

Assessment Complexity vs Applicability: The Case Study of the Cannibal European Hake in the Atlantic Iberian Waters

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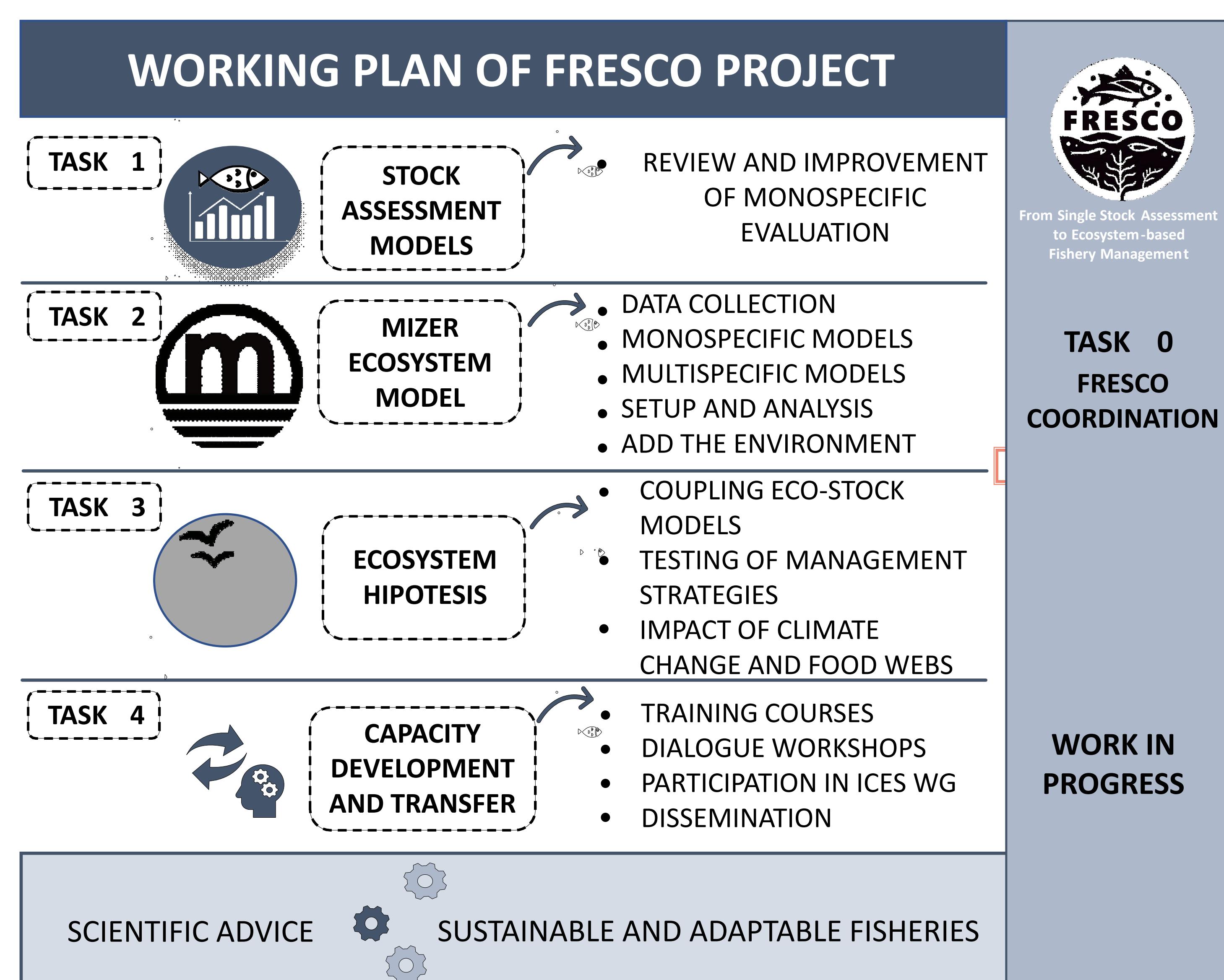
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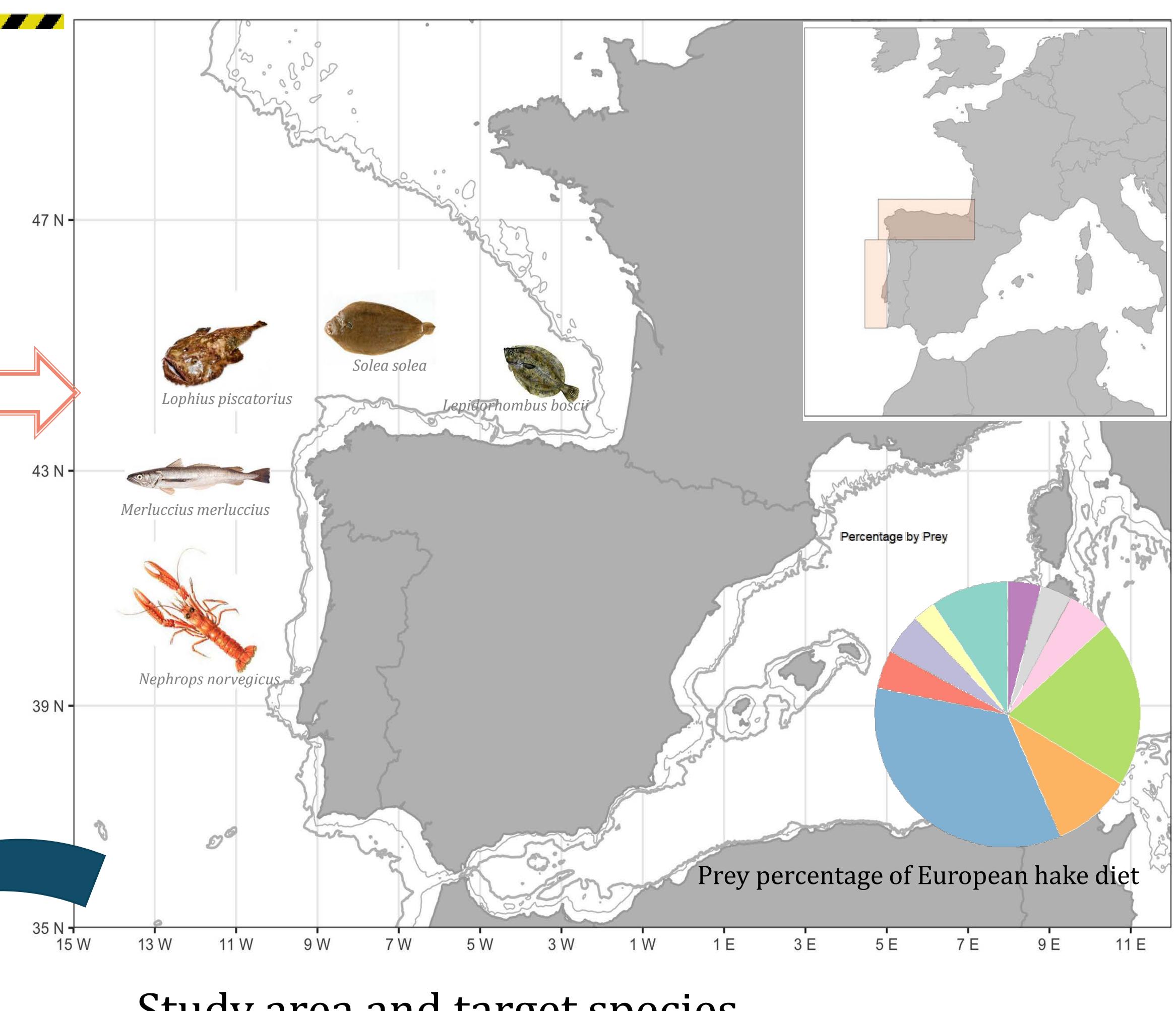
 <https://mervex-group.github.io/MERVEX/proof/FRESCO.html>

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. MIZER offers a framework for integrating ecological processes, such as size-dependent predation or cannibalism, into fisheries management.



Calibration of multi-species and single-species models

 WORK IN PROGRESS



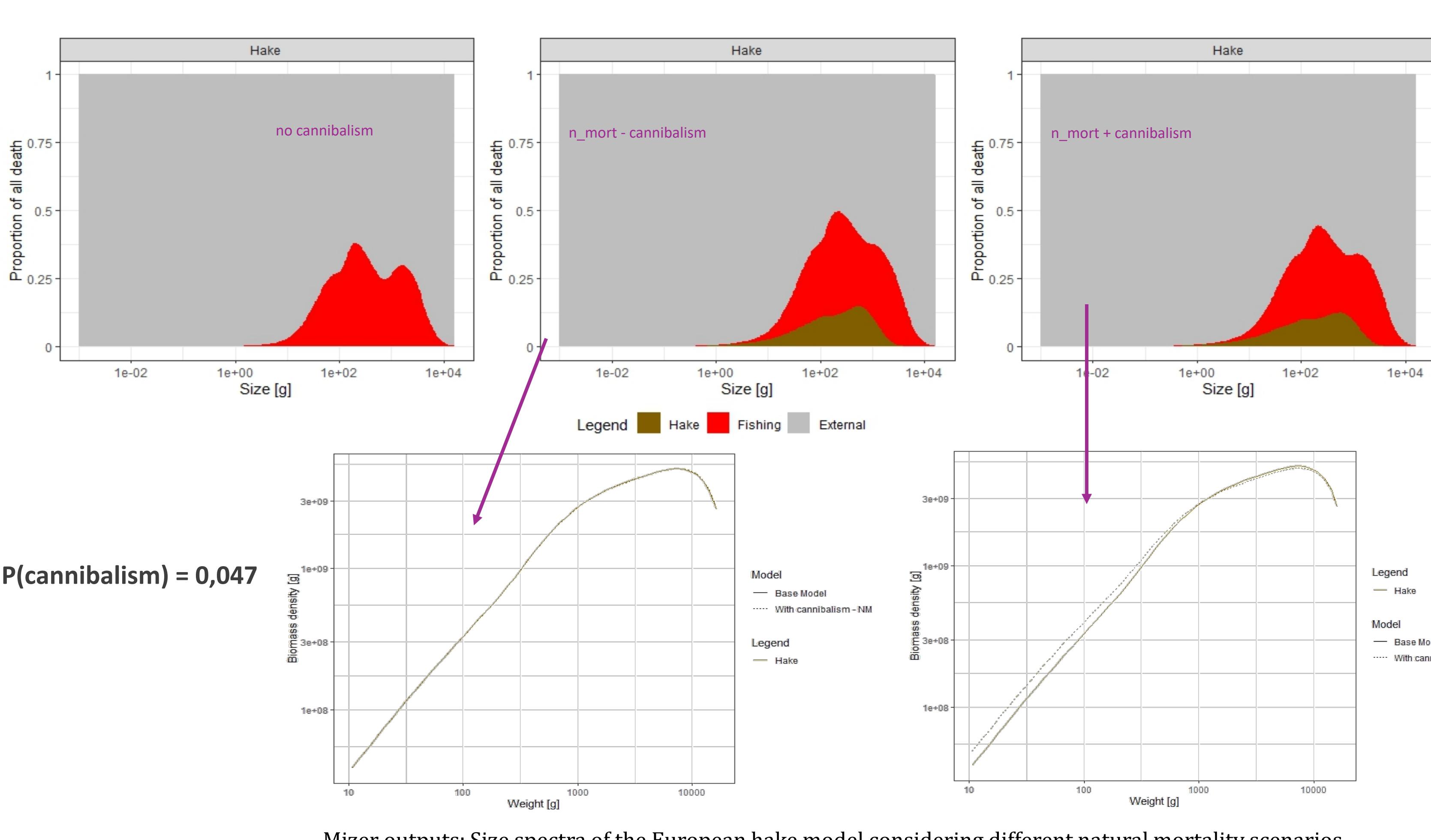
Study area and target species



Test the effect of modelling the cannibalism explicitly vs considering cannibalism in the definition of natural mortality.

Evaluate different management strategies

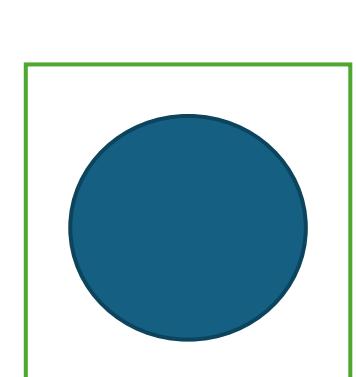
Use of single-species model as an evaluation model:
test with European hake
(*Merluccius merluccius*)



Mizer outputs: Size spectra of the European hake model considering different natural mortality scenarios

Natural mortality

Mizer results



Assessment model input

→ Improve estimates

Future work

Improving the hake evaluation models inputs (natural mortality) using Mizer outputs
Studying effect in multi-species model

