General Fisheries Commission for the Mediterranean
Commission Générale des Pêches pour la Méditerranée
LaMed-2 Project

Fishery activities and management plan in the Venice lagoon

By Gianluca Salogni – Giunta Regionale del Veneto, Segreteria regionale per le Infrastrutture, UP Coordinamento Commissioni, Servizio pianificazione ambientale
Thomas Galvan – Agriteco sc

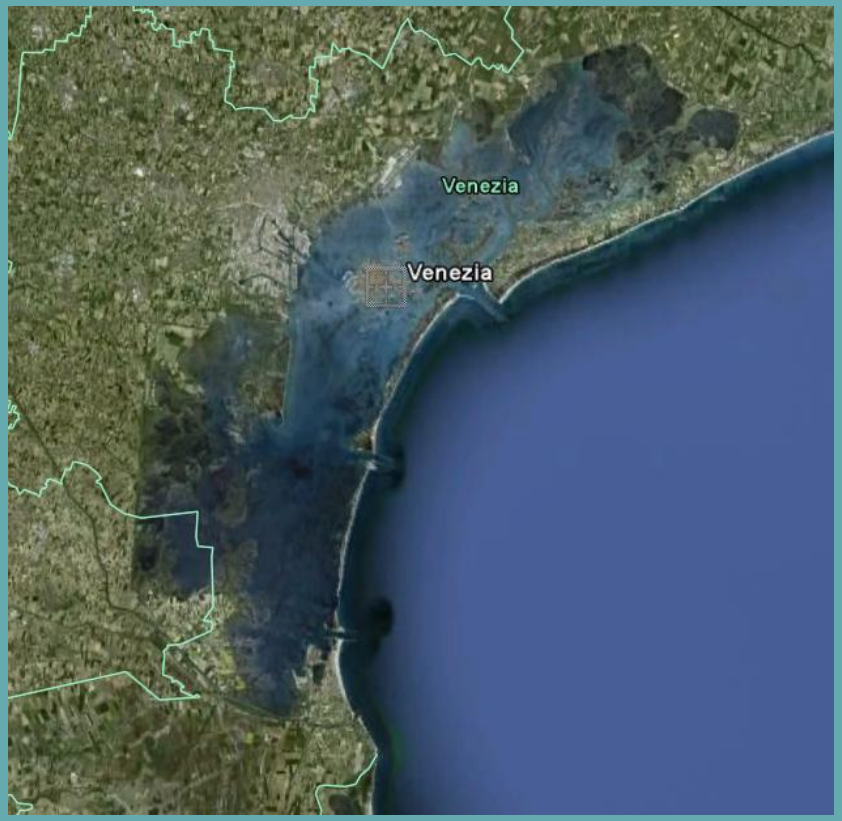
Meeting on

Mediterranean coastal lagoons management: interaction between aquaculture and capture fisheries

Cagliari, Italy, 28-30 June 2011

REGIONE VENETO

Venice lagoon



- the largest Italian lagoon
- 55.000 ha of surface
- 60 % of water area
- 18 % of saltmarshs
- 17 % of extensive fish farms
- 5 % of islands
- 1,5 m of average depth
- 3 inlets
- 2 provinces

Fishery activities

- Fyke nets
- Manila clam culture
- Mollusc culture
- Lift nets
- Extensive fish farms
- Amateur fishing

Fyke net fishing

Fishing method practiced in the Venice lagoon for centuries and regulated by Water Magister

At 2010 the number of fyke net fishermen in Venice lagoon is 112 - female absence

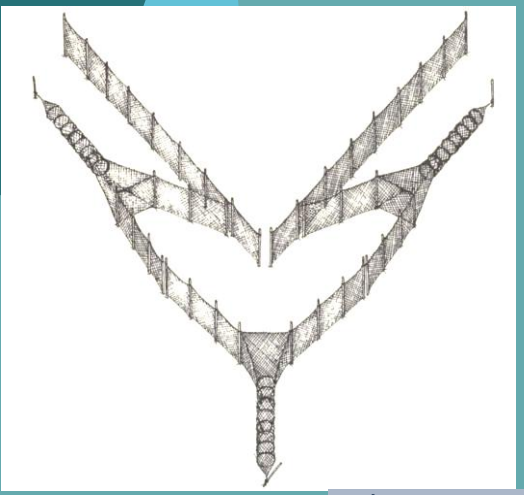
Fishermen are affiliated to 7 local entities

Average age 49 years

General Fisheries Commission for the Mediterranean
Commission Générale des Pêches pour la Méditerranée
LaMed-2 Project

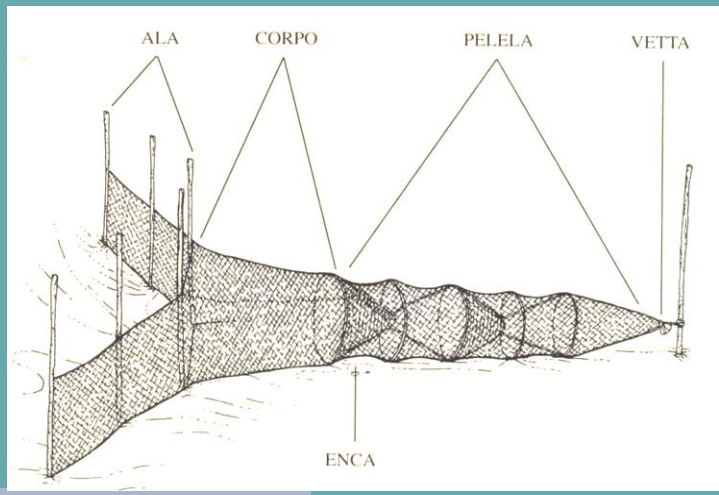
Fyke net fishing

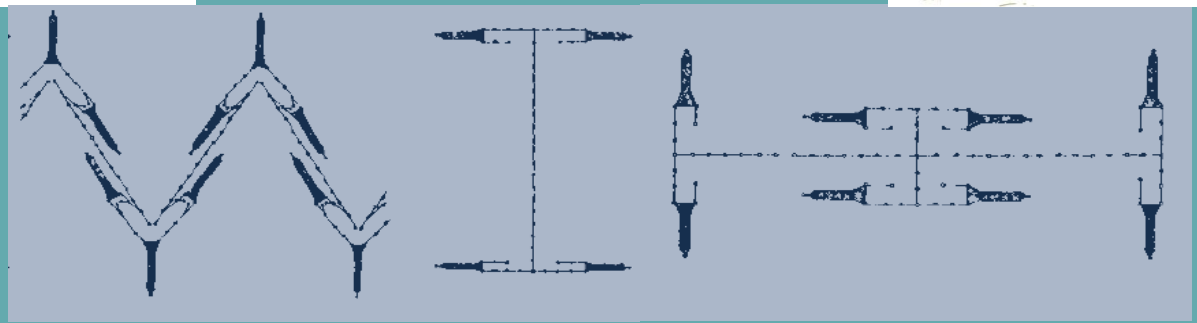
The fyke nets are placed in the shallow waters of the lagoon of Venice



The fyke nets consist of a barrier that ends with a terminal collecting bag

The ways to place are characteristic of the local area of the Venice lagoon





Fyke net fishing

W fyke nets in the northern lagoon

Fyke nets with 8 terminal collecting bags in central lagoon

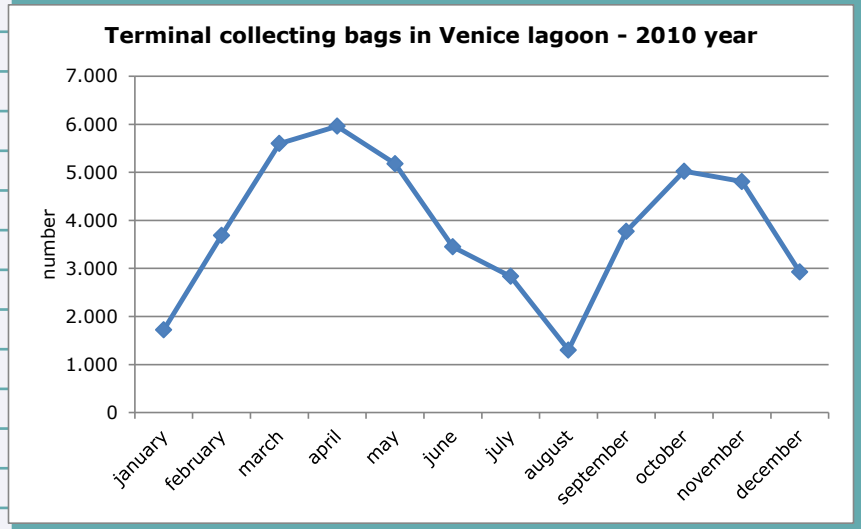
Fyke nets with 5 terminal collecting bags in the southern lagoon

General Fisheries Commission for the Mediterranean
Commission Générale des Pêches pour la Méditerranée
LaMed-2 Project

Fyke net fishing

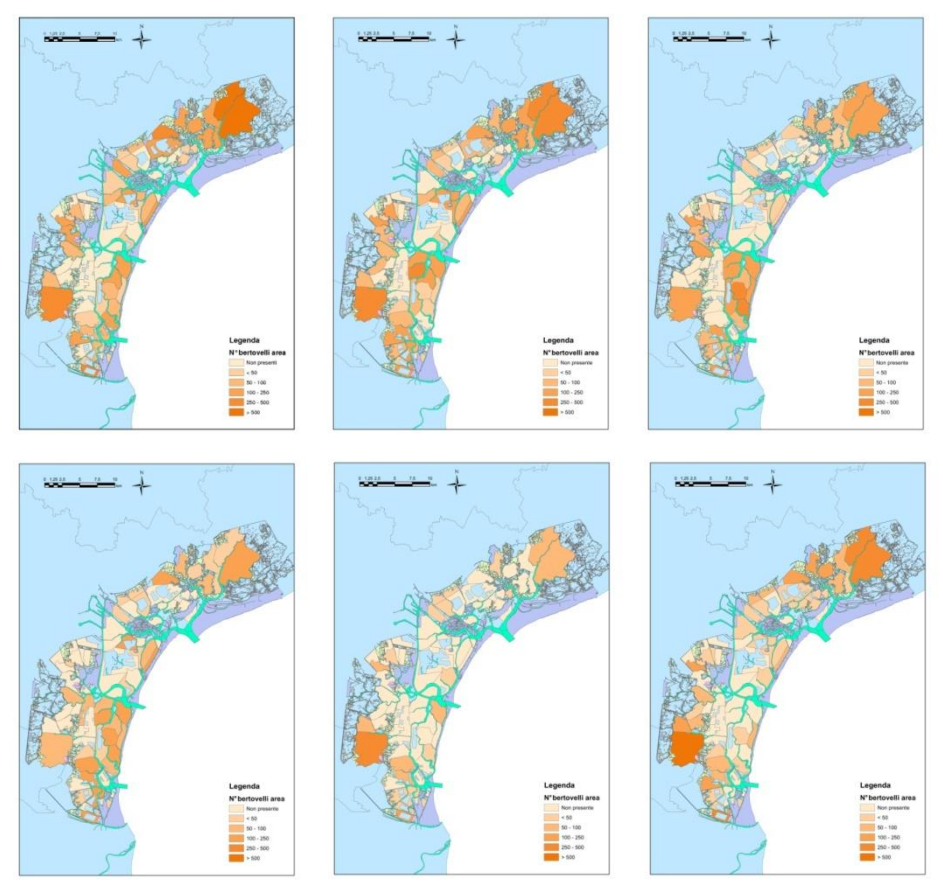
Fishing system with the typical seasonal

Number of terminal collecting bags in Venice lagoon 2010 year				
Month	*North lagoon*	*Central lagoon*	*South lagoon*	*Total*
january	117	674	932	1.723
february	903	312	2.470	3.685
march	1.832	788	2.979	5.599
april	2.756	1.106	2.097	5.959
may	1.594	1.085	2.500	5.179
june	663	442	2.345	3.450
july	658	382	1.795	2.835
august	294	165	843	1.302
september	1.466	474	1.833	3.773
october	2.032	799	2.190	5.021
november	1.925	908	1.974	4.807
december	1.140	772	1.015	2.927
Average 2010	**1.282**	**659**	**1.914**	**3.855**



General Fisheries Commission for the Mediterranean
Commission Générale des Pêches pour la Méditerranée
LaMed-2 Project

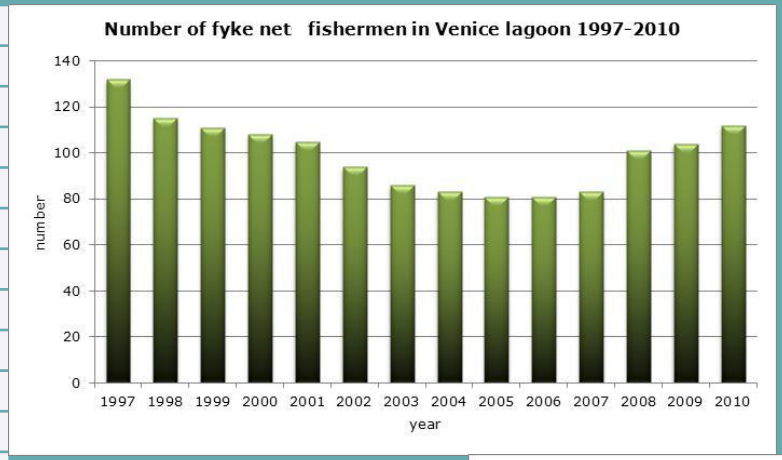
Fyke net fishing

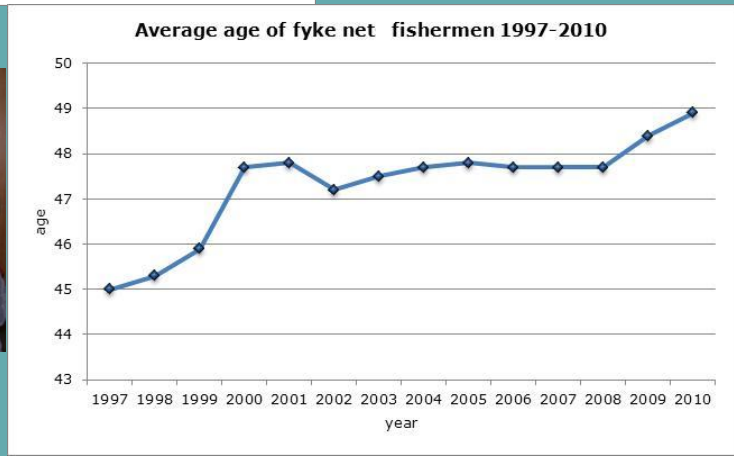


Intensity of fishing effort with fyke nets on:
March 2010
April 2010
May 2010
June 2010
July 2010
August 2010

Fyke net fishing

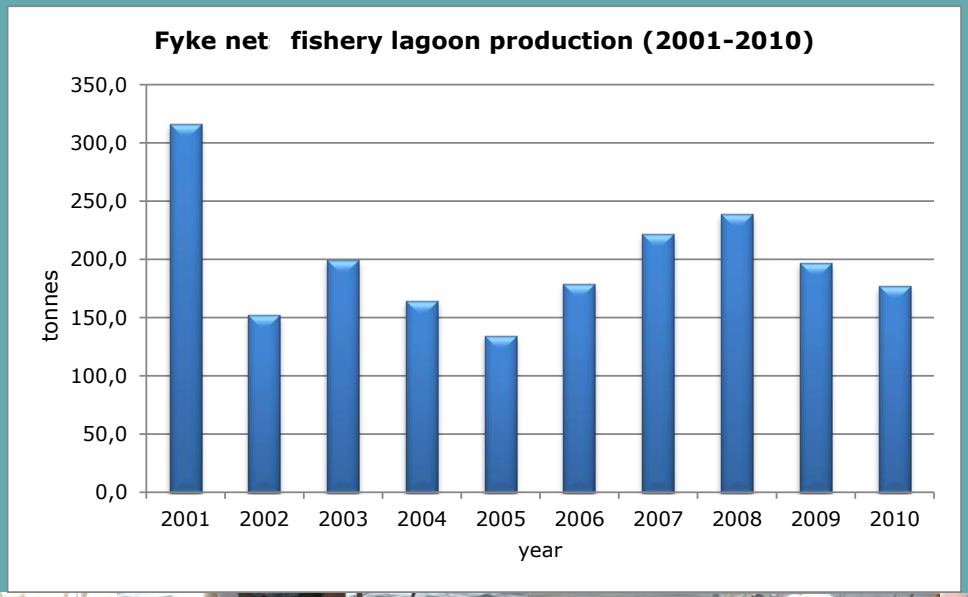
Fyke net fishermen in Venice lagoon		
year	number	average age
1997	132	45,0
1998	115	45,3
1999	111	45,9
2000	108	47,7
2001	105	47,8
2002	94	47,2
2003	86	47,5
2004	83	47,7
2005	81	47,8
2006	81	47,7
2007	83	47,7
2008	101	47,7
2009	104	48,4
2010	112	48,9





Fyke net fishing

Fyke net fishery lagoon production	
year	tonnes
2001	316
2002	152
2003	199
2004	164
2005	134
2006	179
2007	221
2008	238
2009	197
2010	177



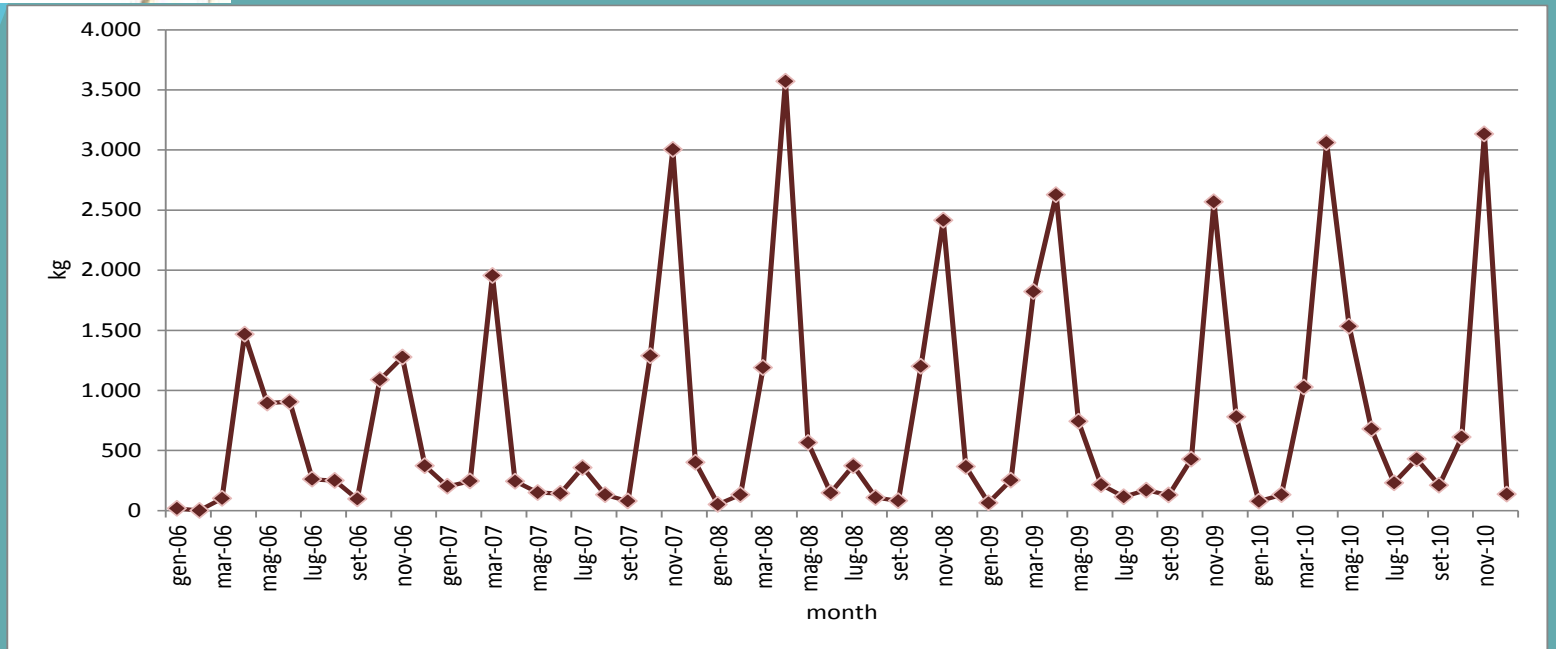
Fike net fisheries production in Venice lagoon decreased from 316 tonnes (year 2001) to 177 tonnes (year 2010)




General Fisheries Commission for the Mediterranean
Commission Générale des Pêches pour la Méditerranée
LaMed-2 Project

Fyke net fishing

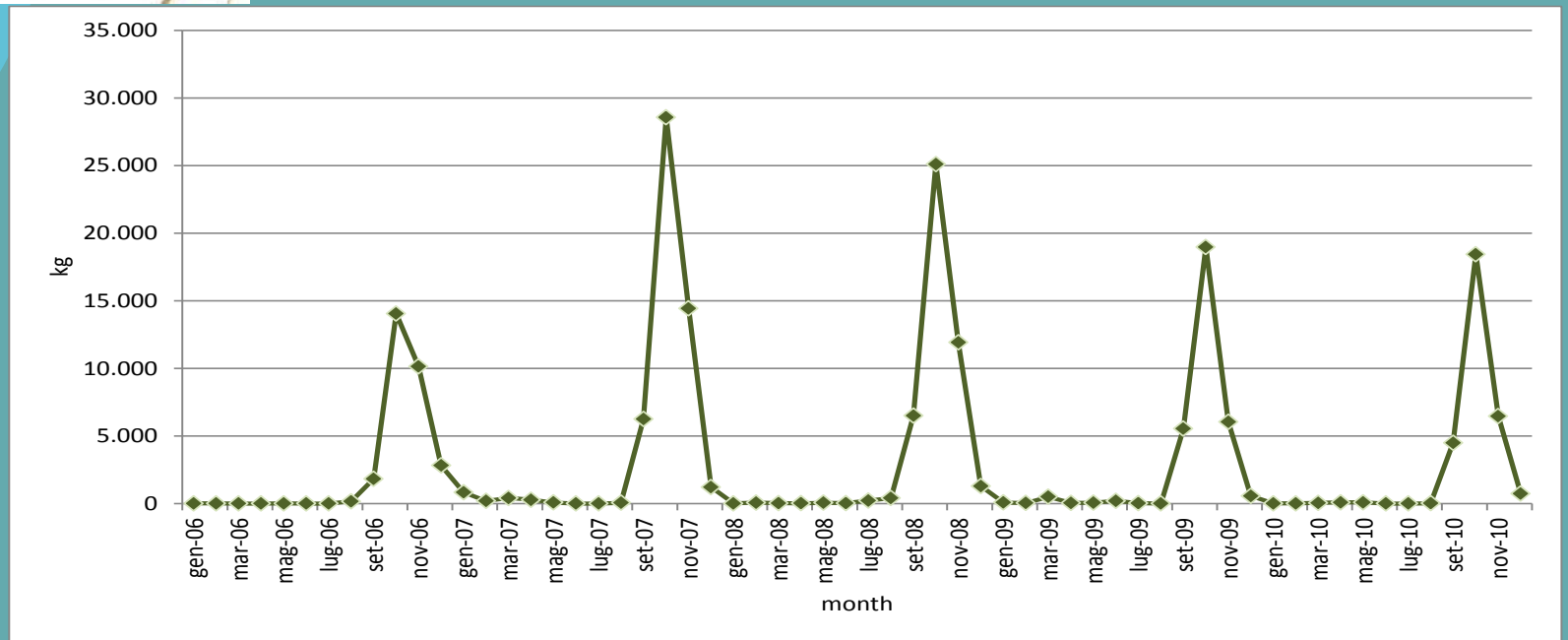
Common green crab soft – *Carcinus mediterraneus*



General Fisheries Commission for the Mediterranean
Commission Générale des Pêches pour la Méditerranée
LaMed-2 Project

Fyke net fishing

Common green female – *Carcinus mediterraneus*



General Fisheries Commission for the Mediterranean
Commission Générale des Pêches pour la Méditerranée
LaMed-2 Project

Manila clam fishing

The Manila clam fishing (*Tapes philippinarum*) is practiced by mechanical equipments, as dredges without teeth (rusca) and harvesting machines (vibrante)

The number of manila clam's fishermen authorized is 700 about, that are affiliated to 73 local entities

Average age 44 years – female presence 6%

About 400 fishing boats

General Fisheries Commission for the Mediterranean
Commission Générale des Pêches pour la Méditerranée
LaMed-2 Project

Manila clam fishing

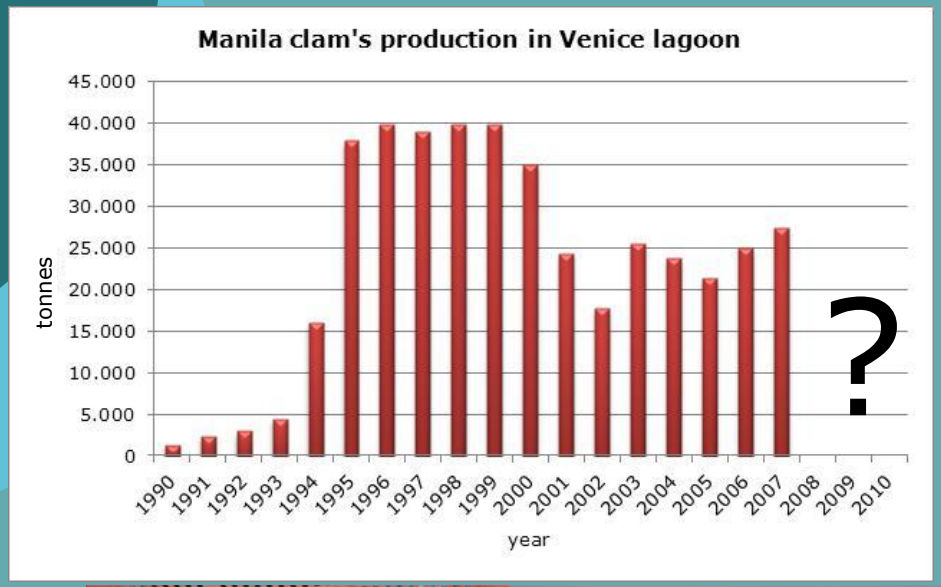
2005, september | 2007, february | 2010, february

The extension of areas to manila clam's fishing is 2.577,44 hectars (blue areas)

At 2005 and 2007 the extension of areas to manila clam's fishing were 3.000 hectars about (red and orange areas)

General Fisheries Commission for the Mediterranean
Commission Générale des Pêches pour la Méditerranée
LaMed-2 Project

Manila clam fishing



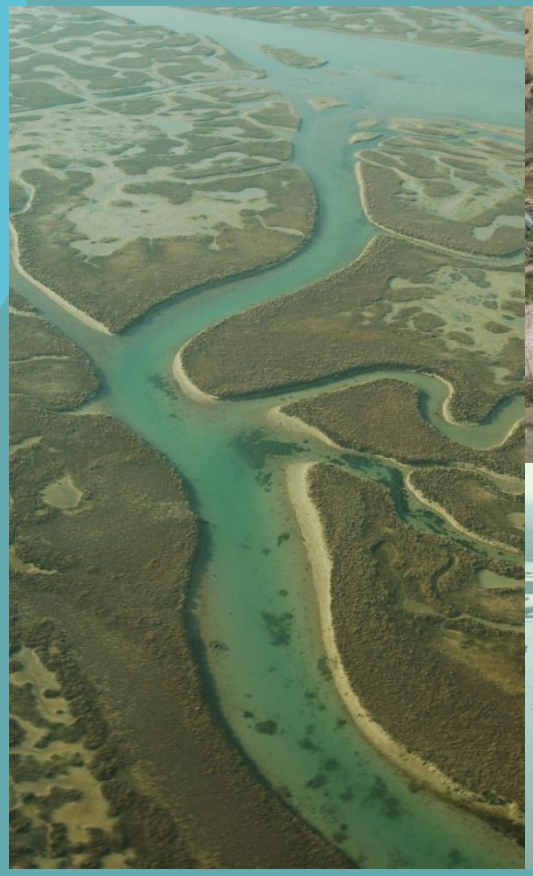
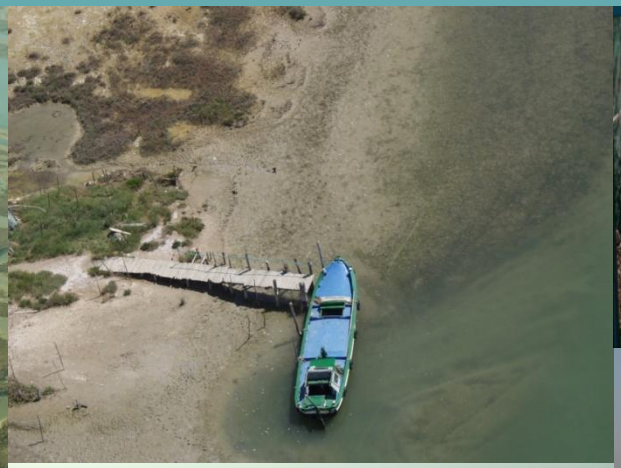
General Fisheries Commission for the Mediterranean
Commission Générale des Pêches pour la Méditerranée

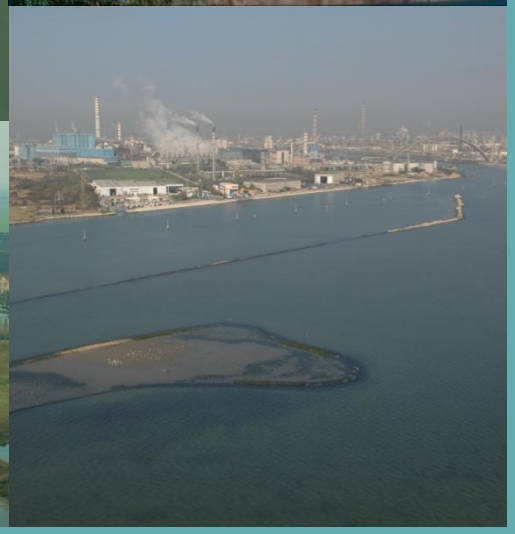
LaMed-2 Project

Management plan of Venice Lagoon program

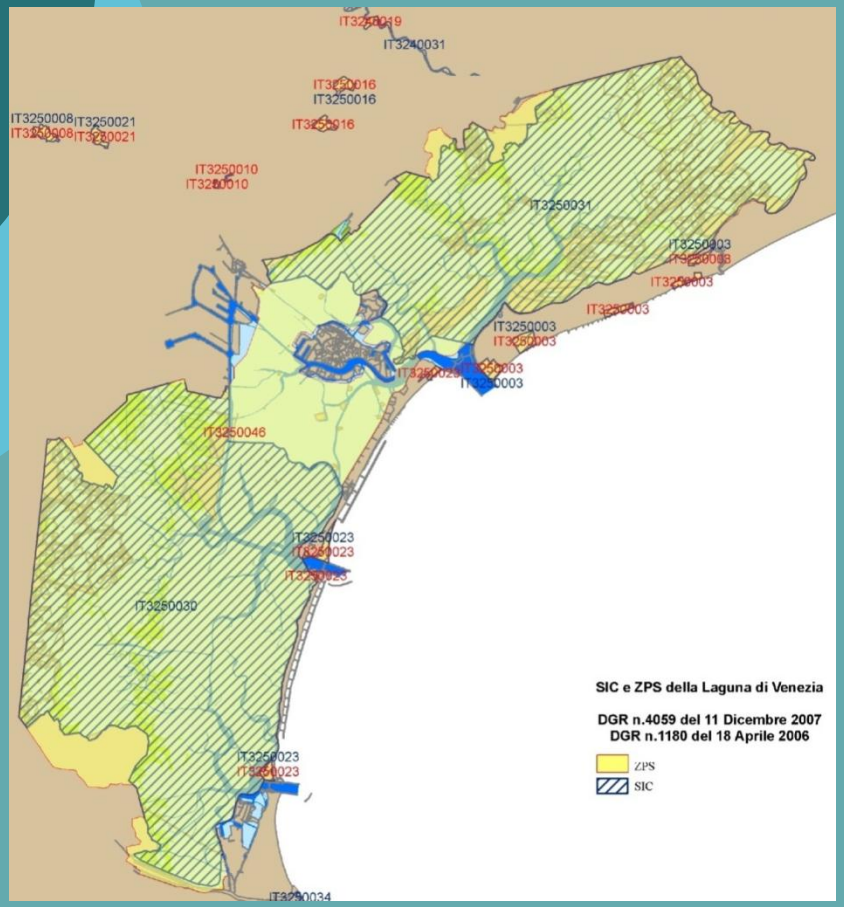
agreement between

Veneto Region and Venice Water Authotity-Magistrato alle Acque and Consorzio Venezia Nuova

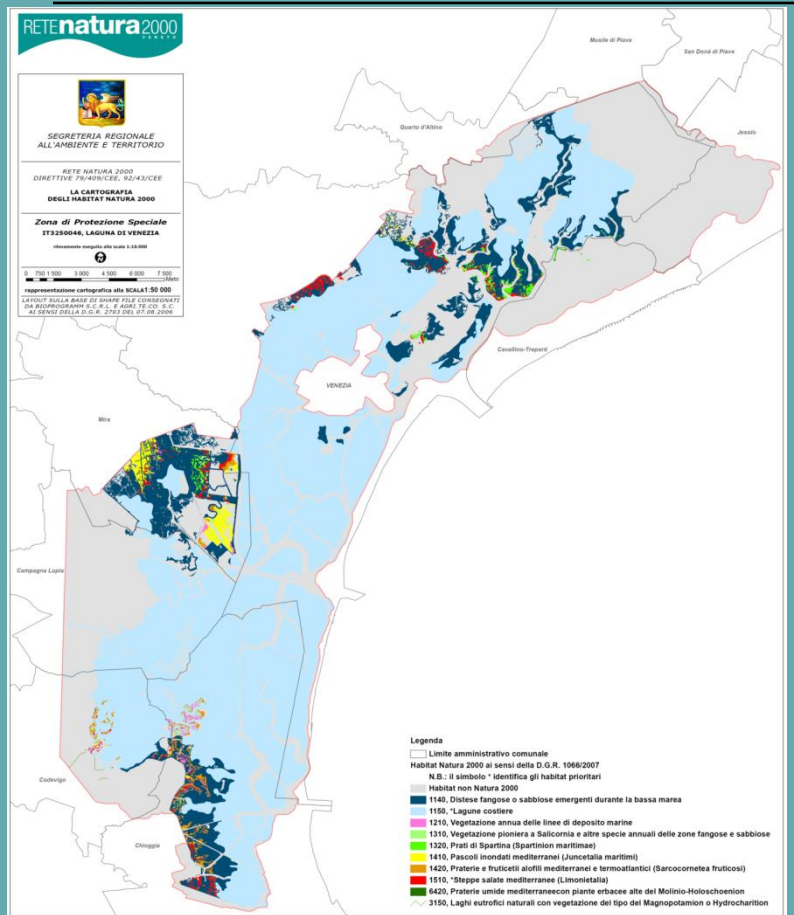
Creation and regolamentation of the area

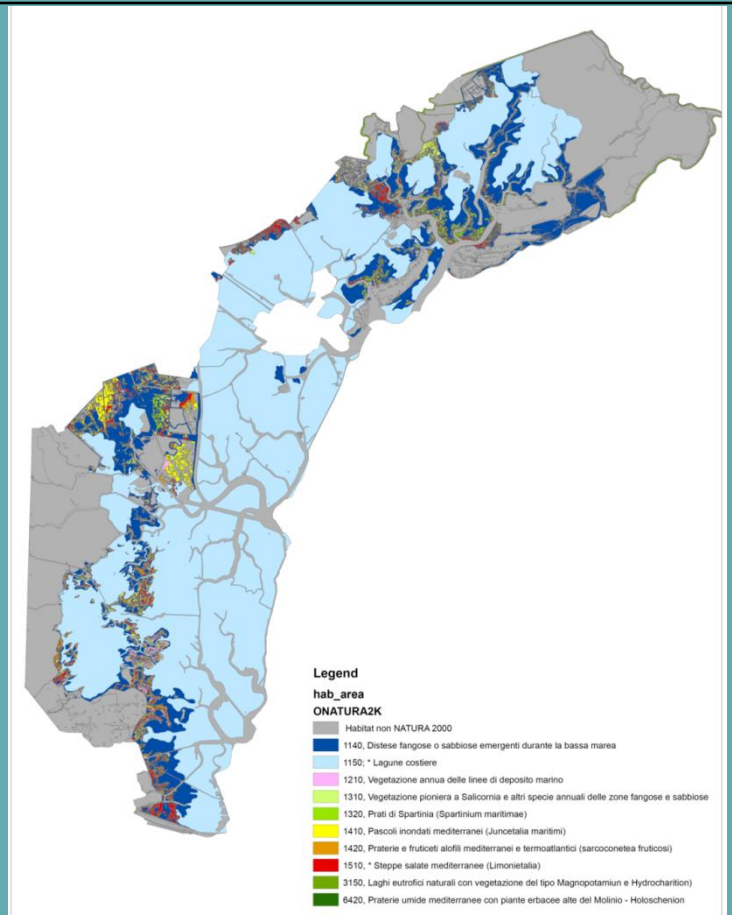


The Veneto Region has approved the revision of special protection areas for those indicated by the specific European study such as Important Bird Areas in the Lagoon of Venice (IBA 034). The new Special Protection Area is IT 3250046 and replaces the previously sites

General Fisheries Commission for the Mediterranean
Commission Générale des Pêches pour la Méditerranée
LaMed-2 Project

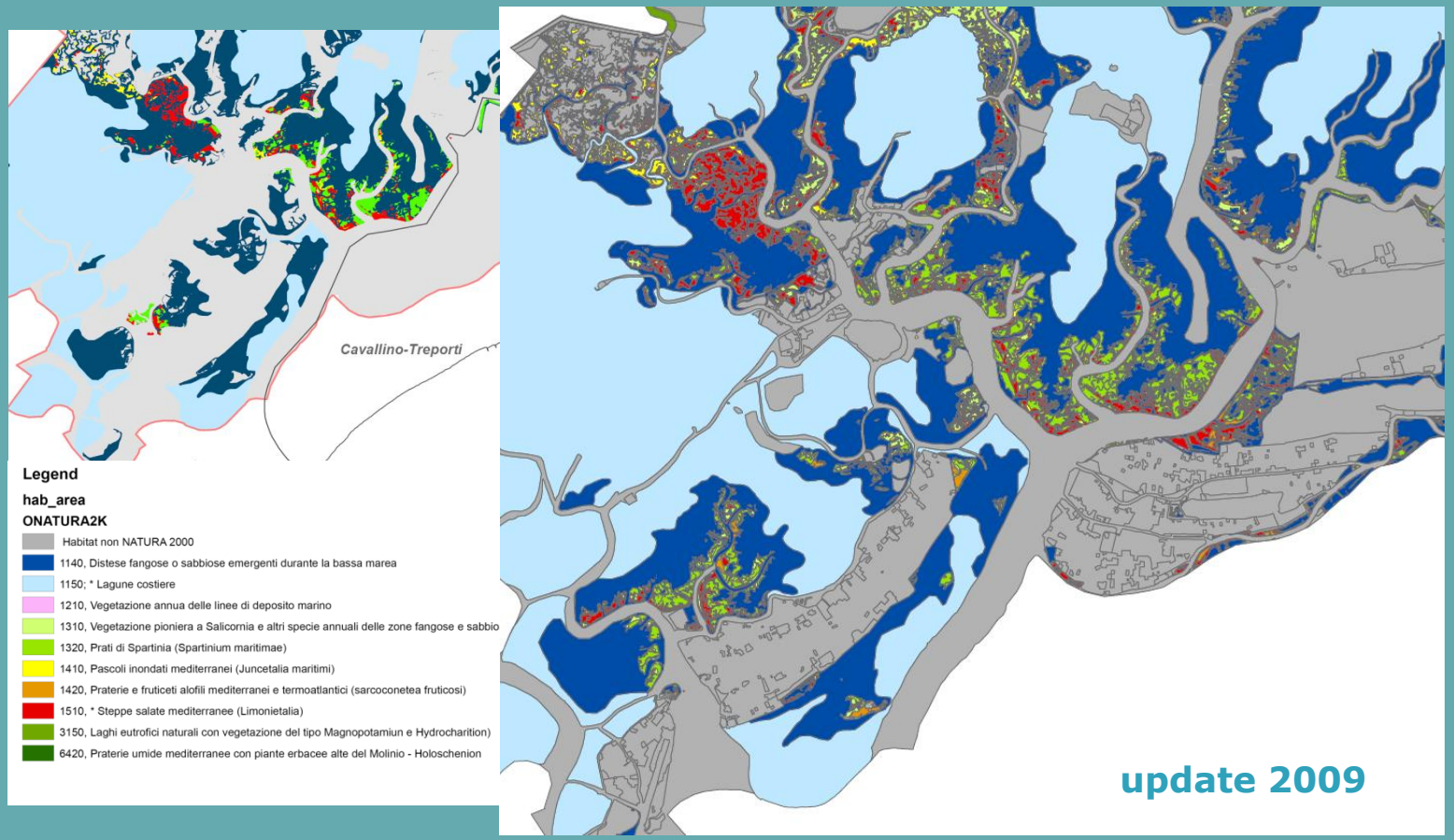
Biological Description: **Habitat map**





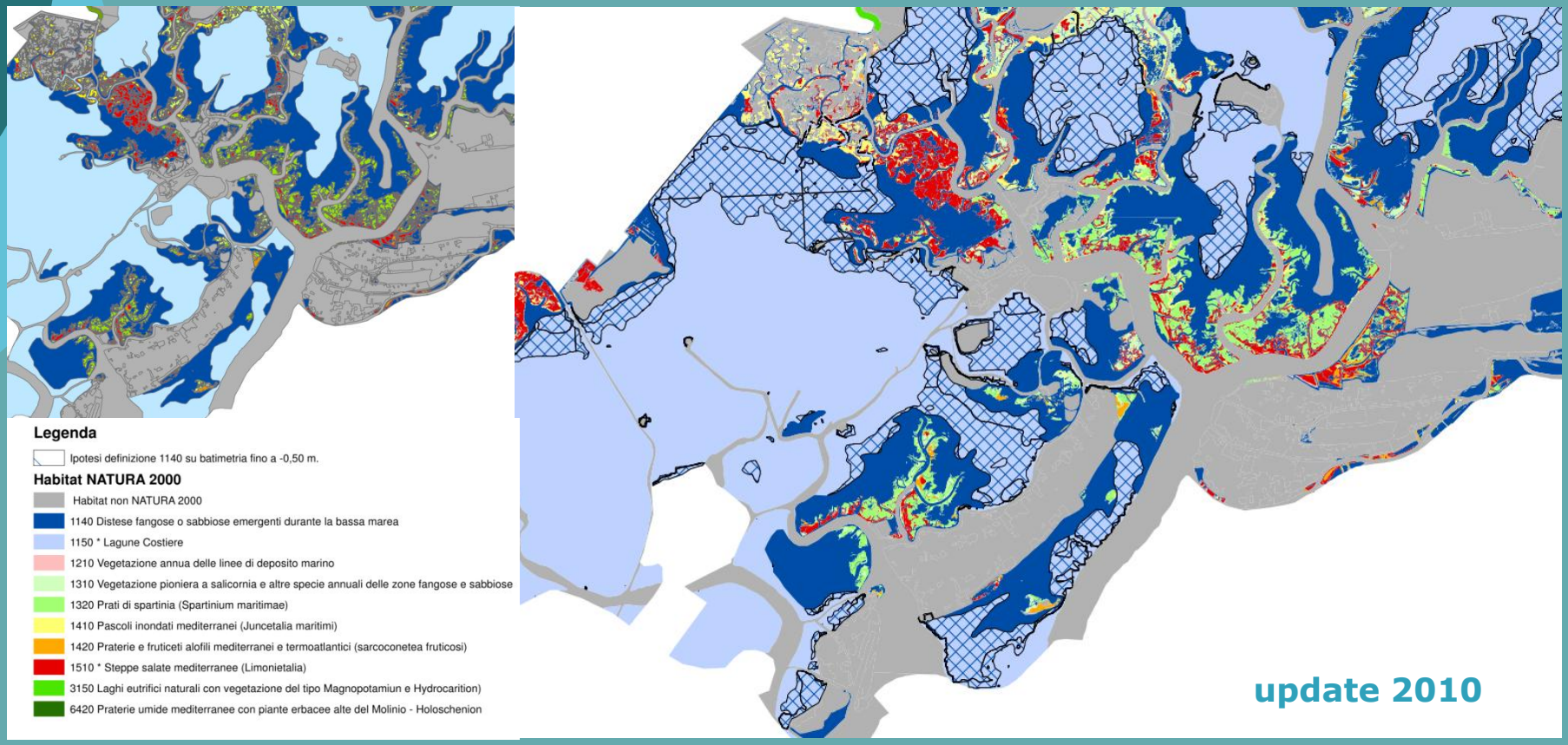
General Fisheries Commission for the Mediterranean
Commission Générale des Pêches pour la Méditerranée
LaMed-2 Project

Management plan: Habitat map



General Fisheries Commission for the Mediterranean
Commission Générale des Pêches pour la Méditerranée
LaMed-2 Project

Management plan of Venice Lagoon



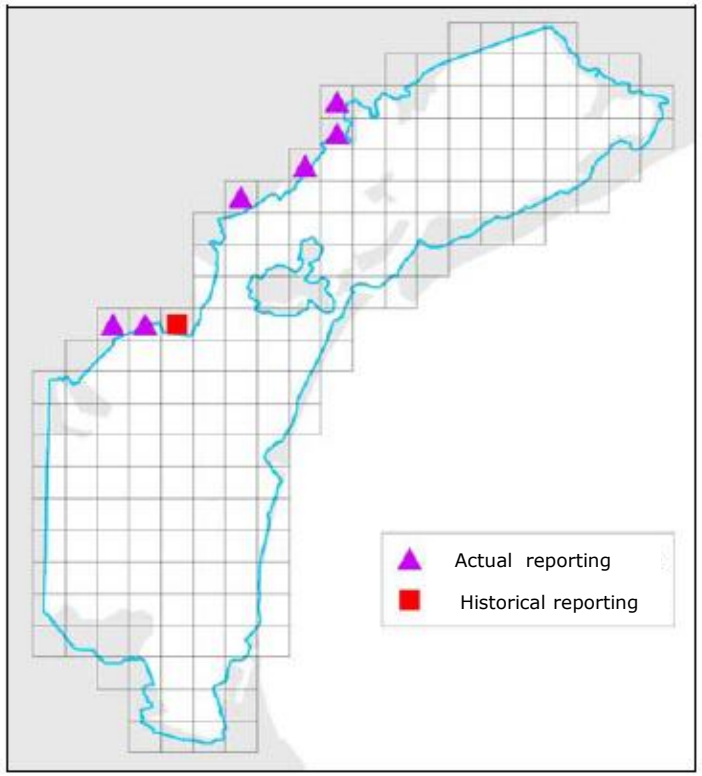
General Fisheries Commission for the Mediterranean
Commission Générale des Pêches pour la Méditerranée
LaMed-2 Project

Management plan: Species and their habitats
Technical sheet for each species

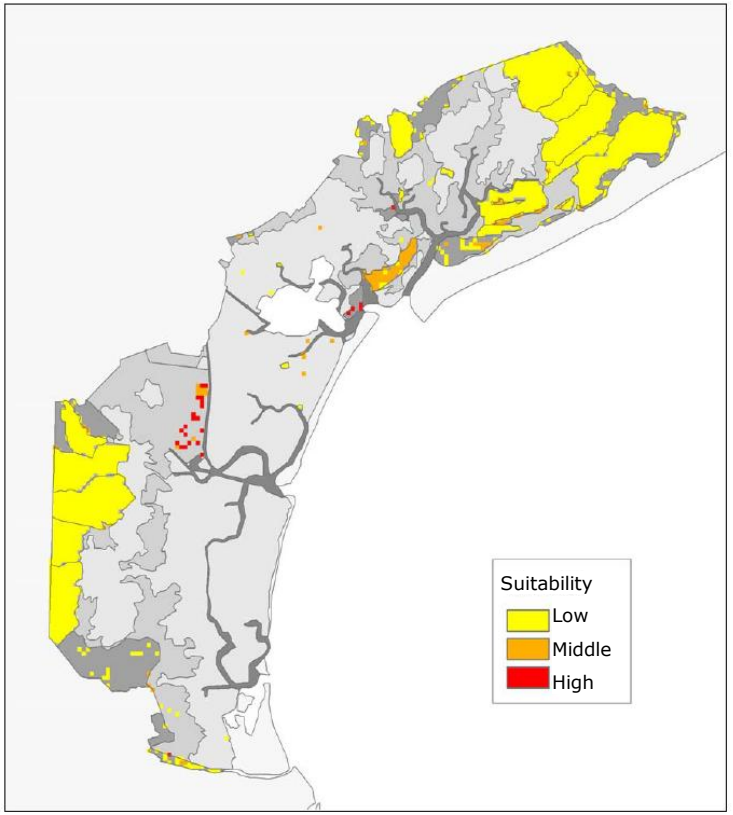
Foto di N.Novarini

Italian Crested Newt

Real distribution



Potential distribution



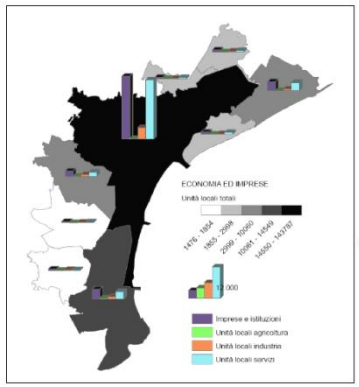
Management plan: pressures

Among the different pressures on habitats, some considerations must be made about the increasing anthropic influence; this regards not exactly the lagoon areas (not ideal for human life) but the area around Venice lagoon, the coasts, the drainage areas including river mouths and those not directly connected (but in someway linked) with Venice lagoon.

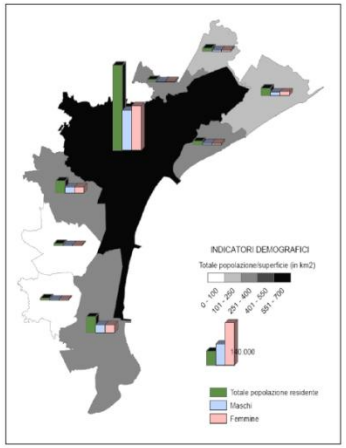
Impacts that have most influenced the structure and habitats should be searched in the urbanization that has developed along the lagoon boundaries

General Fisheries Commission for the Mediterranean
Commission Générale des Pêches pour la Méditerranée
LaMed-2 Project

Management plan: pressures

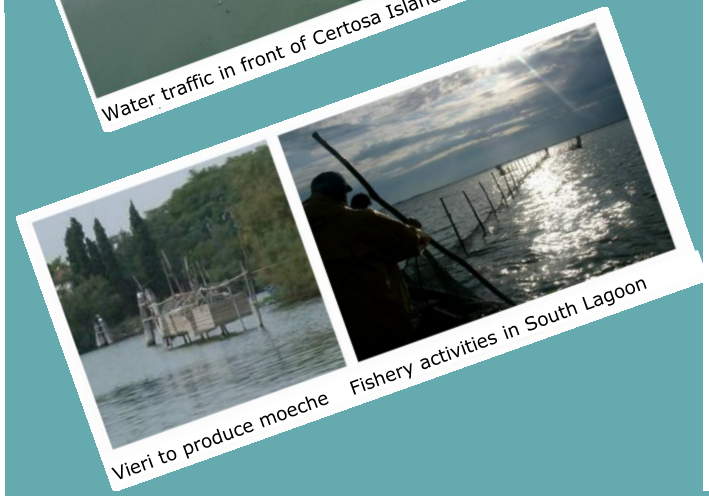


Economic and businnes indicator

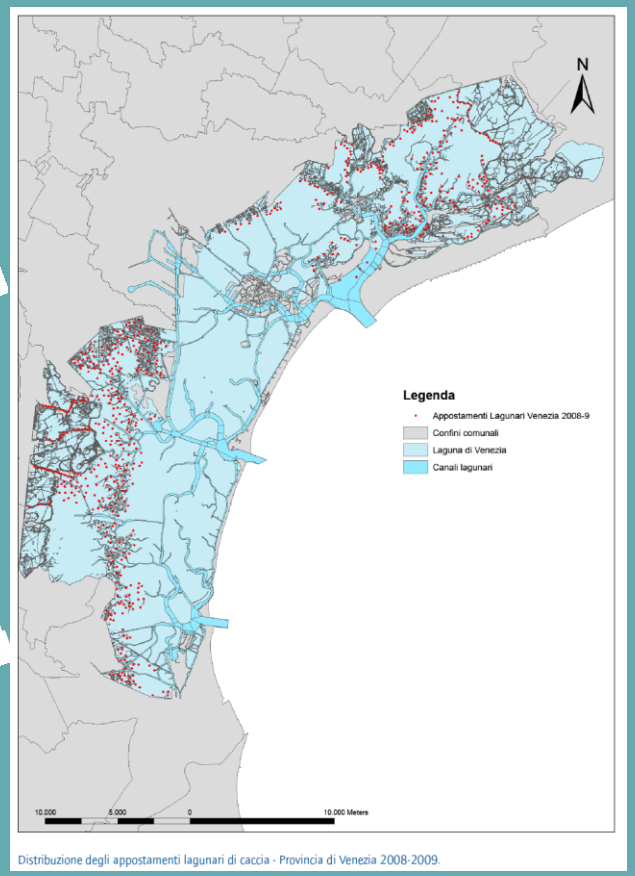


Demographic indicator


Water traffic in front of Certosa Island


Vieri to produce moeche

Fishery activities in South Lagoon



Distribuzione degli appostamenti lagunari di caccia - Provincia di Venezia 2008-2009.

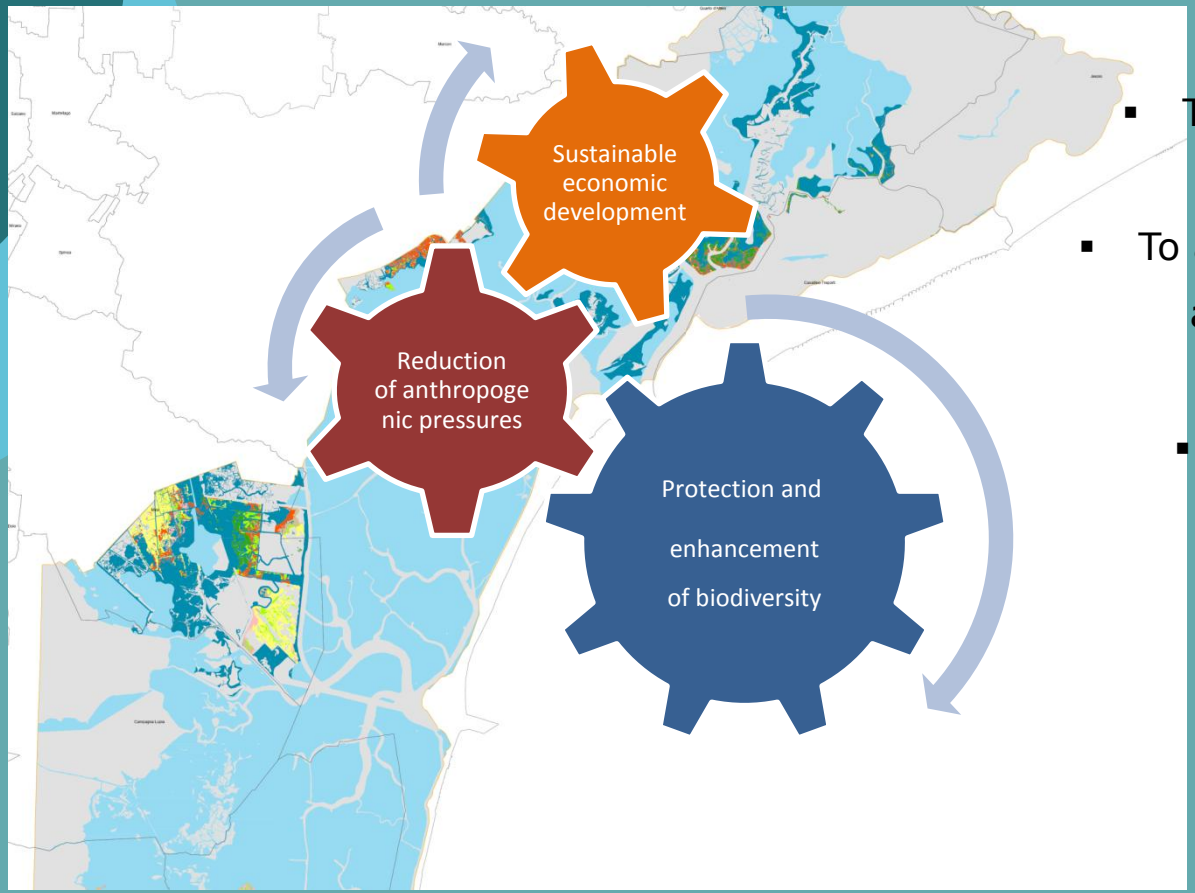
Objectives

Preservation and enhancement of biodiversity

Reduction of impacts

Environmentally sustainable development of the territory

Management plan themes



- To preserve the whole ecological-functional role of the site
- To assure the conservation of habitats and species of flora and fauna of European interest
- To identify, if necessary, the managment actions and interventions to restore / maintain ecological balances existing, not forgetting human activities

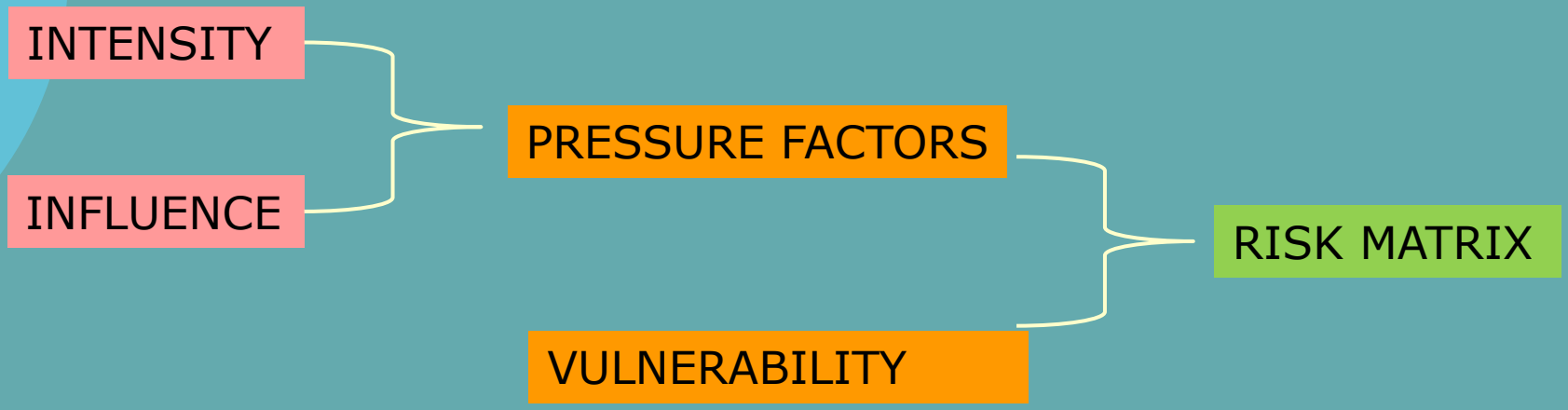
Management plan: Risk assessment model

The model is organized in three successive phases of assessment, to define the three axes used to calculate the risk and identification of threats:

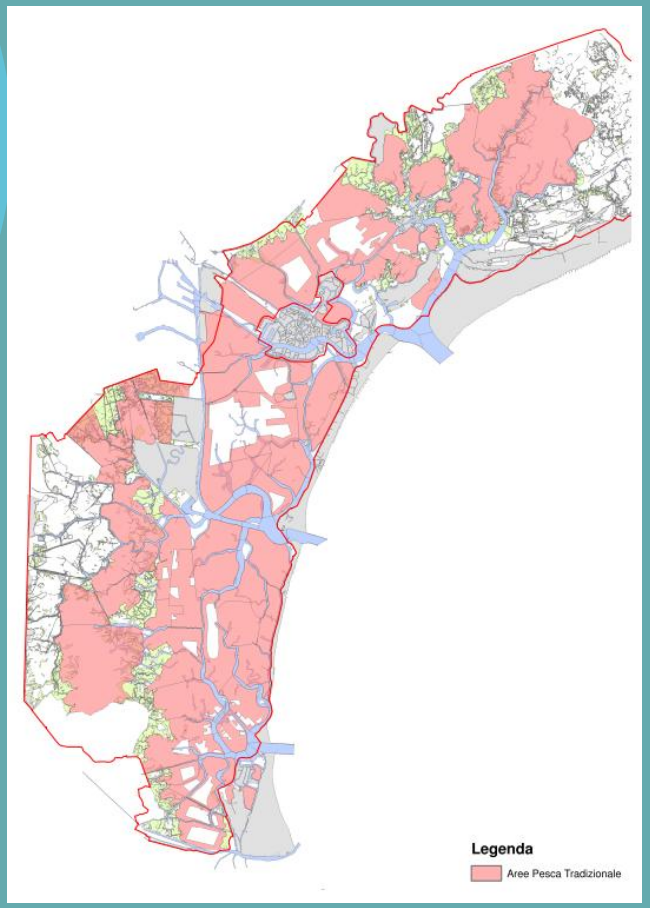
- intensity of the pressure factor (hazard, in the classical model);
- influence (value, in the classical model, the possibility that the pressure factor involving habitats, species and habitats of species);
- vulnerability of the object of protection (as in the classical model).

The method allows you to work at the scale of the whole site or individual polygon (habitat, species habitat, species distribution).

Management plan: Risk assessment model

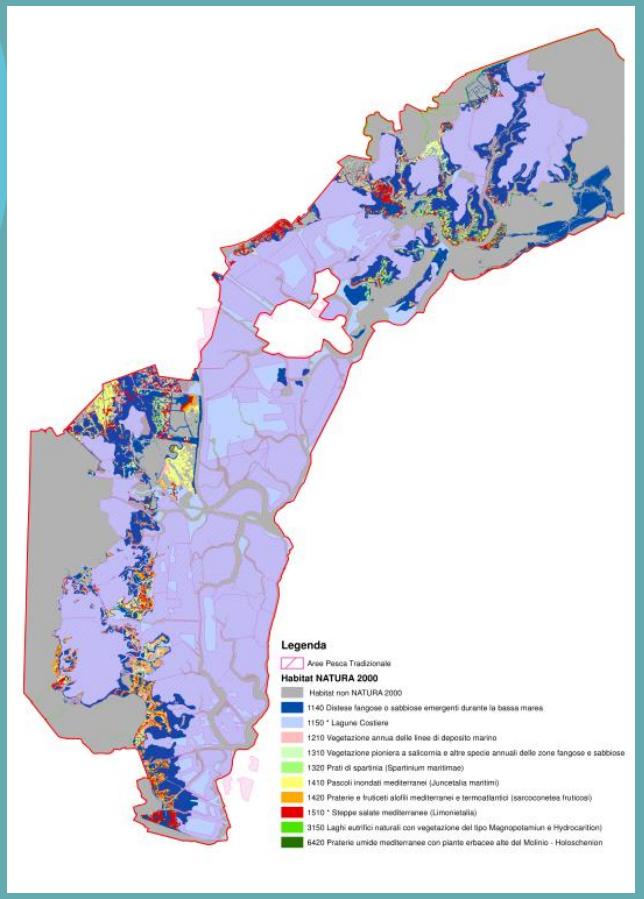


Management plan: Risk assessment model

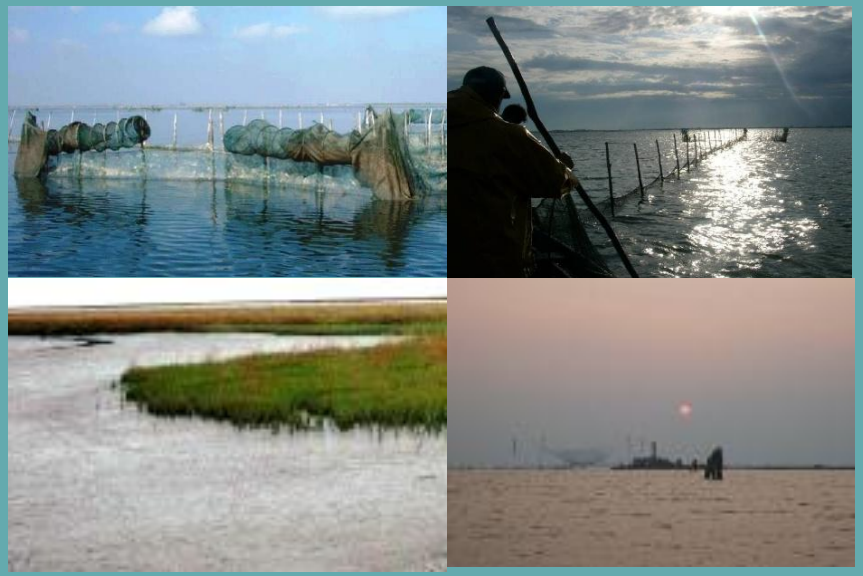


Mapping of fyke net areas

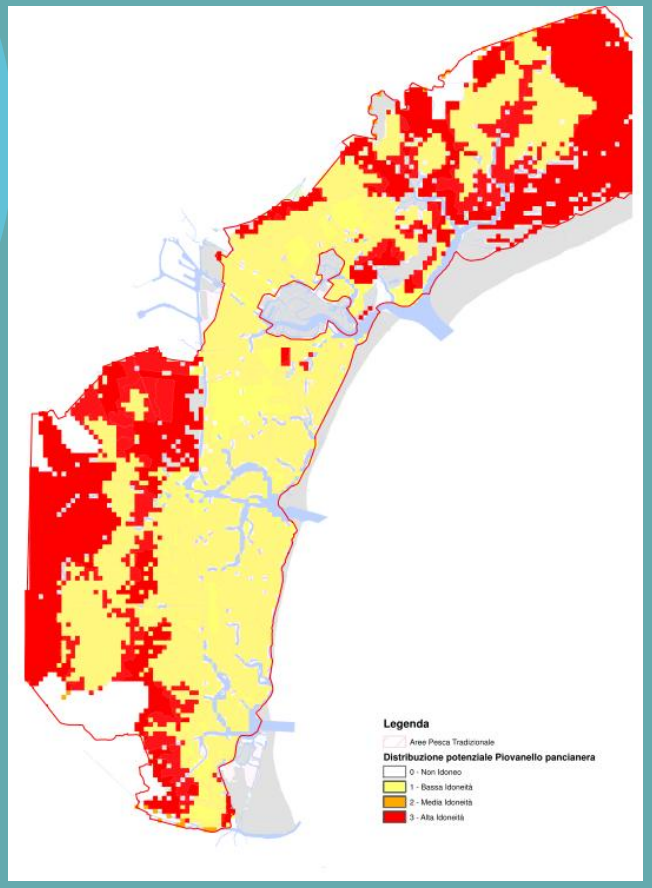
Management plan: Risk assessment model



Mapping of fyke net areas
and Habitat NATURA 2000

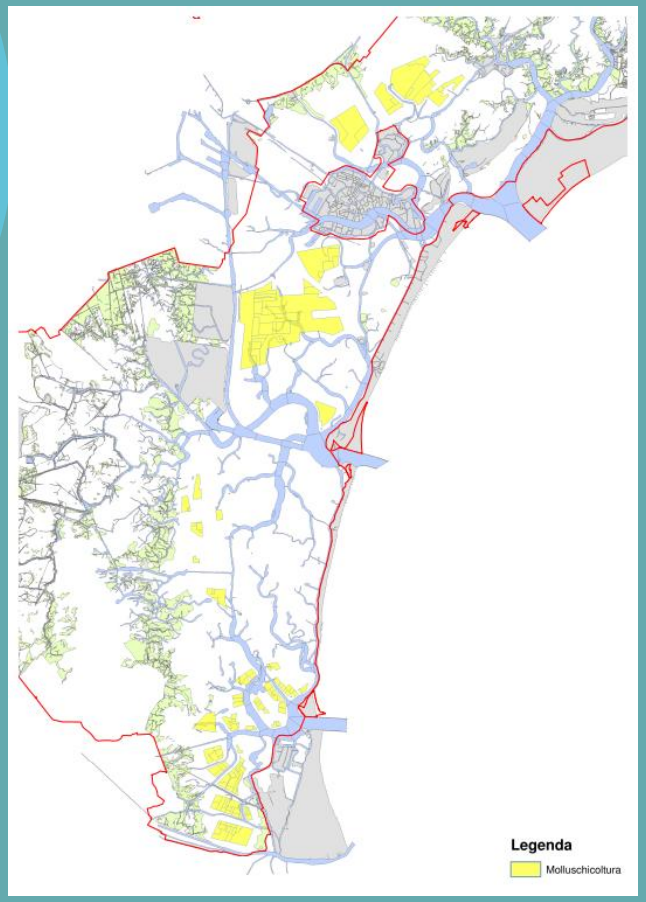


Management plan: Risk assessment model



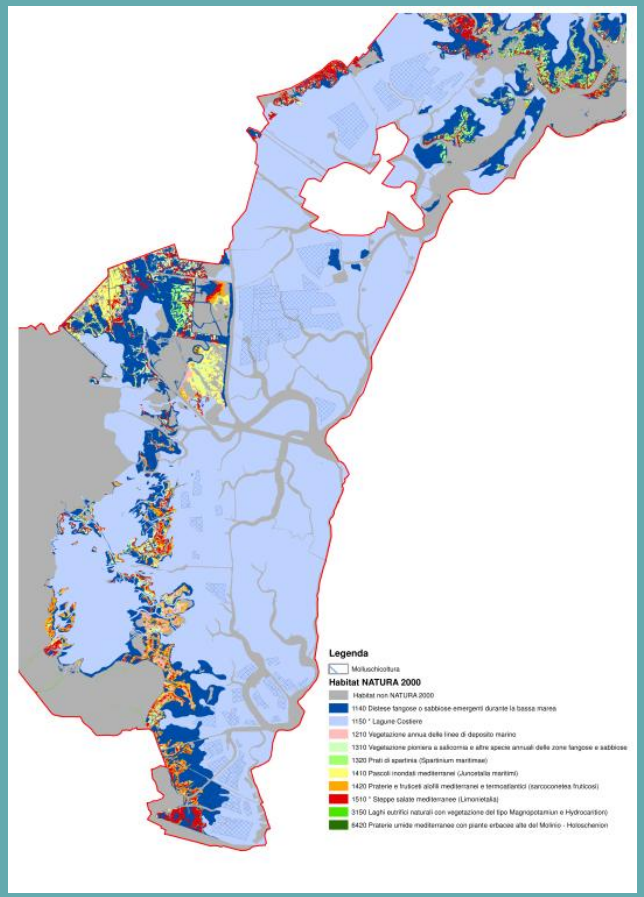
Mapping of fyke net areas
and potential distribution of **Dunlin**

Management plan: Risk assessment model



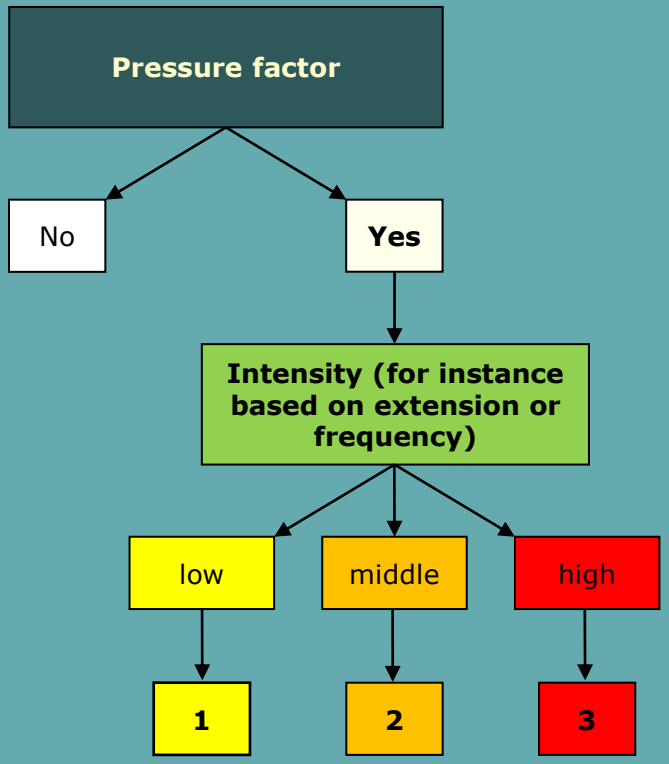
Mapping of Manila clam farms

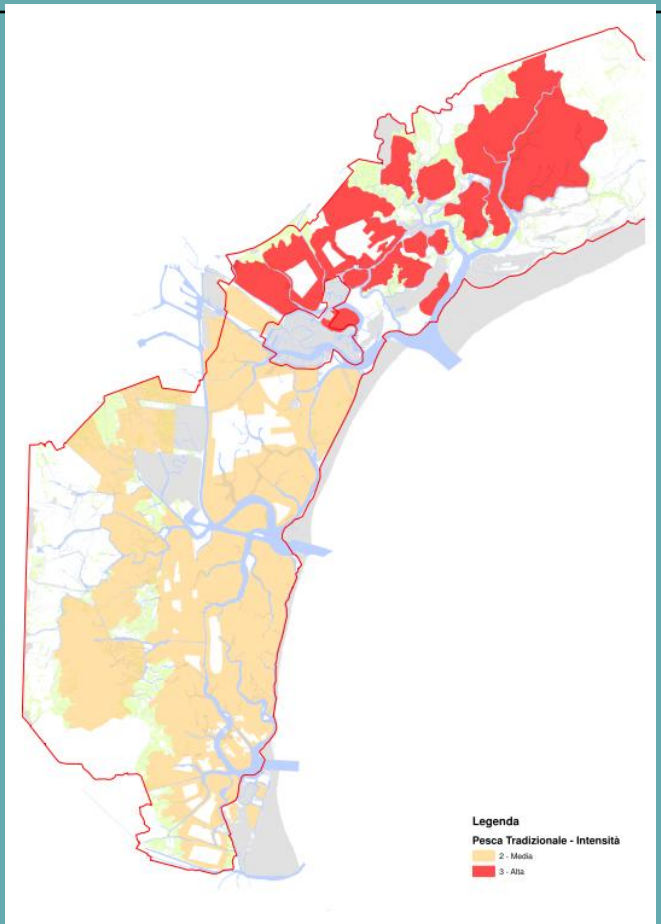
Management plan: Risk assessment model



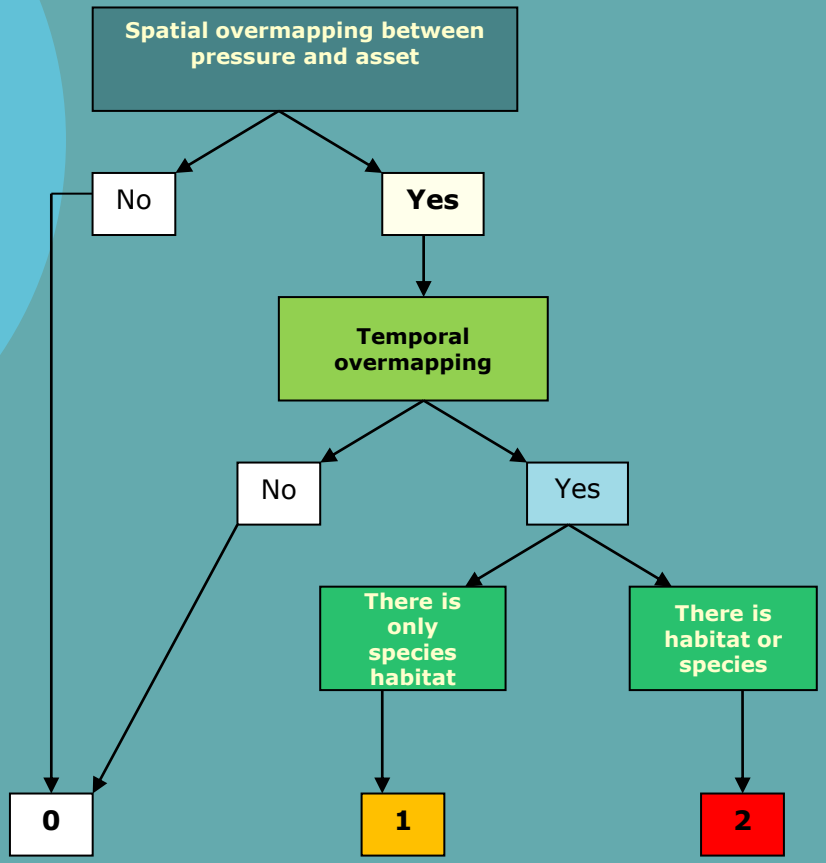
Mapping of Manila clam farms and Habitat NATURA 2000

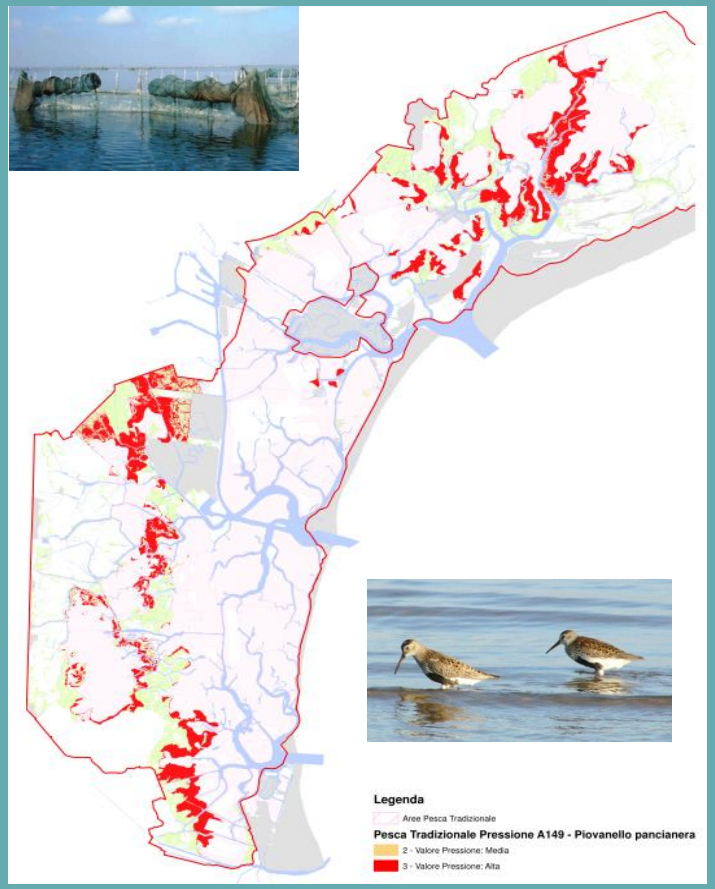
Management plan of Venice Lagoon intensity





Management plan of Venice Lagoon influence



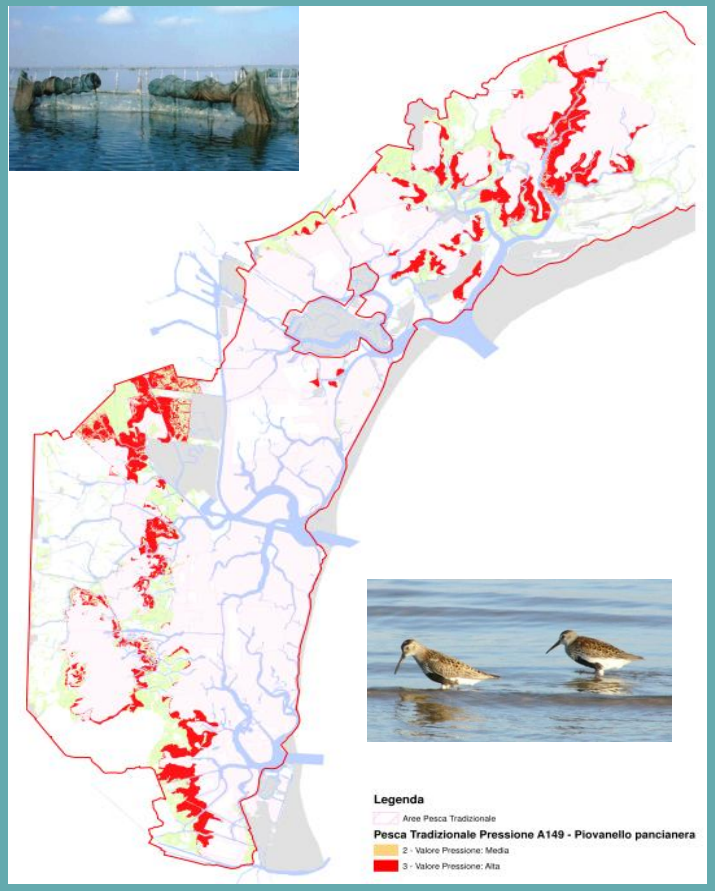


General Fisheries Commission for the Mediterranean
Commission Générale des Pêches pour la Méditerranée

LaMed-2 Project

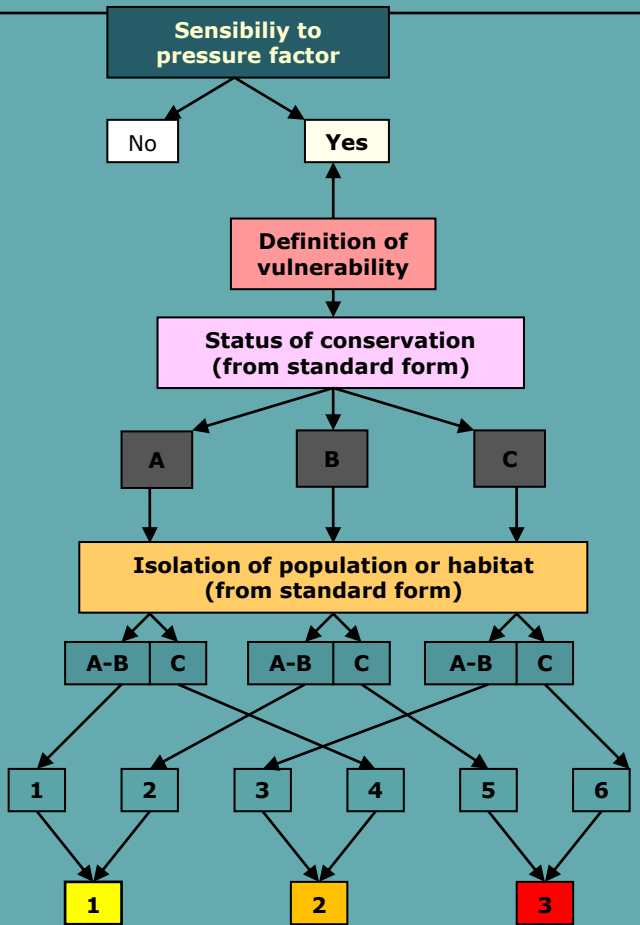
Management plan of Venice Lagoon Quantifying the effects of the pressure factors

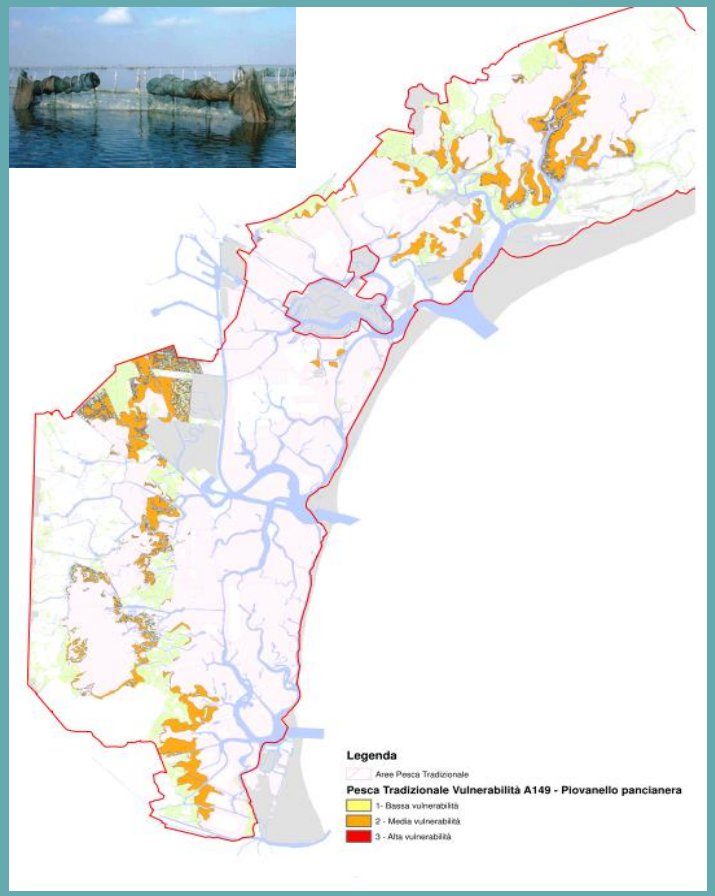
		INTENSITY		
		1	*2*	*3*
INFLUENCE	*0*	0	0	0
	1	1	2	3
	2	3	3	3



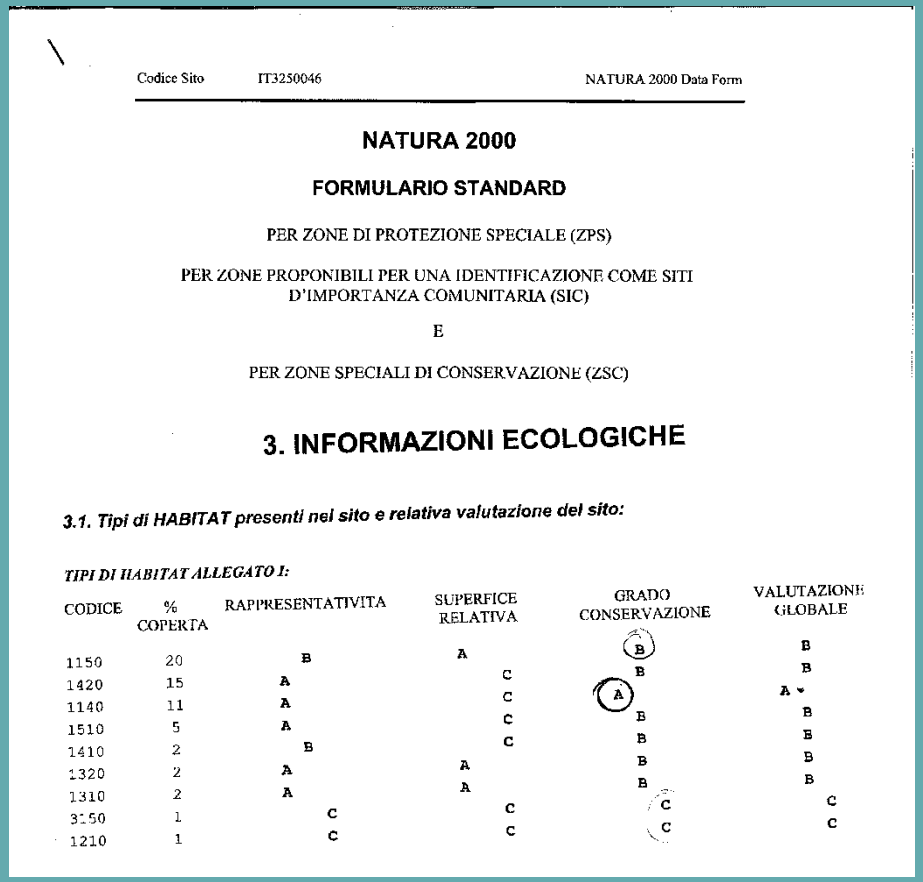
General Fisheries Commission for the Mediterranean
Commission Générale des Pêches pour la Méditerranée
LaMed-2 Project

Management plan of Venice Lagoon vulnerability





Management plan of Venice Lagoon vulnerability



Codice Sito IT3250046 NATURA 2000 Data Form

NATURA 2000

FORMULARIO STANDARD

PER ZONE DI PROTEZIONE SPECIALE (ZPS)

PER ZONE PROPONIBILI PER UNA IDENTIFICAZIONE COME SITI D'IMPORTANZA COMUNITARIA (SIC)

E

PER ZONE SPECIALI DI CONSERVAZIONE (ZSC)

3. INFORMAZIONI ECOLOGICHE

3.1. Tipi di HABITAT presenti nel sito e relativa valutazione del sito:

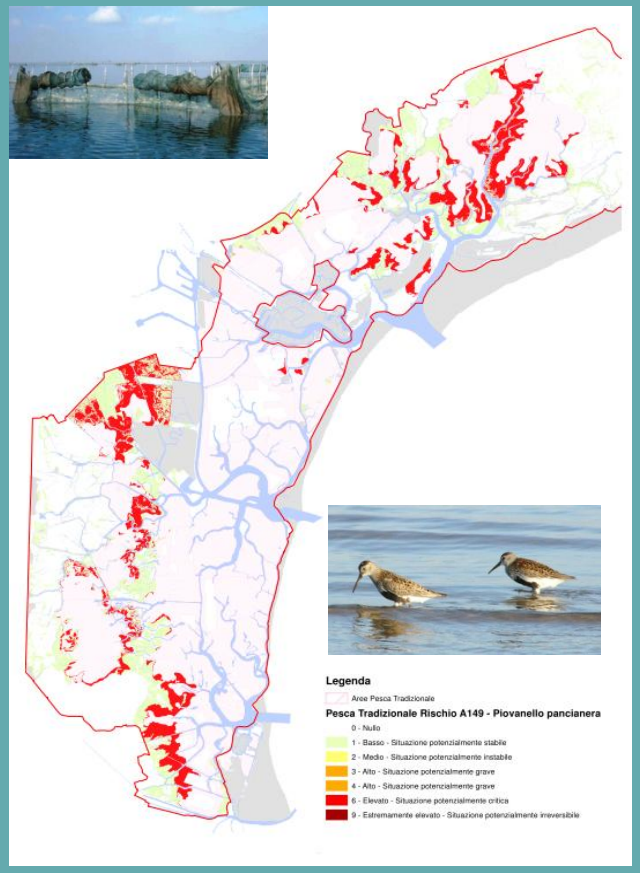
TIPI DI HABITAT ALLEGATO I:

CODICE	% COPERTA	RAPPRESENTATIVITA	SUPERFICE RELATIVA	GRADO CONSERVAZIONE	VALUTAZIONE GLOBALE
1150	20	B	A	B	B
1420	15	A	C	B	B
1140	11	A	C	A	A
1510	5	A	C	B	B
1410	2	B	C	B	B
1320	2	A	A	B	B
1310	2	A	A	B	B
3150	1	C	C	C	C
1210	1	C	C	C	C

Management plan of Venice Lagoon risk matrix

The combination between the pressure value and the value of vulnerability is an assessment of the risk to habitats, species and habitats of species and results in potential or actual threats in place according to the cases reported in the risk matrix.

		VULNERABILITY		
		1	*2*	*3*
PRESSURE	*1*	1	2	3
	2	2	4	6
	3	3	6	9



Management plan of Venice Lagoon interpretation of the risk matrix

Value	Risk	Actions
0	Null	Monitoring plan
1	Low - Potentially stable situation	Monitoring plan – Planning of actions to be taken in case of increased risk
2	Moderate - Potentially unstable situation	Monitoring plan - (high monitoring effort) – Planning of actions to be taken in case of increased risk
3-4	Considerable – Potentially serious situation	Monitoring plan - (high monitoring effort) - Immediately necessary regulation and active management actions
6	High – Potentially critical situation	Monitoring plan - (high monitoring effort) – Immediately urgent actions of regulation and active management
9	Extreme – Potentially irreversible situation	Monitoring plan - (high monitoring effort) – Immidiately urgent priority actions of regulation and active management