

# GAP

Connecting Science  
Stakeholders and Policy



# Spatio-temporal distribution of fishing effort and biological resources in the Northern Adriatic Sea: towards the identification of fish habitats and management proposals in the framework of a participatory approach



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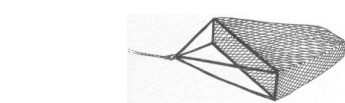
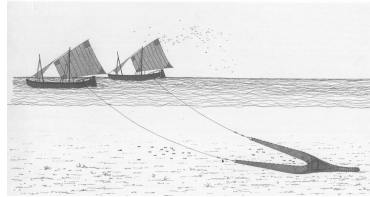
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# 1950s: The industrialization of fishery



**Fishing Gear**



**Otter trawl**

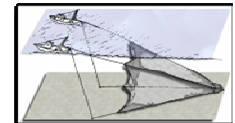
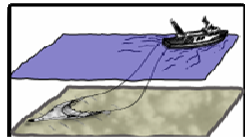
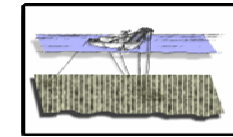
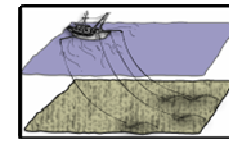
**Traditional gear**

**Static Gears**

**Rapido trawl**

**Hydraulic dredge**

**Mid-water trawl**



**Technology**

**1850**

**1900**

**1950**

**2000**

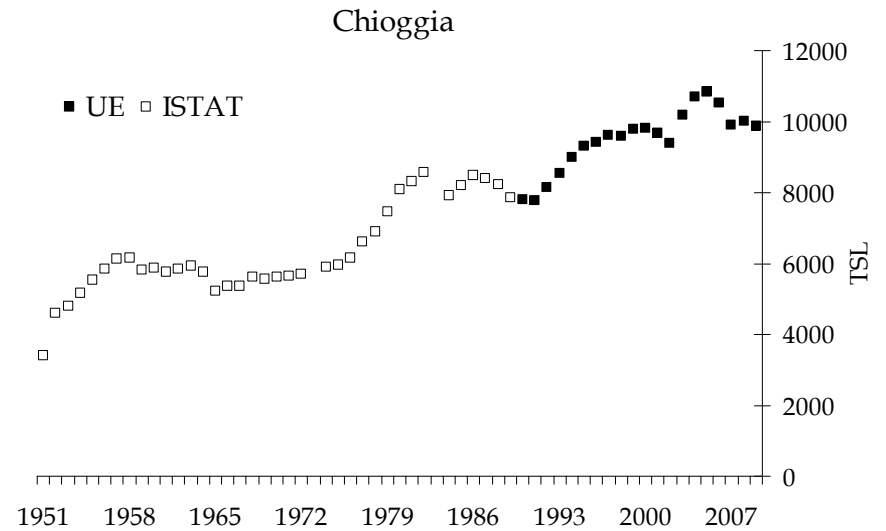
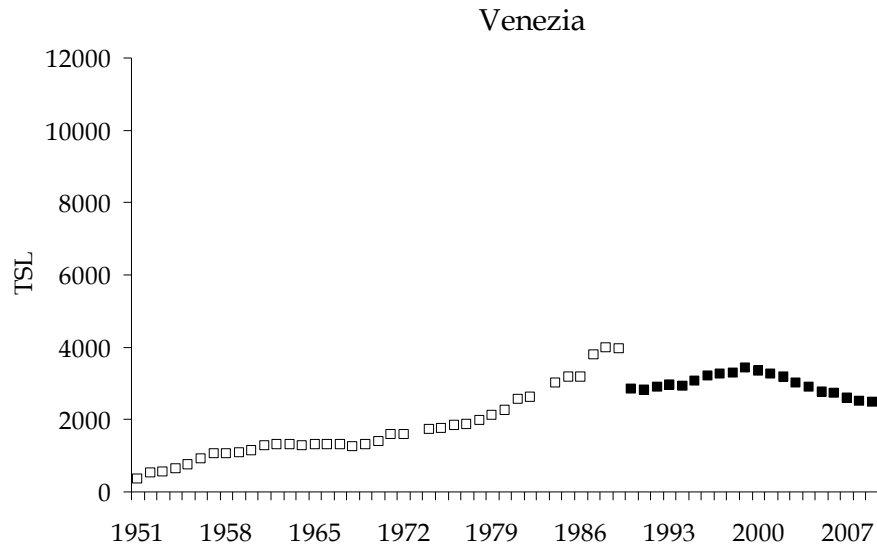
**Sailing vessels**

**Engine**

**Radar**

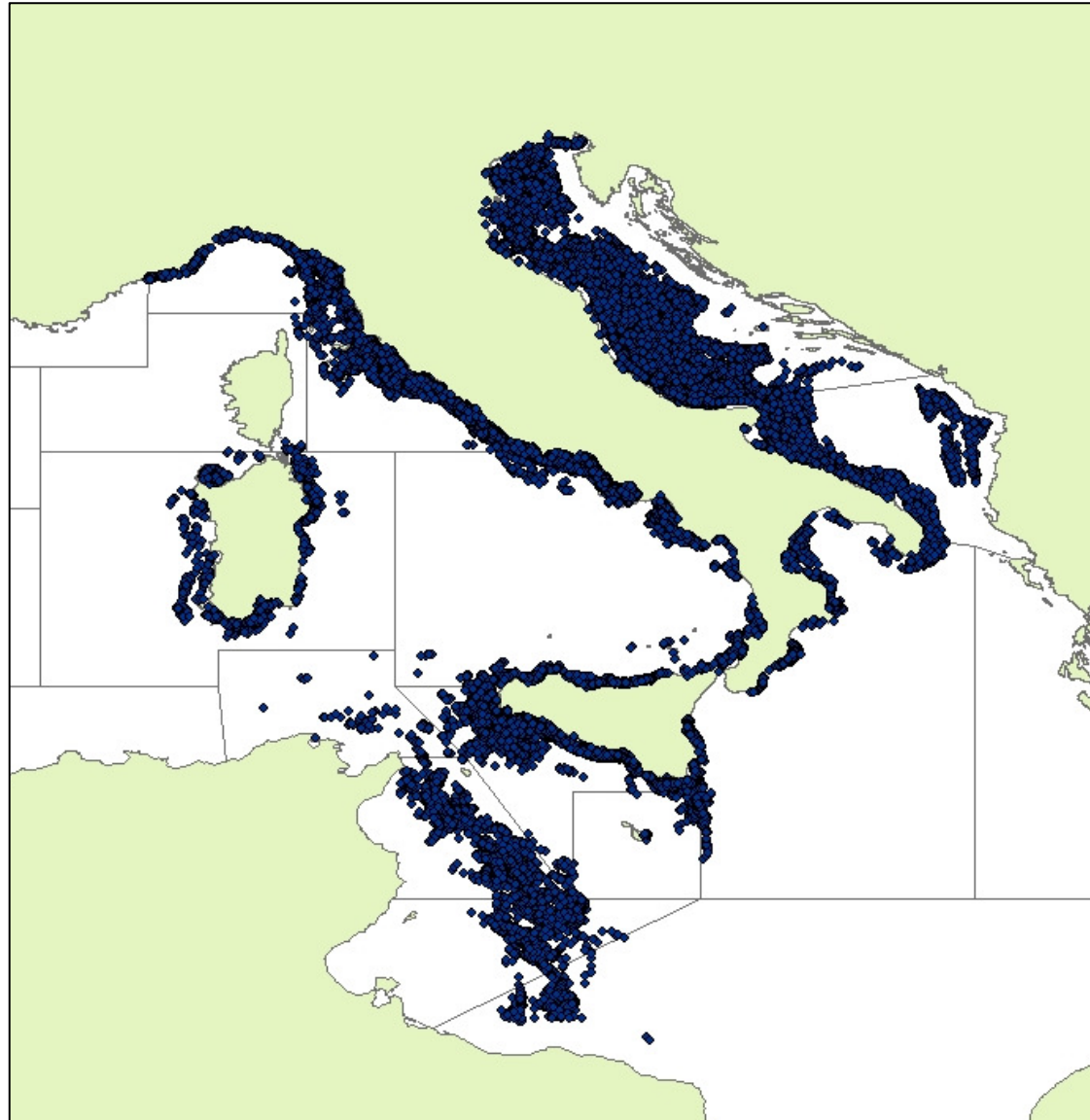
**Ecosounder**

# Fishing capacity (1951-2008)



# Fishing effort distribution of Italian trawlers: January 2008

(Source: Programma Nazionale Raccolta Dati)



## Trends in demersal species according to fishery independent data (1994-2008)

COMUNITA'							
Indicatore	GSA9	GSA10	GSA11	GSA16	GSA17	GSA18	GSA19
Telostei	Yellow	Yellow	Yellow	Yellow	Red	Yellow	Yellow
Selaci	Yellow	Yellow	Yellow	Yellow	Yellow	Red	Yellow
Cefalopodi	Yellow	Yellow	Yellow	Yellow	Red	Yellow	Yellow
Crostacei	Yellow	Green	Yellow	Green	Yellow	Yellow	Yellow
Totale catture	Yellow	Yellow	Yellow	Yellow	Red	Yellow	Yellow
Diversità	Yellow	Yellow	Yellow	White	White	Yellow	Yellow
Lmedia comunità	Yellow	Yellow	Yellow	White	White	White	Yellow

legenda	Tendenze degli Indicatori
Red	tendenza negativa
Yellow	stabile
Green	tendenza positiva
White	non calcolato



Source: Annuario delle Risorse, SIBM (2008)

# The current situation in Chioggia Fishing Fleet

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## The fleet

- 50 - 55 otter-trawlers
- 35 - 40 rapido (iron toothed dredge) trawlers
- 12 - 14 mid-water pelagic trawlers
- around 100 hydraulic dredges and 5-6 gill net/trammel nets FV

## The issues

- decreasing catches (+ collapse of some resources)
- increasing expenses (Fuel)
- no Market organization
- little or no collaboration within fishermen and with research institutes
- **spatial conflicts between fishing metier** and with tourism (sand dredging for beach nourishment on fishing grounds), aquaculture (mussel farms), trading (the new port of Venice to be displaced off-shore)

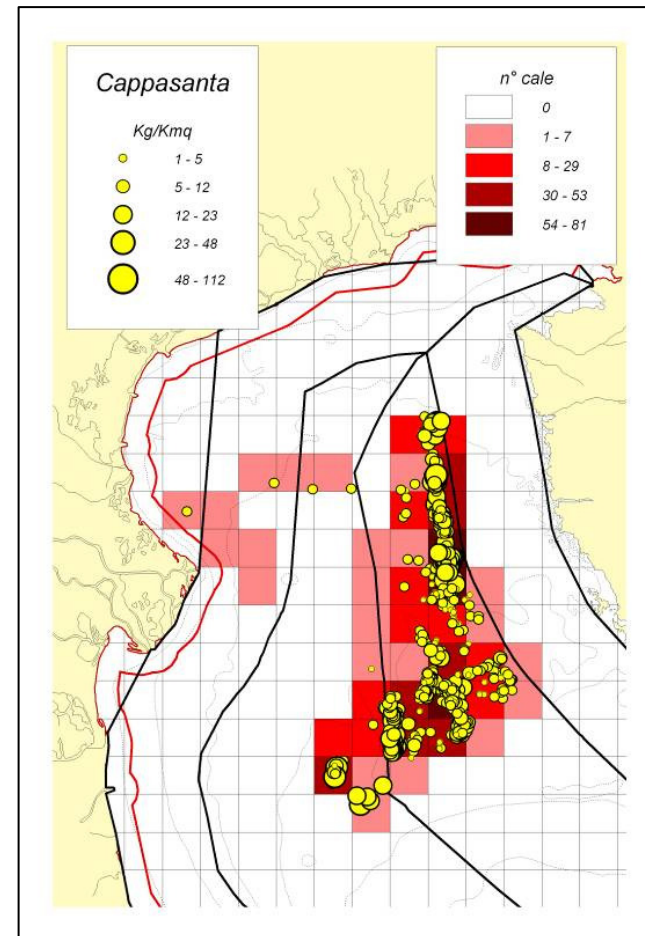
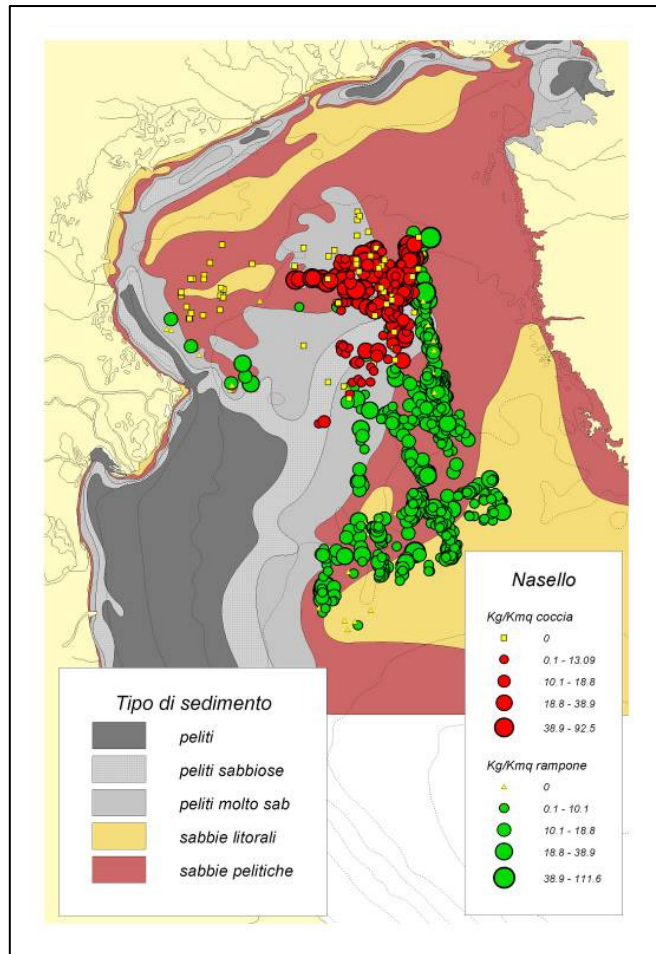


The aim of the project is to incorporate knowledge provided by fishermen (either from fishing activities and Traditional Ecological Knowledge), scientific observers on board, trawl-surveys, electronic log-book, VMS and literature in order to:

- **identify and map fishing grounds and habitats**, define catches and discards composition integrating fishery dependent and fishery-independent data sources;
- **assess the spatial and temporal distribution of commercial species** in relation to different environmental variables.

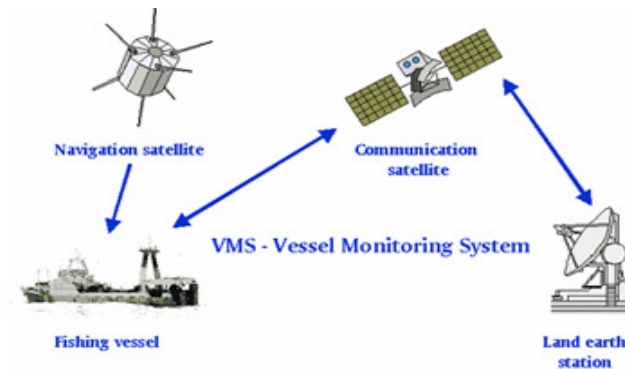
All this will constitute a valuable set of information, collected in a scientific framework (sensu Reg. 1967/2006) that will be available either to fishermen and fishery managers, and will facilitate the enforcement of a **spatially explicit management plan** in the framework of an ecosystem approach.

# Previous experience on collecting data with fishermen

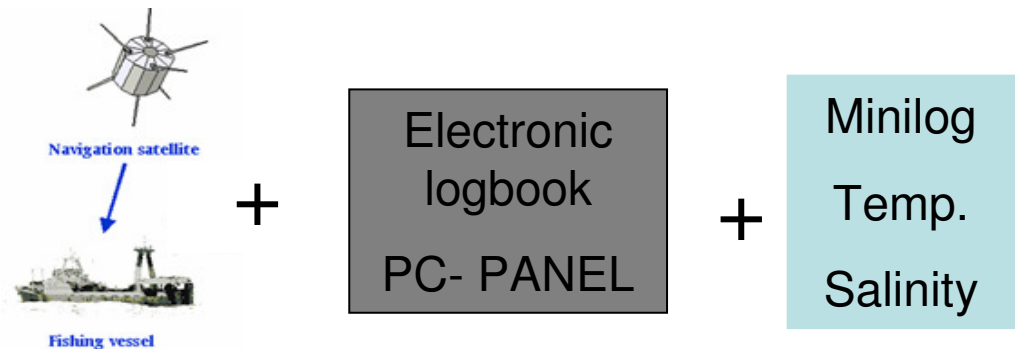


# IL SISTEMA DI RACCOLTA DATI NEL CASO STUDIO

Level III: VMS data for the whole fleet of the Northern Adriatic Sea



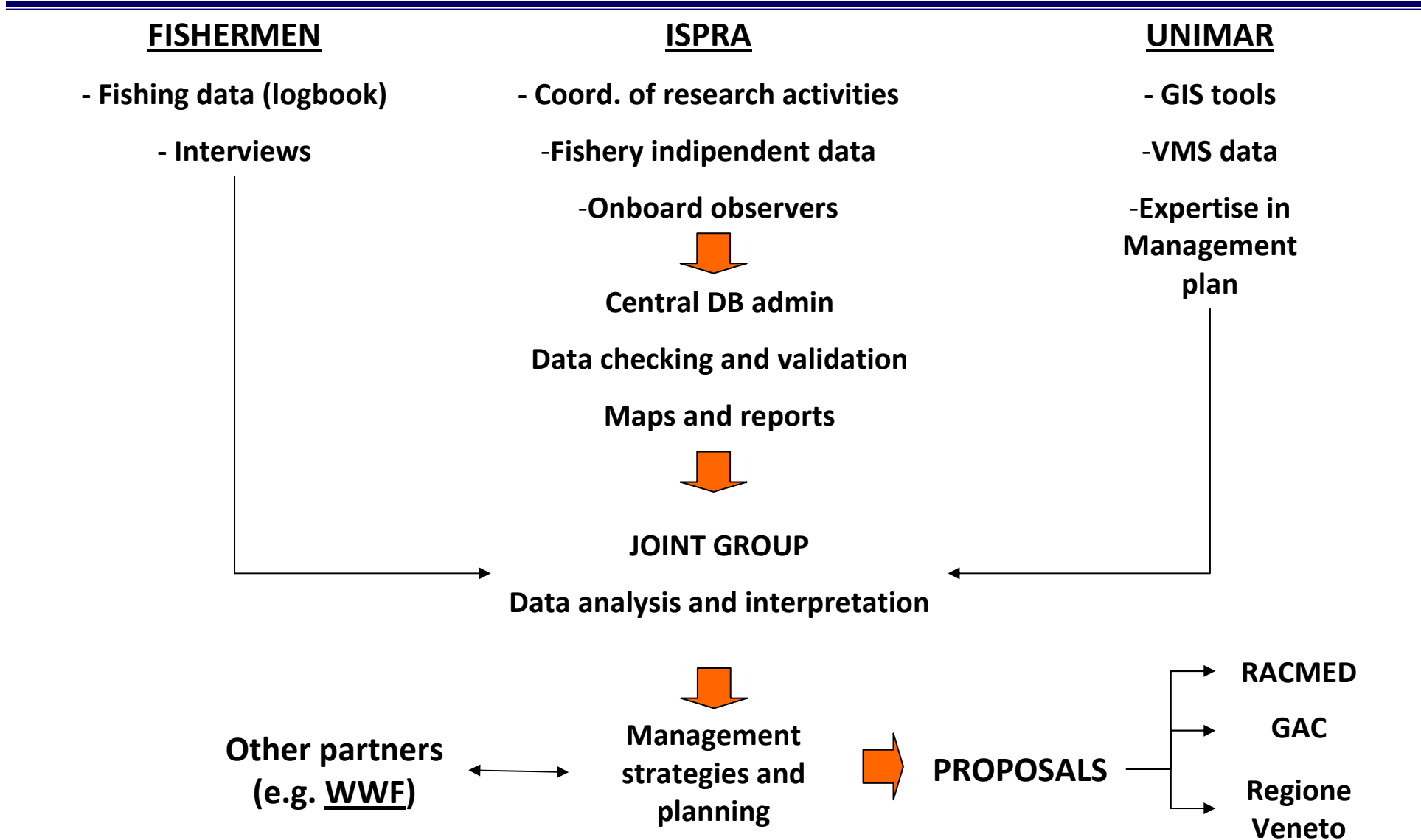
Level II: catches data and position by haul for for the most important species (provided by fishermen) in relation to 10-12 FV (mainly trawlers)



Level I: Onboard observations for biological data collection (researchers) – Regular collection of data on 10-12 FV

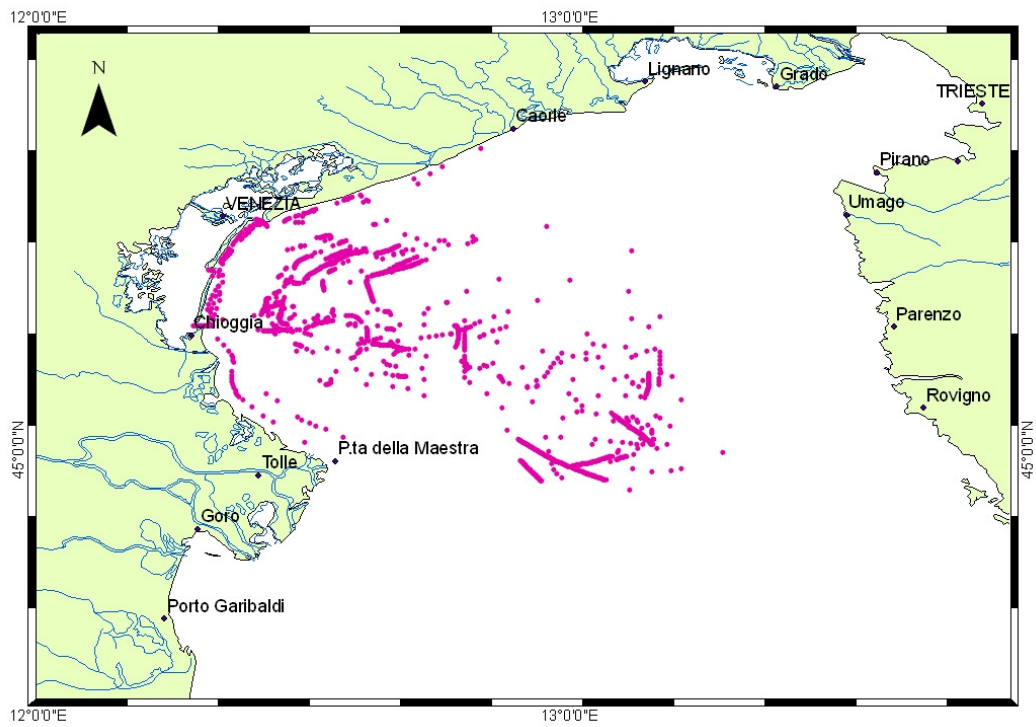
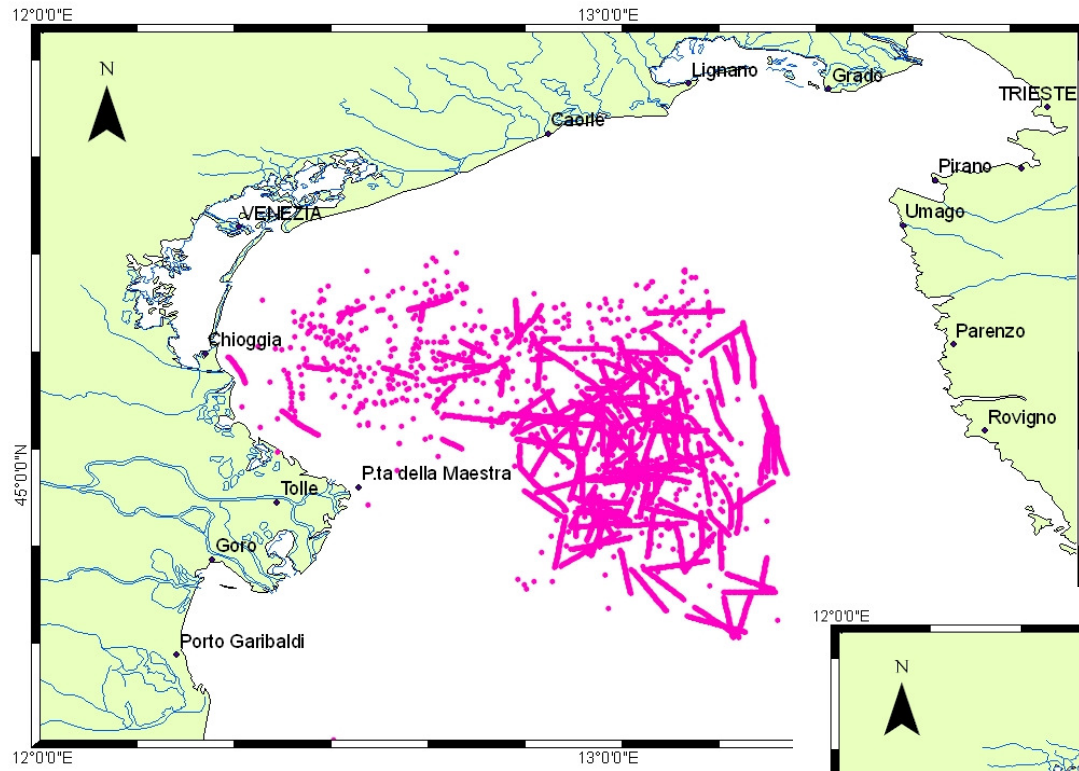


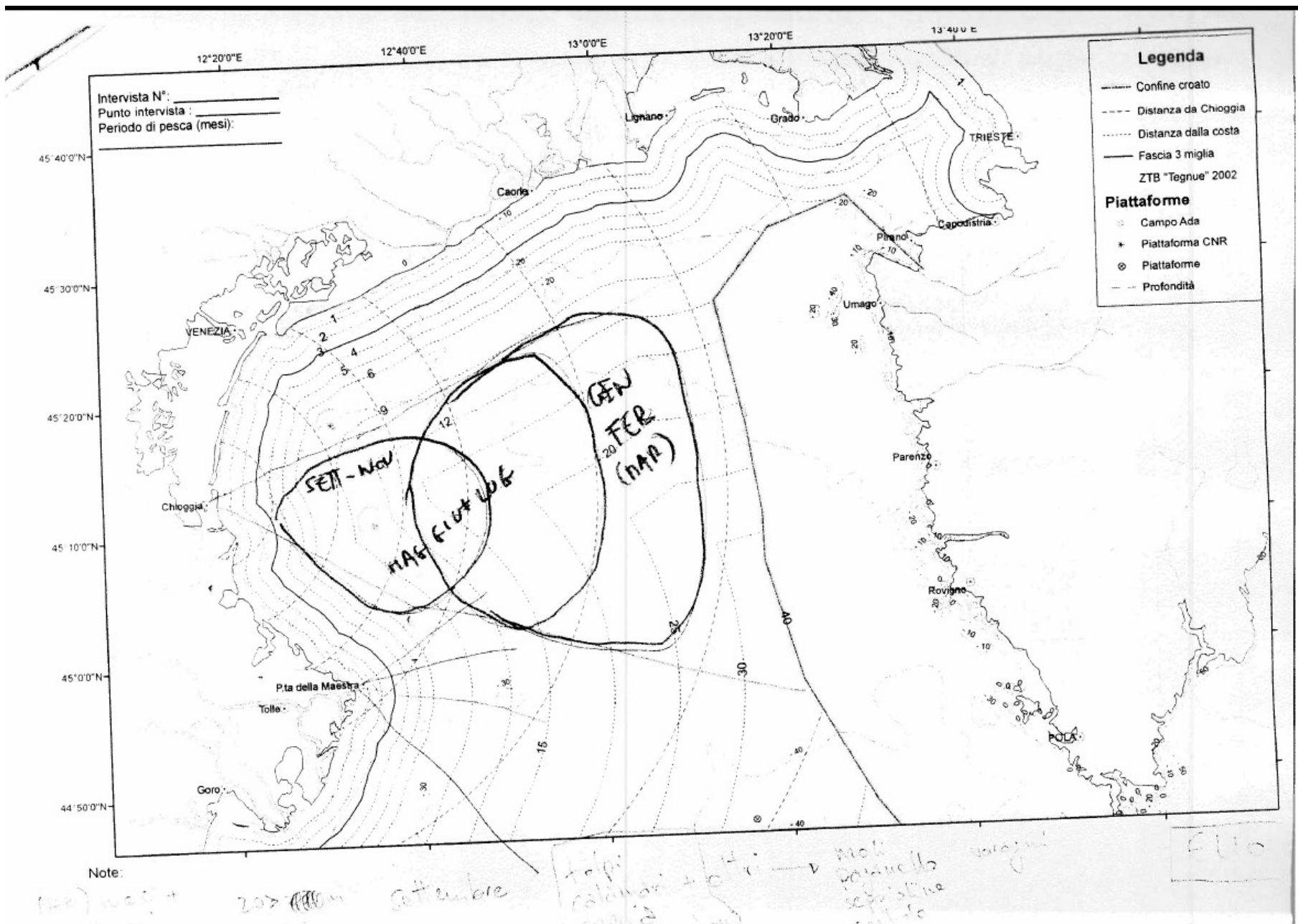
# Roles that stakeholders and scientists will undertake during the research

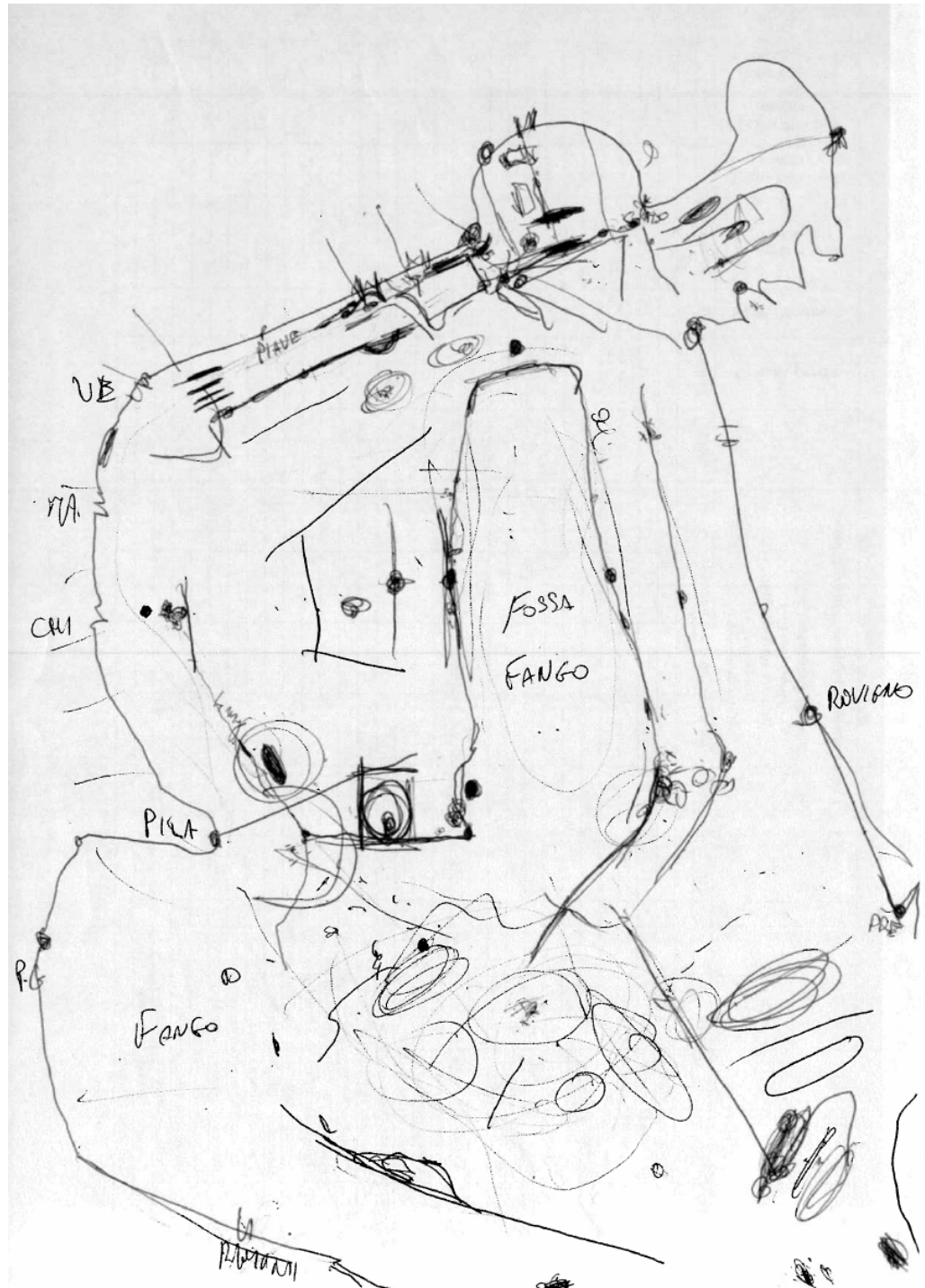


# What has been done so far...

- Meetings with fishermen (monthly), other stakeholders, politicians...
- Interviews with fishermen to reconstruct historical changes in catches and fishing effort; description of habitats
- Agreement with the National Research Council for the log-book software
- 15 panel-pc and GPS were bought, the system is under testing;
- Setting of the software according to fishermen's suggestions;
- Identification of 6 fishing vessels to start the collection of data by the end of April 2012
- ISPRA joined the Gruppo di Azione Costiera (official management body) of the del Maritime Dept. of Chioggia
- Preparation of a book on the Northern Adriatic Sea fisheries









Fishermen asked to work jointly at the description of the fishery's situation in the Port of Chioggia and the Northern Adriatic Sea, so it was decided to prepare a common document on this issue to be presented to local and regional administrators. The book will be printed by June 2012. The index of this report is given below:

1. Introduction: the GAP2 project
2. The ecology of the Northern Adriatic Sea (NAS)
3. The history of fisheries in the area
4. The state of biological resources
5. The crisis in the fishing sector:
  - spatial use of the sea
  - criticalities in the Veneto Region
  - conflicts between resource users
6. Towards a biological, economical and social sustainable use of marine resources:
  - governance and enforcement of fishery management in the NAS, Italy and EU
  - methods to reduce fishing impacts
  - solving conflicts between resource users and Local Management Plans
  - increasing the value of fishery products
7. A role for GAP2

**Thanks a lot!**

