“Ejemplo de buenas prácticas de gestión de espacios marinos en Europa. El caso de Miramare (Italia)”

- Roberto Odorico. Director Ejecutivo de la Reserva Marina de Miramare

1973 **Miramare is started, as a private MPA (30 ha), by WWF**

1979 Miramare MAB is established as Biosphere Reserve

1986 **M.E. is established, Miramare pursues under WWF management**

1994 **The 90 ha buffer zone is set up (local law)**

RISERVA NATURALE MARINA DI MIRAMARE

1986-2011 – 25 years for the marine protection

New methodologies to use and preserve the environment in the same time.

Miramare MPA's institutional goals

- environmental protection
- conservation of the marine biodiversity
-scientific research and monitoring
-sustainable socio-economic development
- environmental education
- diffusion of the knowledge on protected marine and coastal ecosystem

RISERVA NATURALE MARINA DI MIRAMARE

Ministero dell' Ambiente e della Tutela del Territorio

WWF for a living planet

15 employees

7,000 students/year

21,000 entries to visitor’s centre/year

1,200 snorkelers/year

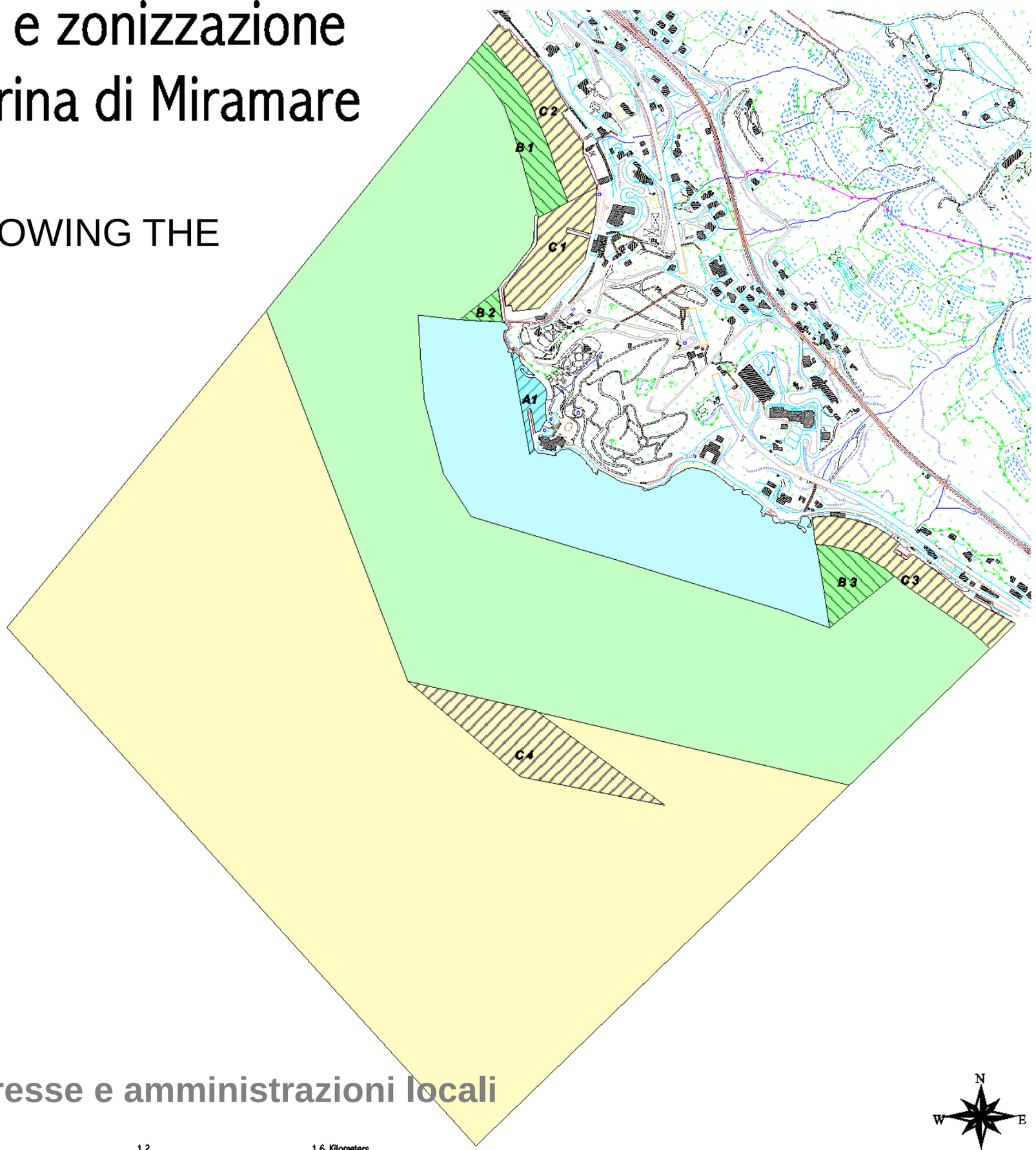
800 divers/year

RISERVA NATURALE MARINA DI MIRAMARE

FROM INSTITUTIONAL (30ha) TO FUNCTIONAL ZONATION (2200ha)

Proposta di ampliamento e zonizzazione della Riserva Naturale Marina di Miramare

FUNCTIONAL ZONATION FOLLOWING THE IMPACT OF THE LAND USE



Nuova Zonizzazione R.N.M.M.

- Zona A
- Sub-zona A
- Zona B
- Sub-zona B
- Zona C
- Sub-zona C

0.4 0 0.4 0.8 1.2 1.6 Kilometers

N W E S

Governance tra portatori di interesse e amministrazioni locali

Area di Tutela Biologica nel Golfo di Trieste
(DM M.I.P.A.F.19 giugno 2003)

Zona di Tutela Biologica Miramare

N
W
E
S

0.7 0 0.7 1.4 2.1 2.8 3.5 4.2 4.9 Kilometers

regolamenti di gestione per consorzi produttori e regolamento ZTB

Miramare is a Marine Protected Area, but its activity could be exported to other places

MIRAMARE AS A NATURAL LABORATORY

... but is the biodiversity preserved outside the MPA?

HABITATS, SPECIES AND ASSOCIATIONS AS ONE OBJECT OF INVESTIGATION

LITTORAL OBSERVATORY

Climate changes (hot species)
Impacts on habitats

ITA

redundant species/habitats
rarity/representativity
standardization of controls
recording of changes

HABITATS, SPECIES AND ASSOCIATIONS AS ENVIRONMENTAL INDICATORS

To collect scientific informations and translate for managers of territory (i.e. administrators)

Indicators measure the efficency of management:

- How much biodiversity is growing
- How can I do to preserve biodiversity
- What have I done for biodiversity

HABITATS, SPECIES AND ASSOCIATIONS AS ITEM OF A NEW ENVIRONMENTAL BUDGET

To give a value to what is priceless

i.e. How much for AMP environmental heritage?

AMP represents not only a cost, but also a reevaluating investment for community, and interests are available not only for quality of life and conservation, but also for welfare and economic activities induced.

400€ for one illegal catch (una tantum)

….or 6000€/year?

Blennies have no commercial value

1 Kg of Blennies of the mediolittoral (swimming along the nature trail) can reach 1000€/Kg!!!!

... better alive!!

AMP Budget items are implemented by economic indicators referred to the protected resources

I.e.:

habitat refugia for species
trophic level
retention rate of productive activities
recruitment of species
food production (fishery)

EVALUATION OF THE MANAGEMENT OF THE CMPA

WHO CAME FIRST??

conservation of an area

species/assoc./habitat

Can we say that it is enough?
Are we losing some important aspects?
Can we address a common strategy starting from habitats?

Gulf of Trieste: Too much diversity added up the bio-divers

high levels of protection
hystorical conservation

Effective management ?

1996
1996
1986
1986 (1973)
1991
1990
1998
1990

facies of phanerogams which have been washed ashore	I.2.1.5
associations with halophites	II.1.1.1
salt works facies	II.1.1.2
facies of banks of dead leaves of P.o. and other phanerogams	II.3.1.1

supralittoral
soft
mediolittoral

?
?
?

bad good

level of representativity

association with Nemalion helminthoides e Rissoella verruculosa	II.4.1.3
association with Lithophyllum papillosum and Polisiphonia	II.4.1.4
association with Fucus virsoides	II.4.2.7
association with Phymatolithon lenormandii e a Hildenbrandia rubra	II.4.3.1
association with Nanozostera noltii of euryhaline and eurithermal env.	III.1.1.4
association with Zostera marina	III.1.1.5
association with ad Halopithys incurva of euryhaline and eurithermal bioc.	III.1.1.8

rocky mediolittoral

soft infralittoral

? ? ? ? ?

bad good

level of representativity

association with Cymodocea nodosa	III.2.3.4
association with Loripes lacteus, Ruditapes	III.2.3.3
facies del maerl o a alghe calcaree	III.3.2.1
facies a rodoliti	III.3.2.2
Prateria a Posidonia oceanica	III.5.1
association with C. amentacea	III.6.1.2
facies a Cladocora caespitosa	III.6.1.14
association with C. crinita	III.6.1.16
association with C. crinitophylla	III.6.1.17
association with C. spinosa	III.6.1.19
association with C. compressa	III.6.1.25
association with Sargassum vulgare	III.6.1.20
Facies ed associazioni del Coralligeno in enclave	III.6.1.35

infralittoral

?

? ?

bad good

level of representativity

association with rhodolithes	IV.2.2.1
Facies del maerl	IV.2.2.2
association with Peyssonnelia rosa-marina	IV.2.2.3
association with Athrocladia villosa	IV.2.2.4
Fcies ad Ophiura texturata	IV.2.2.6
Facies a sinascidie	IV.2.2.8
Facies a grandi briozoi	IV.2.2.10
association with Sargassum spp.	IV.3.1.5

circalittoral

?

?

?

?

bad good

•better protection for supra - and mediolittoral of the coastline of the lagoons considering the vulnerability and the anthropic threats for the habitats (i.e. phanerogames as nursery areas) in that environment.

extending the protection in small representative areas of tenue/trezze also considering the channels among the crops in which maerl and calcareous algae are present.

•specify modalities of protection for redundant or well representative priority habitats considering the extension of the protected coastline regarding the infralittoral and the possible priority habitat zonation related to the substaiable human use.

How is your MPA doing?

The pilot experience ran in 5 sites (2005 – 2008) under WWF-Miramare guidance, can give an idea of the national MAPs network.

We have now a better idea of the average identity of Italian MPAs: a cluster of conservation efforts, socio-economic and governance problems, and overall management capability.

Here is a brief analysis of the management choices referring to the 5 MPAs, and the results achieved.

RISERVA NATURALE MARINA DI MIRAMARE

“How is your MPA doing ?” - A step-by-step process

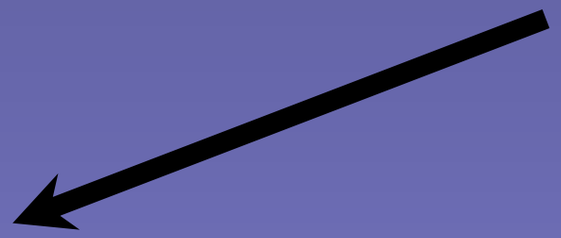
The process for evaluating effective management includes:

1 selecting a set of measurable indicators that match the goals and objectives of the MPA;

2 developing a realistic work plan and timeline required to complete the

	Indicators	Torre Guaceto	Sinis	Ciclopi	Tor Paterno	Miramare
	Biophysical indicators					
B1	Focal species abundance	☑	☑	☑	☑ ⁞⁞	☑
B2	Focal species population structure	☑	⁞⁞	☑ ⁞⁞		
B3	Habitat distribution and complexity	☑		☒ ☑		☑ ⁞⁞
B4	Composition and structure of the community	☑				
B5	Recruitment success within the community			⁞⁞		
B6	Food web integrity					⁞⁞
B7	Type, level and return on fishing effort	☑		☑ ⁞⁞	☑	
B8	Water quality		⁞⁞ ☒	☑		
B10	Area under no or reduced human impact	≈	☑ ⁞⁞		⁞⁞ ☒	≈ ⁞⁞
	Socio-economic indicators					
S1	Local marine resource use patterns		⁞⁞	☑		
S2	Local values and beliefs about marine resources	☑	≈ ⁞⁞		☑	
S3	Level of understanding of	☑		≈	☑	

How is your MPA doing?



ISEA initiative (Interventi Standardizzati Efficacia AMP)

aims to promote efficiency and effectiveness in the management and conservation of marine and coastal life. It focuses on five of the most representative Italian MPAs, which also happen to be recognized at international level as SPAMIs (“Special Protected Areas of Mediterranean Importance” established under the Barcelona convention [1995]).

ISEA project is also in line with commitments undertaken by ratifying the Convention on Biological Diversity, namely to establish by 2012 in Italy and in the Mediterranean Sea a representative network of MPAs that are effectively managed, consistent with international law, and based on scientific information.

A standardized network of MPA focusing on:

eight MPAs-SPAMI: Miramare, Torre Guaceto, Porto Cesareo, Plemmirio, Punta Campanella, Tavolara, Capo Caccia and Portofino. The project, ended in june 2011, has strengthen the network of Italian SPAMIs by ensuring each one meets and maintains over time the basic requirements as called for under the SPA/Biodiversity protocol :

- that the protected area must have a management body, endowed with sufficient powers, means, and human resources to prevent and/or control activities likely to be contrary to the aims of the protected area;
- that a management plan has to be in force and officially adopted; and
- that the area has to have a monitoring program that includes the identification and monitoring of a certain number of significant parameters for the area in question.

Basically, at the present stage, a second phase is in need. The question in mind is: which are the next steps to move forward in this extremely useful direction. Shall we stride from the evaluation of effectiveness in a single MPA to the effectiveness of national, or eco-regional network of MPAs ?

RISERVA NATURALE MARINA DI MIRAMARE

THANKS

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