Terms of Reference - WGSPF

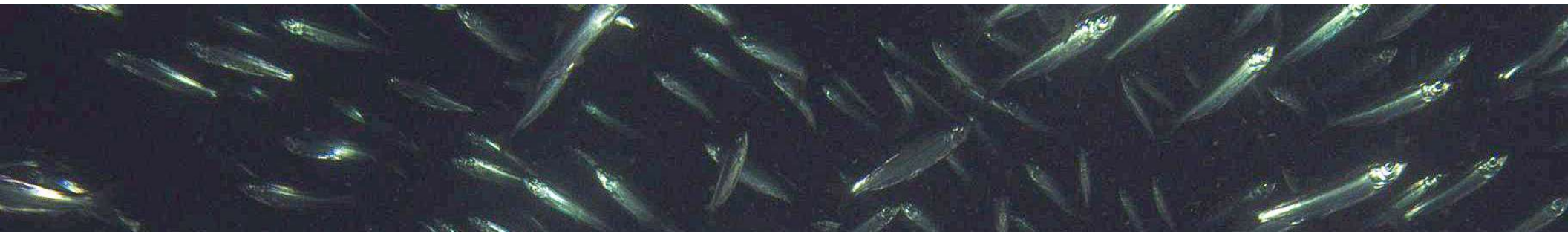
- Foster international and interdisciplinary collaboration to establish similar study frameworks and comparative analyses of forage species, their ecology, and fisheries.
- Assess recent progress on understanding fluctuations of forage species (abundance, distribution, diversity, and characteristics) and their impacts on the structure and function of ecosystems, particularly upper trophic levels including marine birds and mammals.
- Identify, prioritize, and recommend research most needed to advance our knowledge and capacity to forecast ecosystem responses to changes in forage species.
- Recommend strategies for studying and monitoring socio-ecological systems to improve ecosystem-based management for the sustainable harvest of forage species.
- Describe how climate change and other anthropogenic factors impact forage species and examine how these factors will affect economies, nutrition of human communities, aquaculture, fishery portfolios, and/or transboundary management among countries with different levels of development in fisheries, and recommend options for adaptation.
- Organize a joint ICES/PICES/FAO symposium on Small Pelagic Fishes tentatively scheduled for April 2026 (La Paz, Mexico)

Deliverables – Year 1

- To foster collaboration among the international, scientific and fisheries management community around forage species research (**TOR#1**).
  - Review and assess Task Forces and Activities (BETWEEN RIGHT NOW AND FEB 2025)

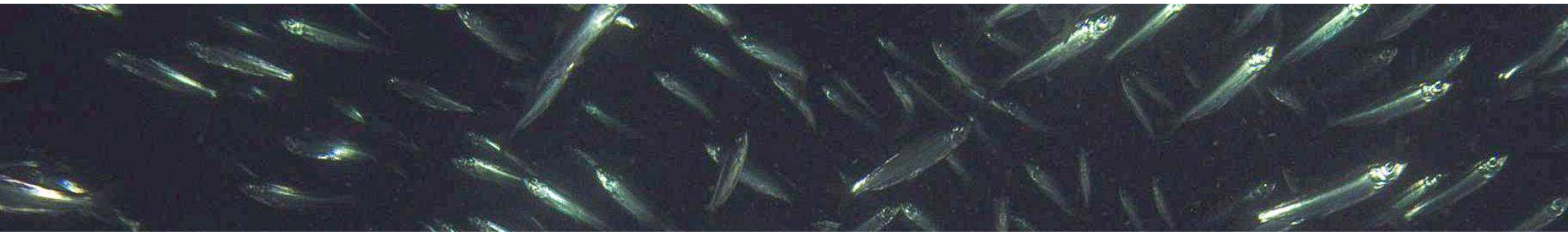
☺ Convene a one-day topic session titled: "*Advances in observational, analytical, and modeling tools that lead to better observations and improved understanding of small pelagic fish*" at the 2024 PICES Annual Meeting in Honolulu, USA (**TOR#3**). **THURSDAY OCTOBER 31st**

☺ Hold at least one in-person or hybrid meeting during Year 1 (**TOR#1**).



Deliverables – Year 2

- Synthesis manuscripts on:
  - spatial variability across life history stages of forage species,
  - best practices for coupling spatial distribution models with ecosystem models,
  - fleet and management response to spatiotemporal variability of forage species, and related socio-economic impacts
  - inter- and intra-specific responses to environmental drivers
  - cross-system comparisons of internal and external forcing regulating growth (**TOR#2**).
- Convene a joint ICES/PICES/FAO symposium in spring 2026 in La Paz, Mexico (**TOR#6**).
- Propose and convene relevant topic sessions at the PICES Annual Meeting and ICES Annual Science Conferences (**TOR#1, TOR#2, and TOR#3**).
- Hold at least one in person or hybrid meeting during Year 2 (**TOR#1**).



Deliverables – Year 3

- Synthesis manuscript(s)
  - key research gaps and questions that are needed to forecast ecosystem responses to changes in forage communities (**TOR#3**)
  - recommend approaches that will be robust to climate change and other anthropogenic factors (**TOR#5**)
  - improve ecosystem-based management of forage species **(TOR#4**).
- Publish studies emerging from the 2026 international symposium in special issues of scientific journals. This may be a suitable venue for publication of synthesis manuscript(s) highlighted in **TOR#3, TOR#4**, and **TOR#5**.
- Hold at least one in person or hybrid meeting during Year 3 (**TOR#1**) and complete the required PICES Scientific Report (**TOR#7**).