



# MINOUW

## Reducing discard through co-management (Balearic Islands)

Beatriz Morales-Nin (IMEDEA) & Antoni Maria Grau (DG Fisheries & Marine Environment)

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# What is co-management governance?

- Governance is about extending decision-making outwards to embrace a wider public, thereby creating a culture of mutual respect between governors and governed.
- If government is founded on **consent**, governance is founded on **consensus**.
- Characteristic style of the participatory mode is one of consensus-seeking negotiation, earning-by-doing, dealing with uncertainty and complexity, collaboration and power sharing, and management flexibility.
- According to the OECD (1996), co-management is a process of management in which government shares power with resource users, with each given specific rights and responsibilities relating to information and decision-making.
- **The essence of co-management is that the government and user-groups share responsibility for managing the resource.**
- 1960 Castellon trawl fishery co-management.
- 2011 *Aphia minuta* co-management in Toscana & Liguria
- 2012 sand eel co management Catalonia
- 2013 *purse-seine* co-management in the Balearic Islands:
  - The main actors represented include the following: society (ONG), scientists (Research Institute), fishermen (Fishermen Guilds), commercialization (Fishing Wharf) and managers (DGPMM).
  - The approach chosen is adaptive management in which changes in the regulations depend on fishing results.
  - The fishing effort is regulated by number of licenses and number of working days.
  - The catch is regulated by a boat quota/day.

# The fishery

- Open from December to April
- Annual permits to boats < 11m and with 5 yr in the fishery
- 2016-2017 43 boats
- Daily quota determines the fishery closing
- Fishing operation < 30 m deep, slow hauling
- Handling the catch:
  - Collecting by hand net the target species with the seine in the water (69% fishermen)
  - Putting the catch in a water container to sort species (50%)



# The target species



- **Primary target: *Aphia minuta***
- *A. minuta* is a pelagic neritic goby.
- It is a small pelagic species < 60 mm with a lifespan < one year.
- This progenetic species gathers in bays to spawn from December to April in shoals close to the bottom (5 to 40 m depth), while a second spawning season occurs in autumn (September- October) in deeper areas (40- 90 m depth) outside of bays.
- The fishery exploits the reproductive shoals on December-April.
- **Secondary target: *Pseudaphia ferreri***
- *P.ferreri* & *Crystallogobius linearis* are by-catch and their abundance in the capture determines the daily quota and the commercial category and price.

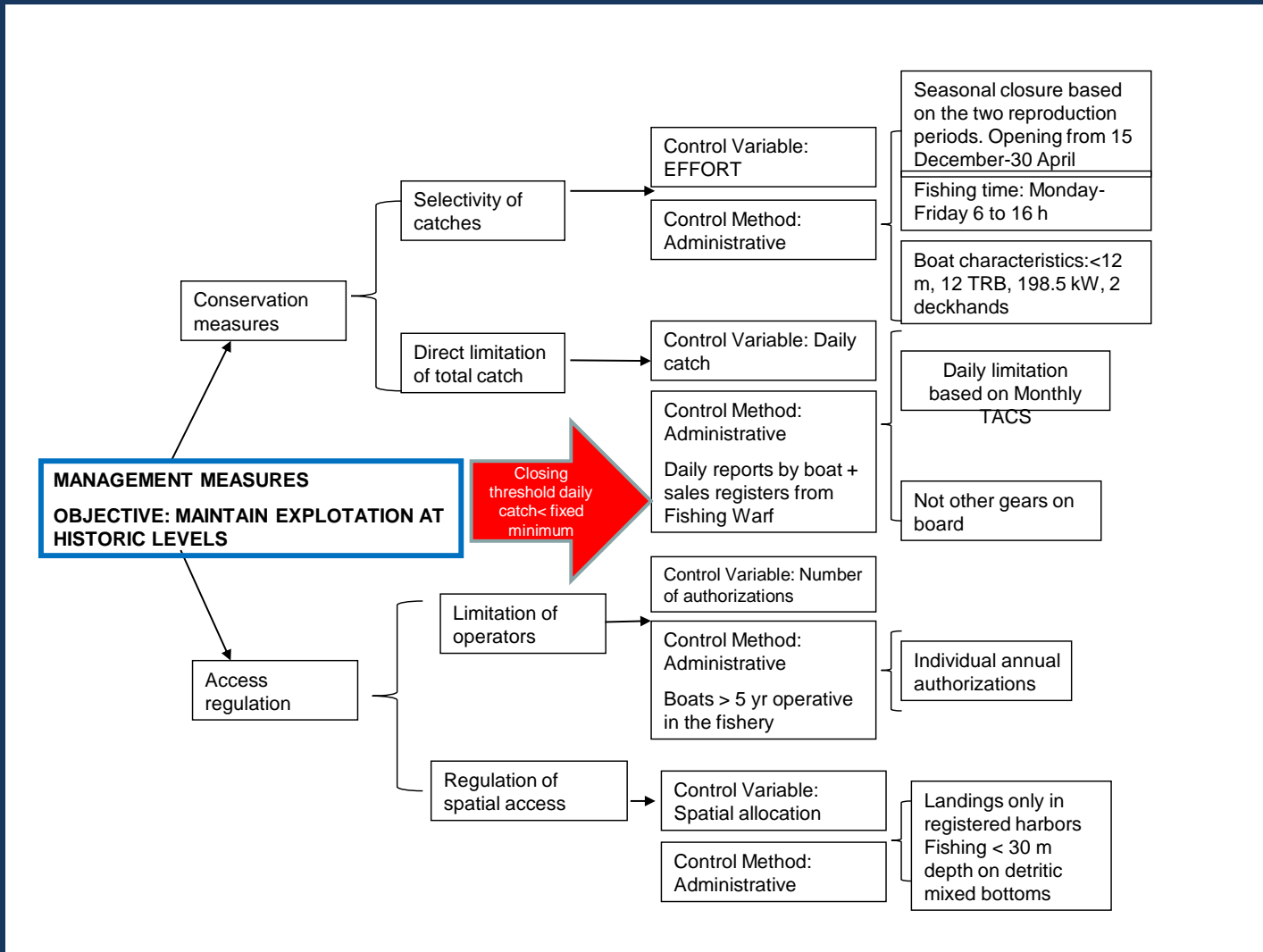


# Regulation and management



## Reglament of exception UE 1233-2013

## Balearic Islands Decree 46/2013



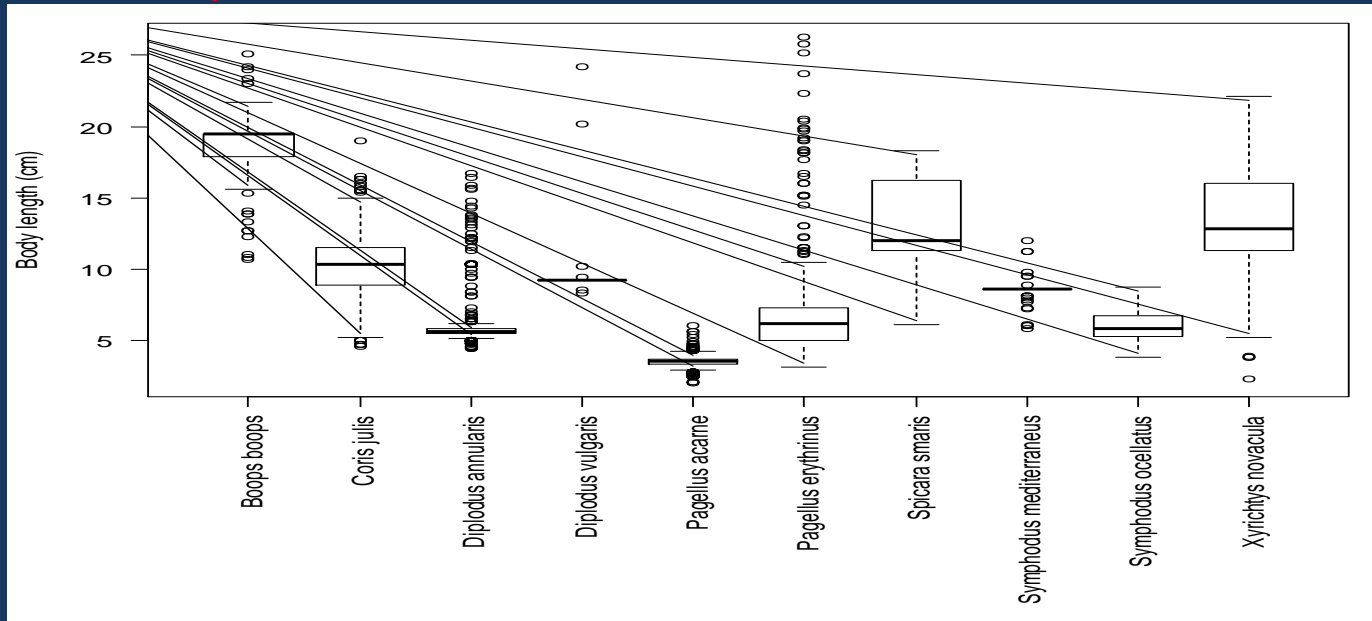


# What the fishermen think

- 2016 framework survey to know stakeholders opinion:  
**63%** fishermen answered
- Satisfaction with the present regulations: **Yes 64%**, No 14%
- Increase in revenues following regulation: Yes 32%, **No 50%**
- Representation in the Survey commission: **Yes 46%** , No 28%
- Preference on management measures (decreasing order):
  - Daily timetable
  - Allowing more than 1 gear on board
  - Daily quota
  - Fishery closure
  - Number of licenses
  - Open season

# By-catch & discards

## Small-size of the captured fish



- Total catch per haul:  $8.8 \pm 7.7$  kg
- Total by catch per haul: **14.7% in weigh**
- Total discards per haul: **9,1%** (species with a minimum size)
- **Discards: 81.2% *Pagellus acarne*, 12.5% *Diplodus annularis*, 4.6% *P. erythrinus*, 1.4% *D. vulgaris*.**
- ***Pagrus pagrus*, *Scomber spp*, *Trachurus spp* < 1%.**



# Practices to avoiding by-catch & discards measures



- Fishing operations:
  - Checking the school image in the sonar: 54.55 %
  - Hauling the net slowly to promote escape of no target species: 13.64 %
  - Not fishing on *Posidonia* meadows: 9.09 %
  - Sailing over the school several times: 9.09 %
  - Dropping a weight in the school: 4.55 %
  - Using all measures: 18.18 %
- Handling capture allows to release unwanted catches alive (hand-net sorting)
- Excess quota of target species:
  - Returning alive to sea (opening bag): 91%
  - Sharing excess quota with other boats if target fish dead : 19%
- Preliminary results show high survival of released fish (80%)

# Future steps

- Fishery co-management started for economic reasons (regulating sales price)
- Now successful integration of all stakeholders in the management (high level satisfaction)
- Purse seine:
  - Renovation of the UE exception
  - Collected data since 2010 allow to manage the fishery by species and by zone (N Mallorca *A. minuta*, S Mallorca *P.ferreri*)
  - Legalize practice of catch transfer between boats
- New initiative for co-management of dolphinfish fishery

# Thanks for your attention!

