi**

IFREMER - UMR AMURE
Brest - France

Area of expertise : Impact of management measures on human activities including professional sea fishing.
Involved in the study sites/MPA : Iroise Sea



Claire Macher

IFREMER - UMR AMURE / Brest - France

Area of expertise : marine social-ecological systems, participatory modelling, management strategies evaluation mostly in fisheries, sustainable sciences and reflexive approach to engagement in science and action through transdisciplinary approaches .
Involved in the study sites/MPA : Expertise in Bay of Biscay and Mediterranean fisheries, more recently in the Iroise Sea

LIST OF PARTICIPANTS



**Dominique
Pelletier**

IFREMER Lorient / France

Area of expertise : Aires Marines protégées, gestion des usages, conservation biodiversité, approches transdisciplinaires.

involved in the study sites/MPA : AMP de Nouvelle-Calédonie, Parc Marin Côte Bleue, Réunion, Mayotte, Banyuls, Port-Cros, Natura 2000



Ingrid Peuziat

Université de Bretagne Occidentale - IUEM - LETG / Brest - France

Area of expertise : My research focuses on leisure activities (tourism & water sports) and their management in island and coastal areas. With an emphasis on multidisciplinary approaches, my work focuses on water-based leisure activities (changes in practices, stakeholder representation and strategy, territorial projects, tourism, etc.) and (1) their impact on sensitive and protected natural areas (2) as well as their adaptation in connection with the establishment of marine protected areas and offshore wind farms..

Involved in the study sites/MPA : Archipel des Glénan, Archipel de Chausey, PNM Iroise, PNM Arcachon, PNR Golfe du Morbihan



**Manuelle
Philippe**

UMR AMURE - Université de Bretagne Occidentale
Brest France

Area of expertise : Prospective

Involved in the study sites/MPA : Brittany



Pablo Pita

University of Santiago de Compostela
Galicia, Spain

Area of expertise : Marine ecology, management of socio-ecological systems and fisheries

Involved in the study sites/MPA : Os Miñarzos MPA in Spain



Pascal Provost

LPO

Perros-Guirec - France

Area of expertise : MPA management.

Involved in the study sites/MPA : RNN Sept Iles



**Marie-Catherine
Riekhof**

Kiel University, Center for Ocean and Society
Kiel - Germany

Area of expertise : Natural Resource Economics and Management; Sustainable Development and Economic Growth; Ecological-economic Modelling; Transdisciplinary research

Involved in the study sites/MPA : Western Baltic Sea

LIST OF PARTICIPANTS



Pierre Scemama

IFREMER - UMR AMURE

Brest - France

Area of expertise : Biodiversity conservation.

Involved in the study sites/MPA : Rade de Brest, Baie de Marseille



**Marie Alexandrine
Sicre**

CNRS

Paris - France

Area of expertise : I am a climatologist. As vice president of the executive council of the Intergovernmental Oceanographic commission, I am involved in the UN Decade of Ocean Science for sustainable development. I am co-chair the WG ECOSEM of the GdR OMER.

Involved in the study sites/MPA : Kenya (Malindi) - IRP CNRS VOKCE (2023-2027)



**Olivier
Thébaud**

IFREMER - Brest

Brest - France

Area of expertise : An economist by training, my research focuses on the use of concepts, methods and tools of economic analysis, in connection with knowledge from other disciplines of marine sciences, to inform the management of marine and coastal resources.

Involved in the study sites/MPA : Iroise sea



Anouk Villedieu

Université de Bretagne Occidentale - IUEM / laboratoire LETG

Brest - France

Area of expertise : My objective is to collect data from various relevant stakeholders to build a representation of the socio-ecosystem of the Iroise Sea, particularly focusing on the interactions between recreational fishing activities and fisheries resources.

Involved in the study sites/MPA : Iroise Sea