

The image features a dark blue, textured background. A horizontal strip of white paper, torn at its edges, is positioned across the middle. The text 'MSP & Fisheries' is printed in a black, serif font on the white paper. The right end of the paper strip is curled into a small roll.

MSP & Fisheries

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The image features a dark green, textured background. In the upper left, a piece of white paper is torn, with the word 'Part I' written on it in a black, serif font. To the right of the torn paper, a white scroll is rolled up, with its end visible. The scroll is positioned diagonally, pointing towards the top right corner.

Part I

A Highly Technical Review of
the Context in which Fishers &
Fisheries Find Themselves

Fisheries don't have exclusive spatial rights to the ocean under US law



Who cares? It's just
me and the fish out
here!



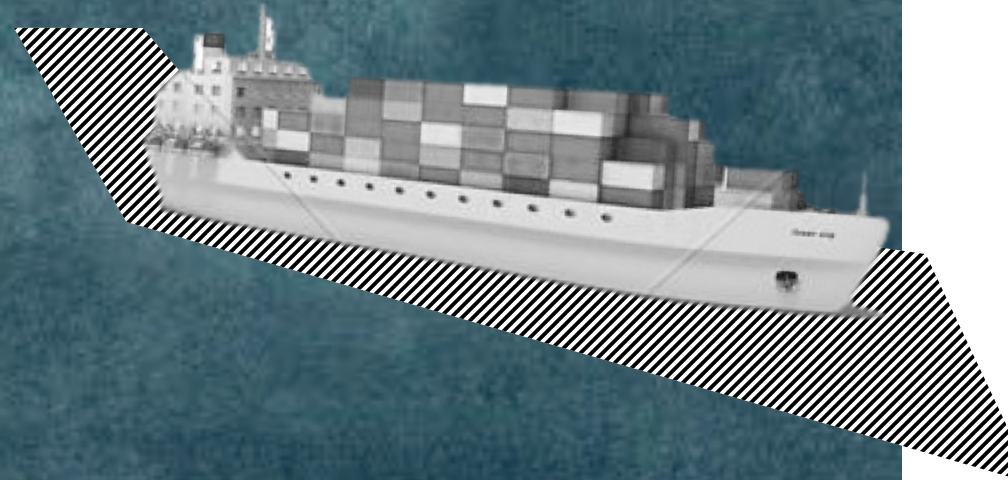
However, they share the sea with
other industries



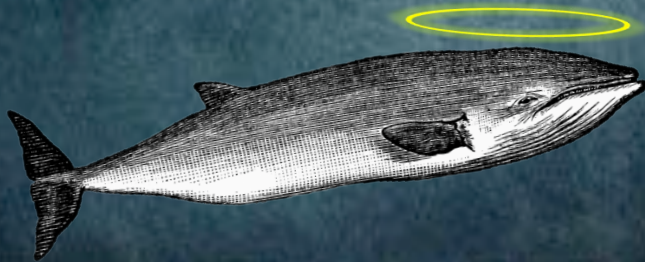
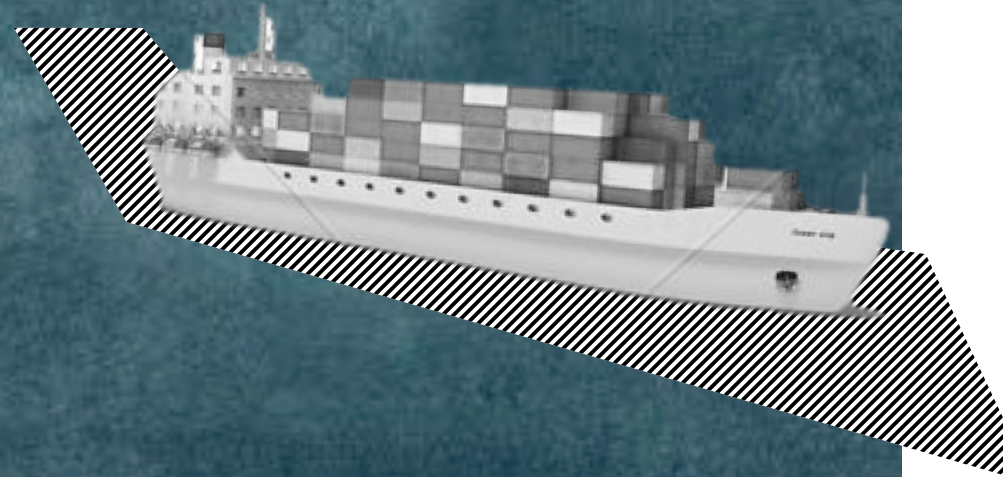
grumble



...and frameworks exist to zone
and/or lease areas of the ocean♪

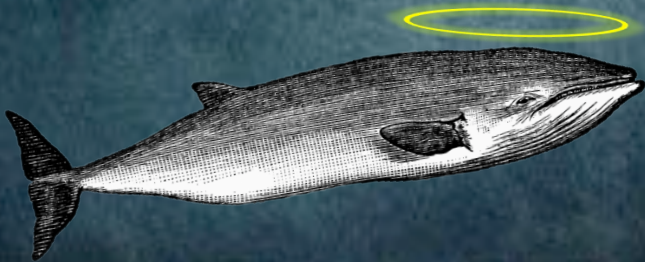
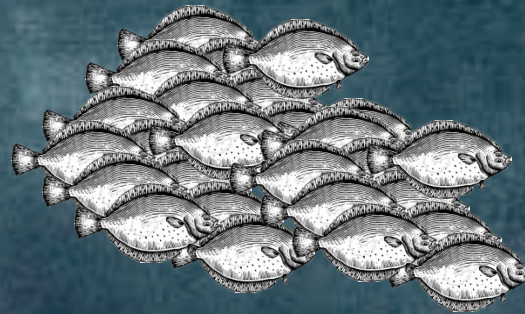
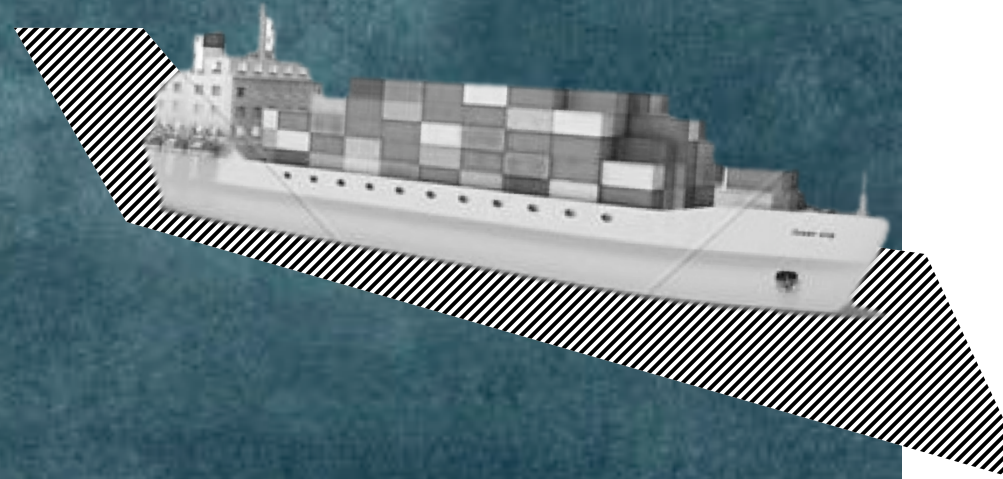


...and to protect endangered
species and habitats♪



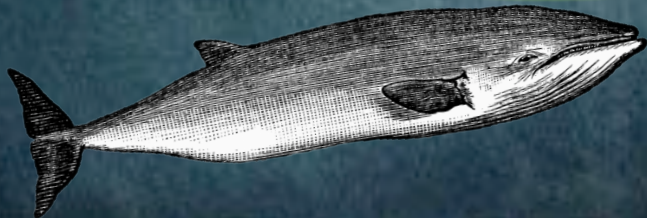
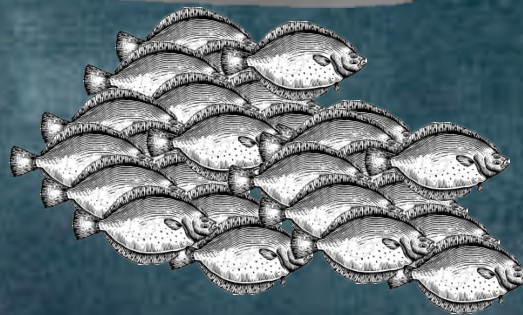
...and renewable energy projects
are being fast-tracked♪

What the !!!



It's time to identify and protect
fishing grounds for fisheries♪

At least I can still fish
the 'ol fishin'
grounds...





Part II

Identifying
Primary Fishing Areas
(PFAs)

Data to Identify PFAs

- Individual
- Community
- Catch
- Ecological



Individual

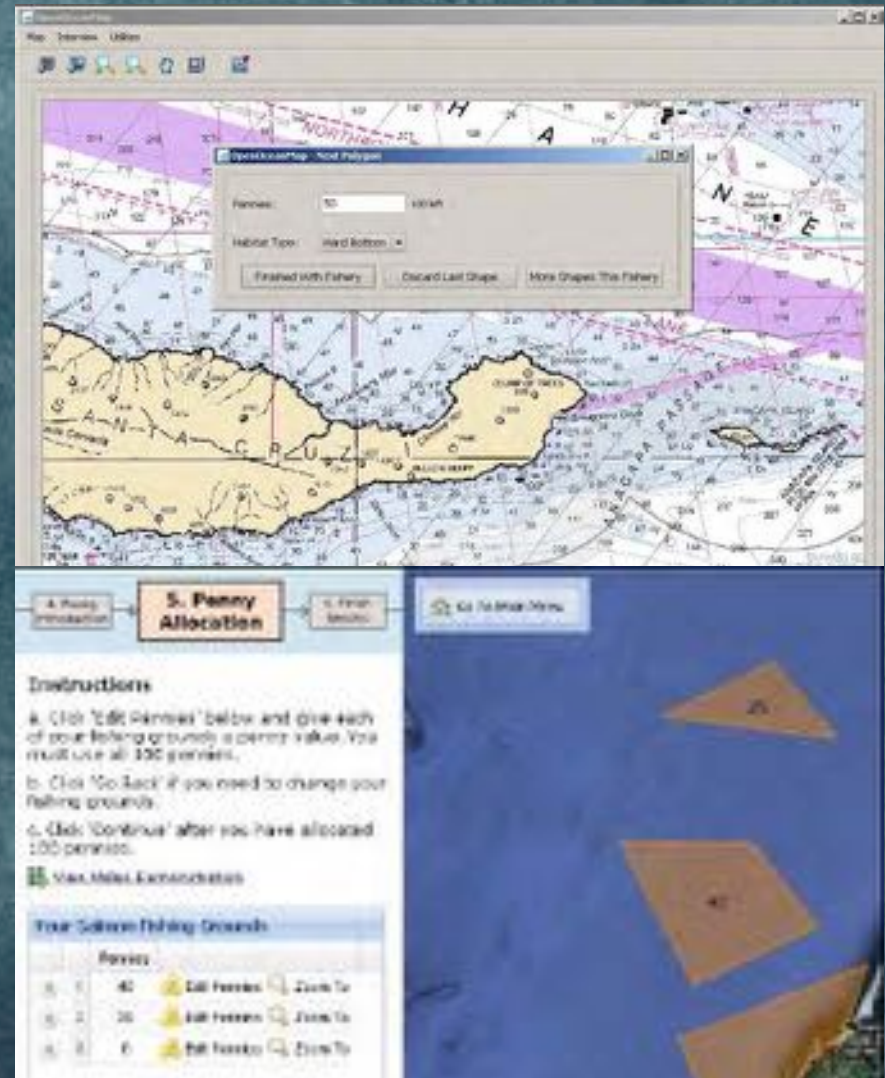
- Generally: fisher surveys
- Engages fishers about the value they place on specific areas of the ocean



Individual

Open OceanMap

- Developed by Ecotrust
- Given 100 pennies to allocate across user-generated shapes
- Used to inform California's MLPA



Community

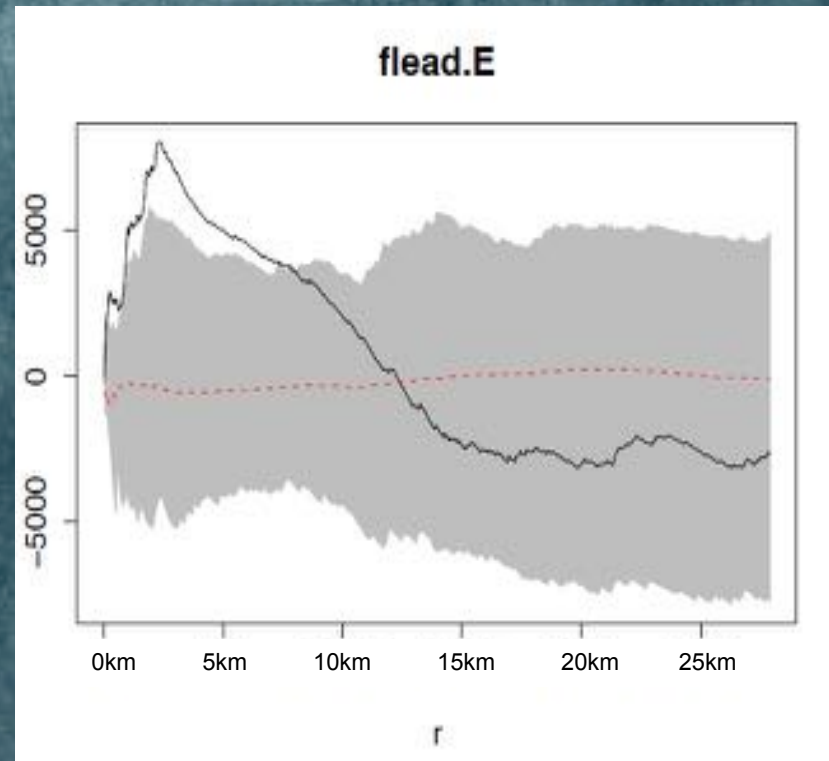
- Identify broader community connections to locations at sea
- Based on:
 - Observer & VTR data
 - Dealer data
 - Fisher & industry surveys



St. Martin & Hall-Arber 2008

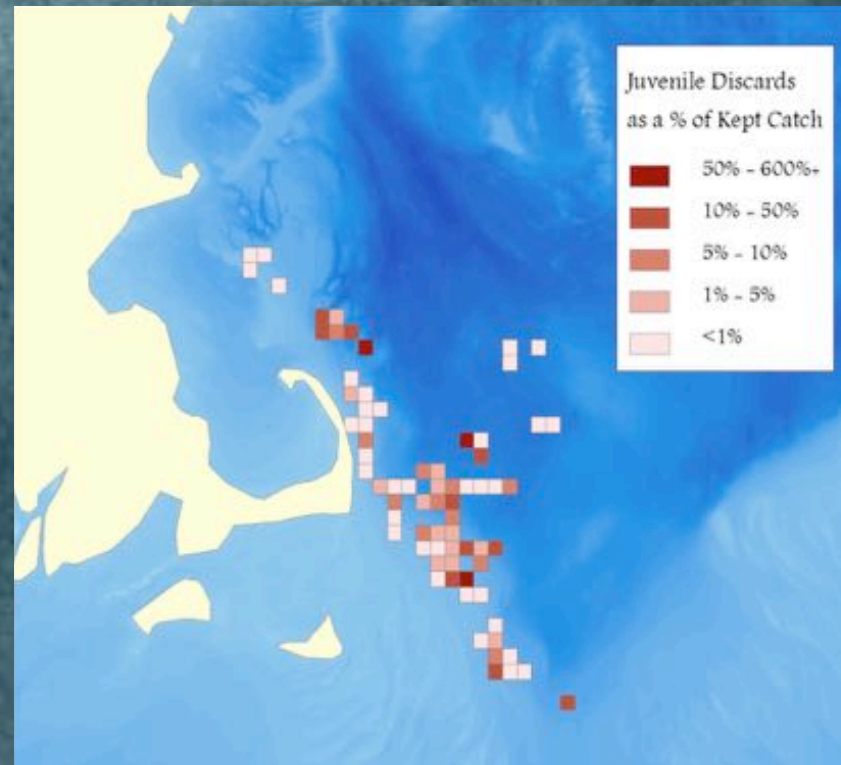
Catch

- Define areas of importance based on:
 - Persistence of catch
 - High catch/discard
 - High catch/bycatch
- Based on
 - Observer & VTR data



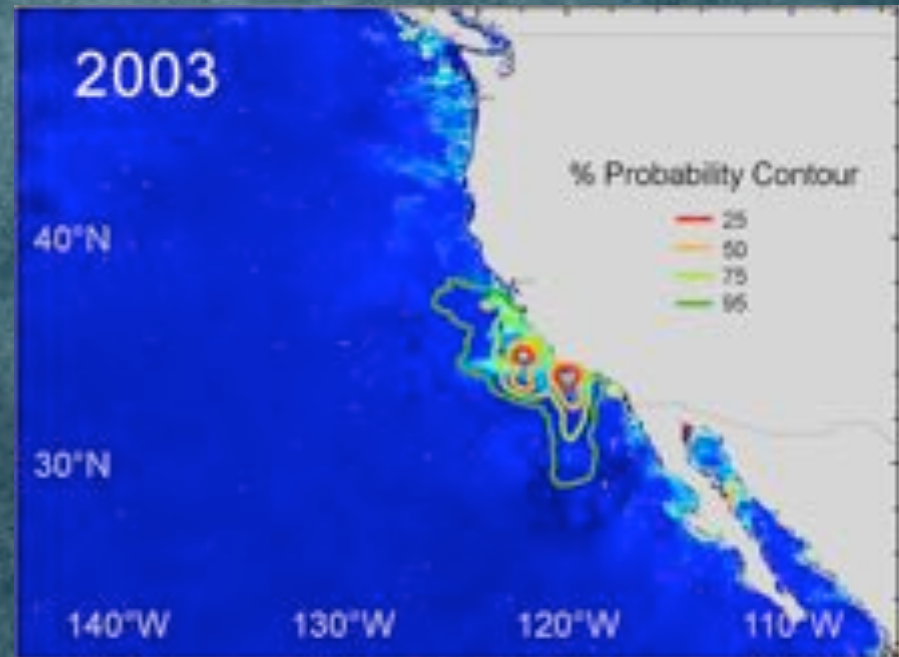
Catch

- Helps to incorporate:
 - Multiple quota issues
 - Size regulations
- and minimize:
 - Degraded catch
 - Flead, slimed, depredated, etc.



Ecological

- Used to model habitat use by target and non-target species
- Based on:
 - Tracking data
 - Fisheries independent survey data
 - Observer & VTR data

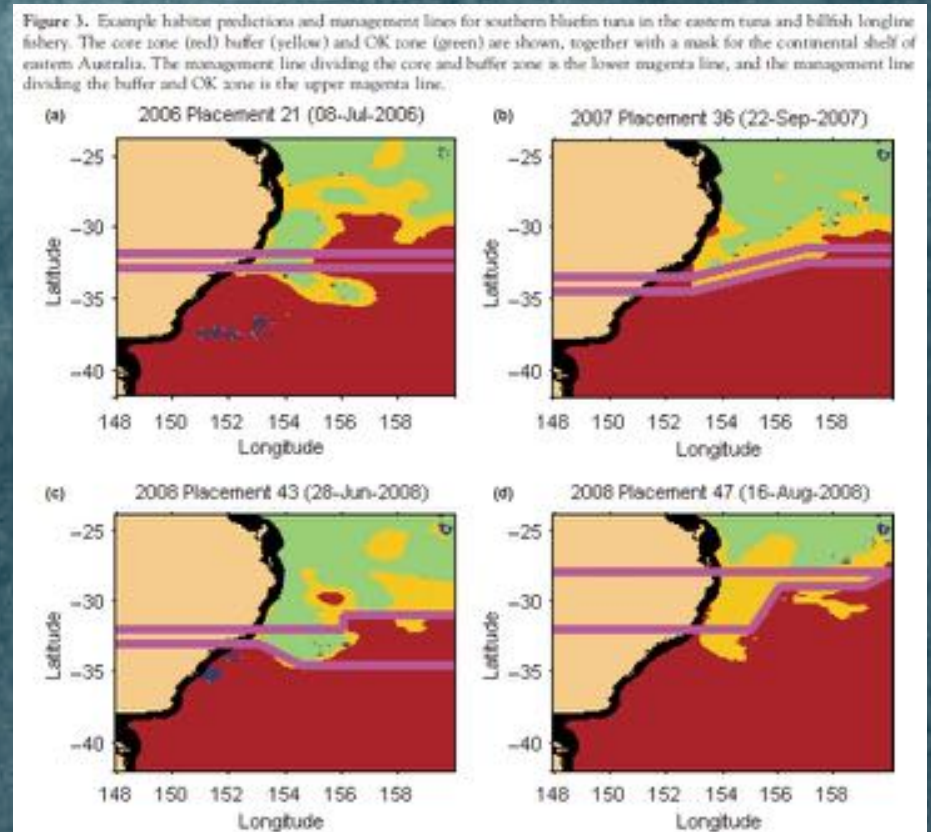


Adapted from Boustany et al.
2010



Ecological

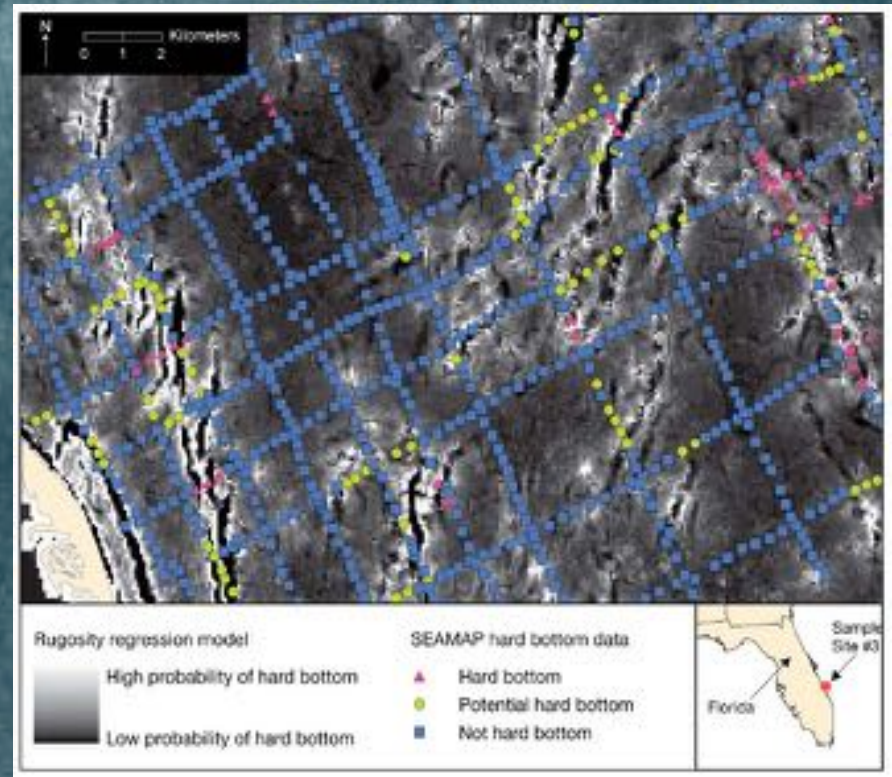
- Can identify:
 - Important life history areas
 - Areas of increased target species use
 - Areas of likely conflict with other commercial species or protected species



Hobday et al. 2010

Ecological

- Can also be used to model habitat itself as a proxy for fish habitat.
 - Particularly useful for hardbottom dwelling species.



Dunn & Halpin 2009

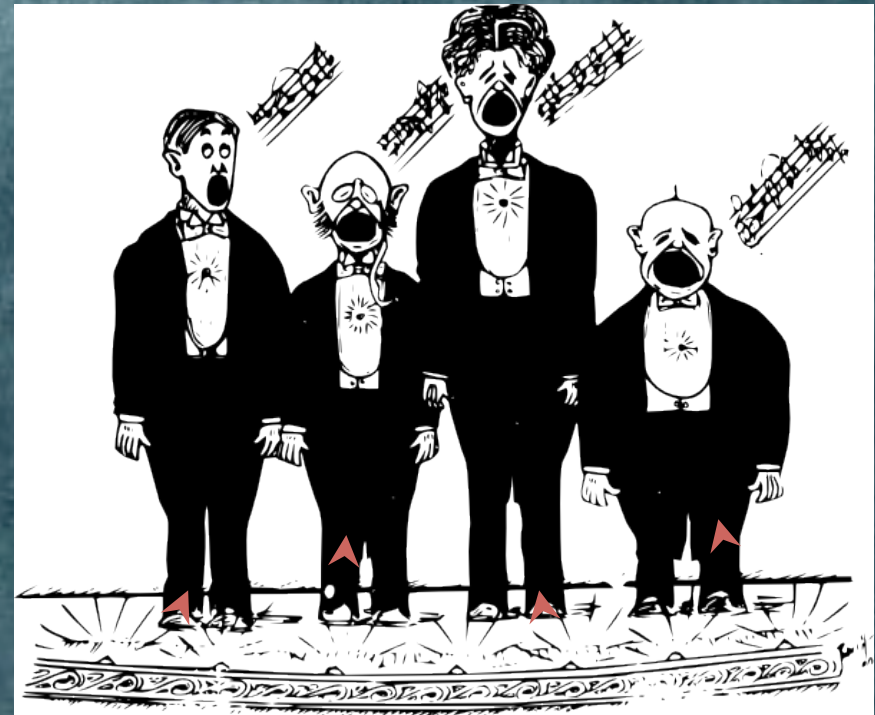
Part III



Your role...

The Harmony

- None of these data are sufficient by themselves
- They must all be brought together for fisheries to rationally participate in CMSP



Individual Community Catch
Ecological

The Conductor

- Mark your territory
- Provide data to MSP processes
- Outreach to fishers
- Improve data collection
 - Increase resolution
 - Increase # of locations for pelagic gear
 - Use VMSs

