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► To cite this version:

Constance M. Schéré, Kate Schreckenber, Terence P. Dawson, Carole Duval, Frederique Alban, et al.. Examining stakeholder involvement in the context of top-down marine protected area governance: The case of the Sept-Îles National Nature Reserve (Brittany, France). *Regional Studies in Marine Science*, 2023, 67, 103196 (13p.). 10.1016/j.rsma.2023.103196 . hal-04261659

HAL Id: hal-04261659

<https://hal.science/hal-04261659>

Submitted on 30 Oct 2023

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Examining stakeholder involvement in the context of top-down marine protected area governance: The case of the Sept-Îles National Nature Reserve (Brittany, France)



Constance M. Schéré^{a,*}, Kate Schreckenber^a, Terence P. Dawson^a, Carole Duval^b, Frédérique Alban^c, Éric Le Gentil^d, Pascal Provost^e

^a Department of Geography, King's College London, 40 Aldwych, London WC2B 4BG, United Kingdom

^b Regional Directorate for the Environment, Planning, and Housing (DREAL), 10 rue Maurice Fabre, 35000 Rennes, France

^c University of Western Brittany (UBO), Ifremer, CNRS, UMR 6308 AMURE, IUEM, Plouzané, France

^d University of Western Brittany (UBO), Ifremer, CNRS, UMR 6308 AMURE, Marine Economics Unit, IUEM, Plouzané, France

^e Sept-Îles National Nature Reserve, League for the Protection of Birds (LPO), LPO Station of Île-Grande, 22560 Pleumeur-Bodou, France

ARTICLE INFO

Article history:

Received 31 May 2023

Received in revised form 31 August 2023

Accepted 11 September 2023

Available online 17 September 2023

Keywords:

Marine conservation

MPA governance

Conservation management

Nature reserve

Stakeholder engagement

Marine reserve

ABSTRACT

Marine protected areas (MPAs) are important yet complex conservation tools that can be difficult to govern and manage. In France, the State manages protected areas with national status, but consults communities and users when making decisions. How can the governance of an MPA be improved while respecting the framework imposed on it by State regulations? This study focuses on the Sept-Îles National Nature Reserve (*Réserve naturelle nationale*, or RNN), located in northern Brittany (France) and renowned for its natural heritage, particularly for its seabird conservation efforts. Its management methods are provided for by the French Environmental Code, and are structured around an Advisory Committee, a Scientific Council, and a designated manager. Any change in the functioning of this committee must comply with the provisions of French law. Following a decree to extend the perimeter of the RNN, there was the opportunity to reassess the functioning of the current governance structure the RNN Sept-Îles and to define its strengths and weaknesses so that these may be addressed as the RNN grows. Various stakeholders – for the most part members of the Advisory Committee – were engaged through semi-structured interviews, guided by the principles of good governance. This study found that the current structure of the Advisory Committee is not aligned with the French Environmental Code and proposes new working groups that could offer stakeholders more opportunities for participation. There were issues of representation, communication, and power struggles within the Advisory Committee and highlights a distinct lack of young people within the governance structure of the RNN, which poses questions about its future. This is one of the first studies in France to propose an alternative governance structure involving more RNN stakeholders that can fit into the current framework imposed by State regulations.

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1. Introduction

Marine protected areas (MPAs) are key instruments of biodiversity conservation policies, but their governance is complex (Jentoft et al., 2007). The governance of MPAs in France has evolved considerably over the past fifteen years. French Law no. 2006–436 of 14 April 2006 modified the status and legal regime of protected areas. It created the status of ‘marine protected area’ in French legislation (e.g., marine nature parks), which established a specific public agency responsible for MPAs (*Agence des aires marines protégées*, or MPA Agency), and more broadly aimed to

further involve local communities in the governance of protected areas (such as national parks, nature reserves, marine nature parks) (Guigner and Prieur, 2010; Lelong, 2010; Féral, 2012). This law thus reflects a paradigm shift, as to the ‘regime of legal and scientific legitimisation’ of environmental public action in France is now added a ‘regime of legitimisation through participation’ (Féral, 2012; Arpin and Cosson, 2017). This may be due to the considerable growth of the French network of MPAs, a rise in the number of purposes assigned to them today, and the growing diversification of uses of the marine environment (Noël and Weigel, 2007; Féral, 2011).

Within this new context, the State now gives local authorities the opportunity to participate in the definition and development of a project that will reconcile nature protection and sustainable

* Corresponding author.

E-mail address: constance.schere@kl.ac.uk (C.M. Schéré).

development (Daligaux et al., 2010; Lelong, 2010; Hogg et al., 2017). The Charter of National Parks, established by the 2006 Law, illustrates this growing desire for the integration of protected areas into the surrounding area. Both an approach and a tool for regulatory planning, the Charter's development and implementation incorporate a participatory mechanism centred on the local level to promote a process of negotiation and coordination between stakeholders and institutions (Daligaux et al., 2010). To guarantee this participatory imperative, several studies on French MPAs highlight the need for strong organisation, coordinated by institutions representing the State and acting in concert with each other, to include stakeholders appropriately and effectively in the decision-making process (Boncoeur et al., 2007; Daligaux et al., 2010; Lelong, 2010; Hogg et al., 2017). These recent developments, and the opportunity to review the governance structure of the Sept-Îles National Nature Reserve (RNN Sept-Îles) as it expands in size, have led to this research study.

This reserve, at the heart of an archipelago located in the Channel off the coast of Brittany (France), is home to significant marine and island biodiversity. It is emblematic of an area that offers many ecosystem services to the local population (such as fishing, leisure, tourism, etc.) (Provost, 2021). While the current operation of the RNN Sept-Îles appears to comply with French regulations (Environmental Code), a project to extend the reserve's perimeter provides the opportunity for change. The Advisory Committee has evolved through the years to meet the needs of the RNN and as the reserve prepares to grow in size, the current configuration of the Advisory Committee must be assessed to ensure that it continues to function in an optimal manner within the constraints of the Environmental Code. How can the governance of an MPA be improved while respecting the framework imposed on it by State regulations? This study is one of the first published attempts at increasing stakeholder involvement within this framework (i.e., the Environmental Code). It examines the strengths and weaknesses of the current governance of the RNN Sept-Îles and recommends changes to the governance which could improve its functioning.

2. Research setting: the Sept-Îles National Nature Reserve

2.1. Study area: RNN Sept-Îles

The Sept-Îles National Nature Reserve (*Réserve naturelle nationale*, or RNN) is a small archipelago of islands and islets located in the western Channel, off the seaside resort town of Perros-Guirec and the pink granite coastline and Natura 2000 site known as the Côte de Granit Rose in northern Brittany (Fig. 1). It originally covered 280 hectares. Access to these islands and islets is prohibited, except for Île aux Moines, which welcomes tourists in the spring and summer. The RNN is used by local fishers and seafood harvesters (both professional and recreational), divers, sailing and motor boat users, kayakers, and other water sports enthusiasts. Additionally, tourist vessels offer several daily visits around the RNN from April to September.

Since 1912, the Sept-Îles have been protected thanks to advocacy by the League for the Protection of Birds (*Ligue pour la protection des oiseaux*, or LPO, the French partner of BirdLife International) following a major Atlantic puffin (*Fratercula arctica*) hunt which began in the 19th century and decimated the local puffin population (Durand, 2018). The RNN is home to 11% of the breeding seabirds (11 regular breeding species) of metropolitan France and it is also the main breeding colony of the grey seal (*Halichoerus grypus*) (Provost, 2021). The marine ecosystem that surrounds the archipelago is also very rich and diversified and includes kelp forests, porpoises and dolphins, and various species of fish and shellfish (Provost, 2021). The Sept-Îles were designated a

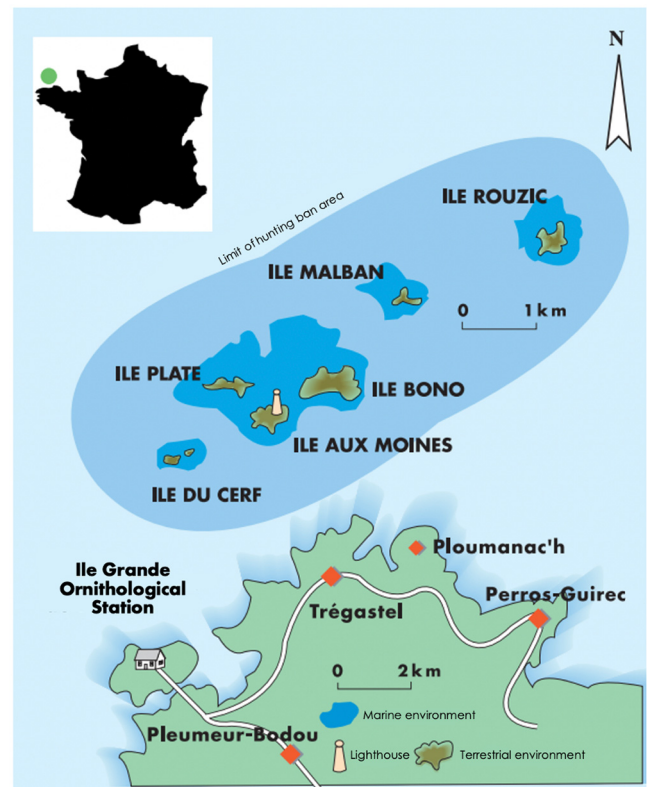


Fig. 1. Map of the RNN Sept-Îles. Adapted with permission from the [LPO] Ligue pour la protection des oiseaux (2008).

nature reserve by ministerial decree in 1976. A recent extension of the reserve (created by decree on 19 July 2023) will see the MPA expand from 280 to 19,700 hectares and is part of France's national MPA strategy to increase protection in French waters and extend the country's MPA network; it may see its designation change to National Marine Nature Reserve (Ministry of Ecology, Sustainable Development and Energy, 2015; Provost, 2021).

2.2. The governance and management of the RNN Sept-Îles

As a national nature reserve, the initiative for designation and the guarantee of biodiversity protection of the Sept-Îles falls to the French State (RNF, 2023). The governance of the RNN Sept-Îles is characteristic of the top-down model, with the State at the top, even if it involves the various stakeholders concerned by the reserve's presence (Fig. 2). It is structured as follows:

- A designation authority, the State, which ratifies the decisions voted on by an Advisory Committee,
- An Advisory Committee which votes on decisions relating to the management and operation of the nature reserve (i.e., the management plan, management delegation, the activity report, budgets, regulations, etc.),
- A Scientific Council which provides its expertise to the designation authority, to the members of the Advisory Committee, and to the management structure.

This governance structure has three priority missions, namely, to protect, manage, and publicise the wealth of the natural heritage subject to protection. The LPO has a management delegation agreement with the Regional Directorate for the Environment, Planning, and Housing (*Direction Régionale de l'Environnement, de l'Aménagement et du Logement*, DREAL), the State service in charge of monitoring and managing national nature reserves. It

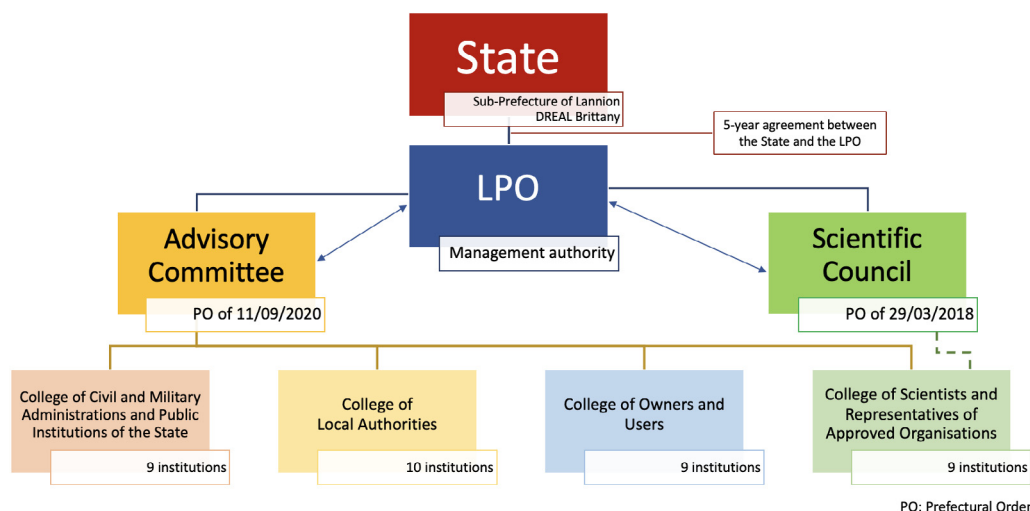


Fig. 2. Organisational chart of the RNN Sept-Îles. The French State is at its head and has designated the LPO as the management authority for the reserve through a 5-year agreement. The Advisory Committee and the Scientific Council support the LPO in decision-making. Some members of the College of Scientists and Representatives of Approved Organisations sit on the Scientific Council.

Table 1
Members of the advisory committee.

College of civil and military administrations and public institutions of the state	College of local authorities	College of owners and users	College of scientists and representatives of approved organisations
The Prefect of Côtes d'Armor or their representative	The President of the Regional Council or their representative	The President of the Yacht Club of the Port of Perros-Guirec or their representative	The President of the 'Archipel Libre' Organisation or their representative
The Maritime Prefect or their representative and the Commander of the Maritime Zone	The President of the General Council or their representative	Mr. President of the Yacht Club of the Port of Ploumanac'h or their representative	The President of the 'Sept-Îles 2000' Organisation or their representative
The Regional Director for the Environment, Planning, and Housing (DREAL) or their representative	The President of the Lannion-Trégor Communauté Agglomération Community or their representative	The President of the Departmental Committee for Maritime Fisheries and Marine Farming or their representative	The President of the 'Les Amis de l'Île aux Moines' Organisation or their representative
The Departmental Director of Territories and the Sea or their representative	The Mayor of Perros-Guirec or their representative	The President of the French Federation for Underwater Studies and Sports or their representative	Mr. President of the 'Bretagne Vivante' Organisation or his representative
The Regional Delegate of the French Office for Biodiversity	The Mayor of Pleumeur-Bodou or their representative	The President of the Côtes d'Armor Departmental Sailing Committee or their representative	The President of the 'VivArmor Nature' Organisation or their representative
The Regional Delegate of the Conservatoire de l'Espace Littoral et des Rivages Lacustres or their representative	The Mayor of Trégastel or their representative	President of the Departmental Committee of the Côtes d'Armor Amateur Fishermen or their representative	The President of the Scientific Council or their representative
The Departmental Military Delegate or their representative	The Mayor of Trébeurden or their representative	The Director of the Marine Aquarium of Trégastel or their representative	The President of 'Océanopolis' or their representative
The Commander of the Maritime Gendarmerie or their representative	The Mayor of Trélévern or their representative	The Director of the 'Armor Navigation' Company or their representative	Mr. Director of the Concarneau Marine Biological Station or their representative
The Delegate for the Sea and Coast or their representative	The Mayor of Trévou-Tréguignec or their representative	The Director of the 'Sant C'Hireg' or their representative	Mr. Director of the Roscoff Biological Station or their representative
	The Mayor of Penvenan or their representative		

works on behalf of the departmental Prefect, representative of the designation authority in the area.

Today, in application of the prefectural order of 11 September 2020, the Advisory Committee is made up of four Colleges with a parity of institutions representing the main actors of the reserve (Table 1). These Colleges are defined by Article R332-15 of the Environmental Code (French Republic, 2023):

'In each National Nature Reserve, an Advisory Committee is set up. When the designation law does not specify its membership, an order from the prefect of the department or, where applicable, from the coordinating prefect determines it, *respecting equal representation*:

- concerned State representatives of civil and military administrations and of public institutions;

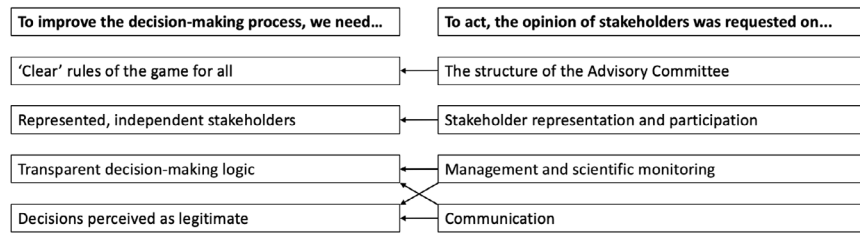


Fig. 3. Theoretical model for the development of interviews, carried out according to the principles of good governance highlighted by [Borrini-Feyerabend et al. \(2013\)](#) and [Soma and Hagggett \(2015\)](#).

- local elected representatives representing local authorities or their groups;
- representatives of owners and users;
- qualified scientific figures and representatives of approved associations whose main purpose is the protection of nature.'

For the RNN Sept-Îles, the Advisory Committee meets twice a year: once in winter (a plenary meeting with a presentation of the activity report, budgets, forecasts, ongoing projects, etc.) and once in the spring for a field trip to the RNN Sept-Îles. The sub-prefect of Lannion represents the prefect of the department of Côtes d'Armor and chairs these meetings. The members of the Advisory Committee are appointed for five years, and their mandate is renewable. Attendance at Advisory Committee meetings since 2000 has been overall good.

The President of the Scientific Council is a member of the Advisory Committee. The Scientific Council brings together experts in several disciplines relating to the conservation and management of the Sept-Îles: marine ecology, phycology, socioeconomics, geomorphology, marine mammalogy, fisheries, and ornithology, to name a few. The Scientific Council contributes to the Advisory Committee by giving their scientific opinions at the request of the manager or the prefect, in order to clarify exchanges within the Advisory Committee. The members of the Scientific Council also answer questions relating to these decisions and can justify the choices made to improve the conservation of the reserve.

3. Materials and methods

Marine governability depends on several principles of good governance, including accountability, legitimacy, representation, and transparency ([Borrini-Feyerabend et al., 2013](#); [Soma et al., 2015](#)). Management and leadership must be justified to all stakeholders and the decision-making authority responsible for meeting its obligations must be designated ([Soma and Hagggett, 2015](#); [Flannery et al., 2016](#)). Legitimacy in the eyes of its stakeholders and respect for a governance authority by these stakeholders are necessary for effective governance and cooperation between actors ([Jentoft et al., 2007](#)). But the question also arises of who is considered a legitimate stakeholder and who should participate ([Arnstein, 1969](#); [Pomeroy and Douvere, 2008](#)). According to [Pomeroy and Douvere \(2008\)](#), stakeholders must be categorised to determine priority interests. Not all participation is created equal, however, and many users are not represented because they are not affiliated with a federation or official organisation. Transparency is therefore necessary to maintain clarity of the reasoning behind decisions and ensure that governance and performance information is readily available ([Jones et al., 2013](#); [Soma et al., 2015](#)). Recognising and respecting individual rights are pillars of good governance, the absence of which is of concern to many stakeholders, especially marginalised local groups who feel their voices are not heard ([Schreckenberger et al., 2016](#)). The principle of equity as an indicator of effective governance is therefore defended by some authors because perceived inequity undermines

stakeholders' willingness to comply with conservation regulations, and they do not feel encouraged to participate in MPA processes ([Dearden et al., 2005](#); [Jones et al., 2013](#); [McDermott et al., 2013](#); [Soma et al., 2015](#); [Schéré et al., 2021](#)). The interview grid for this study was inspired by the principles of good governance established by the IUCN Green List ([IUCN, 2023](#)) and the literature review (see [Jentoft et al., 2007](#); [Borrini-Feyerabend et al., 2013](#); [Soma and Hagggett, 2015](#); [Soma et al., 2015](#); [Flannery et al., 2016](#)).

When met, these principles can contribute to the overall effectiveness of a protected area, both from a biophysical and from a socioeconomic aspect ([Borrini-Feyerabend et al., 2013](#)). The good governance principles include fairness and rights (equity and representation), legitimacy and voice (participation), accountability (communication and transparency), performance (management effectiveness), and direction (legitimate decision-making) ([IUCN, 2023](#)). Indeed, according to the [IUCN \(2023\)](#), good governance 'is when the decision makers act in an open, fair and transparent way, can be held accountable, and their decisions are inclusive, effective, efficient, participatory, consensus-oriented, and follow the rule of law.' While all five principles are addressed in the semi-structured interviews, the Discussion section of this paper provides recommendations for the future direction of the RNN's governance inspired by the suggestions made by the participants as well as by best practices in other French MPAs, while the responses to the other four principles are summarised in the Results section.

In the wake of the extension to the RNN Sept-Îles and to better understand the governance issues of this MPA, a survey was carried out during the summer of 2021 that aimed to collect, in the form of semi-structured interviews, the points of view of the main actors, members of the Advisory Council, of the RNN Sept-Îles. Semi-structured interviews were chosen because, unlike questionnaire surveys, they allow for a more in-depth understanding of a particular social phenomenon by considering the different perspectives of the people interviewed ([Bryman, 2012](#)). Focus groups did not seem appropriate for this study because this method does not guarantee the anonymity of the people interviewed.

[Fig. 3](#) explains how the principles of good governance can be put into practice when designing the interview questions. For example, the structure of the Advisory Committee is set by the Environmental Code, which means that there is a clear set of regulations regarding its composition and its operation. These rules ensure equity in the eyes of the law for all members, so participants were questioned about their views of the current membership of the Advisory Committee (for example, participants were asked questions such as: 'Who do you think are the main actors? Who decides? Does their presence seem legitimate to you? For what reasons?'). Stakeholders also need to feel represented in RNN affairs and be granted the opportunity to participate in decision-making on the reserve, so their views on this matter were also collected. Other questions focused on transparency, which is key to ensuring all stakeholders

Table 2
Nodes used to code qualitative data with NVivo 12.

Parent node	Child node(s)	Description
Structure of the Advisory Committee		Opinions on the structure and organisation of the Advisory Committee.
Participation	Mediation	Opportunities for participation and conflict resolution.
Communication		Information received by the Advisory Committee from the manager or the Regional Department for the Environment, Planning, and Housing (DREAL). How users are informed about RNN news.
Stakeholder representativeness	Young people	Involvement (or lack thereof) of under 40s in the Advisory Committee.
	Politics	Impact of elected officials on the discussions of the Advisory Committee.
Management and scientific monitoring	Partnership management	Role of the conservator, work of the RNN team, and its future management.

Table 3
Participant profiles.

Affiliation	Number of institutions	Number of participants	ID numbers
Civil and Military Administrations and Public Institutions of the State (ST)	5	4	ST1-4
Local Authorities (LA)	2	5	LA1-5
Owners and Users (OU)	6	8	OU1-8
Scientists and Representatives of Approved Organisations (SO)	4	4	SO1-4
Organisations external to the Advisory Council (EX)	4	5	EX1-5

understand why decisions are made and what some possible related impacts could be, and active and open communication, as this keeps stakeholders informed and part of the discussion surrounding the reserve. These key themes (structure, participation, communication, representativeness, and management and scientific monitoring) were used to explore the current state of the Advisory Committee, as they fulfil the criteria for assessing good governance. A list of the interview questions can be found in the Supplementary Materials.

The participants were primarily selected from among the members of the various Colleges of the Advisory Committee. The extension project, which mobilised many institutions and people in the community (more than 80 people and nearly thirty meetings) made it possible to identify people who are interested and involved in the life of the reserve, both from within the Advisory Committee and outside it (Provost, 2021). The main contact of each institution had the choice of being interviewed personally or of designating a colleague (or member) for the interview. Some institutions chose to have two representatives. The fact that some respondents may belong to more than one institution made it possible to represent more institutions than respondents. Of the 37 institutions registered on the Advisory Committee, 17 were represented in this study (45.9%).

In addition to the members listed in the membership decree of 11 September 2020 (which prevails), four institutions external to the Advisory Committee, stakeholders of the RNN Sept-Îles, were also interviewed because they represent users of the area that are interested in the reserve and/or have a large number of young members. As young people (i.e., before middle age, or under age 40–45¹) are virtually absent in the Advisory

Committee, it was considered important to include them in this study on the RNN's governance. External institutions included the Departmental Canoe-Kayak Committee (CDCK-22), new naturalist organisations (ÉTAPES 22560 and Dive to Preserve, the latter being created by students), and one of the *Clubs Mickey* (children's beach club) which is in the same Natura 2000 area as the RNN Sept-Îles (Natura 2000 site 'Côte de Granit Rose – Sept-Îles'). These interviews made it possible to better understand the expectations of the new generation of RNN users.

The semi-structured interviews took place in a location chosen by the participants, and in compliance with the COVID-19 health measures that were in force in France in June and July 2021. Two interviews took place by videoconference for logistical reasons. The interviews lasted an average of 60 to 90 min and were recorded; the notes taken during the interviews were completed with the recordings. The files were then uploaded into NVivo 12 (QSR International, 2019) and coded into parent nodes and child nodes (Table 2) that represented the different themes raised during these interviews. Nodes are used in qualitative research to collect references from interview files about a specific theme to assist in data analysis. This study received ethical clearance from King's College London (ethical clearance reference number: MRSP-20/21-23660) and participants all signed a consent form prior to the interview. The participants had two table guides that allowed them to orient themselves during the interview: an organisation chart of the current governance and a copy of the membership decree of 11 September 2020. In total, 19 interviews were carried out with 26 participants (Table 3). Participants were assigned a letter-number identifier (see ID numbers in Table 3) to maintain anonymity. These ID numbers are found after each quote to determine which College the belongs to.

¹ Definition of 'middle age' in Oxford and Collins Dictionaries.

4. Results

4.1. Good governance principle 1: Fairness and rights (the structure of the advisory committee and stakeholder representativeness)

It was found that structure and representativeness appeared to overlap upon analysis of participant responses, so these two themes were merged. The most recent revision of the membership of the Advisory Committee, dating from 2020, aimed to ensure parity between the various Colleges. Although this could establish a fair distribution among stakeholders, most of the actors disagreed with the current structure. The Colleges of 'Civil and Military Administrations and Public Institutions of the State' and 'Local Authorities' were generally accepted by the other members of the Committee, but it was the distribution of actors in the two other Colleges – 'Owners and Users' and 'Scientists and Organisations' – which study participants did not agree with. The issue of representation appears to be at the heart of some of the issues preventing optimal stakeholder involvement in the reserve's governance as some of the principles of good governance that should be met (in particular, fairness and rights and legitimacy and voice) stem from this imbalance in the Advisory Council's structure.

Most interviewees noted that a significant number of users were members of certain community organisations – particularly Archipel Libre and Sept-Îles 2000 – which they did not consider to be scientific institutions. One interviewee noted, '*What is also curious in this College [of Scientists and Representatives of Approved Organisations] is that we mix both the representatives of organisations, who are generally volunteers and users, with the President of the Scientific Council, with Océanopolis, with the biological stations*' [OU2]. Another agreed, stating, '*In the Owners and Users, there are the organisations Archipel Libre, Sept-Îles 2000, and les Amis de l'Île aux Moines. These three organisations, I do not understand why they are not in with the Owners and Users, rather than being with the Scientific Council*' [OU5]. On the other hand, a participant was surprised that the Aquarium of Trégastel appears in the College of 'Owners and Users' rather than in the 'Scientists and Organisations' College like Océanopolis (also an aquarium, as well as a national scientific research centre). Some participants proposed the creation of a new College, for example, solely for recreational organisations or clubs: '*Organisations like Bretagne Vivante and VivArmor Nature have their place [in the Scientific College]. On the other hand, organisations that are more related to use [of the reserve], they could be part of a separate College*' [SO1]. Or, grouped by sector: '*I would rather see professionals (fishing or tourist activities including sailing, diving) [on one side] and sailors/yachters in organisations/clubs [on the other]. And scientists are another College, something else. A College is missing.*' [OU8]. The results show that there are several participants who feel the structure of the Advisory Council needs revising, as the current structure is confusing and may be deemed not fit for purpose.

The current structure was found to lack representativeness within the Advisory Committee, as stakeholders cited other actors that were absent from (or too present within) the Advisory Committee. Some wondered why state representatives – who do not live in the Trégor region and who rarely, if ever, go to the reserve as '*they are behind their desks, they are far away, they do not know what is going on*' [OU2] – had as much voting rights as users for whom the reserve was an important source of income. Indeed, another participant questioned: '*Ultimately, users of the site are not sufficiently represent[ed]*' [OU3]. To this participant, it is unfair that a vote that represents 1,000 or 2,000 users holds no more weight than that of someone who does not experience the reserve on a regular basis, such as state officials.

Participants expressed concern that it was often the same person(s) who participated in the meetings leading to concern

about whether these representatives were using their platform to advance their personal position or whether they properly represented the views of their member institutions. As one interviewee explained, '*At the institutional level, you need people who are representative. That there are spokespersons, because sometimes they are users who defend their small interests without thinking globally. Delegates. Representative people. At the level of the Advisory Committee, we would never send a simple member. It is automatically an administrator and, if possible, an administrator with responsibilities in the organisation. [...] Do they really feel responsible for what they say and what they do? It should not be an individual's word but the group's word*' [SO3]. The presence of national water sports federations or institutions was also criticised by some participants, in particular users practicing these sports. They explained that there were several national institutions that represented these sports and considered it unfair and illogical to group all sports clubs under the umbrella of singular organisations to which they do not belong. This was particularly felt by sailing and scuba diving professionals: '*[Sailing] is a bit like the same problem as diving. Should the Departmental Committee or should the local clubs be needed [on the Advisory Committee]? For the two Departmental Committees, the [Sept-Îles] are not among their priorities, their priority is competition, school sailing. We should have the Nautical Centres [in the area]. The Departmental Committees have never asked us for our opinion. [We need] a nautical union of the Côte de Granit Rose, that would be more representative*' [OU8].

Regarding the Local Authorities, the majority of the participants agreed on the list of town halls, but some noticed that the town hall of Perros-Guirec seemed to play a more important role within the Advisory Committee. Some users (who are for the most part also constituents of these Local Authorities) expressed a lack of confidence in the official position of the town halls when it came to the RNN Sept-Îles, a position which would be different from the support that mayors privately gave to their constituents: '*It is a representative or the president of the organisation who speaks and I am not convinced that, among all the members of the organisation, everyone holds this view. [...] Is the representative really representative? The position of the elected officials was very surprising [because] until then the elected officials showed strong support for the reserve project but, faced with the opposition of or the blocking by certain organisations [...] and some elected officials found themselves in a delicate situation, where they could not say that they were in agreement with the project. In order not to alienate the voters, [they] made remarks that were not sincere*' [SO1].

Finally, there was a noticeable lack of young people on the Advisory Committee. Not only was there no youth association, but young users also aligned their views with those of older members of their organisations. As one interviewee lamented, '*[Young fishers/sailors] unfortunately listen to the elders*' [EX4]. Young fishers or sailors do not tend to participate in community life, while sports organisations have many young people. There was a strong demand to educate young people, especially teenagers, about the LPO, to let everyone know about the restrictions and explain why they exist. Some proposed educational (including marine) protected areas supervised by members of the Advisory Committee (e.g., Lannion-Trégor Communauté, known as LTC, or the Conservatoire du Littoral) in collaboration with the LPO. Although active pedagogy takes place at the LPO Station of Île-Grande, it is located in Pleumeur-Bodou, 15 km away from Perros-Guirec. Perhaps this explains the reported feeling of not being sufficiently informed. Nevertheless, young people appear more sensitive in environmental issues than their forebearers. When asked about the future of protection on the Reserve, one participant answered: '*[Among young people] there is a general awareness of biodiversity and the environment, so I don't think we will backtrack too much. In this case, it will go more in the direction of restrictions. We also see, comparing the new generation, that young people are more and more sensitive to and more active for the environment*' [EX2].

4.2. Good governance principle 2: Legitimacy and voice (participation)

In terms of participation, the results highlight conflict between stakeholders and most of the participants raised the issue of sharing speaking time and the feeling that opportunities for participation are lacking. Currently, there is one meeting per year as well as one field visit. Even if it is sometimes difficult for some actors to participate in meetings because they take place during their business hours, many considered that there were not enough opportunities to meet and most of the participants mentioned the need to set up working groups to discuss relevant issues or themes that were not always addressed at the annual meeting. *'There shouldn't be too many [general] meetings; it's efficiency that we must aim for. There may very well be small review meetings, work meetings. For some decisions, it could be interesting not to wait, and instead to start thinking and [then] propose [topics] to the Advisory Committee. Pre-meetings could be useful'* [SO3]. Another participant added, *'I would prefer work meetings with motivated people rather than plenary meetings with people who show up because they have to show up'* [EX5], referring to administrative staff at the state or local government level who must be present during meetings but do not necessarily participate.

During meetings, some participants perceived that there was an imbalance in speaking time, while others felt that their voices were not being heard. Regarding the inability to speak up, one participant remarked, *'Everyone should be heard. We mainly heard people who are used to expressing themselves. As it was rather the expression of 'no,' I found it unfortunate that the expression of 'yes' could not be heard as well, and just because we had the impression that there was a strong pressure and that we could not express our opinion. So [we need] mediation that would allow everyone to have equal speaking time and so everyone can express themselves without judgment'* [OU5]. Indeed, participants stated that they felt their voices were not always heard during the general meetings and perceived a lack of flexibility amongst those seen as being in charge. *'[We would like] to be a little more solicited for everything that happens. For me, the Advisory Committee just has an opinion to give. It doesn't go any further than that. If the manager decides to do something, he does it, regardless of the advice of the Advisory Committee. I am caricaturing a little but that's my feeling'* [OU6]. The idea of a 'Charter of Good Conduct' for the members of the Advisory Committee was mentioned by some participants to ensure peaceful exchanges, equal speaking time, and rules to be respected during meetings between the different actors. *'This process that is done [to participate in a meeting] is blocked by [a] lack of rules. It gives a feeling of helplessness for people who talk to a brick wall because there is no response. We have people who don't play the game'* [SO4].

The involvement of a mediator was suggested, to facilitate discussion and participation, ensure respect for speaking time, and resolve any conflicts between the various actors. The possibility of having working groups or commissions chaired by someone different each time – a member of the Advisory Committee not involved in the issue of the meeting, for example – could be constructive, according to one participant. *'The Advisory Committee alone is not necessarily the right body to manage conflicts. This is the place where certain conflicts are revealed, but it is small thematic groups [that are needed]. As soon as there is a conflict that is raised, [we must] try to get people back around the table and focus only on that subject. [During the meeting of the Advisory Committee] we cannot afford to spend hours debating a thorny subject'* [SO1].

Others considered that conflicts were resolved by votes whose outcome was determined by the State and that mediation had to be undertaken by a neutral person to avoid State influence. One participant claimed, *'It's a sham consensus, since they say everyone*

agrees while no one agrees. And a sham of democracy since we are made to participate in a vote that is absolutely not representative of the local population and its wishes.' [SO2] Another participant echoed this sentiment: *'There is a vote, but it is a parody of democracy. It is the agents of the State [who decide]'* [OU8]. One participant believed that mediation by the State would provoke those who are weary of government. *'The State does not act like a mediator. It is capable of it, but with people who are very anti-[State], it cannot be the mediator'* [EX1].

4.3. Good governance principle 3: Accountability (communication)

While communications from the RNN Sept-Îles to the public through the press or on the Internet were generally appreciated, some participants underlined the ease with which the media can misinform. According to them, the discourse of reserve officials was not transparent enough and this could lead to confusion, particularly regarding the content of press articles. There were also shortcomings in the dissemination of information within the Advisory Committee and more particularly in the materials that could be understood by all the actors. Minutes of meetings could be too superficial while scientific reports were too detailed and difficult for Advisory Committee members to digest. One participant noted, *'We are well informed scientifically, almost too informed. The LPO activity report sent to us before each Advisory [Committee]: 155 pages! Who reads it? Does [the Sub-Prefect] have time to read 155 pages? It is indeed good to have [this information]. [You need] the gist of what is important, but not 155 pages. You have to know your audience.'* [OU2]. On the one hand, scientific reports could be confusing if they were oversimplified. On the other hand, this simplification was necessary to allow stakeholders to fully understand the scientific monitoring that is carried out each year and the conservation issues that the reserve faces. Another participant believed the meeting minutes did not accurately reflect what occurred in meetings: *'There are reports that are made each time there is [a meeting of the] Advisory Committee, which are absolutely neutral and which, once again, do not reflect the opposition which exists against the decisions of the DREAL [Regional Directorate for the Environment, Planning and Housing]'* [SO2].

Some participants mentioned the need for an awareness campaign within the Advisory Committee but also for the general public to better understand the biological and cultural importance of the RNN and what rules were in force to avoid accidental damage during visits to the reserve. Participants suggested different actions that RNN agents could take to ensure better dissemination of relevant information, not only within the Advisory Committee but also to the public. One participant stated that *'Drawings or maps [would be] good. Sometimes [the information] is a little blurry. We say there is no longer the right to approach such and such an area, but we do not really see from where to where. [If] it's visual, the locals will get it right away'* [OU4]. Another agreed, stating that *'There is not a lot of information in the ports [for] individuals who go [to the Reserve]'* [OU8]. Young participants in particular noticed the lack of information and news on social media (e.g., Facebook or Instagram), their main source of daily news.

4.4. Good governance principle 4: Performance (management and scientific monitoring)

Whereas participants were critical of many aspects of the current Advisory Committee, the work of the manager, and in particular that of the RNN Sept-Îles team, was generally appreciated by participants. They saw the extensive scientific monitoring and surveillance and perceived a real passion for the marine environment among reserve employees, who received only *'positive feedback. [The conservator and the wardens] are rather very*

good and well-integrated into the area' [ST3]. However, there was confusion on the part of some participants about the role of the LPO on the one hand and the conservator and wardens on the other; most participants referred to the latter erroneously by using the word 'manager.' The LPO is the sole manager; the field team is employed by the LPO, and the decisions taken by the LPO for the management of the reserve are implemented by the conservator and the wardens. Some participants also wondered about the environmental policing function of some employees of the RNN Sept-Îles, and many asked about the official status of the conservator. Some criticised the fact that the surveillance of the reserve was done by employees perceived to be armed ('Today, how can we imagine that the environmental police circulate on the archipelago armed?' [OU3]). This confusion stemmed from the fact that the employees of the French Office for Biodiversity (OFB) are armed during their visits to the reserve, as the OFB acts as the environmental police.

Some participants perceived a lack of transparency or sharing of information, whether concerning the official role of the conservator or scientific feedback. The legitimacy of the Reserve's extension project was questioned by some, particularly on the need for a 'quiet zone' for the northern gannets, as some noted that 'there is always a suspicion of dramatizing the evolution of the reserve to justify certain decisions, but overall, it is serious' [LA1]. As explained above, according to these participants, the scientific communication was confusing and revealed a lack of trust because they noted a discrepancy between scientific reports and their personal experience as users of the RNN Sept-Îles. As one user put it, 'For the extension of the reserve, we had some doubts about some of the data that was provided, some explanations that are a bit hazy and that contradict what professional fishers say, who are often on the water. Sailors/yachters stay out all day and watch what is happening around them. We have the feeling that the people of the LPO, they only take care of the birds' [OU1]. Another user disagrees, calling for 'better scientific knowledge of the environment [on the part of the stakeholders], everything that is underwater... People do not have a global view of all that is beautiful on the reserve' [OU5]. One member of the 'Scientists and Organisations' College echoes this sentiment: 'The yacht clubs allowed themselves to criticise the scientific protocol and the veracity of the results of the studies that had been carried out. It becomes complicated to manage, this kind of speech, because on the one hand it can be complex to understand. So, simplifying protocols can be a solution, but for some, whatever the manager does, they are in a locked position. We need communication' [SO1].

The subject of partnership management of the reserve was mentioned in 7 of the 19 interviews (37%) and some participants remarked that three employees for 280 hectares was not enough. They found that the lack of resources, particularly in terms of staff, was a weakness and a risk and suggested that the possibility of shared management should be explored. One explained, 'it's a very fragile structure because in fact we rely on a conservator, one or two employees who work with him. Something happens to that person, and it's a mess' [SO3]. Some were strongly in favour of shared management, arguing that a management council could help distribute the tasks by providing 'for the co-construction of the annual action programme [...] where the participation of each of the actors would be clearly displayed and valued' [LA3]. Others supported a 'triptych' of managers in consultation with the LPO: the Conservatoire du Littoral, LTC, and the municipality of Perros-Guirec. People in the same College did not necessarily have the same views. For example, one member of the 'State' College argued for co-management on the basis that 'The municipality [of Perros-Guirec], Lannion-Trégor Communauté and the Conservatoire [du Littoral], we systematically disappear from the system [of management] even though we have also invested in it, in time, in money,

too, in experience' [ST1]. However, two others advised against co-management, because 'The Conservatoire du Littoral does excellent work, [but] the sea is not really its job either. [...] Local authorities are not used to being managers of maritime space. [...] That [the actors] be more involved yes, but not as manager' [ST3, ST4]. While those in favour of a management council did not necessarily agree on its composition, they all cited at least the LPO and the municipality of Perros-Guirec as the main actors for future management. According to some, the inclusion of the municipality of Perros-Guirec as co-manager would reassure users and organisations.

4.5. Summary of strengths and weaknesses

A summary of the overall strengths and weaknesses of the RNN Sept-Îles's current Advisory Committee is found in [Table 4](#).

5. Discussion

Good governance is a driver for achieving good environmental status in protected areas, as stakeholders are more likely to support MPA decisions and restrictions if they feel involved and respected (Dearden et al., 2005; Jones et al., 2013). As the perimeter of RNN Sept-Îles increases in size and its conservation objectives become more complex, the current governance needs examined. Opinions on the RNN Sept-Îles' governance by the participants of this study highlight some of its strengths and weaknesses. A recurring complaint from participants is that the structure and the membership of the Advisory Committee are confusing, particularly regarding membership in the College of 'Scientists and Representatives of Approved Organisations.' In other RNNs in Brittany (e.g., the Bay of Saint-Brieuc, Venec, and the marshes of Séné), membership of the Advisory Committee is established by the designation decree rather than through application of the Environmental Code and the same language is used in each of their decrees. For example, according to decree no. 98-324 of 28 April 1998 on the creation of the RNN Bay of Saint-Brieuc (Côtes d'Armor), the Advisory Committee 'includes, in a balanced way:

1. Representatives of the local authorities concerned, owners and users;
2. Representatives of interested public administrations and institutions;
3. Qualified scientific figures and representatives of organisations for the protection of nature' (French Republic, 2010).

Although the Advisory Committee of the RNN Sept-Îles appears to offer parity between the different Colleges, not all of the organisations in the College of 'Scientists and Representatives of Approved Organisations' fulfil the criteria that specifies that this College's organisations must have environmental objectives. According to Article R141-2 of the Environmental Code, for an organisation to be approved as having as its main object the protection of nature, it must demonstrate 'a statutory object relating to one or more areas mentioned in Article L. 141-1 of the Environmental Code and the exercise in these areas of effective and public activities or publications and works whose nature and importance attest that it works primarily for the protection of the environment' (French Republic, 2023). The current membership of the Advisory Committee therefore does not comply with the Environmental Code in this respect and should be reviewed. As the latter requires approximately the same number of institutions per College, some institutions with overlapping membership (e.g. the 'Sept-Îles 2000' and the Yacht Club of Perros-Guirec) would need to rethink their organisation or take turns, rotating their mandates and thus maintain a balance within the Colleges.

Table 4
Summary of the strengths and weaknesses of the RNN Sept-Îles's current Advisory Committee, by principle of good governance.

Principle	Strengths	Weaknesses
Fairness and rights	<ul style="list-style-type: none"> The current structure of the Advisory Committee remains within the regulations of the Environmental Code and there is parity between the different Colleges. 	<ul style="list-style-type: none"> The structure is not fit for purpose as it is not equitably representative of all the various stakeholders involved with the RNN. Young people are noticeably absent from RNN governance.
Legitimacy and voice	<ul style="list-style-type: none"> The meetings are generally well-attended, so stakeholders have the opportunity to voice their opinions and participate in discussions surrounding the RNN. 	<ul style="list-style-type: none"> There is an imbalance in speaking time between various stakeholders, with some having more of a voice than others. There are not enough opportunities to participate (only 2 meetings a year). A mediator is absent from these meetings; their presence would be beneficial to ensure everyone is able to participate.
Accountability	<ul style="list-style-type: none"> There is good communication between the RNN and stakeholders about important events. The public is kept well-informed via the local press (print and web news sources). 	<ul style="list-style-type: none"> There are issues of transparency, wherein the discourse of reserve officials is not transparent enough, leading to confusion, particularly regarding the content of press articles. Minutes of meetings can be too superficial while scientific reports are considered too detailed and difficult for Advisory Committee members to digest. There is a lack of interaction between the RNN and the public via social media platforms.
Performance	<ul style="list-style-type: none"> The management and monitoring of the RNN Sept-Îles by the LPO and its team on the ground is appreciated. 	<ul style="list-style-type: none"> There is confusion around who holds the decision-making power and scepticism over the data being used to justify decisions made. There is a push for co-management of the RNN by certain stakeholders, but this is at odds with the current structure and there is resistance from the State regarding this.

There is also a lack young people represented in the Advisory Committee, which could create issues in the future of the RNN as older members will not necessarily represent shifts in environmental science agency that are often created by young people (Ballard et al., 2017). Indeed, involving young people in reserve projects through citizen science and volunteering would increase their awareness of environmental issues and can strengthen a sense of belonging to the Sept-Îles by allowing them to contribute directly to the conservation of the reserve (Ballard et al., 2017; McKinley et al., 2020). In the Bay of Saint-Brieuc and Réunion reserves, for example, a mobilisation of volunteers has been in place for a few years which welcomes, amongst others, high school students and young graduates to carry out activities such as beach clean-ups, species and priority habitat observation, and the eradication of invasive species (Boillot, 2018; Vaslet, 2019).

The issue of representativeness has created power-struggles, as there is often a strong oppositional voice coming from many of the non-environmental organisations, who do not always agree with the decision-making as new rules and regulations (for example, in the context of the RNN's extension) are believed to encroach on the liberties members of these organisations (mainly recreational fishers and yachters) have enjoyed much of their lives. Similar issues have arisen in other French MPAs, and solutions have been developed (Boncoeur et al., 2007; Lelong, 2010). For example, following numerous controversies over the objectives of the Iroise Sea Marine Nature Park (PNMI) concerning its perimeter, its restrictions, and its board of directors between 1989 and 2001, four thematic working groups were set up: heritage conservation, fisheries management, sustainable development and sustainable tourism, and a synthesis project group and an approval steering committee (Boncoeur et al., 2007; Lelong, 2010). The place given to the traditional knowledge of the actors (such as local fishers and yachters) created, little by

little, a climate of trust between them (Lelong, 2010). According to Boncoeur et al. (2007), the choice of more institutional modes of organisation of public debate, such as working or discussion groups, 'would perhaps have allowed a more codified expression of the various stakeholders, experts, ordinary citizens, avoiding thus to see the debate move progressively towards a confrontation of for vs. against' (p. 91) the PNMI.

Similarly, at the Réunion Marine Nature Reserve (RNM Réunion) commissions were created to establish discussions between various actors, depending on their sector of activity. In 2015, the RNM created an underwater activities commission to establish joint actions with users representing these activities (such as diving clubs and organisations, underwater photographers, and underwater excursions) and thus replace the sports federations which are not always present (Vaslet, 2019). These voluntary actors mainly transmit information on the state of moorings in the reserve and this allows the manager to reduce the costs linked to the monitoring of the state of mooring devices and to be more reactive for repairs to be carried out on these moorings (Vaslet, 2019). A traditional fishing commission was also created to take stock of a potential change in the regulations of fishing and these exchanges led to the establishment in 2016 of fishing logbooks which were distributed to fishers to improve the collection of traditional fishery data (Vaslet, 2019).

Another French MPA, the Cerbère-Banyuls Marine Nature Reserve (RNM Cerbère-Banyuls), holds annual informal meetings with users, in addition to the annual meeting of the Advisory Committee (Cadène et al., 2018). The manager of the reserve thus recognises the importance of the knowledge of the actors to improve the conservation of the reserve. Thanks to these 'user meetings', several subjects – such as the development of activities – can be discussed. For example, there has been a demand from recreational fishers to implement no-take periods to allow fish

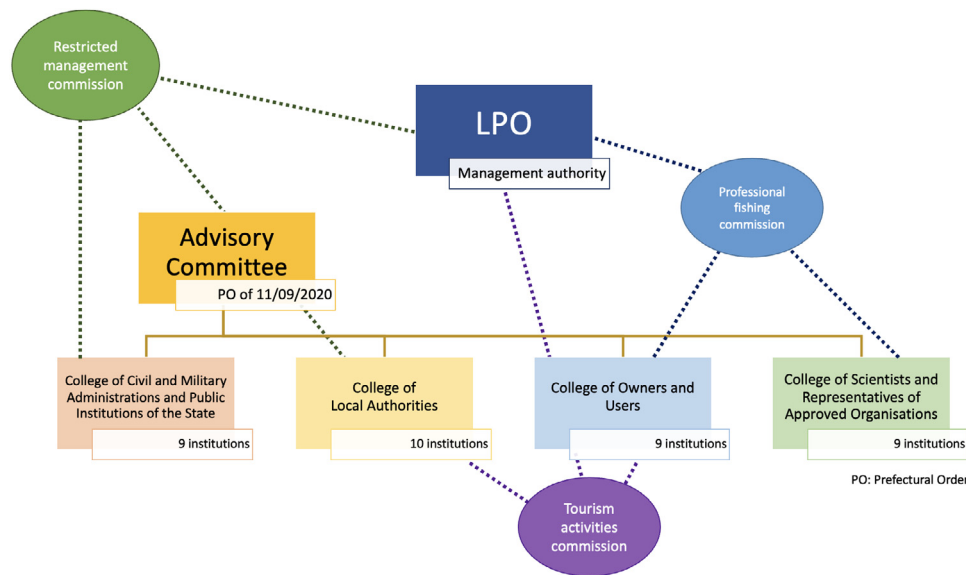


Fig. 4. Proposals for possible satellite commissions and their links with the various Colleges of the Advisory Committee (non-exhaustive), based on participant suggestions. The LPO is a member of, and participates in, each of these commissions. The roles of the State and the Scientific Council remain unchanged.

stocks to recover (Cadène et al., 2018). The French State is not associated with the commissions of these two reserves but may be invited depending on the theme of the meeting. In a way, this reinforces the local ownership of the reserve and provides a more community-based approach to governance. The RNN Sept-Îles can draw from other MPAs' experiences, as detailed above, to address some of its representation issues. While there have already been some regular meetings on certain topics for graduate study projects on the RNN Sept-Îles, for example a depredation project and socio-economic studies, more such commissions could meet the demands of stakeholders in the RNN Sept-Îles regarding local representation of the various sectors of activity (Provost, 2021).

The results of this study also suggest several ways to improve participation in the reserve's Advisory Committee. Being open and fair is a pillar of good governance: Criterion 1.1 of the IUCN Green List involves guaranteeing legitimacy and voice (IUCN, 2023). While meetings are generally well-attended and stakeholders are given a chance to voice their opinions, participants stress the need to involve stakeholders more in RNN decision-making. Indeed, understanding and taking into consideration the views of an MPA's regular users is an important part of effective MPA governance and management (Cosquer et al., 2019). A single meeting per year (the field trip being less administrative) does not provide enough opportunity to share their views according to them, and some have proposed to meet more often, for example through working or focus groups, or commissions. These satellite meetings are successful in other nature reserves in France (Cadène et al., 2018; Vaslet, 2019).

Such commissions or working groups could also provide an opportunity for discussion on specific topics that only interest certain actors, such as the depredation by grey seals (Provost, 2021). Discussion forums would make it possible to discuss conflicts between different actors and set aside specific time to try to resolve these misunderstandings, apart from the annual meeting, which focuses mainly on the approval of the budget and the activity report. Some participants spoke of the need to have some sort of mediator to chair these meetings. At the Réunion Marine Nature Reserve, external facilitators are present to supervise these types of meetings and a code of conduct has been adopted to ensure respect for each other ([RNM Réunion] Réunion Marine Nature Reserve, 2013; Vaslet, 2019). These two elements could create a more constructive atmosphere within

the Advisory Committee by ensuring, for example, equal speaking time for all actors present during a meeting, which would lead to more productive exchanges.

The creation of commissions similar to those mentioned above was suggested by some participants, with proposed commissions including a commission for tourist activities, for professional fishing, or for building management (see Fig. 4 for a visualisation based on participants' suggestions). These satellite commissions were supported by participants as they can operate in parallel to the current governance structure and be made up of actors from the different colleges based on the commission's subject matter. For example, a tourism activities commission would bring together members of the Local Authorities for the municipality of interest, the various Owners and Users involved in tourism (e.g., water sports and tour companies), and the LPO. These satellite commissions would not alter the legal structure of the RNN's governance under the Environmental Code, thus preserving the rule of law, an indicator of good governance (Borrini-Feyerabend et al., 2013).

A third of the participants mentioned the possibility of a restricted management commission. In the RNN Bay of Saint-Brieuc, for example, there is a 'co-management committee' made up of actors with which the managers (Saint-Brieuc Armor Agglomeration and the naturalist association VivArmor Nature) meet to discuss certain topics related to the management of the RNN (Boillot, 2018). This committee, which approves the management plan, brings together managers, the vice-president in charge of energy policy and ecological transition, the president of VivArmor Nature, and the reserve team – but no State representative. In the case of RNN Sept-Îles, a type of management commission could allow the Conservatoire du Littoral, Lannion-Trégor Communauté, the municipality of Perros-Guirec, and the DREAL to discuss with the LPO regarding management issues that concern them, such as some of the infrastructure remaining on the islands. Such commissions may address some of the issues surrounding participation, communication, and representativeness within the Advisory Council, improving the current governance's effectiveness (Boncoeur et al., 2007; Soma and Hagggett, 2015).

To make official what has been done unofficially (for example, through working or discussion groups), the drafting of internal regulations for a new functioning of the governance of the RNN Sept-Îles would be necessary. The Advisory Committee must be

Table 5
Summary of actions to consider for the evolution of the governance of the RNN Sept-Îles.

Theme	Actions
Composition of the Advisory Committee	<ul style="list-style-type: none"> ● Review the application of Article R141-2 of the Environmental Code for member organisations of the Advisory Committee. ● Group together certain groups of stakeholders with similar objectives to allow the addition of other members.
Participation	<ul style="list-style-type: none"> ● Create (multi-)thematic commissions (e.g., tourism activities, professional fishing). ● Install a code of conduct for meetings of the Advisory Committee. ● Introduce a mediator or a new way of working to ensure fair speaking time and participation.
Partnership management	<ul style="list-style-type: none"> ● Create a restricted management commission (e.g., between the LPO, the municipality of Perros-Guirec, the Conservatoire du Littoral, Lannion-Trégor Communauté, and the DREAL).
Communication	<ul style="list-style-type: none"> ● Increase the exchange of information within the Advisory Committee. ● Improve the visibility of the activities of the RNN Sept-Îles in the area. ● Communicate via social media to reach more people and especially younger generations.
Young people	<ul style="list-style-type: none"> ● Establish opportunities for participation in the conservation of the Sept-Îles (e.g., citizen science programmes).

retained (Article R332-15 of the Environmental Code) but, as shown at other French MPAs, when stakeholders with similar interests are brought together, it improves the quality of governance. The addition of thematic commissions would provide other opportunities for participation, especially on specific topics that only concern certain members of the Advisory Committee. As direction is an important pillar of good governance as it allows for an appreciation of the ecological, historical, social, and cultural values and complexities of a protected area (IUCN, 2023), a summary of the main themes raised during this study, as well as some proposed solutions to address the concerns of the members of the Advisory Committee, can be found in Table 5. It is hoped that these suggestions can also help other French MPAs facing similar issues within their governance framework that are also bound by the State's regulations regarding what that framework should entail.

6. Conclusion

It is challenging to adopt a governance system that can meet all the conflicting demands of stakeholders, which may also change over time. A compromise must always be found – for example, which users should be given priority to achieve a particular objective and why? Optimal marine conservation results are often achieved without 'perfect equity' (Halpern et al., 2013; Klein et al., 2015), but it is nevertheless important to do what is necessary to ensure that the different actors feel directly involved, and are not only consulted, and that these meetings do not serve as 'recording rooms,' as one participant in this study described them when speaking of the meetings of the Advisory Committee. Examining the governance of the RNN Sept-Îles could improve its functioning in an optimal way and ensure that it is as inclusive and democratic as possible. Indeed, the RNN's current governance has several issues to address, particularly in terms of representation and participation. While communication appears to be sufficient and the management team are appreciated, the current governance structure needs to be revised, especially as

the parity between the Colleges on the Advisory Council does not truly meet the requirements set forth by the Environmental Code. Indeed, the types of organisations present in the Scientists and Representatives of Approved Organisations need to be redistributed to create a stronger balance between nature conservation and resource uses. Additionally, satellite commissions or working groups is one way to work effectively within the constraints of the legislation. This study is a first attempt to imagining to what extent the Advisory Committee can evolve, considering the requirements of the Environmental Code or applicable decrees and local particularities, as well as feedback from other French MPAs. This reflection could inspire other RNNs across France or MPAs abroad which also find themselves in a governance system that is more top-down than bottom-up.

It is difficult when the State is at the head of a governance structure to predict what it has in store for its MPAs. A more environmentally conscious government may well impose new usage restrictions. Another, more pro-industry, can reduce budgets for conservation and reserves. For MPAs to have the resources to carry out their functions, they must have the support of their users and their communities. Citizens and users who are more involved, better informed, proud, and concerned about their natural heritage will ensure its long-term protection. With this objective, this study has established that State representatives and stakeholders can work together by defining effective communication tools and establishing a climate of mutual trust.

CRedit authorship contribution statement

Constance M. Schéré: Methodology, Conceptualization, Formal analysis, Funding acquisition, Investigation, Visualization, Writing - original draft, Writing - review & editing. **Kate Schreckenber:** Revision of the manuscript. **Terence P. Dawson:** Revision of the manuscript. **Carole Duval:** Revision of the manuscript. **Frédérique Alban:** Revision of the manuscript. **Éric Le Gentil:** Revision of the manuscript. **Pascal Provost:** Conceptualization, Project administration, Supervision, Writing - review & editing.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

The data that has been used is confidential.

Acknowledgements

This work was supported by the League for the Protection of Birds (LPO), the Regional Directorate for the Environment, Planning, and Housing (DREAL) of Brittany and the Economic and Social Research Council (ESRC) of the United Kingdom. The authors would like to thank, in no particular order, Karine Pothin (Réunion Marine Nature Reserve), Frédéric Cadène (Cerbère-Banyuls Marine Nature Reserve), Alain Ponso (the Bay of Saint-Brieuc National Nature Reserve) as well as all participants for their contributions to this study. All authors read, and approved the submitted version.

Funding statement

This work was funded by the Economic and Social Research Council of the United Kingdom [ES/P000703/1].

Ethics statement

Studies involving human participants have been reviewed and approved by King's College London Research Ethics Office (ethics clearance reference number: MRSP-20/21-23660). Participants gave their written informed consent to participate in this study.

Appendix A. Supplementary data

Supplementary material related to this article can be found online at <https://doi.org/10.1016/j.rsma.2023.103196>.

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