# DRIFT

## OCEAN CURRENTS AS FOOD CONVEYORS

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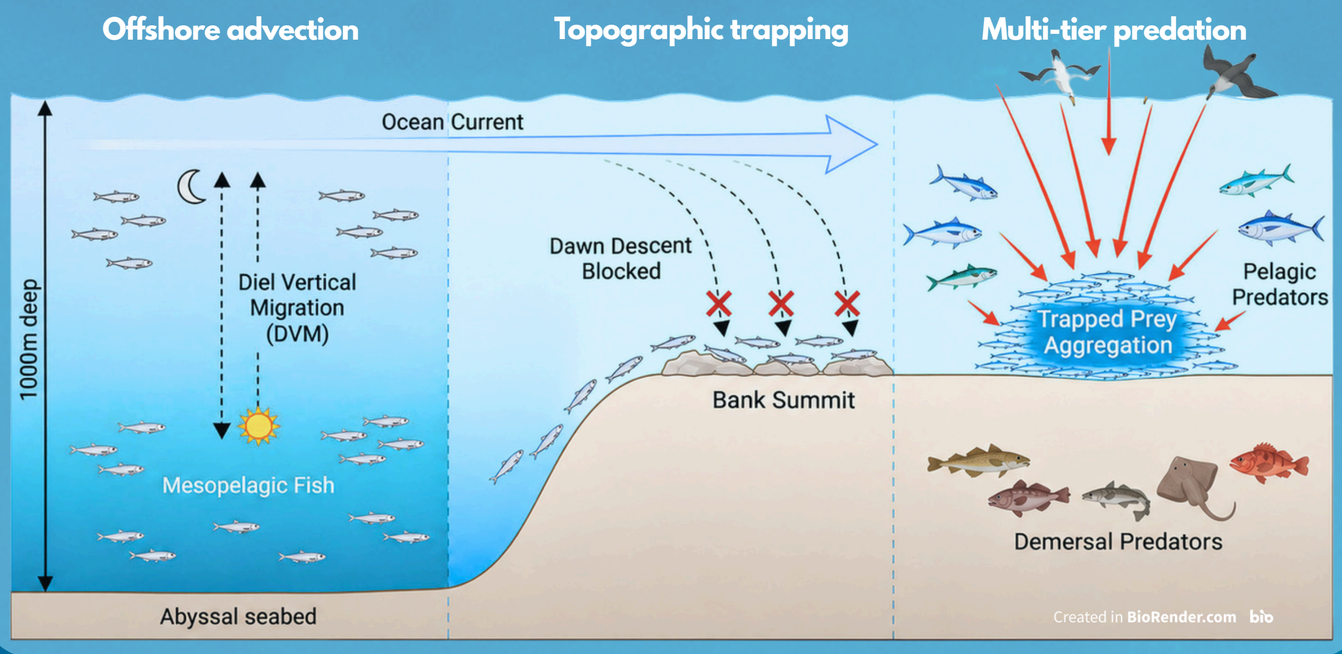
## Rewriting the foodweb

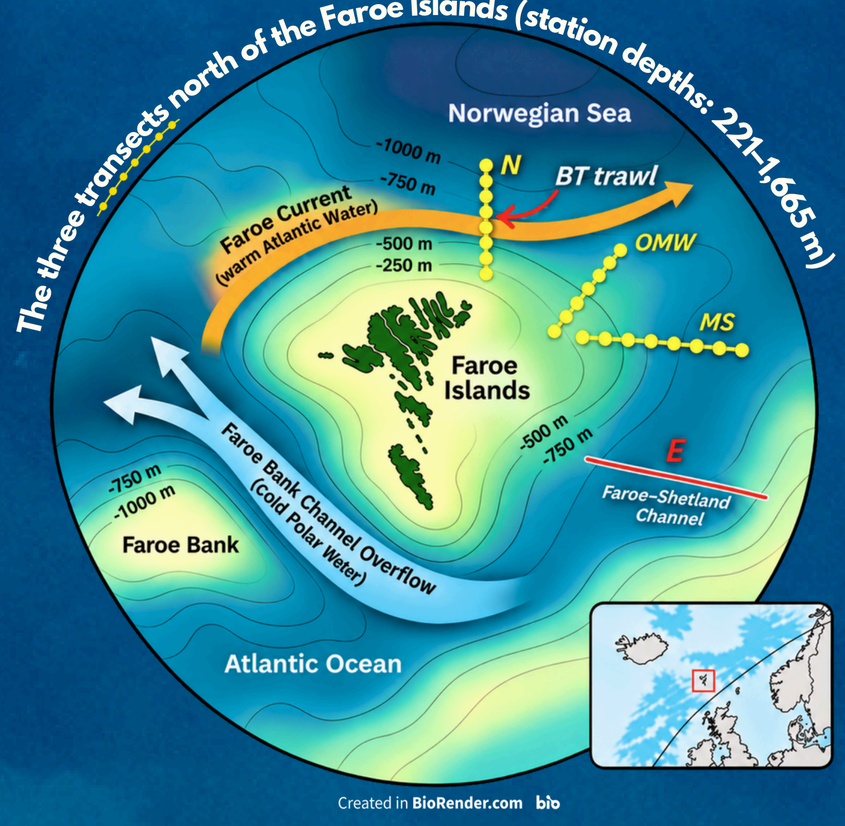
**Traditional View: Marine hotspots depend on local nutrient upwelling.**

**The DRIFT Hypothesis: Currents act as conveyor belts, transporting an enormous biomass of zooplankton and mesopelagic fish from the ocean's twilight zone over vast oceanic distances**

**Topographic Traps: As prey are pushed over shallow banks and shelves, they lose their dark refuge, becoming accessible to visual predators ranging from small fish and invertebrates to seabirds, seals, and whales.**

**Importance: Understanding prey transport and aggregation may improve knowledge of marine food webs, feeding hotspots and support sustainable fisheries management.**




## Research cruise & fieldwork

**12.–24. October 2026 | R/V G.O. Sars | Faroe Islands**

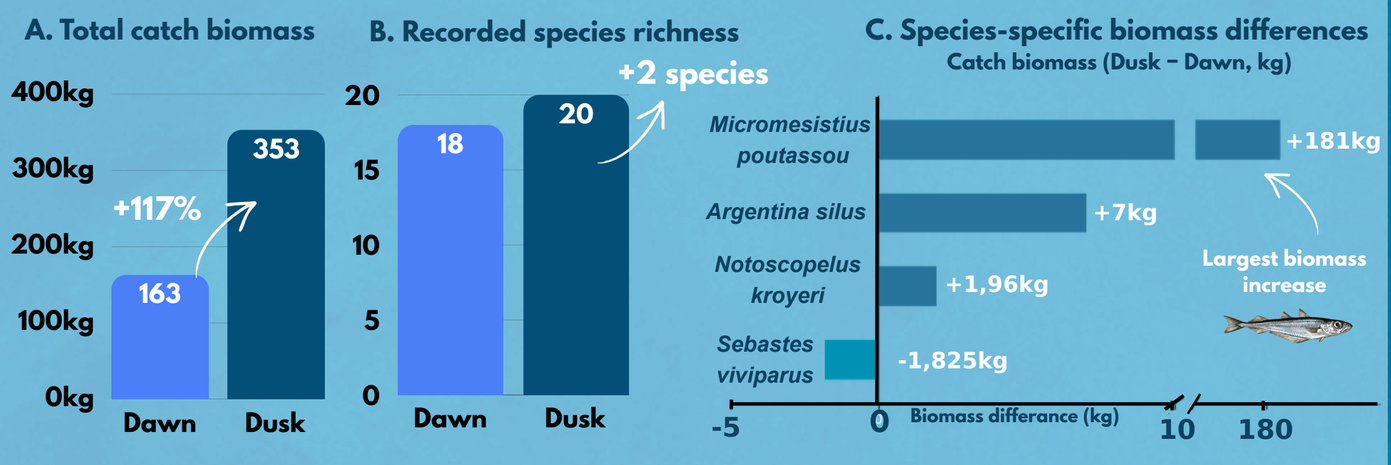
**Sampling was conducted along three transects to investigate oceanographic conditions and biological communities near the Faroese continental slopes.**

- **Conductivity, Temperature & Depth (CTD) profiles, including time series, to investigate water-mass structure.**
- **Lowered Acoustic Doppler Current Profiler (LADCP) measurements to characterize current velocity and direction.**
- **Pelagic and bottom trawling (PT/BT) were conducted to sample fish and other marine organisms.**
- **Biological sampling for stomach-content analyses, stable isotopes and age determination.**



## Preliminary results

### Catch Biomass and Species Richness During Dawn and Dusk BT




**Higher biomass at dusk**

*Micromesistius poutassou*



Catch biomass was nearly three times higher at dusk

**Higher biomass at dawn**

*Sebastes viviparus*



Catch biomass was 6.4 times higher at dawn than at dusk.

**Catch biomass was 117% higher at dusk, alongside a modest increase in species richness. Species-specific differences revealed contrasting patterns, with *M. poutassou* dominating the dusk catch while *S.viviparus* showed higher biomass at dawn.**

## Possible Explanations

**The higher catch biomass at dusk may reflect:**

**Diel vertical migration: Changes in vertical fish distribution may affect their availability to trawling.**

**Current driven aggregation: Interactions between ocean currents and seafloor topography may influence fish accumulation and distribution.**

**Further analyses are needed to investigate these and other potential factors influencing catch biomass.**

299.4

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**References:**

Chafik, L., Hátún, H., Kjellsson, J., Larsen, K. M. H., Rossby, T., & Berx, B. (2020). Discovery of an unrecognized pathway carrying overflow waters toward the Faroe Bank Channel. Nature Communications, 11, Article 3721. DOI: 10.1038/s41467-020-17426-8

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