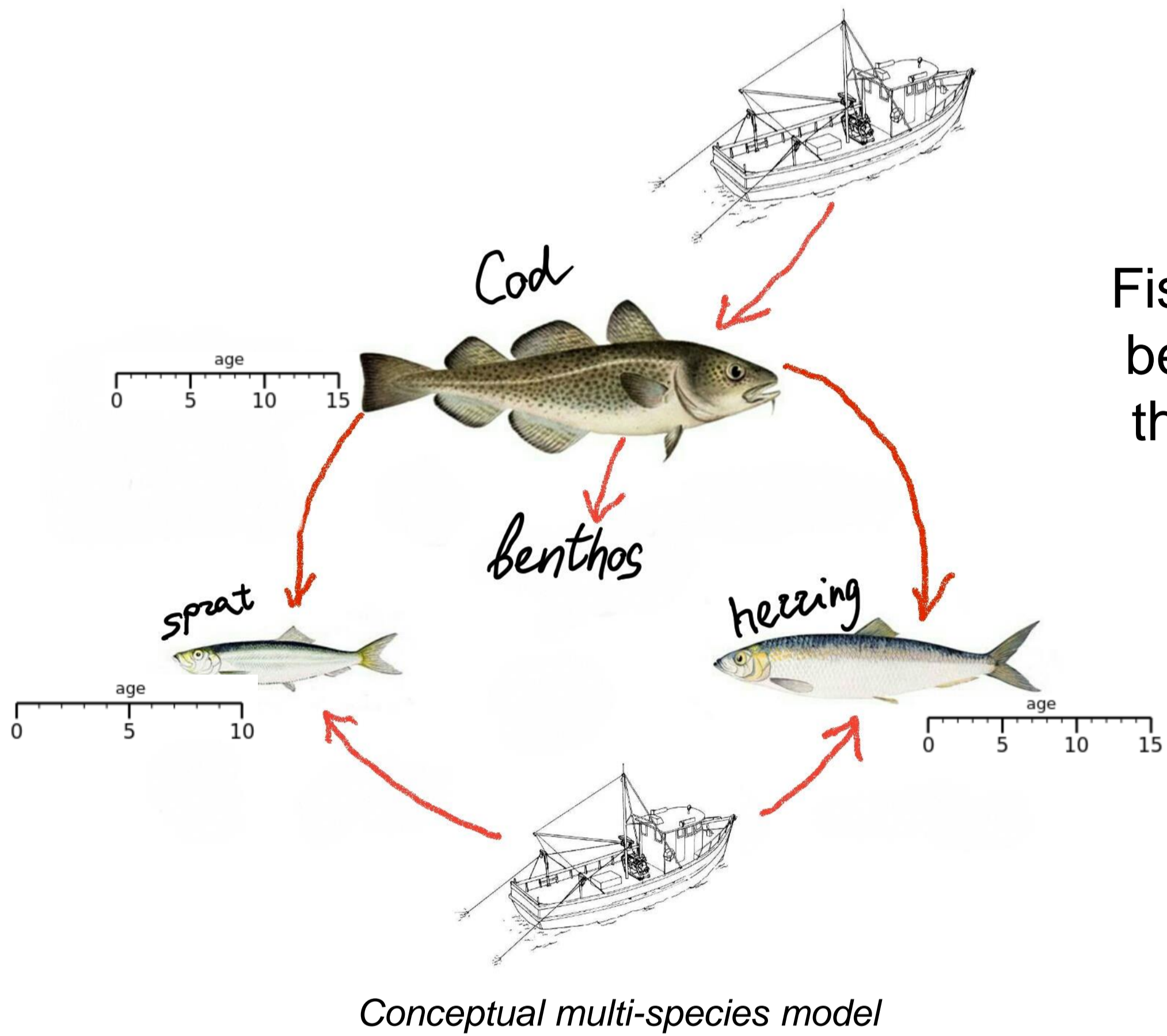


What's on cod's menu?

Menu
 -- *Starters* --
 Benthos
 -- *Main dish* --
 Herring
 Sprat
 -- *Desserts* --
 Juvenile cod



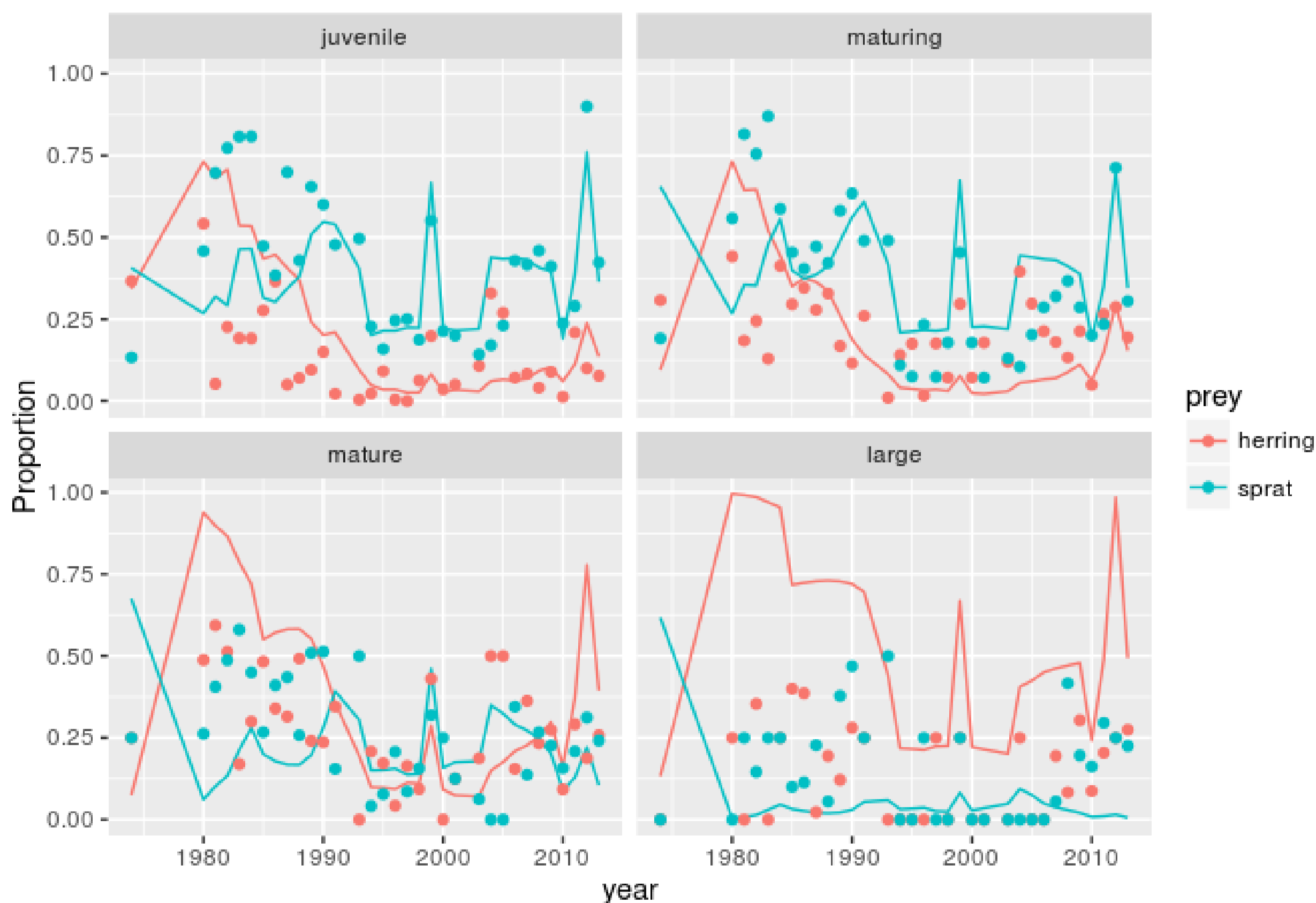
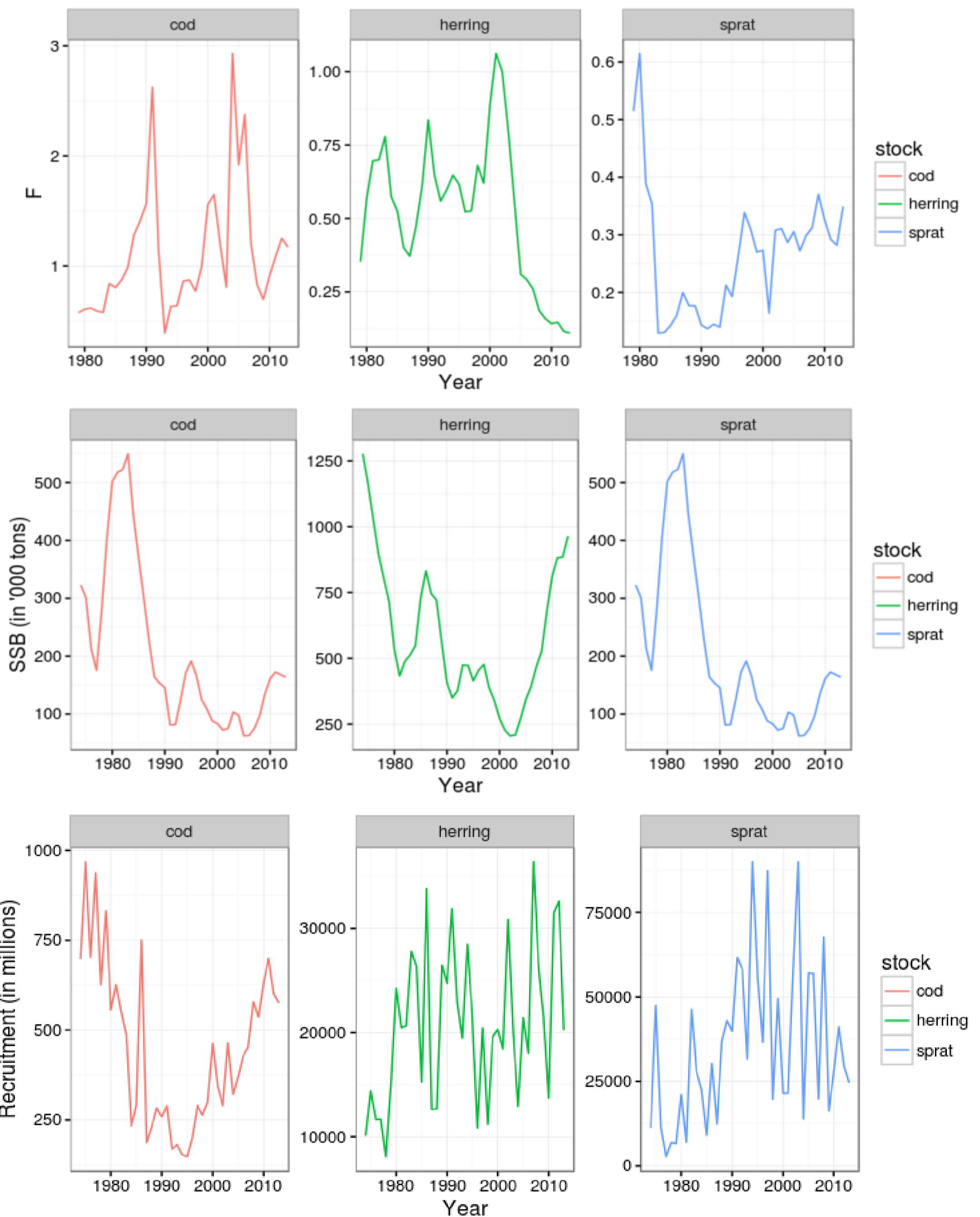
Research question:
 Fisheries effects on interactions between species as well as on their population dynamics and size structure

Data description:

- Catch amounts from commercial fisheries.
- Catch statistics from commercial fisheries and fisheries independent survey (length distribution, age distribution, age-length key)
- Survey abundance indices.
- Cod stomach data.

Model description:

- Time scale 1974-2013
- 3 stocks: Eastern Baltic cod, Central Baltic herring and sprat.
- Study area: Baltic Sea (ICES SD 25-32).
- Stocks are linked by predation by cod.



Predicted (lines) and observed (dots) prey ratios in the cod diet. Cod are group by length group representing ontogenetic stages: juvenile (<20 cm), maturing (20-40 cm), and mature (40-60 cm). Last group is cod >60 cm

Conclusion:

- Smaller cod prefer sprat over herring, however only after late 80's when sprat abundances increase.
- Larger cod prefer herring.
- Periods of high fishing mortality overlap with periods of low spawning stock biomass (SSB) in all 3 species.