

# ENABLING EFFECTIVE AND EQUITABLE MARINE PROTECTED AREAS:

guidance on combining  
governance approaches

## Case Study Compendium



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AUTHORS: Jones PJS<sup>1</sup>, Murray RH<sup>1</sup> and Vestergaard O<sup>2</sup>

AFFILIATIONS: <sup>1</sup>University College London, Department of Geography  
<sup>2</sup>UN Environment, Ecosystems Division, Marine and Coastal Ecosystems Branch

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## Introduction

This technical appendix provides a compendium of the 34 case study summaries that form the evidence base for the main volume: UN Environment (2019) *Enabling Effective and Equitable Marine Protected Areas – guidance on combining governance approaches*. Authors - Jones PJS, Murray RH and Vestergaard O.

These summaries are based on the 'Marine Protected Area Governance (MPAG)' framework, which is set out in the section after the glossary, and defines all the incentives used, as well as providing further guidance on how these summaries are populated. More information on the rationale behind the MPAG governance approach is provided in Jones PJS (2014) *Governing Marine Protected Areas: resilience through diversity*. Routledge.

More details on the MPA Governance project are at:

- <https://www.unenvironment.org/resources/marine-protected-area-governance>
- <https://www.ucl.ac.uk/marine-protected-area-governance/>

## Glossary

All definitions after Jones (2014)<sup>1</sup> other than where other specific source cited. Italicised words in definitions are also separately defined in this glossary.

### Actors

People involved in a given MPA governance initiative, including local users, representatives of governmental and non-governmental organisations, etc.

### Basic conflicts

Conflicts based on differences between utilitarian values, focused on exploiting marine resources, and ecocentric-preservationist values, focused on conserving ecosystem health and setting areas aside from direct human uses, often revealed in the context of MPAs between those actors focused more on utilitarian objectives (using resources) and those focused more on conservation objectives (protecting biodiversity).

### Biodiversity

The diversity of different ecosystems, habitats and species, including genetic diversity amongst different populations of a given species.

### Conservation objective

An objective that is focused on protecting biodiversity and/or related natural resources from the direct and indirect impacts of human activities and related driving forces (also see operational objective). Effectiveness is focused on the degree and extent to which the impacts of users that can undermine the fulfilment of conservation objectives are reduced, and do not take account of operational objectives as these are considered in the MPAG framework in terms of incentives ('the means' by which effectiveness in achieving conservation objectives is reached).

### Decentralisation

The transfer of authority from central government to lower-level government levels, quasi-independent government organisations, NGOs or the private sector, degrees and forms of autonomy ranging from deconcentration, to delegation, to devolution.<sup>2</sup>

### Driving forces

The factors that can promote activities by users that can undermine effectiveness, such as increasing human populations, both from local population growth and inward migration, increasing demands from globalised fish and tourism markets, and the increasing aspirations of people to improve their living standards beyond subsistence livelihoods.

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<sup>1</sup> Jones, P.J.S. (2014) *Governing Marine Protected Areas: resilience through diversity*. Routledge. Use discount code DC361 for 20% discount at [Routledge](#).

<sup>2</sup> Rondinelli, D. (2000) What is decentralization? pp2-5 in J. Litvack and J. Seddon (eds) *Decentralization Briefing Notes*, World Bank Institute in collaboration with PREM network, Washington DC; Oxhorn, P. (2004) Unraveling the puzzle of decentralization, pp3-32 in P Oxhorn, JS Tulchin and AD Selee (eds) *Decentralization, Democratic Governance, and Civil Society in Comparative Perspective: Africa, Asia, and Latin America*, John Hopkins University Press, Baltimore

### **Ecosystem health**

A measure of the structural and functional integrity, biological diversity and resilience of marine ecosystems coupled with their capacity to provide sustainable flows of ecosystem services.

### **Ecosystem services**

'The direct and indirect use benefits people obtain from ecosystems'<sup>3</sup>, such as food provision, nutrient recycling, climate regulation and shoreline protection.

### **Effectiveness**

The degree to which an MPA's conservation objectives have been achieved and related obligations fulfilled, through the control of impacts, involving restrictions on the activities of users to which an MPA's species, habitats and ecosystems are sensitive. See next section for details.

### **Equity**

The fair distribution of costs (related to restrictions on users) and benefits (related to the achievement of conservation objectives) arising from MPAs, including recognition of the importance of local cultures and ways of life, and the rights of local people to participate in decision-making processes that affect them.

### **Governance**

Steering human behaviour through combinations of state, market and civil society approaches in order to achieve strategic objectives.

### **Incentives**

A particular institution that is instrumentally designed in relation to an MPA to encourage actors to choose to behave in a manner that provides for certain strategic policy outcomes, particularly conservation objectives, to be achieved.

### **Institutions**

Prescriptions that humans use to organize all forms of repetitive and structured interactions, including those within families, neighborhoods, markets, firms, sports leagues, churches, private associations, and governments at all scales.<sup>4</sup>

### **Management**

The day-to-day control of users and their activities, including related technical and administrative approaches (see governance).

### **No-take**

Marine areas designated for the conservation and restoration of their ecosystems, where all fishing activities are permanently banned, as are all other activities that involve the removal of living and non-living resources, e.g. recreational angling, shellfish collection, sand extraction. Can apply to a no-take MPA or a no-take zone (NTZ) (also see partially protected).

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<sup>3</sup> Beaumont, N.J. et al. (2007) 'Identification, definition and quantification of goods and services provided by marine biodiversity: implications for the ecosystem approach', *Marine Pollution Bulletin*, vol 54, pp253-265

<sup>4</sup> Ostrom, E. (1995) *Understanding institutional diversity*, Princeton University Press, Princeton, New Jersey. p3

### **Operational objective**

An objective focused on 'the means' by which conservation objectives ('the ends') are achieved, e.g. promoting the participation of local people, promoting awareness. These are considered in more detail in terms of incentives in this analysis, but such objectives are often explicitly stated as applying to many MPAs, so they are also listed as operational objectives in this analysis, recognising that such objective are considered in greater detail in later analyses of incentives.

### **Partially protected**

Marine areas designated for the conservation and restoration of particular habitats and/or species, in which some activities that are compatible with such objectives are allowed, on the basis that they do not significantly impact the particular habitats, species, or ecosystems. Such activities include recreational angling and commercial fishing with static gears (traps, pots, set nets, etc.) and pelagic trawls (towed through the water column, but not usually across the seabed). Can apply to an entire MPA or to a zone or zones of an MPA (also see no-take).

### **Resilience**

A measure of the persistence of systems and of their ability to absorb change and disturbance and still maintain the same relationships between populations or state variables.<sup>5</sup>

### **Social capital**

A measure of the degree to which actors reach and implement decisions together through their professional and social networks, placing trust in one other, and having confidence that their cooperation with measures to achieve agreed collective objectives will be reciprocated by other actors.

### **Stakeholders**

People who have a stake in a given MPA as they are direct or indirect users and thereby benefit from ecosystem services. This is generally confined to users, but some definitions are more akin to actors in that they include representatives of state organisations, NGOs, etc., whilst others include wider members of wider society who may gain more distant indirect benefits, sometimes even extending to future generations. Due to the ambiguity of this term, it is only used where appropriate to the case study context.

### **State capacity**

The potential of the national government and related state agencies to govern the activities of the country's people and address their related interests. Based on the World Bank's Worldwide Governance Indicators (WGI) project, which is particularly focused on six dimensions of governance – voice and accountability; political stability and absence of violence; government effectiveness; regulatory quality; rule of law; control of corruption. Calculated by taking the average of the six scores (-2.5 to +2.5) and of the six percentile rankings assigned for that country in which the MPA is located. The 'country profiles' from which these scores and rankings are derived can be accessed at [www.govindicators.org](http://www.govindicators.org)

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<sup>5</sup> Holling, C.S. (1973) 'Resilience and stability of ecological systems', *Annual Review of Ecology and Systematics*, vol 4, pp1-23



### **Users**

People who use an MPA on a direct basis, by extracting natural resources, or on an indirect basis, through non-extractive recreational activities, aesthetic appreciation, etc.. For the purposes of this study, users are confined to those who live in the locality of the MPA or who often visit it for direct and indirect uses, i.e. it excludes people in wider society who may gain more distant indirect benefits. Representatives of state organisations are not considered as users.

**29. Tavolara-Punta Coda Cavallo MPA, Italy** - Katie Hogg, Pedro Noguera-Méndez & Maria Semitiel-García, PhD research (2013)

Name	<b>Tavolara-Punta Coda Cavallo MPA (TPCC), Sardinia, Italy</b>	Year of designation	1997
Area	154 KM <sup>2</sup>	State Capacity	0.49 (rank 67.5%, 2016)
GDP per capita	US\$29,600	Human Development Index (HDI)	0.872
GDP Growth Rate	-1.8%	Population below the poverty line	29.9%

**MPA Objectives:**

<b>Conservation</b>	<b>Operational</b>
Protect the marine environment	Spread and disseminate knowledge of the coastal area
Protect the biological resources and geomorphology of the area	Carry out education programs to improve knowledge of ecology and marine biology
	Promote socio-economic development compatible with the protected area and supporting artisanal and traditional activities

**Drivers and Conflicts:**

- There are pressures from recreational and commercial fishing and these activities are restricted through a zonation scheme: Zones A integral reserves (0.53 KM<sup>2</sup>, i.e. 0.35% of MPA) where all forms of fishing are prohibited; Zone B partial reserve (31.1 KM<sup>2</sup>) where small-scale commercial fishing is allowed; and Zone C general use (117.2 KM<sup>2</sup>) where recreational (except spear fishing) and small-scale commercial fishing is allowed. All commercial fishing is restricted to local professional fishermen that are formally resident in coastal villages within the MPA, with just 15 remaining boats (sector in decline) fishing regularly within the MPA, mainly using trammel/gill nets and longlines.
- Recreational fishing is considered to be the greatest management concern, both through excessive effort in Zone C and overfishing near the boundary of the MPA.
- Incoming fishers are a serious issue as budget cuts, staff reductions and vigilance has reduced significantly since the economic crisis in 2007. Recreational fishers who sell their catch (so actually illegal commercial anglers) have also increased to supplement their income, creating potential conflicts between user groups. Both situations are reducing stocks and impacting market prices for fish.
- TPCC is a highly developed tourist area. The local government focus is on economic development which is often in conflict with conservation objectives. The increasing activities have increased environmental degradation. Impacts from diving and snorkelling, anchoring, sedimentation and tourism-related infrastructure development are increasing. The increases in tourism have not been adequately addressed as in peak seasons amenities are overrun and the infrastructure is stretched with high levels of disruption for local residents.
- Anchoring and mooring regulations have been introduced to manage pleasure boat visits, but moorings are expensive to install and maintain creating additional financial burden for the park and breaches of regulations remain common.
- Diving has been regulated with specific areas designated, though there are no official quotas in place. The growth of the dive industry has created conflicts between user groups. Collaboration with dive operators and involvement with monitoring of the marine environment and reporting of invasive species keeps them involved and there is a satisfaction with the levels of growth, but more could be done to respect fishing activities and to encourage profits from the dive industry to remain within the community.

**Governance Framework/Approach:**

Decentralised - The governance approach is government-led with significant decentralisation. Local governments are increasingly being granted more responsibility. A consortium between three municipalities (Olbia, Loiri-Porto San Paolo and San Teodoro) is responsible for management of the MPA. A management authority employs nine staff members who work closely with several associated organisations. The MPA is monitored using cameras and is enforced by the management authority and the coast guard. Dive centres and long term researchers contribute through self-management practices. There is however, limited capacity for enforcement as they don't have the power to issue sanctions to transgressors and instead are reported to authorities that have higher enforcement powers. It allows greater participation and involvement at a local level, although there is potential for local level politics and economic development to influence the effectiveness and management outcomes of the MPA. Local governments want to control the direction of the MPA, but if they do not understand the importance of the MPA they may hinder its progress through failure to provide appropriate resources and support.

**Effectiveness: 2** - *Some impacts partly addressed but some impacts not yet addressed.* The impacts of recreational over-fishing coupled with illegal commercial angling and of tourism continue to challenge the effectiveness of this MPA. Di Franco et al (2009) found no difference in assemblage structures, density, size and biomass between the partially protected TPCC MPA zones and locations outside the MPA, though there were differences in biomass (due to greater size of fish rather than increased density) between the NTZs and the partially protected MPA zones/locations outside the MPA.

**Incentives** (Y= used; Y\*= Used but particularly in need of strengthening; N= Not used; N\*= Not used but particularly in need of introducing; only used, needed and not used/needed but notable incentives for a given case study are listed in these tables)

**Economic**

Incentive type	Used	How/Why
<b>3. Reducing the leakage of benefits</b>	N*	Considerable income leaks to incoming tour operators and illegal anglers
<b>4. Promoting profitable and sustainable fishing and tourism</b>	Y	There are plans to promote the artisanal fishing sector and the profitability of its traditional sustainable fishing practices, including through enforcement of the ban on commercial angling by non-professional fishers
<b>5. Promoting green marketing</b>	N*	There are plans to promote the use of eco-labels to mark sustainably caught products This incentive is needed to increase the value of the resources and respect local traditions
<b>6. Promoting diversified and supplementary livelihoods</b>	Y	Dive tourism is promoted as an alternative livelihood to commercial fishing, although the profit margins are not as high as fishing and the logistics for taking tourists on fishing boats is a deterrent.
<b>9. Provision of state funding</b>	Y*	The National Government provides annual funding based on performance and the TPCC management authority tries to secure additional project funding. The local government also provides a large proportion of funds and resource. However, in Italy MPAs are funded depending on their performance. TPCC is one of the best performing MPAs and is therefore quite well funded. However, each year the budget available is reducing. Furthermore, as the local municipalities provide a majority of the funding they have been hit badly by the economic crisis. The MPA staff are 'employed' on 8 month contracts as there is no guarantee of long term funding. This is creating issues for staff and for long term project planning.
<b>10. Provision of NGO, private sector and user fee funding</b>	N*	The potential to charge user fees, including fees for commercial operators within the MPA and potentially some NGO funding needs to be explored to address funding shortages.

### Communication

<b>11. Raising awareness</b>	Y	An educational cinema runs in peak seasons and there is a team of volunteer tour guides to inform visitors about the MPA.
<b>12. Promoting recognition of benefits</b>	Y	All of the benefits of the MPA are communicated through the channels above
<b>Promoting recognition of regulations and restrictions</b>	Y	As above

### Knowledge

<b>14. Promoting collective learning</b>	Y	The knowledge of artisanal fishers was drawn on in the design of the MPA and is drawn on in its assessment and management.
<b>15. Agreeing approaches for addressing uncertainty</b>	Y	Through collaboration with the university there has been acknowledgment that they do not have answers for everything and therefore use some experimentation which is openly communicated but there is not a formal agreement or process.
<b>16. Independent advice and arbitration</b>	Y	Data has been published in high quality international peer-reviewed journals giving confidence in the quality and reliability of the data used in monitoring and applied to decision-making. This improves the quality of the management of the MPA. The use of peer review acts as a form of independent advice.

### Legal

<b>17. Hierarchical obligations</b>	Y	The designation as a SMPAMI and SCI and inclusion in the MedPan Network requires certain obligations to be met.
<b>18. Capacity for enforcement</b>	Y*	The MPA staff have no jurisdictional power to enforce the regulations. If they catch transgressors, they are only able to tell them that the area is protected and their activities are not permitted. They are reliant on the coast guards to enforce the regulations, but the Coast Guard have limited capacity and often cannot respond to reports, and MPA staff suggested that they are less influenced by local politics and could therefore enforce the MPA more effectively and equitably. The park staff were very aware of the system in France (where park staff have police status) and saw this as one of the most beneficial potential improvements for their MPA.
<b>19. Penalties for deterrence</b>	Y	There are penalties for deterrence in the form of fines and this is written into the government law.
<b>20. Protection from incoming users</b>	N*	Increased enforcement is needed to protect local commercial and recreational fishers from incoming illegal commercial anglers.
<b>22. Cross-jurisdictional coordination</b>	Y*	Coordination is managed across various jurisdictions within the government and local government with a consortium of management from three municipalities, the TPCC management authority and associated organisations. There could be improvements made to increase effectiveness, particularly through improved coordination with the Coast Guard
<b>23. Clear and consistent legal definitions</b>	Y	All legal definitions are contained within the government law and under specific zonation plans which is regulated by the management authority.
<b>25. Legal adjudication platforms</b>	Y	The government manages all adjudication through the traditional legal channels.

### Participative

<b>27. Rules for Participation</b>	N	Clear rules are needed for participation and to ensure more regular meetings and wider participation
<b>28. Establishing collaborative platforms</b>	Y	A working group was created to facilitate meetings and workshops related to MPA decision-making and to develop strategic partnerships with key community groups, research institutes and key industries

<b>33. Building trust and the capacity for cooperation</b>	N*	Although meetings are held, some consider that these are not frequent enough and that more effort is needed to bring the different groups together in decision-making processes and to build trust
<b>34. Building linkages between relevant authorities and user representatives</b>	N*	Improved linkages between relevant authorities and user representatives could be established through more regular meetings

**Cross-cutting themes:**

*Leadership*

Strong leadership is driven by the MPA director who has been responsible for recruiting competent staff, fundraising and building social capital with key actors. Reliance on one leader leaves the future of the MPA vulnerable, once that leader retires;

*Equity*

Lack of enforcement capacity by MPA authority staff leaves the responsibility of issuing sanctions to public administrative bodies, who are perceived to be more influenced by local politics and there are concerns about clientelism

*Stewardship*

The use of communication incentives has increased local community stewardship of the MPA, but community support for the MPA remains relatively low.