

Retrospective dietary analyses of key benthic fishes of the Western Atlantic

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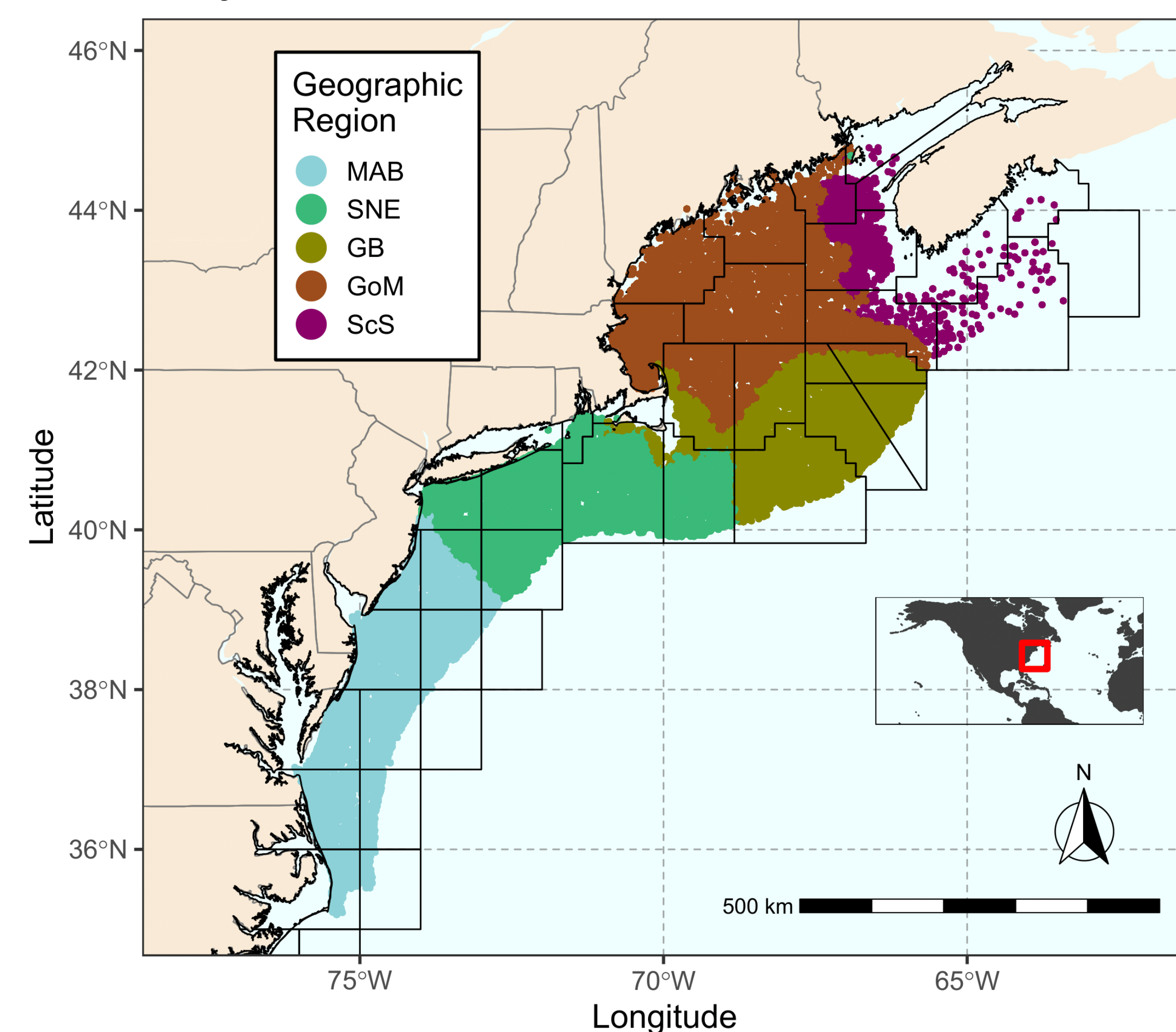
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Introduction

- Climate change drives species-specific distribution shifts
- Potential for predator-prey mismatches; sensitivity may reflect predation strategies

Objectives

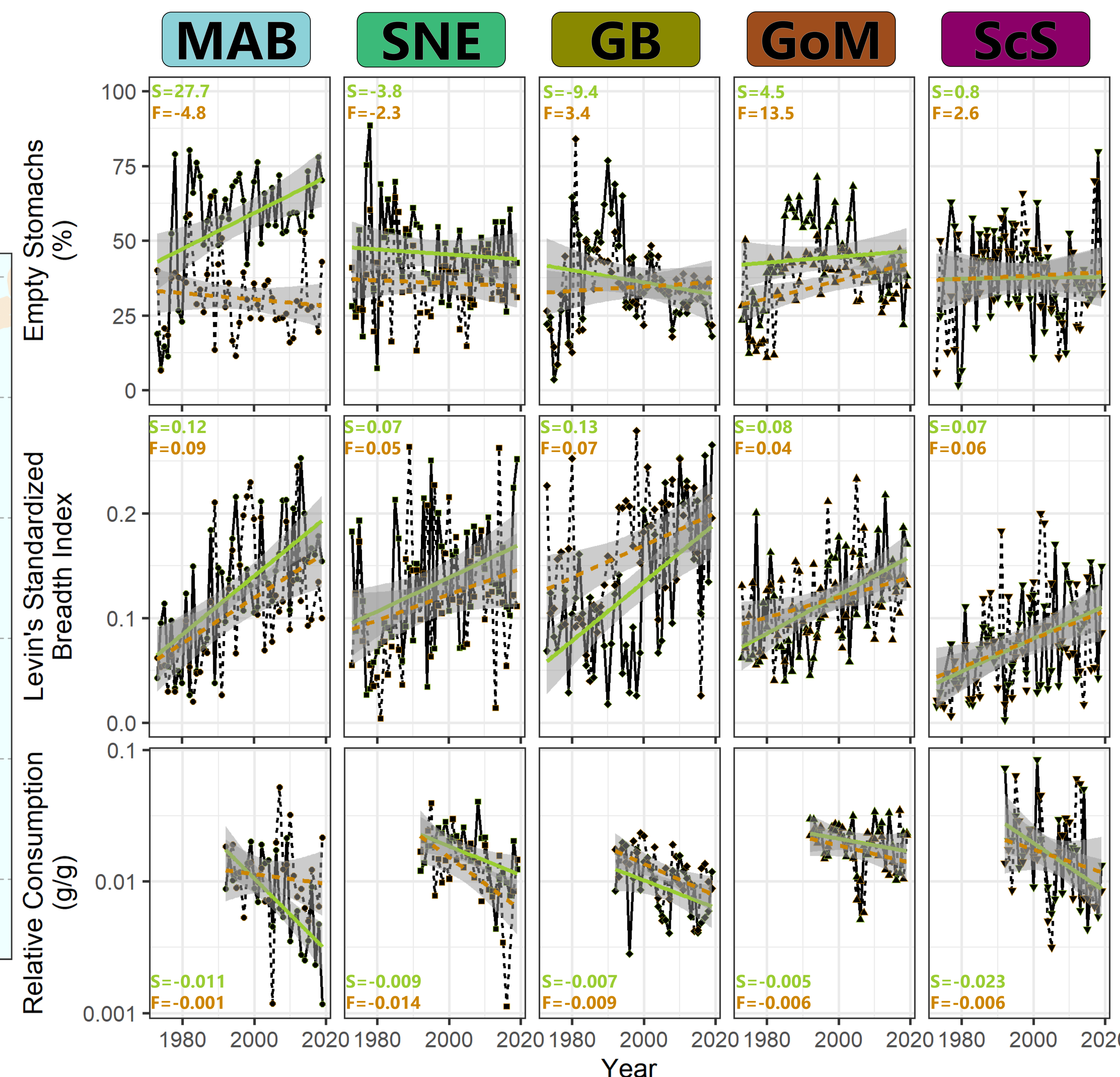
- Characterize predator dietary preferences using historic stomach content data
- Identify spatio-temporal changes to diet for key benthic fishes



Trawl positions between 1973-2019 from which a subset of individuals were sampled resulting in 181,143 diets collected from nine predators, five regions, and two seasons

$$\text{Metrics: } \%E = \frac{\sum A^E}{\sum A}; B = \frac{1}{\sum A \frac{\sum p^2 - 1}{n-1}}; C = \frac{\sum A \frac{\sum g}{D}}{\sum A}$$

Metric slopes in spring (S; green) and fall (F; orange) shown in each region (below) or species (right) panel



Increases in diet breadth (middle) and decreases in diet mass (bottom) are similar in all regions, whereas diet frequency shows variable responses over time (top)

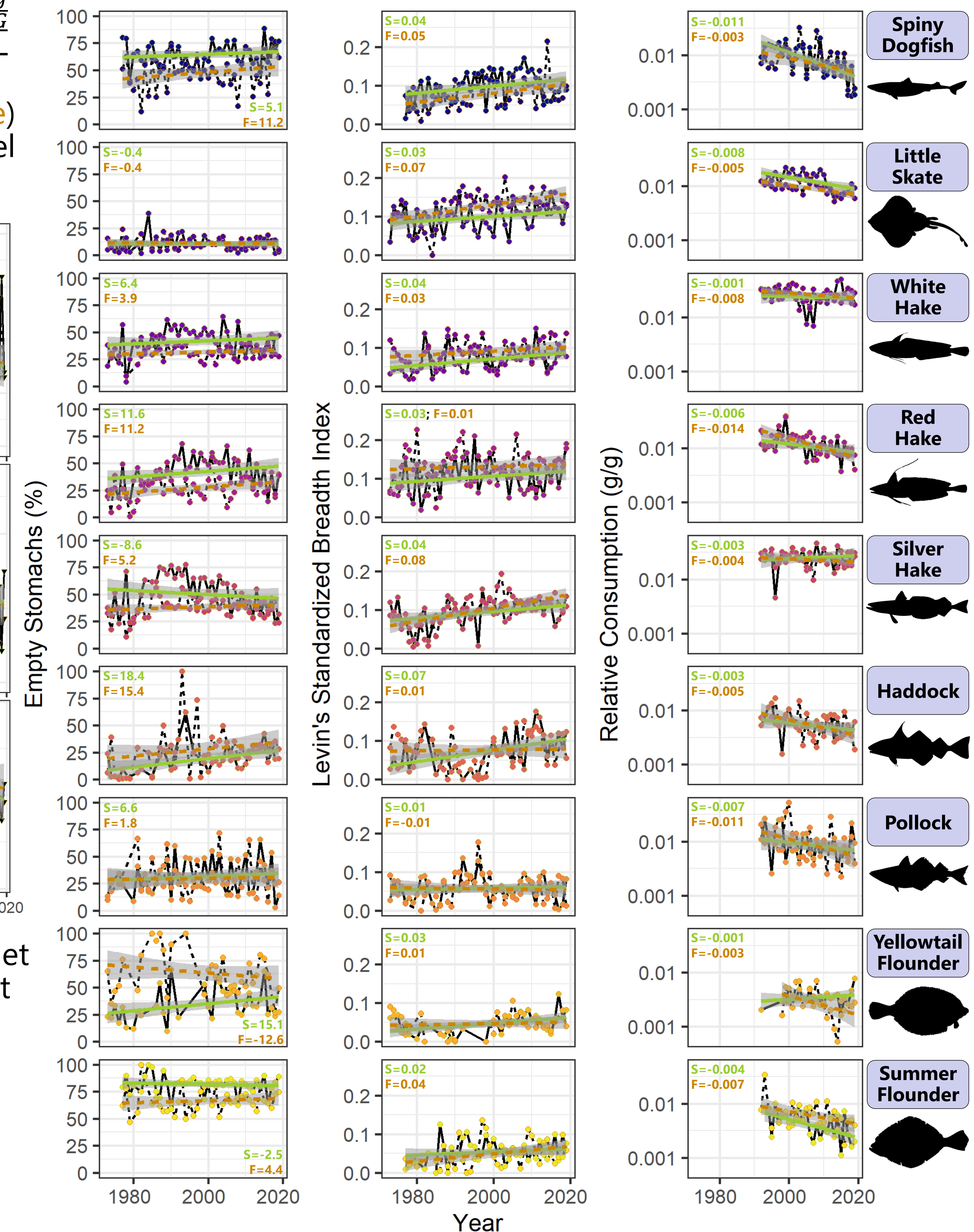
Further Research

- Link dietary responses (metrics above) to prey availability and diet composition
- Estimate consequences of dietary change to species' energetics and broader food web structure

Acknowledgements

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Results



Predators show strategies that are differentiated by and varying in diet (left to right) frequency, breadth, and mass as well as rates of change over years, though seasons are largely consistent

