Understanding Multi-Stressors in Marine Ecosystems Through a Multispecies Size-Spectrum Model in the Northeast Atlantic

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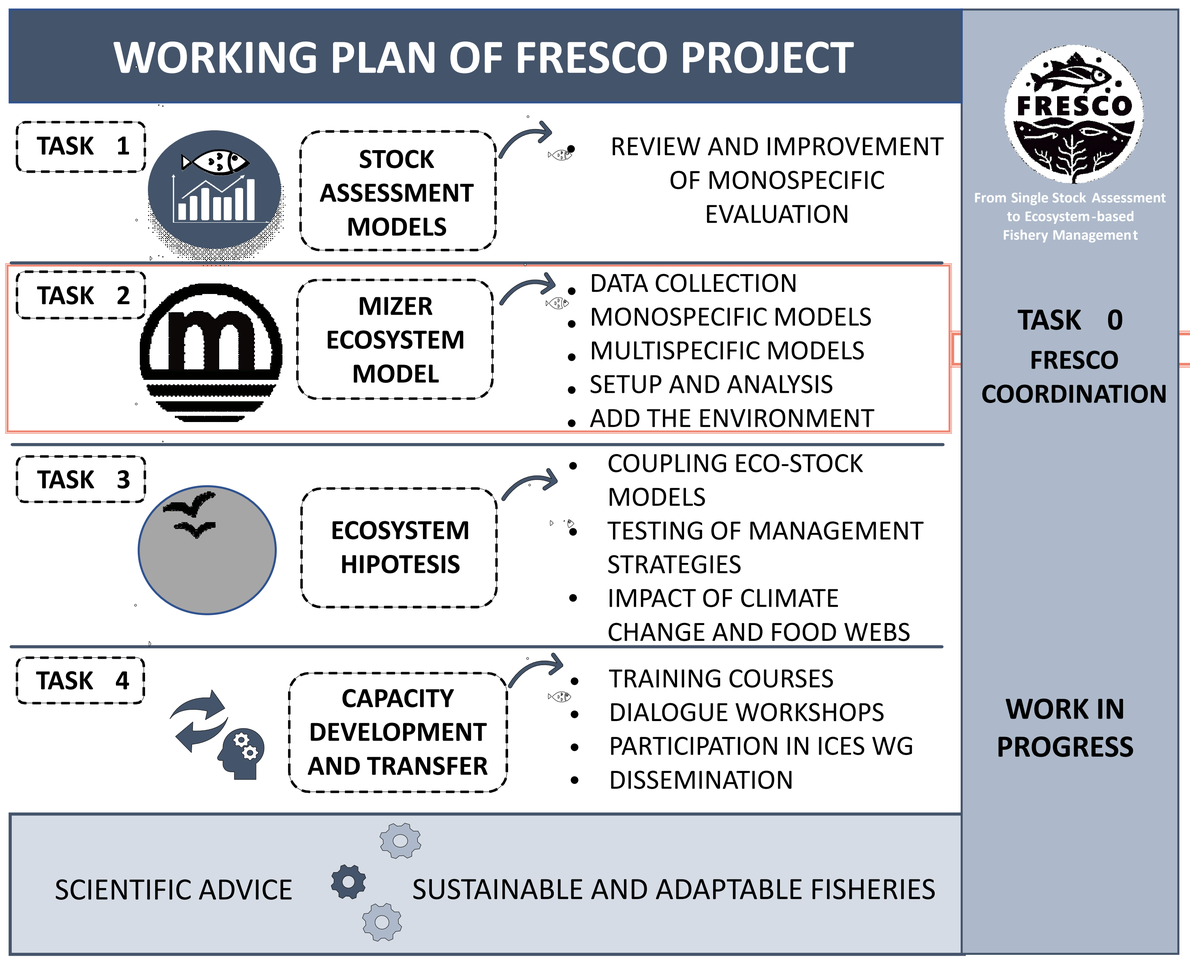
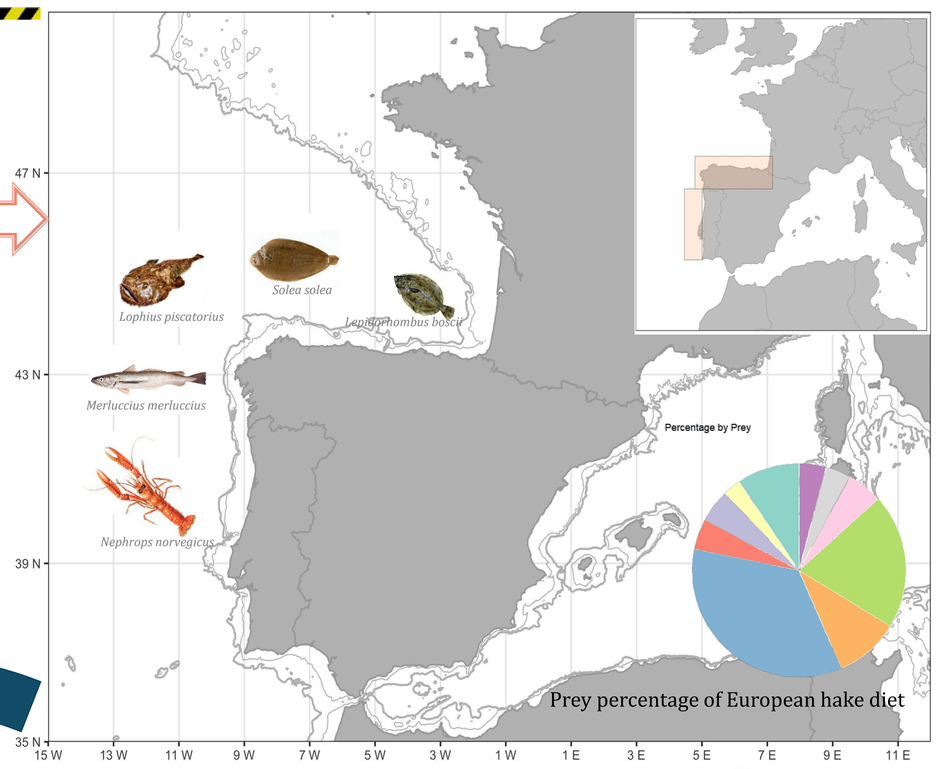
https://mervex-group.github.io/MERVEX/proof/FRESCO.html

Framework and specific objectives

Fisheries management is increasingly adopting an Ecosystem-Based Fisheries Management (EBFM) approach, which integrates not only environmental and anthropogenic factors, but also biological and socioeconomic interactions to promote sustainability. In this context, the **FRom single stock assESsment to eCOsystem-based fishery management (FRESCO)** project arises, where we are developing the first MIZER (*Multi-Species Dynamic Size Spectrum Modeling in R*) model in the Iberian Atlantic, highlighting its potential to improve the understanding of ecological dynamics and facilitate its adoption in fisheries management.

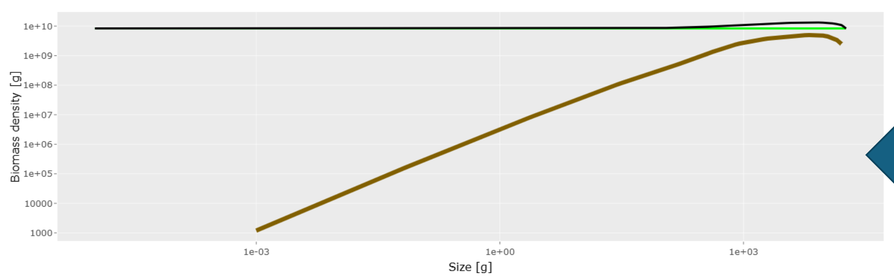


Calibration of multi-species and single-species models

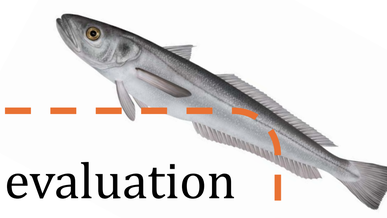


Prey percentage of European hake diet

Study area and target species



Mizer outputs: Size spectra of the European hake model



Use of single-species model as an evaluation model: test with European hake (*Merluccius merluccius*)

Future work

Evaluate different management strategies

Test the effect of altering environmental variables

Natural mortality

Mizer results → Assessment model input → Improve estimates

Improving the evaluation models inputs using Mizer outputs

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