

## The Cres-Lošinj Special Marine Reserve (CLSMR) Governance Analysis

**Peter Mackelworth and Draško Holcer**

Blue World Institute of Marine Research and Conservation

Email: [peter.mackelworth@blue-world.org](mailto:peter.mackelworth@blue-world.org)

**To Cite This Report:** Mackelworth P and Holcer D (2010) The Cres-Lošinj Special Marine Reserve – governance analysis. Pages 206- 214 in PJS Jones, W Qiu and EM De Santo (Eds) *Governing Marine Protected Areas: getting the balance right – Volume 2*. Technical Report to Marine & Coastal Ecosystems Branch, UNEP, Nairobi.

### 1. Context

**Name:** Cres-Lošinj Special Marine Reserve (CLSMR);

**Size of MPA (km<sup>2</sup>):** 525.76 km<sup>2</sup> (islands: 2.40 km<sup>2</sup>).

**Coastline length (km) (where applicable):** 154.548 km

**Distance from shore (range, from inner edge to outer edge):** 15 km

	National (2008 estimates)	Lošinj Island (2007)
<b>Population per km</b>	79.6	37.6
<b>Population growth rate</b>	-0.052%	N/A
<b>Per capita GDP (US\$)</b>	16,100 USD	N/A
<b>GDP growth rate</b>	4.8%	N/A
<b>GDP composition by sector</b>	Agriculture: 7% Industry: 31.6% Service: 61.4%	N/A
<b>Labour force by occupation</b>	Agriculture: 5% Industry: 31.3% Service: 63.6%	Agriculture: 0.6% Industry: 9.0% Service: 90.4%
<b>Unemployment rate</b>	14.8%	9.6%
<b>Government type</b>	Presidential - Parliamentary democracy	Executive Mayoral system

The Cres and Lošinj Archipelago lies in the borderland area of the Northern Adriatic an inherently European space (Ballinger, 2004). Originally inhabited by the Ilyrics, subsequently governed by the Romans and colonised by the Croats, and then domination by the regional powers of Venice, Italy and Austria has left a rich local heritage (Fučić, 1990). At its peak, in 1844 Mali Lošinj was the second largest producer of ships in the Austrian empire, the development of steel steam ships in the 1880s led to the decline of the shipbuilding industry (Balon *et al.*, 2005). In 1886 health tourism, particularly for respiratory and allergic diseases, started to develop. The defeat of the Axis powers in World War One lead to archipelago being ceded to Italy. The Italians maintained control until the end of the Second World War, then the islands became part of Croatia as the Yugoslav Federal Republic. This lead to mass emigrations of the Italian minority and non-communists; it was not until the development of mass tourism facilities in the late 1960s did the population rise again (Podgorelec, 1999). Immigration of other Slavic peoples in this period changed the demographic balance to what is recognised as the most open population of the Adriatic islands (Lajić, 1993).

Socially, economically and environmentally Lošinj is dominated by tourism. Emigration remains a problem as opportunities stagnate on the island and there is a movement of young people to the continent. Although there has been significant development of tourism and tourist facilities the local infrastructure does not have the capacity to maintain the tourist influx in the summer season. Tourism remains concentrated in two to three summer months which exacerbate the feelings of isolation and peripherality of the local population in the winter (Mackelworth, 2007).



## 2. OBJECTIVES

The Cres-Lošinj Special Marine Reserve (CLSMR) is the first area of any major size dedicated for the protection of marine biodiversity in Croatia (map 1.). On the 26<sup>th</sup> July 2006 the CLSMR was granted three year 'preventive protection' by the Ministry of Culture (Klasa UP/I-612-07/06-33/676, Urbroj 532-08-0201/5-06-1). Preventive protection is a proactive step, under article 26 of the Nature Protection Act Law (2005), to protect an area that is considered as being under immediate threat. In 2006 this area was under immediate threat from the construction of a 380 berth marina in the small village of Nerezine located in the middle of the area.

The definition of a Special Reserve is described under Article 12.1 of the Nature Protection Act (2005) as 'an area of land and/or sea of particular importance for its uniqueness, rarity or representative character, or is a habitat of endangered wild taxon, having a particular scientific significance and intended purpose'. This category is declared by the State, but managed at County level with the option for management to be ceded to the Municipality in which the protected area resides. The CLSMR resides wholly within the Lošinj Municipality allowing for the development of a local management board.

### *The primary objectives of the CLSMR are:*

- The restoration and maintenance of the population of bottlenose dolphins (*Tursiops truncatus*) in the Kvarnerić at a viable level;
- To ensure that the Kvarnerić provides the environmental and ecological processes necessary for the achievement of this primary objective, subject to natural change;
- To provide protection of the habitat of the Loggerhead sea turtle (*Caretta caretta*) for whom this area is a summer habitat for foraging, and a winter hibernation habitat;
- Provide protection of sea grass meadows (*Posidonia oceanica*) as well as coral biocenosis;
- Protect islands and coast that are nesting and brooding sites for protected birds species;
- And, protect underwater archaeological sites (Mackelworth *et al.*, 2002)

### *International and national objectives*

Croatia has signed and ratified all of the major conventions and agreements relevant to marine biodiversity conservation, the most applicable to this site are:

- The Convention on the Conservation of European Wildlife and Natural Habitats (Bern, 1979);
- The Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area (ACCOBAMS) (Monaco, 1996);
- The Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean (Barcelona, 1976).

This area is listed as a priority under the ACCOBAMS agreement and included in the Pan European Network of Protected areas under the Bern Convention. Croatia is also an EU accession country hence harmonisation with EU directives is a national priority, in nature conservation the EU Habitats Directive an absolute priority. The MPA has been promoted as one of the future 'Natura2000' sites for the EU Habitats Directive (Council Directive 92/43/EEC) and was recently listed in the Fourth National Report to the Convention on Biological Diversity (2009).

In addition it will fulfil many of the intentions expressed in the National Strategy and Action Plans for the conservation of biodiversity (1999): Development of protected areas for protected species; protected areas for all species of dolphins; Estimation of the size, population trend and protection of dolphins, through the use of a pilot marine park. With "Particular emphasis will be placed on the protection of species listed as endangered on a global European or national scale".

### 3. DRIVERS/CONFLICTS

The service industry dominates Croatian GDP and employment; this is directly related to the tourism industry (figure 1). Tourism is the primary economic driver and greatest threat to the islands and coastline. Additional threats are urbanisation and unregulated development, fishery and pollution. Since independence there has been intensification in development pressure on the islands and coastline. Land-use plans have been targeted by speculators to profiteer through the planning system before EU accession (Mackelworth & Carić, 2010). Regarding fishery, there is increasing interest in the pelagic fishery throughout Croatia, with the development of a subsidised industrial fleet.



- \* 1991 Start of Croatian War of Independence, siege of Dubrovnik
- \*\* 1995 End of Croatian War of Independence, operation 'Storm'
- \*\*\* 1999 NATO bombing of neighbouring Federal Republic of Yugoslavia

Figure 1: Tourism in Croatia and the Mali Lošinj Municipality, 1990 – 2008 (Statistical Office, Rijeka)

The CLSMR suffers from the same drivers and conflicts as the rest of the Croatian Adriatic. In Lošinj tourism recovered faster due to the developed tourist infrastructure and lack of direct conflict (figure 2). Yet, only a limited part of the islands is serviced by a sewerage system, wastewater from many of the hotels is biologically untreated and disposed of directly into the sea. The system is adequate for the residents of the archipelago, but in August when the population quadruples the water quality declines (IDC, 1997).

The development of nautical tourism, particularly the use of personal watercraft, has a direct effect on the dolphins. Physical and noise disturbance displaces the dolphins in the summer months when the amount of registered boats on the island also quadruples (Mackelworth et al., 2003). In addition there is no estimate of the number of boat transiting the area. Associated with this is the transmission of the invasive algae *Caulerpa taxifolia* and *Caulerpa racemosa* through unmanaged anchoring. In November 2009 a large patch of *C. racemosa* was discovered less than 5 nautical miles from the border of the CLSMR.

Tourism is proposed to grow by 40% within the archipelago by 2015. Associated with this growth will be an increase in the nautical tourism, particularly an expansion of the harbour of Mali Lošinj adjacent to the CLSMR, and the marina in Nerezine in the middle (map 1.). If the Nerezine marina is constructed it is likely to affect the dolphin distribution due to disturbance pressure. It is unknown how this pressure could affect the dolphins at population level or in terms of permanent migration from the area. Yet, the harmonisation of the Croatian law for environmental protection with the EU Directive on Environmental Assessment (Council Directive 85/337/EEC, amended Council Directive 97/11/EC) requires that all new investments should carry out a full Strategic Environmental Assessment as well as satisfy the requirements of the Habitats Directive.

Although fishery accounts for less than 1% of employment on the island, its effect is larger due to the multiple gears used in the area and the large ‘recreational’ fishery (IDC, 1997). The area is fished by bottom trawlers, purse seiners, static gill and trammel nets, long-lines, rod and spear gun. In all niches fish are exposed to at least one gear. ‘Recreational’ fishery is a major impact due to the fact that many of the seasonal tourist workers supplement their income outside the summer season by fishing. External fishers, including professional purse seiners and bottom trawlers use the area; in addition purse seiner vessels have been implicated in the illegal use of explosives. There is a general trend of decline both in the index of fish biomass of total catch and catch of the commercial species and in the area. The opening of the external EU market has recently led to many of the fish from the Lošinj region being exported to Italy exacerbating the problem.

The migration of people from the island has led to the loss of local ecological knowledge. It also makes it difficult to identify a defined indigenous population to work with to develop long-term sustainable development strategies. Yet, although this is considered the most open population of any of the Croatian islands the role of influential individuals dominates the participatory process (Mackelworth & Carić, 2010). For institutions seeking to fulfil statutory requirements for participation it is easier to access these individuals rather than seek true participation.

#### 4. GOVERNANCE FRAMEWORK/APPROACH

<b>National Level</b>	National Government Governmental decision on the justification of the area must be made for permanent protection	Ministry of Culture The competent authority for nature protection	State Institute for Nature Protection Advisory body to the Ministry of Culture for nature protection. Supervisor overseeing the work of the county institutions
<b>County Level</b>	Public Institution for Managing Protected Nature Areas of the county of Primorsko-Goranska The legally responsible institution for the development of a management plan and internal rules for the area. The Institution also has the power to approve or prevent any activities that are seen as a potential threat to the area.		

The permanent designation of a Special Reserve is declared by the National Government, on the recommendation of the competent authority, the Ministry of Culture. The management authority is appointed to the County within which the protected area resides. However this designation type provides for the local Municipal authorities to request management authority, which would then be ceded by the County authorities.

Temporary preventive protection is granted by the Ministry of Culture as a solution to protect an area under direct threat. It lasts for a maximum 3 year period within which time a final proposal for the protection should be drawn up by the Ministry of Culture and submitted to the Government for approval, this should include the internal bylaws of the area. Within this 3 year period no new use of an area is permitted, however, the ongoing use, provided it does not the protection of the area, can continue (Maričević, 2006). The deadline for permanent protection of the CLSMR expired on the 26<sup>th</sup> of July 2009. As yet there has been no internal rules or zones defined, and no true participative input been sought.

It is believed that changes to the designation are in progress including: changes to the borders to limit its effect of protection on the economy of the island; and, the area will be downgraded from ‘Special Reserve’ to ‘Regional Park’ (Fabrio Čubrić *et al.*, 2009). If this is indeed the case this will open up questions over the validity of the area to satisfy biological objectives and the requirements of the international agreements and conventions, and particularly the Habitats Directive.

## 5. EFFECTIVENESS

Although the CLSMR can only be regarded as a ‘paper park’ with no management, no budget and no enforcement, preventive protection has been effective in deterring the threat of the construction of the Nerezine marina to date. Preventive protection has also focussed the attention of the authorities and stakeholders to the fact that some form of management is required, regardless of the designation type.

Impacts addressed	Impacts not addressed
<ul style="list-style-type: none"> <li>• Development of the Nerezine Marina</li> <li>• Discretionary code of conduct around dolphin groups</li> <li>• Use of explosives in fishing activities</li> </ul>	<ul style="list-style-type: none"> <li>• General personal watercraft behaviour</li> <li>• Illegal fishing practices</li> <li>• Aggressive ‘dolphin watching’ tour boat behaviour</li> <li>• The spread of invasive algal species</li> <li>• Land-based pollution</li> </ul>

Fish stocks are believed to be in decline, however there has been no fishery assessment undertaken within the MPA, the development of preventive protection has opened the debate on the development of ‘micro-zones’ for management of local fish stocks in spawning season.

General disturbance and boat traffic remains an issue in the area; however a widely published code of conduct has reduced negative interactions between personal watercraft and dolphin groups.

Interest into the interactions between fisheries and dolphins led directly to the investigation of fishing practices utilising explosives.

## 6. INCENTIVES

### 6.1 Economic incentives

- ‘Lošinj the island of dolphins’

The CLSMR proposal was linked to the development of tourism on the island. Branding Lošinj as the island of dolphins was used to define the island within the Croatian tourist offer. This concept was developed with the previous local administration which supported the CLSMR. Since the change in local administration the island image has moved more towards health tourism with a rebranding as ‘the island of vitality’.

- Local protectionism

There was an attempt to promote the concept of local protectionism and marketing fish as being ‘sustainable fished from the CLSMR. These ideas were never adopted due to objections raised from adjacent islands and the national fishery guild, and the absence of a coherent Lošinj fishery guild. The leaders of the Lošinj fishery guild later opposed the MPA in cooperation with the developers of the marina in Nerezine.

- Promoting alternative livelihoods

Many day trip operators promote their trips using the dolphin image and the ‘dolphin watching’ concept. Additionally, some bottom trawlers provide tourist day trips combined with the ‘trawling’ experience in the summer seasons.

- External funding

The position of Croatia as an EU accession country provides the opportunity to apply for funding for the development of infrastructure, management plans and personnel for the protected area. In addition

funding from the World Bank and various UN agencies has been forthcoming into the State and would be possible sources of funding.

**Linking the development of the CLSMR with economic capital is essential, particularly in a country where transition to a market economy is still ongoing, such as Croatia. However, there is the fear that the tourist industry would further dominate and corruption at all levels will undermine the process. Economic incentives are the second most important in this case study.**

## 6.2 Interpretative incentives

- The Lošinj Marine Education Centre

The centre, developed in cooperation with the previous local administration, has provided a local focus for sustainable development and extra-curricular environmental activities on the island. The centre is a tourist attraction in the summer, and attracts schools and colleges in the shoulder season which benefits the local economy. The development of educational programmes has also been used to keep young students interested in the island to stem emigration.

- Media

Media was particularly helpful in promoting the concept of the CLSMR as the first MPA for dolphins in the Mediterranean. Media pressure directly supported the implementation of preventive protection to stop the development of Nerezine marina. However, as conflicts emerged some media also sought to exacerbate problems by publishing inflammatory stories.

- Publications

A series of brochures have been published highlighting the advantages of the protected area for local management and economy.

**Communication of science and policy to stakeholders in an understandable manner increases transparency. The media was a double edged sword with mainly short-term influence. The combination of the educational centre as an interpretive resource, but also benefiting the local economy, is important and a long-term tangible asset.**

## 6.3 Knowledge incentives

- Scientific information

The nature of cetaceans and their mobility make uncertainty inherent when trying to define population home-range or critical habitats. This allowed for the promotion of alternative misinformation regarding the population. In addition the absence of information on marine habitats and fish stocks within the area also increase uncertainty.

- Local knowledge

Attempts were made to access local ecological knowledge, however the lack of a definable indigenous population resulted in little information could be integrated into the process. Efforts were made to include stakeholders in research and develop research programmes in cooperation with the fishing guild, however this ceased at the designation of preventive protection.

**One of the fundamental issues has been the origin of 'scientific' information. In Croatia, institutional position remains a more important verification of competence than publication and international recognition, regardless of the fact that it is widely known that the institutional scientific community is rife with nepotism, favouritism and corruption.**

## 6.4 Legal incentives

- International requirements

Without ACCOBAMS and the overarching national policy to harmonise with EU law there would be little national interest in developing the CLSMR. At international level, the EU whilst accession negotiations are ongoing, ACCOBAMS and other agreement and convention secretariats will need to maintain pressure on the Croatian government for successful implementation of the CLSMR.

- National law clarity and political will

Since Croatian independence the law for nature protection has been re-written three times and the competent authority for protected areas changed from the Ministry of the Environment to the Ministry of Culture. Additionally the Croatian law for Nature Protection lacks definition and is open to interpretation, and as yet has not been tested by the rule of law to provide precedence. In addition the State Authorities lack the political will to promote conservation strategies over development.

- Coordination between authorities.

Communication between the SINP, the Ministry of Culture, and the County Public Institution for Managing Protected Nature Areas appears to be limited. Each office is coordinated by an elected official usually sponsored by a political party. Often officials are from differing parties, hence fiefdoms are developed at different institutional levels and there is a politicisation of conservation strategies. The major problem remains that absence of a competent authority to lead the process.

**Until clear leadership is defined then the CLSMR will continue to confuse and confound local users. Associated with this is the absence of any clear bylaws. Without clear interpretation of the law by the competent authorities it is open to manipulation and misinformation, with opponents to the MPA willing to utilise this confusion. This is the most important incentive to get right.**

## 6.5 Participative incentives

- Local negotiations

Initial good cooperation between local NGOs, stakeholders and the SINP helped move the CLSMR proposal to the point of the declaration of preventive protection in 2006. The manner, in which preventive protection was declared by the Ministry of Culture, without prior warning or consultation, eroded the previously developed trust and allowed for the creation of misinformation and tension at local level.

- Special Zoological Reserve

This designation type allows for the development of a local management board; however there was no local political will to take this option. The proposed change to a regional park may undermine the biological objectives without addressing the local concerns over management and participation.

- Gatekeepers

Participation has been highly selective with the State authorities seeking opinions only from highly vocal stakeholders such as the fishery and the boat operator's guilds, largely opposing conservation. The most recent strategic stakeholder interviews undertaken by the SINP concentrated upon those stakeholders opposing the CLSMR and did not seek balanced views of the island. In addition many local stakeholder groups are fragmented and have been manipulated by the hidden interests of individuals acting as their representatives. Local NGOs have sought to facilitate wider participation, but this has been undermined at local and national institutional levels, and general community apathy.



**Participation is a relatively new concept in Croatia it is difficult to create true opportunities for effective citizen participation where there is little or no experience with these processes by the citizens themselves or the institutions that should be facilitating participation.**

## **6.6 Cross-cutting Issues**

- **Leadership**

The absence of clear leadership at individual level, and over the competent authority, has undermined the development of the CLSMR. Loss of local support, through the change in local Mayor in 2005, was also a significant setback. The inactivity of the competent authority after the declaration of preventive protection undermined any trust that had previously been created; hence the greatest effect of this issue is on the legal and participative incentives.

- **Role of NGOs**

NGOs have played a significant role in all the incentives. In particular they provided the principal source of scientific knowledge, play a major role in the interpretative incentives through the Lošinj Marine Education Centre, and lobby at international level. Initially, NGOs also pushed for participation, but due to the disinterest of the State have reduced this role.

- **Equity**

Participation in Croatia remains in its formative stage. Generally participative approaches concentrate on 'the usual suspects' there has been little attempt by the authorities to do little more than minimum consultation. Additionally, consultation has concentrated on attempting to placate the opposing stakeholders, at the expense of the biological objectives, rather than seeking widespread consensus.

- **Stewardship**

Due to the demographic changes to the archipelago it is hard to identify a defined indigenous or local 'community'. Transience and seasonalism make it difficult to create critical mass for the development of collective action to lead to the stewardship of the island as a whole.

## **7. Key Issues**

The legal incentives are the most important aspect of the development of the CLSMR. EU accession and the need for the harmonisation with the Habitats Directive in particular is an overarching factor. Countering this, increasing articulation with the EU market is placing greater stress on the marine environment of Croatia as a whole. Transition of the Croatian economy is ongoing and hence the economic aspect of conservation has to be a feature for the CLSMR if it is to be successful, again this is related to the possibility of finding EU or external funding. The absence of clear leadership and ambiguity over the competent authority, partially related the designation type, will need to be clarified for the CLSMR to be effective, however the absence of political will at all levels makes this unlikely. Finally, the defining issue has been the direct conflict between the development of the marina in Nerezine and the CLSMR. This was the catalyst for the development of opposition to the protected area concept, without the Marina conflict over the protected area would be significantly less.

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