

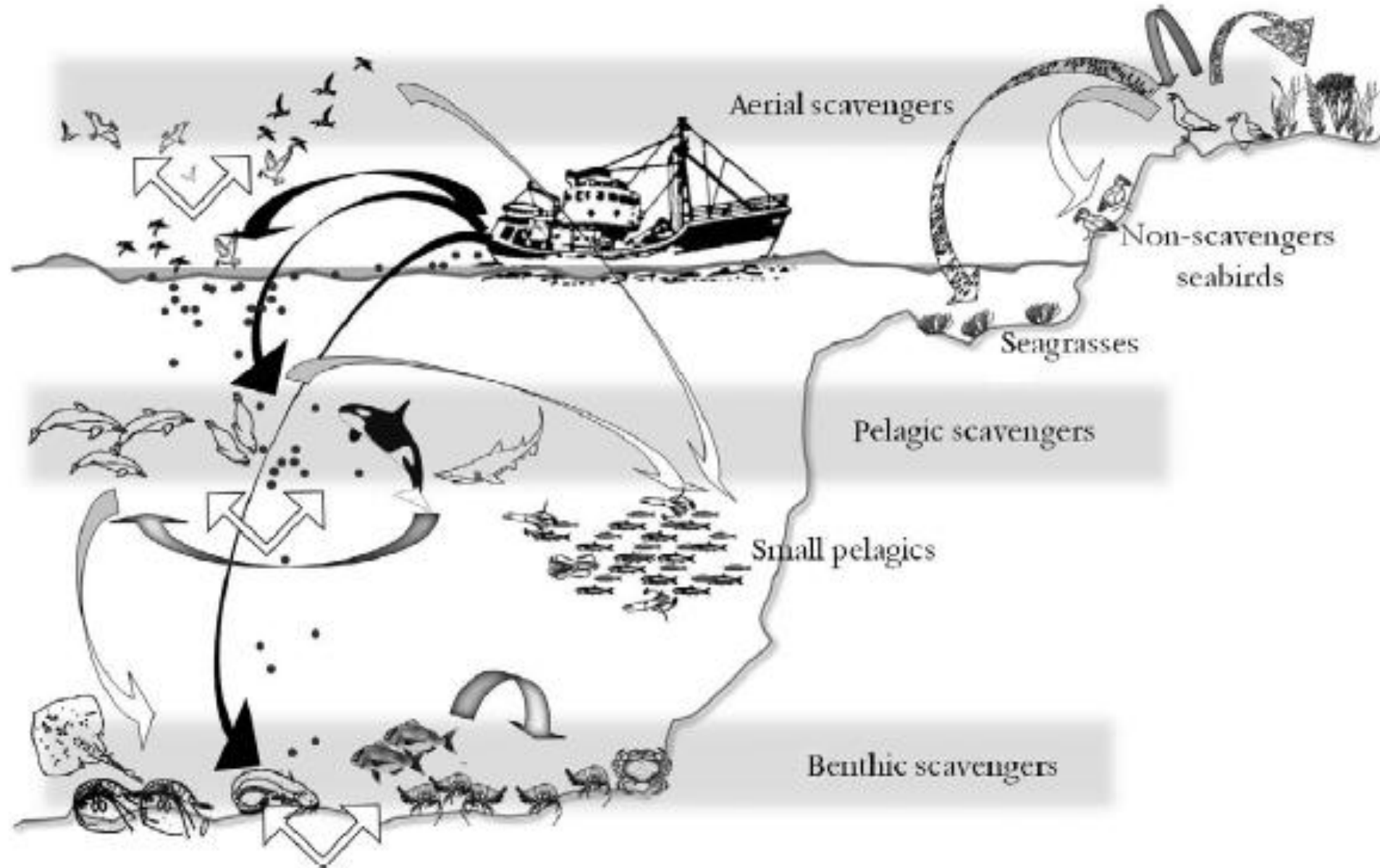
Impact of the Landing obligation on the **whole ecosystem** and food-web?

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And the « Impact on Stocks and Ecosystems » WP team!

Stop discards (food source) in the ecosystem



Decrease fishing mortality of unwanted catch

| | discs | bobbin s | |
|-------------------|-------------------|-------------|--------|
| | Total Weight (kg) | | % diff |
| Lemon Sole | 144 | 148 | 2.9 |
| Plaice | 261 | 257 | -1.4 |
| Witch | 108 | 96 | -11 |
| Megrim | 173 | 132 | -24 |
| Comon dab | 59 | 50 | -16 |
| Long rough dab | 178 | 81 | -54 |

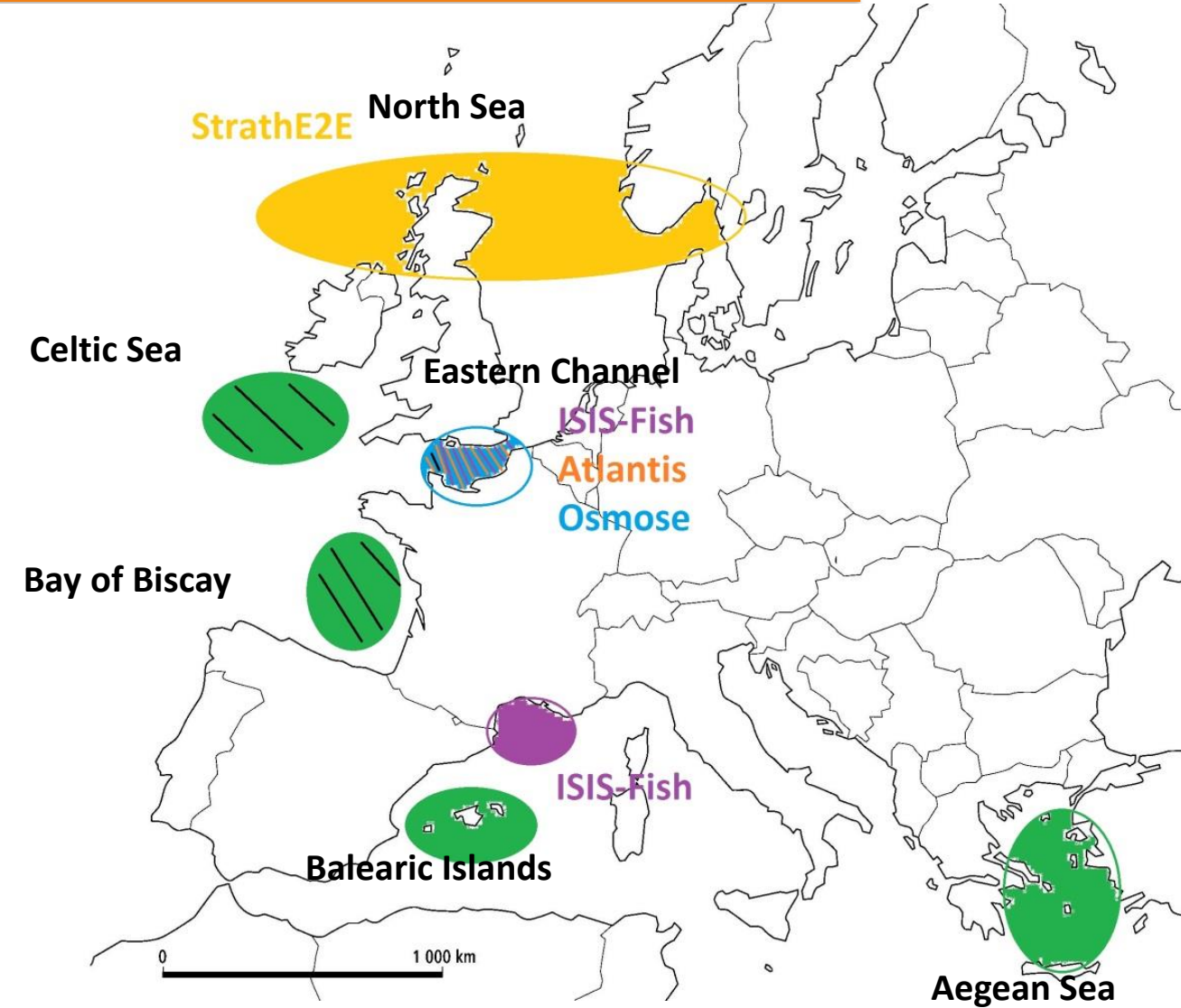
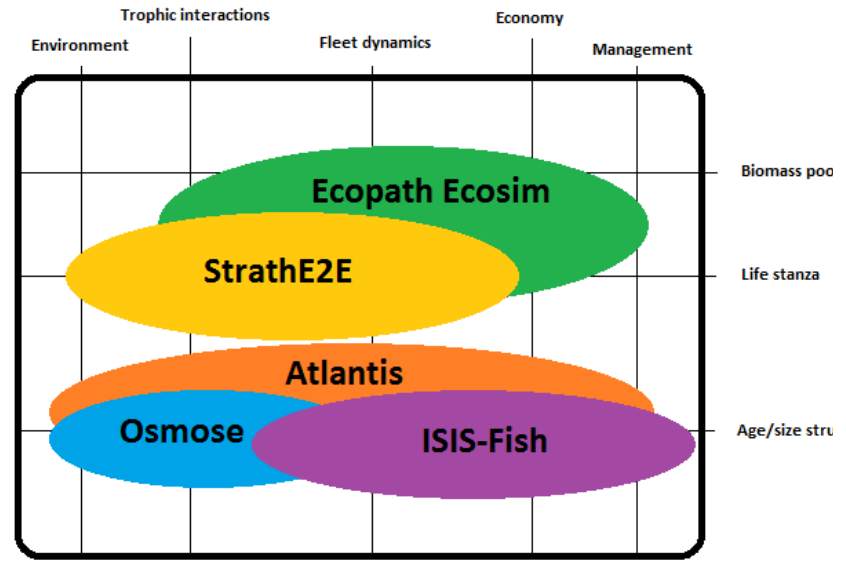
RESULTS

using the spherical bobbins reduced the catches of flatfish species.

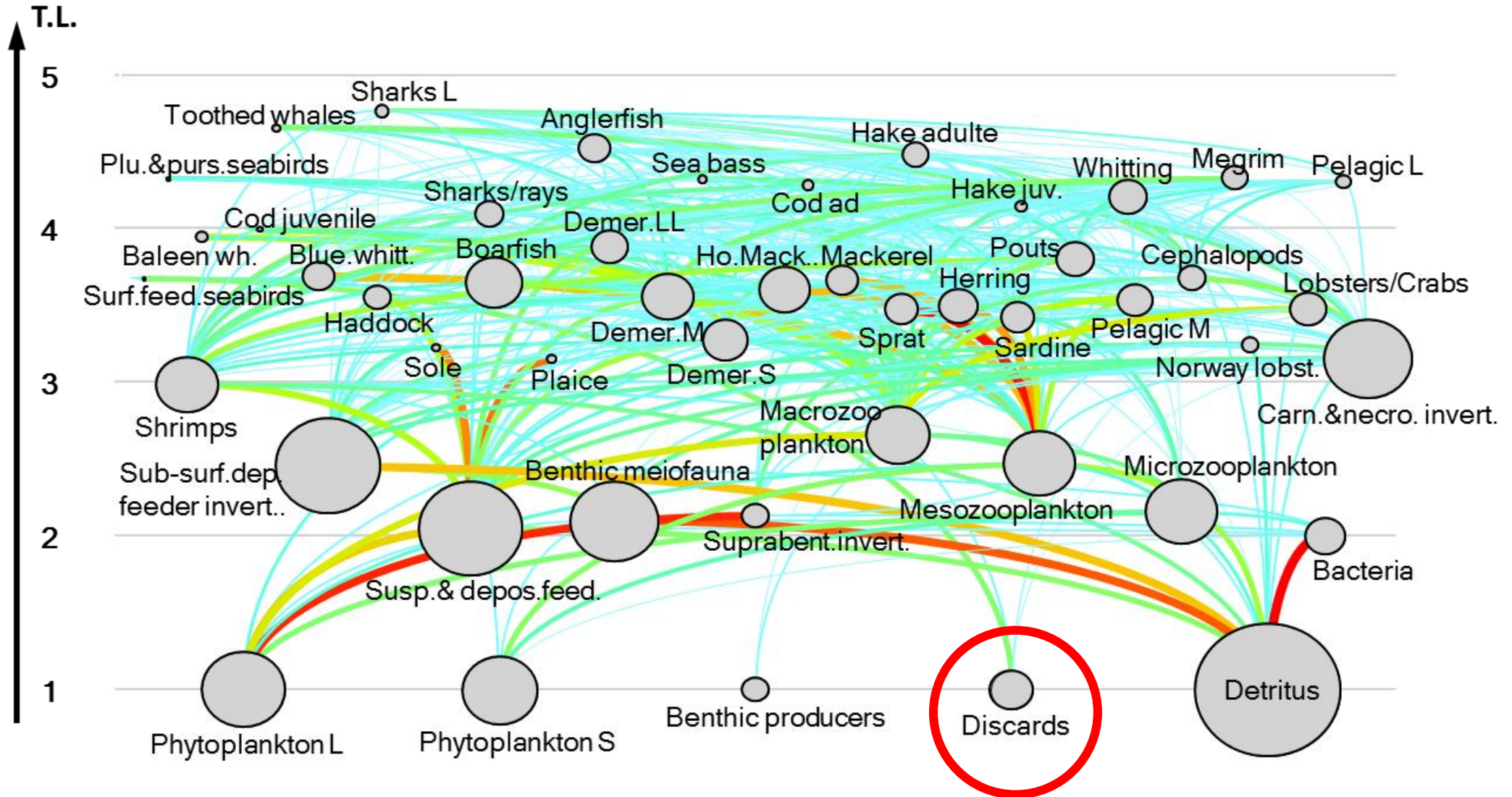
this was length dependent and smaller flatfish were less likely to be retained than larger ones.

For plaice and lemon sole there were greater catches of the larger individuals.

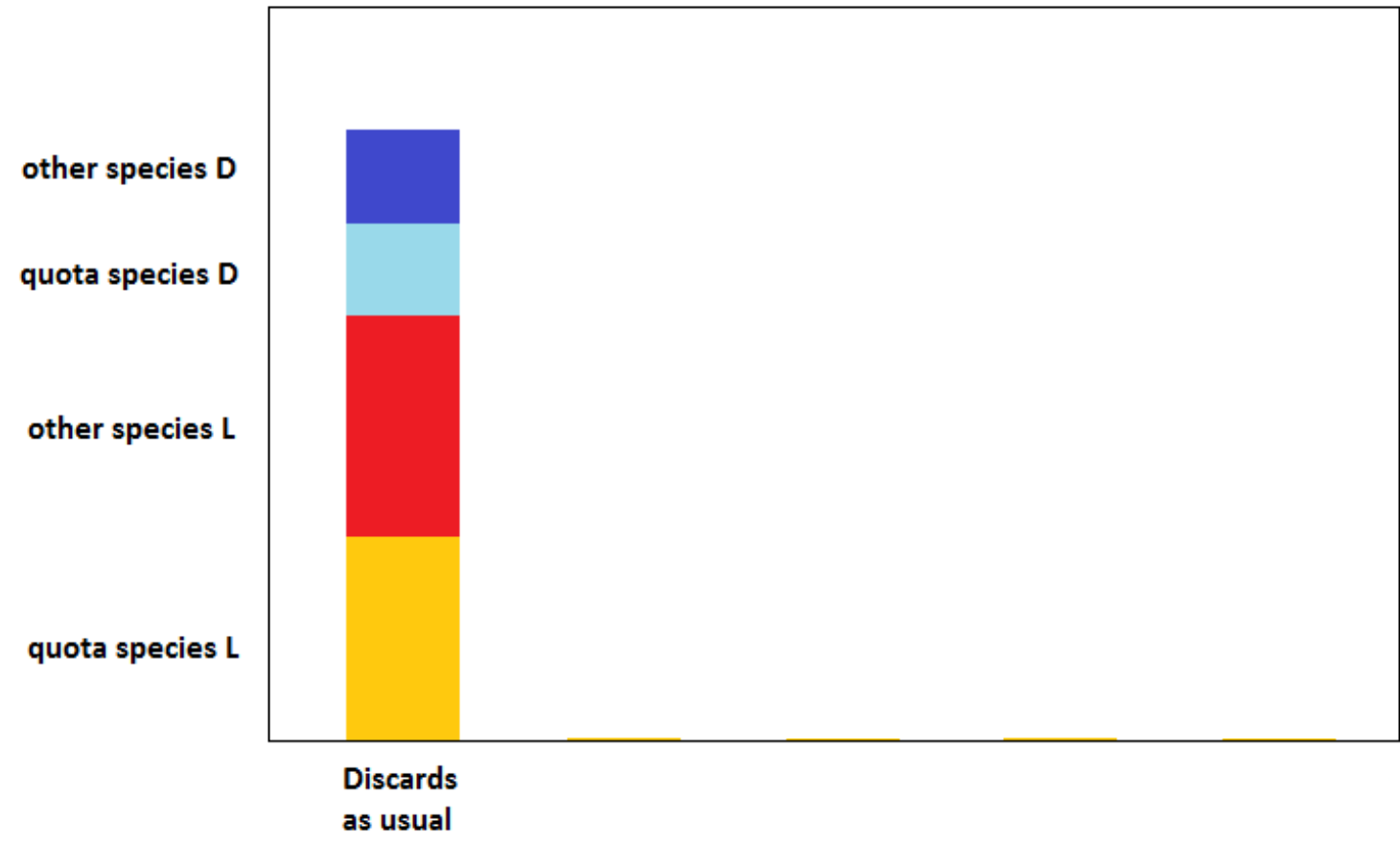
Tools to evaluate effects of discard ban on the whole ecosystem and food-web?



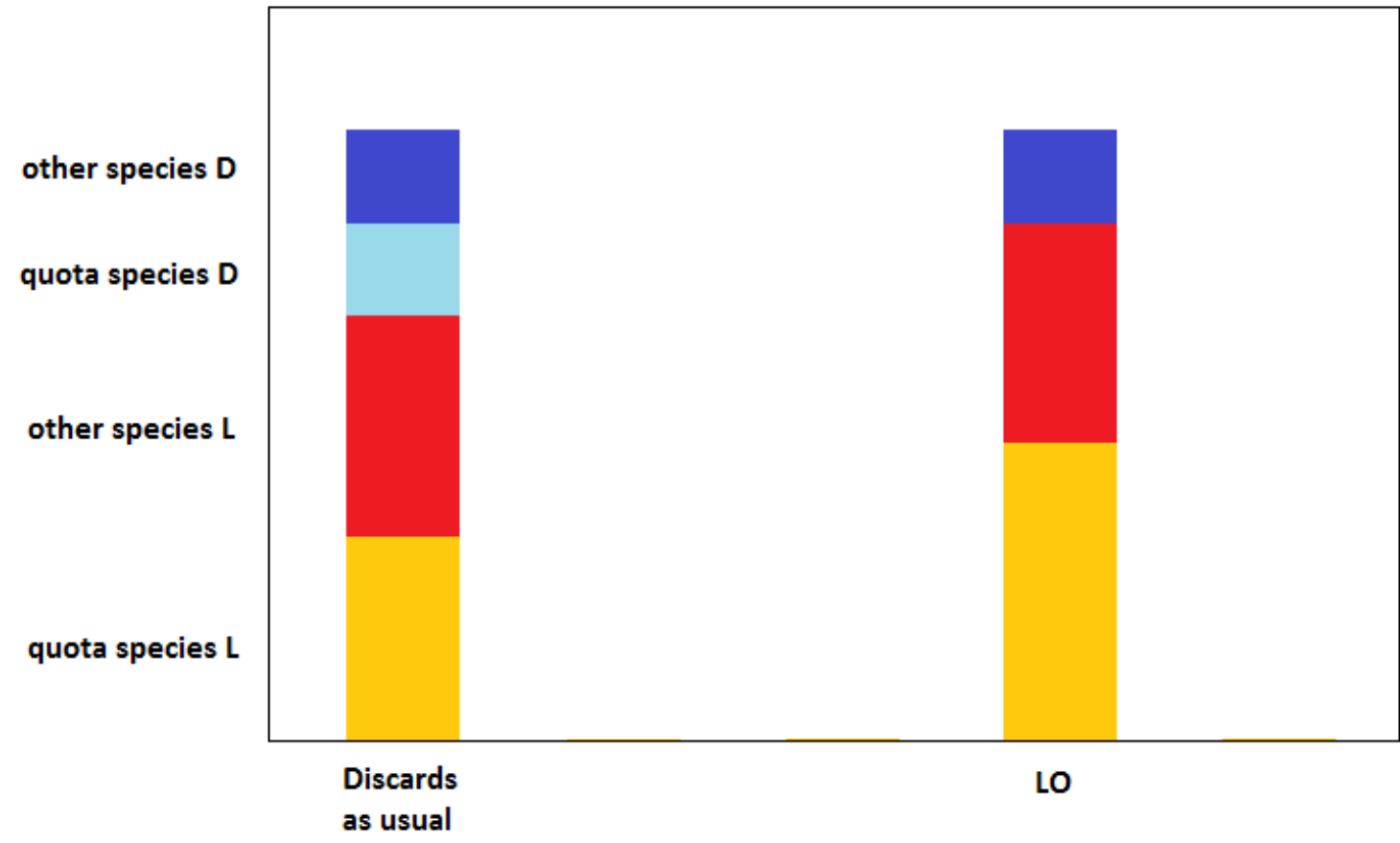
Effects of reducing discards into marine food webs?



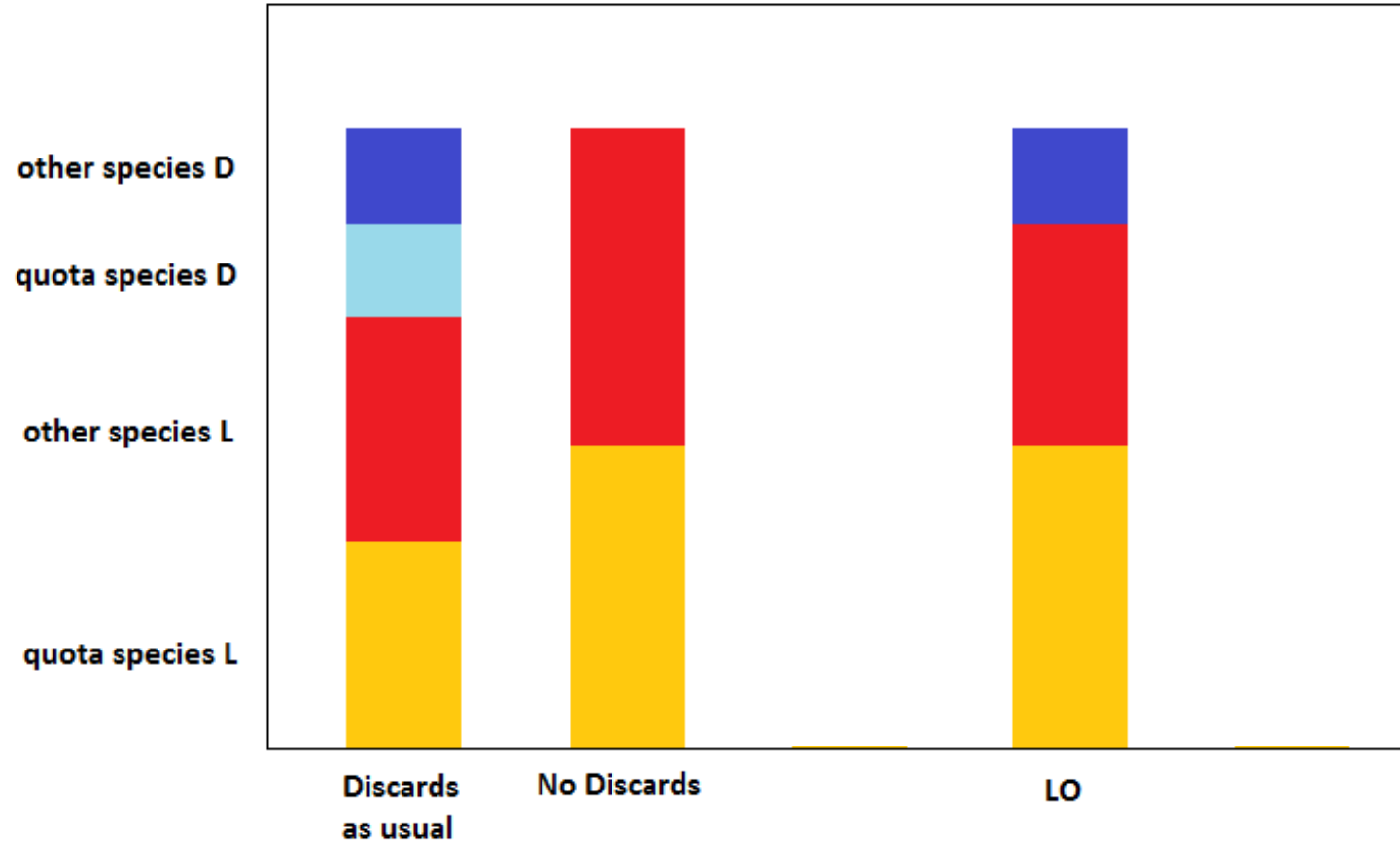
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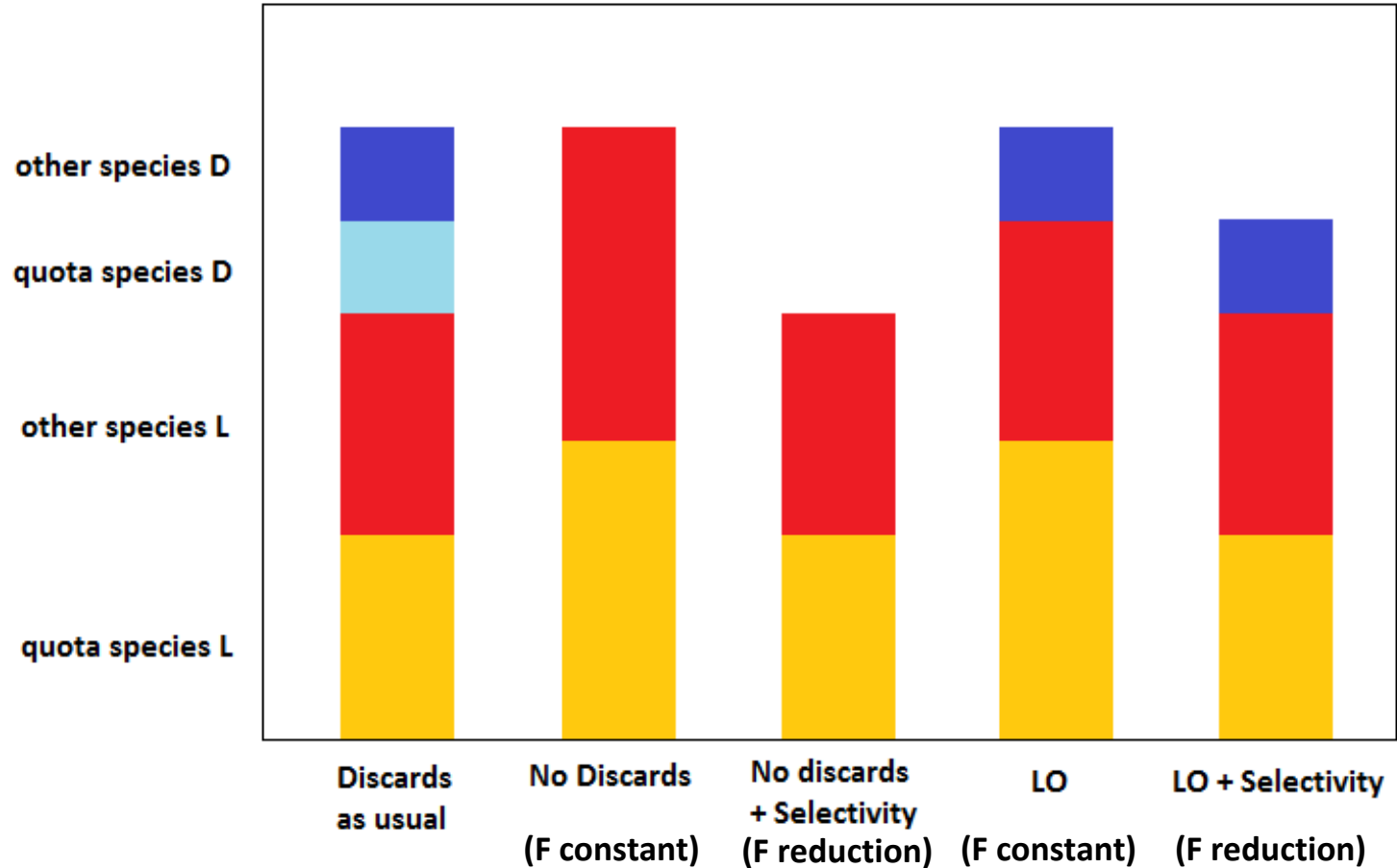
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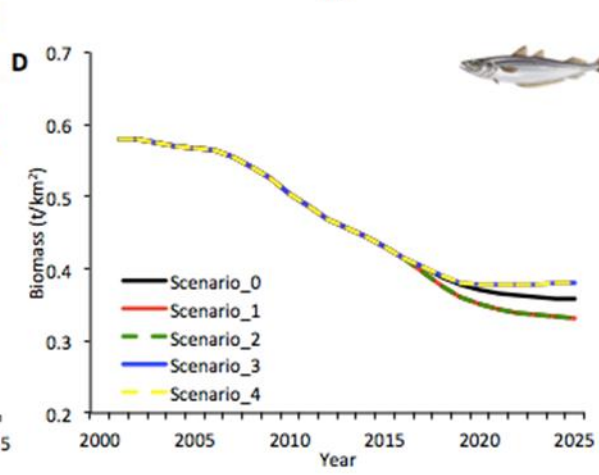
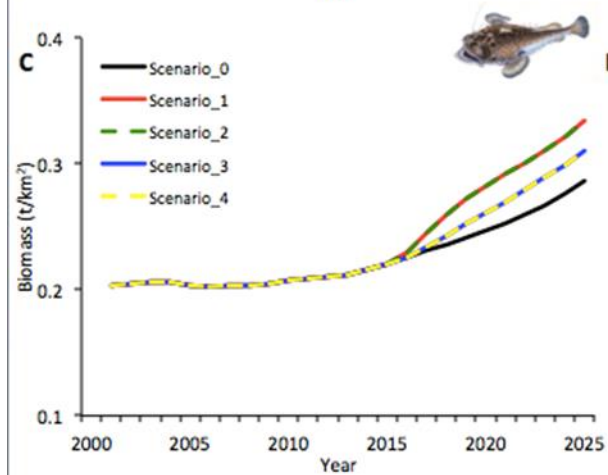
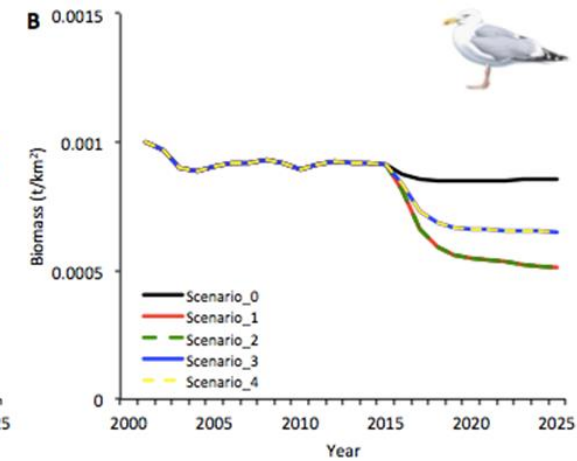
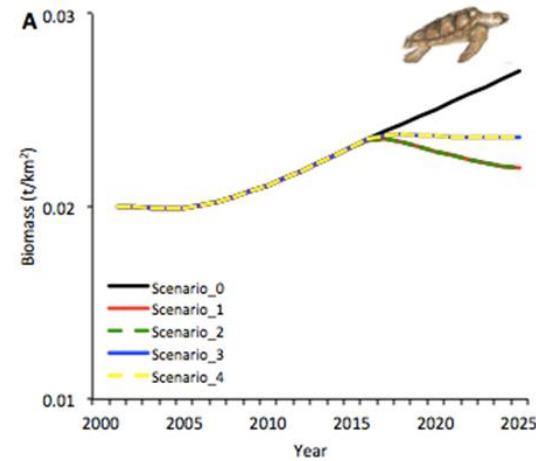
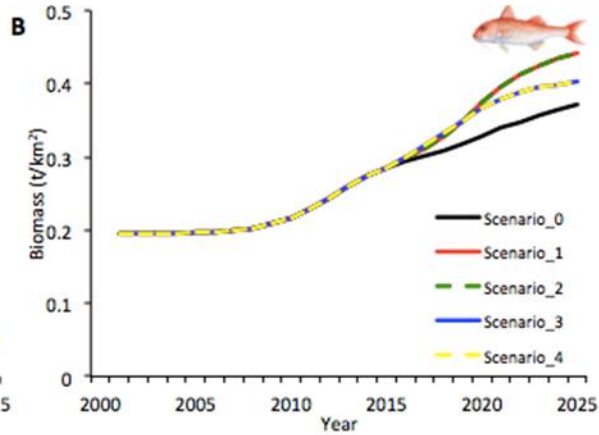
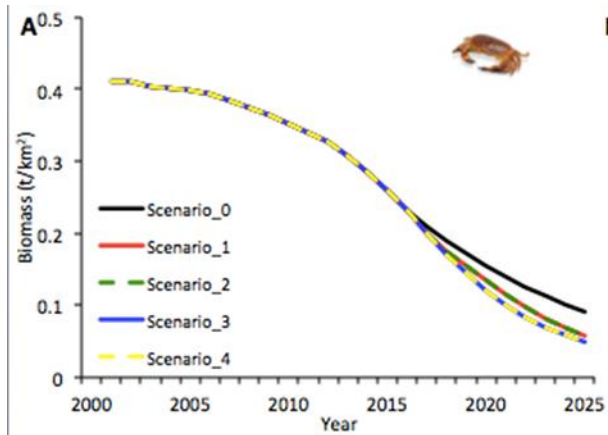


Effects of reducing discards into marine food webs?

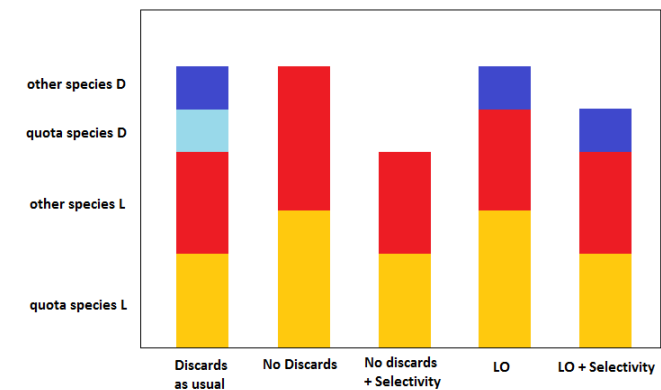


Effects of reducing discards into marine food webs?

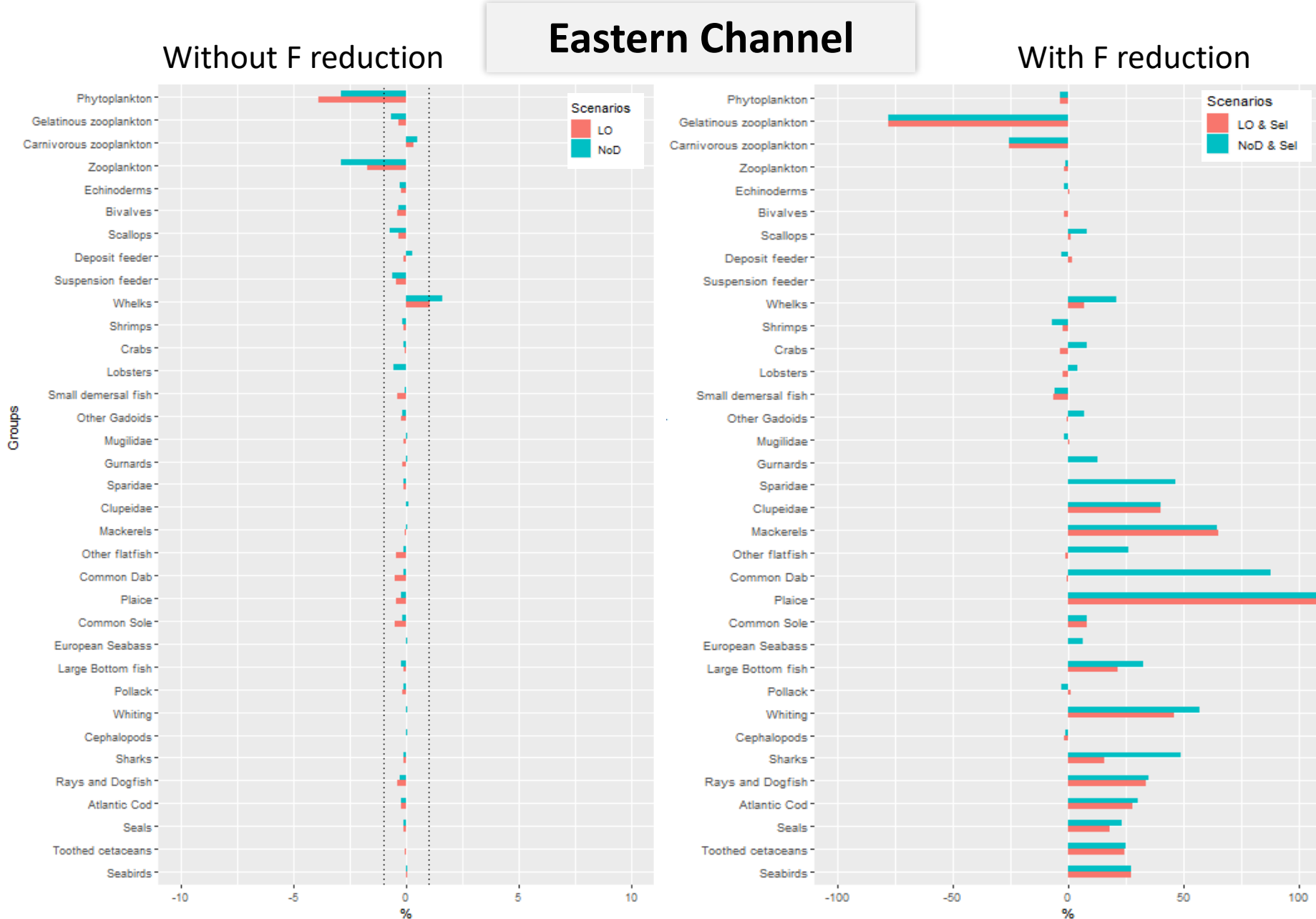
Aegean Sea



- 0: BAU**
- 1: NoD**
- 2: NoD+Sel**
- 3: LO**
- 4: LO+sel**



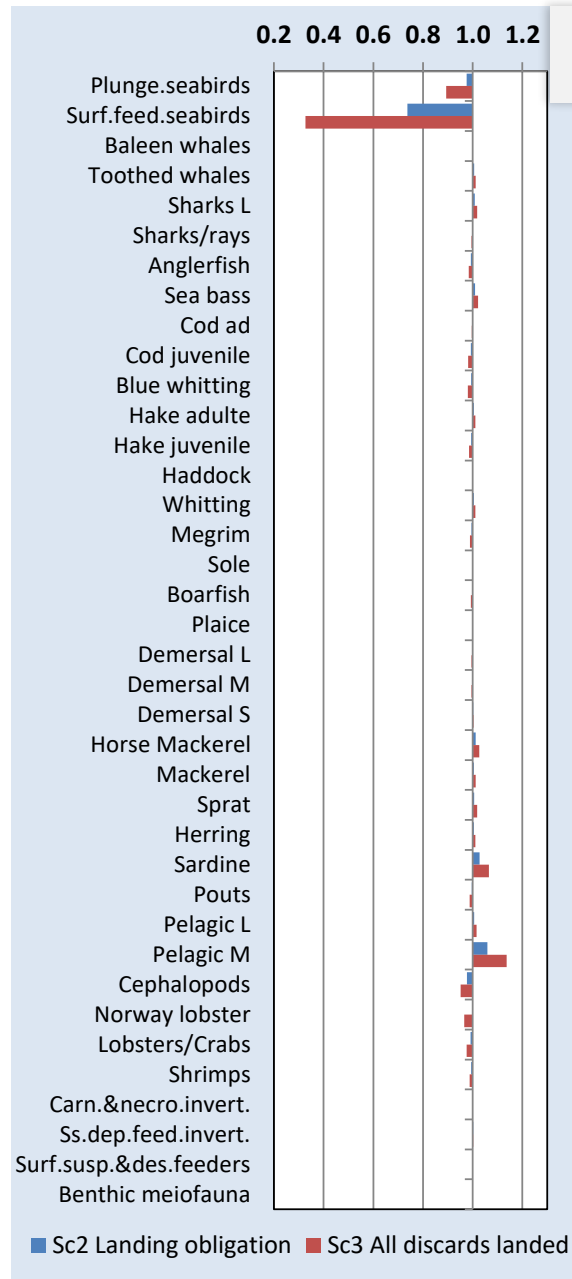
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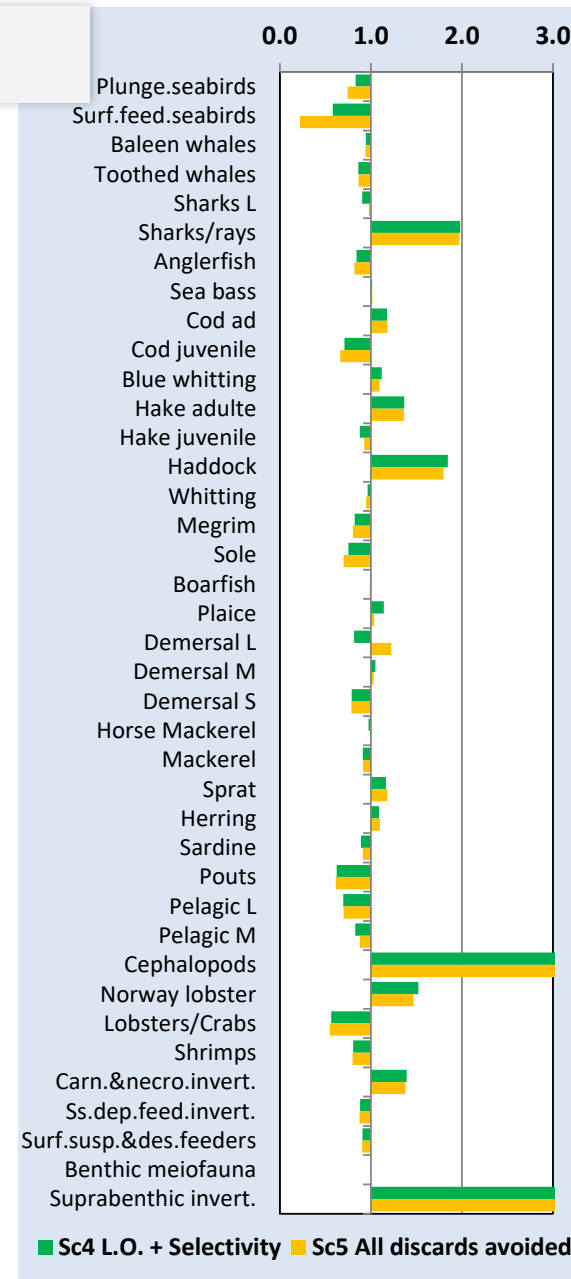
Effects of reducing discards into marine food webs?



Without F reduction



Celtic sea

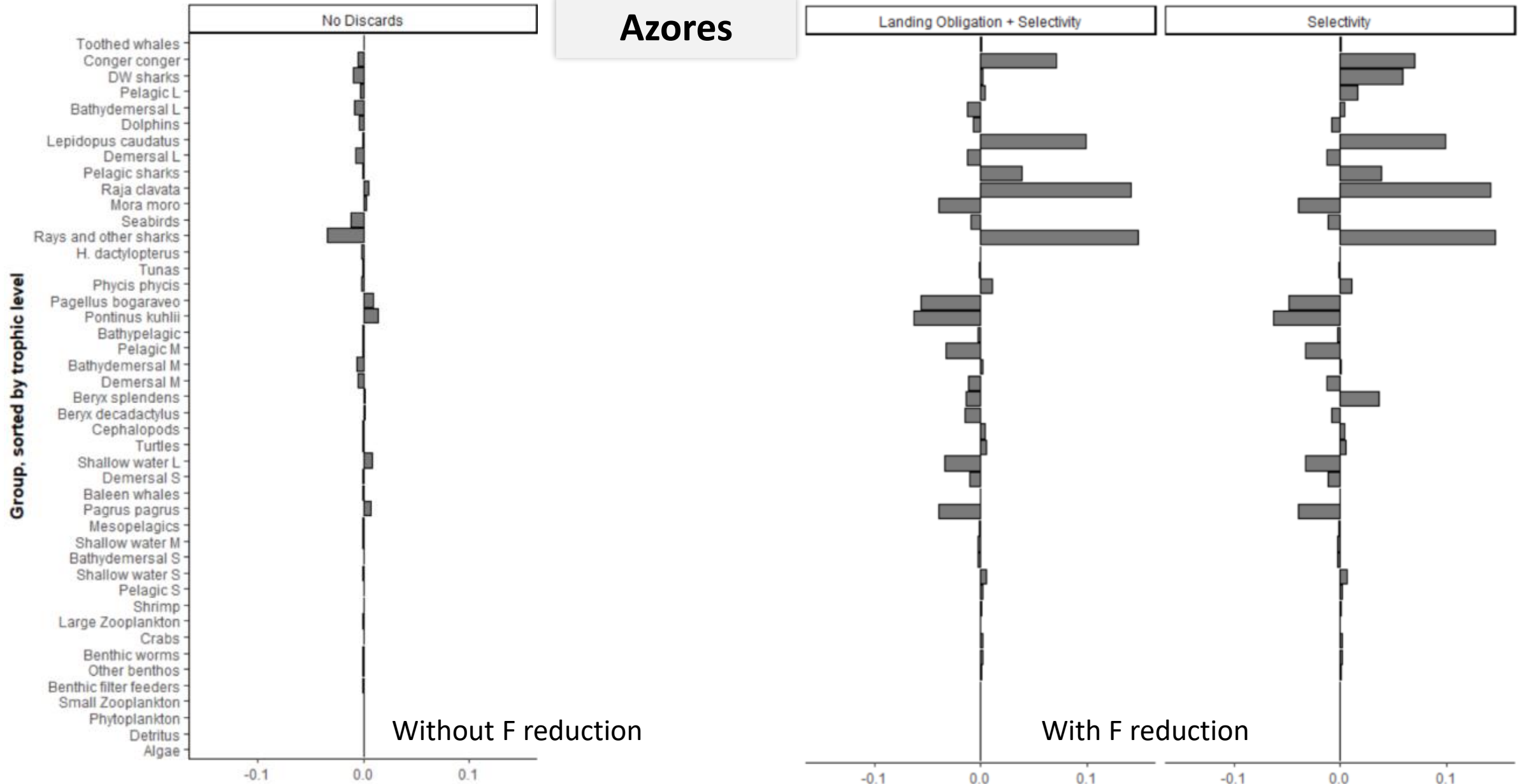


With F reduction

Effects of reducing discards into marine food webs?



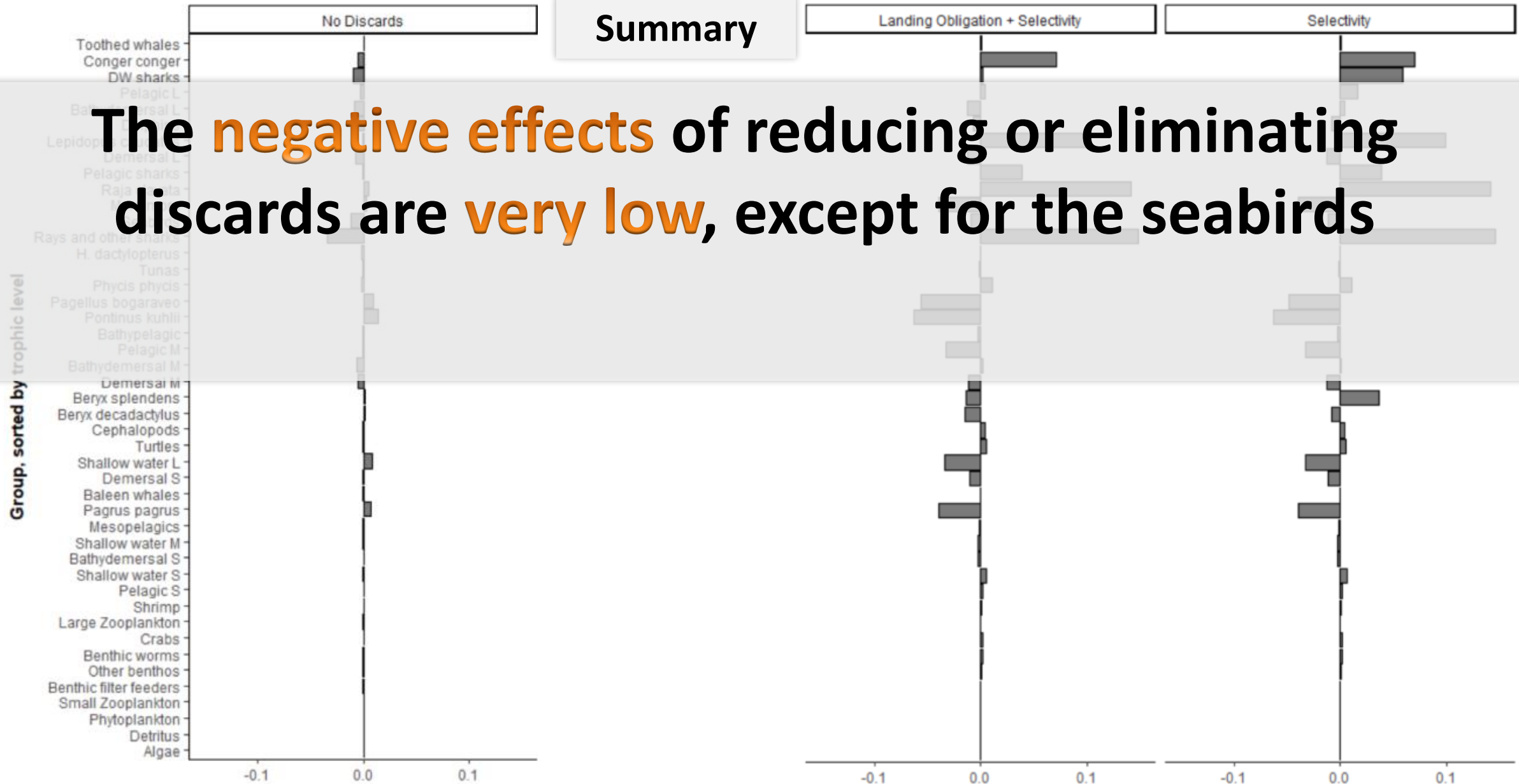
Azores



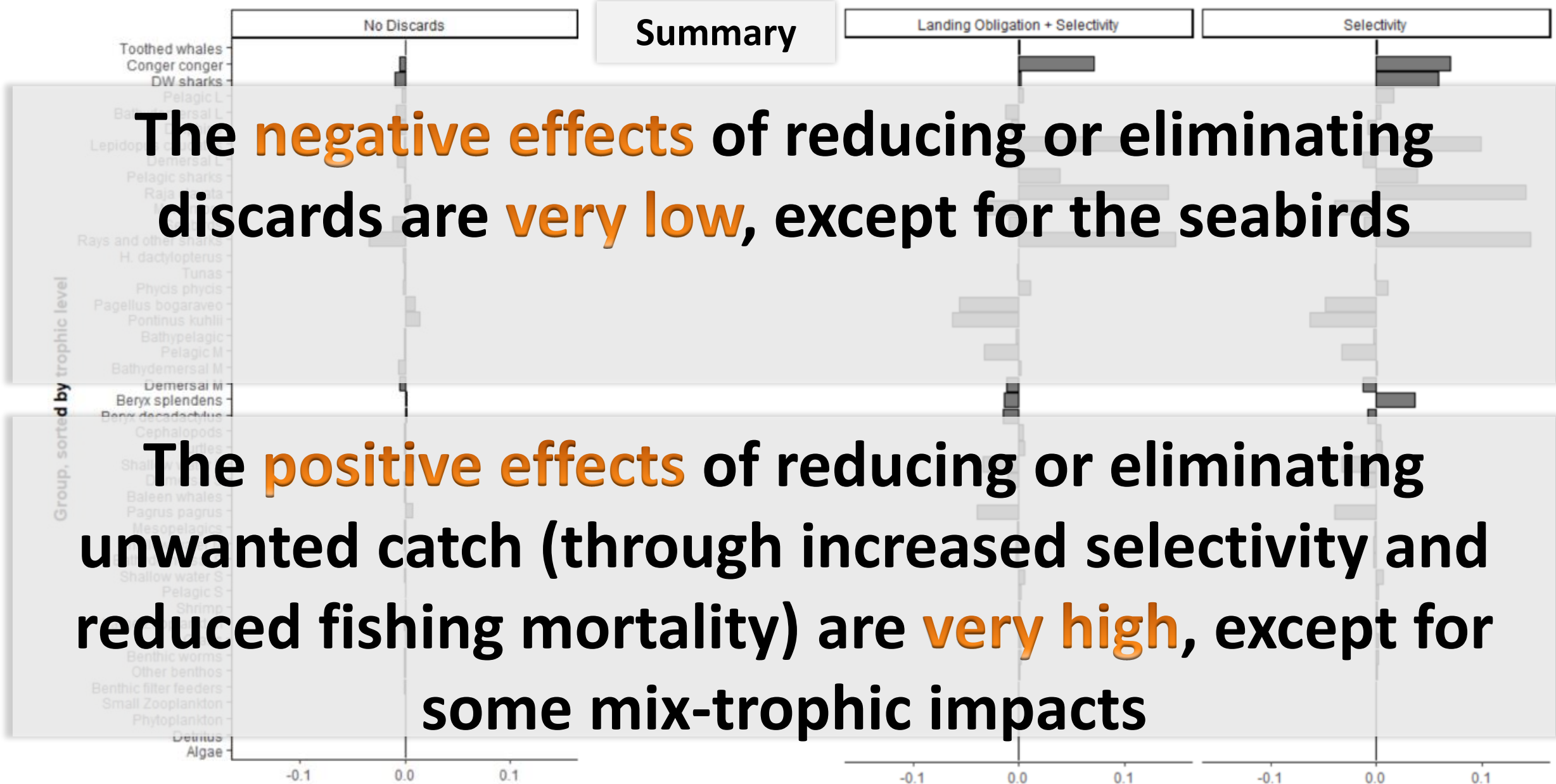
Effects of reducing discards into marine food webs?

Summary

The **negative effects** of reducing or eliminating discards are **very low**, except for the seabirds



Effects of reducing discards into marine food webs?

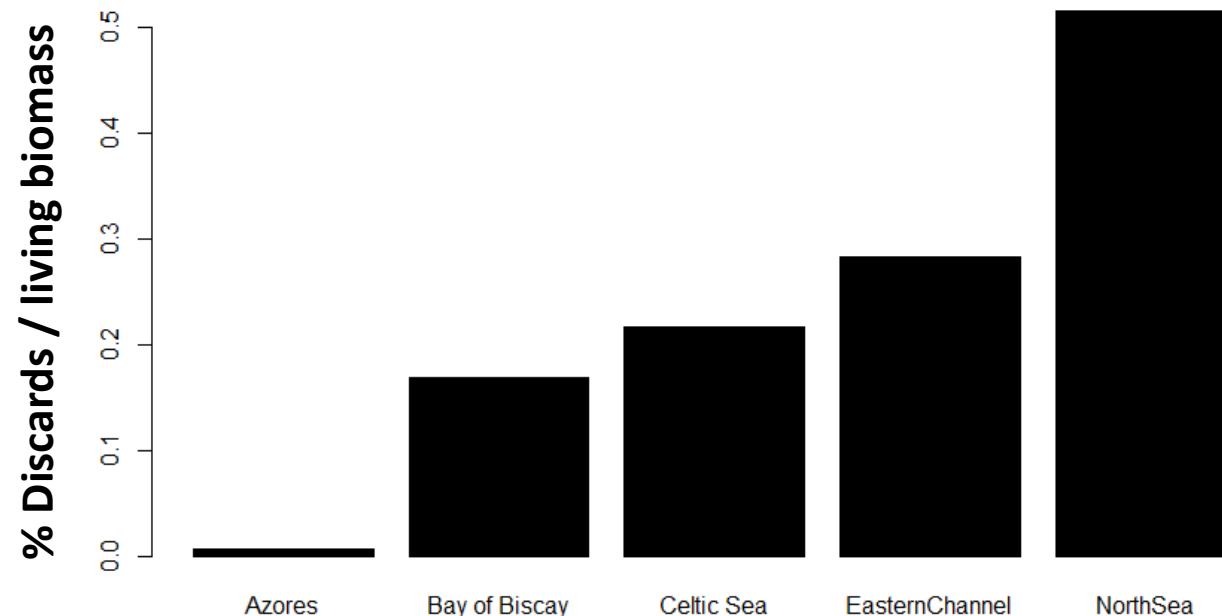


Effects of reducing discards into marine food webs?



The negative effects of reducing or eliminating discards are **very low**, except for the seabirds

Why? The amount of **discards entering the food-web is low** compared to other food sources available to opportunistic marine scavengers



The negative effects of reducing or eliminating discards are **very low**, except for the seabirds

Why? The amount of **discards entering the food-web is low** compared to other food sources available to opportunistic marine scavengers

Are we sure about our results? Uncertainty is due to the **quality of the discard data**

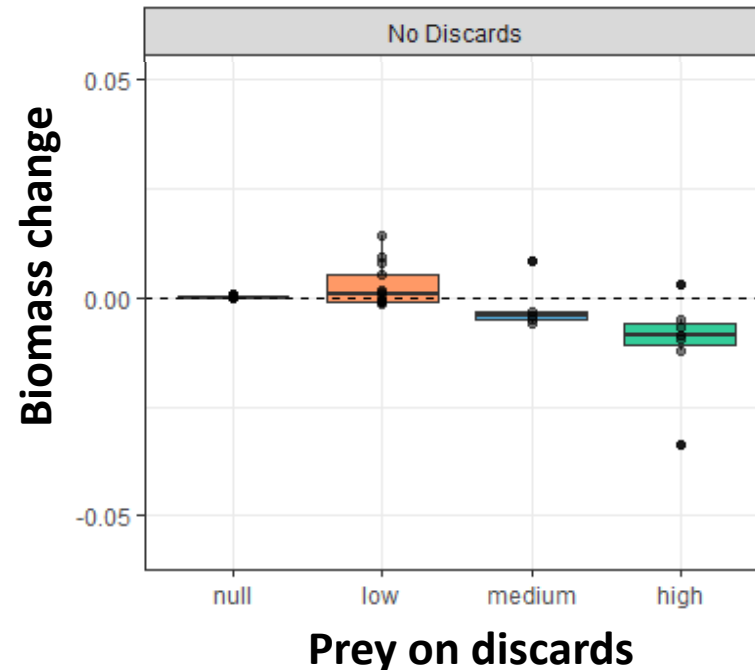
Solution:

- 1) Increase **fleet coverage** of discard monitoring programs;
- 2) Discard monitoring programs should **monitor all species** (designed to estimate discard rates per fleet and stock rather than to estimate the discard flow to the ecosystem)

Effects of reducing discards into marine food webs?

The negative effects of reducing or eliminating discards are **very low**, except for the seabirds

Why? The **predation on discards** was **extremely low** for all functional groups



The negative effects of reducing or eliminating discards are **very low**, except for the seabirds

Why? The **predation on discards** was **extremely low** for all functional groups

Are we sure about our results? It's **difficult to distinguish discarded from live prey** in the diet studies

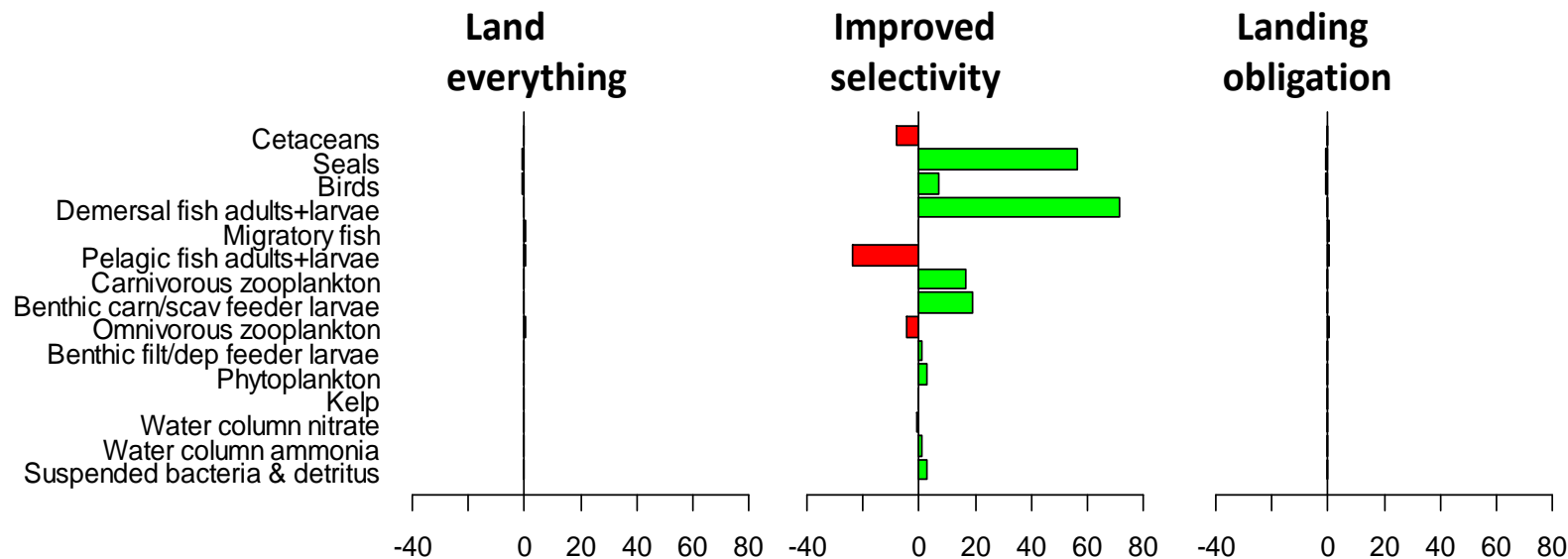
Solution:

- 1) Novel methods for evaluating predation on discards need to be developed
- 2) Better estimates on predation on discards

Effects of reducing discards into marine food webs?

The **positive effects** of reducing or eliminating unwanted catch are **very high**, except for mix-trophic impacts

Why? **Stock rebuilding** by reducing fishing mortality of unwanted catch outweigh the negative effects of decreasing food source for scavengers



The **positive effects** of reducing or eliminating unwanted catch are **very high**, except for mix-trophic impacts

Why? Stock rebuilding by reducing unwanted catch outweigh the negative effects of decreasing food source for scavengers

Are we sure about our results? Model, implementation, and ecological uncertainties

Solution:

- 1) Technical measures; development and implementation of technical solutions for reducing unwanted catch
- 2) Tactical measures: Adapting fishing patterns
- 3) Increase survival of unwanted catch

Stock rebuilding by reducing unwanted catch outweigh the negative effects of decreasing food for scavengers

The way forward: increase fisheries selectivity to reduce fishing mortality of unwanted catch and increase survival



Thank you



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