



ICES PICES Working Group on Small Pelagic Fishes

Co-chairs:

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NPFC associated members

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INTRODUCTION

ToRs (Terms of reference)

- a) **To review recent progress on understanding how various drivers (environmental and/or anthropogenic) impact the population dynamics of SPF** in different ecosystems and whether and how potential drivers shift with changes in ecosystem state.
- b) **Create a networking environment for international and multidisciplinary collaboration to foster the establishment of similar study frameworks and comparative analyses of SPF across different social–ecological systems**, based on updated time series data sets of climate indices, environmental factors and fisheries biology as well as ecophysiological information (feeding, growth and survival).
- c) **Identify, prioritize and conduct research most needed to advance our knowledge and capacity to predict the population dynamics of SPF** at both short (seasonal to inter-annual) and long (decadal to centennial) time scales.
- d) **Recommend strategies of marine ecosystem monitoring and fisheries management of SPF** which will contribute to sustainable ecosystem-based fisheries management, through biophysical, ecosystem and/or socio–economical models.
- e) **Propose topic sessions at PICES Annual Meetings and ICES Annual Science Conferences focused on advances in SPF science and to organize a joint ICES/PICES symposium on SPF at regular intervals** (e.g., once every 4 years) leading to the publication of findings in special issues of primary journals.



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- **Task Force 1-** Ecological Process Knowledge (EPK)-Main results and Discussion for each of the activities below
 - Activity 1: Critical Review, evaluation and testing of classic hypotheses.
 - Activity 2: Life cycle Closures-Bottlenecks and gaps in knowledge.
 - Activity 3: Drivers of spatial distribution and Phenology
 - Activity 4: Food-web Dynamics
 - Activity 5: Internal and external drivers of growth, reproduction, and survival
- **Task Force 2-**Translating process knowledge. Inputs and outputs to management structures and policy advice (TPK)
 - Activity 6: Survey Design and monitoring
 - Activity 7: Improving short-term forecasts and/or long-term projections
 - Activity 8: Improvements to management
- **Task Force 3 -** Social-Ecological Approaches (SEA) - Main results and Discussion for each of the activities below:
 - Activities 9-11: Networks, vulnerability and opportunities of dependent human communities, tradeoffs in goods and services and bioeconomic analyses





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	MEETING DATES	VENUE	REPORTING DETAILS	COMMENTS (CHANGE IN CHAIR, ETC.)
✓ Initial report	Year 2020 9-12 March	Copenhagen, Denmark	Final report by January 2023	Inter-sessional meeting, funding mechanisms being explored. Location dependent on success of funding raising efforts. ✓
✓ Interim 6 months report	Year 2020 22-30 October	Online meeting		(PICES AM) ✓
✓ Interim report (sep 28)	Year 2021 10, 13-14 September	Online meeting		(ICES ASC) ✓
	Year 2021 18-29 October	Online meeting		(PICES AM)->?
	Year 2022 Spring	TBA		Synthesis writing workshop planned (depending on successful funding applications)
	Year 2022 September	TBA		(ICES ASC)
	Year 2022 October	TBA		(PICES AM)
✓ Interim report (sep 28)	Year 2022 Late November	Lisbon, Portugal		SPF Symposium

Final report (2024)



**Small Pelagic Fish:
New Frontiers in Science
and Sustainable
Management**

November 7 - 11, 2022
Lisbon, Portugal



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Food and Agriculture
Organization of the
United Nations

2 special issues

- Canadian Journal of Fisheries and Aquatic Sciences
- Marine Ecology Progress Series

CJFAS – Special Issue 10 manuscripts (surveys, MSE, etc.) 8 online



Research Article



Assessing small pelagic fish trends in space and time using piscivore stomach contents

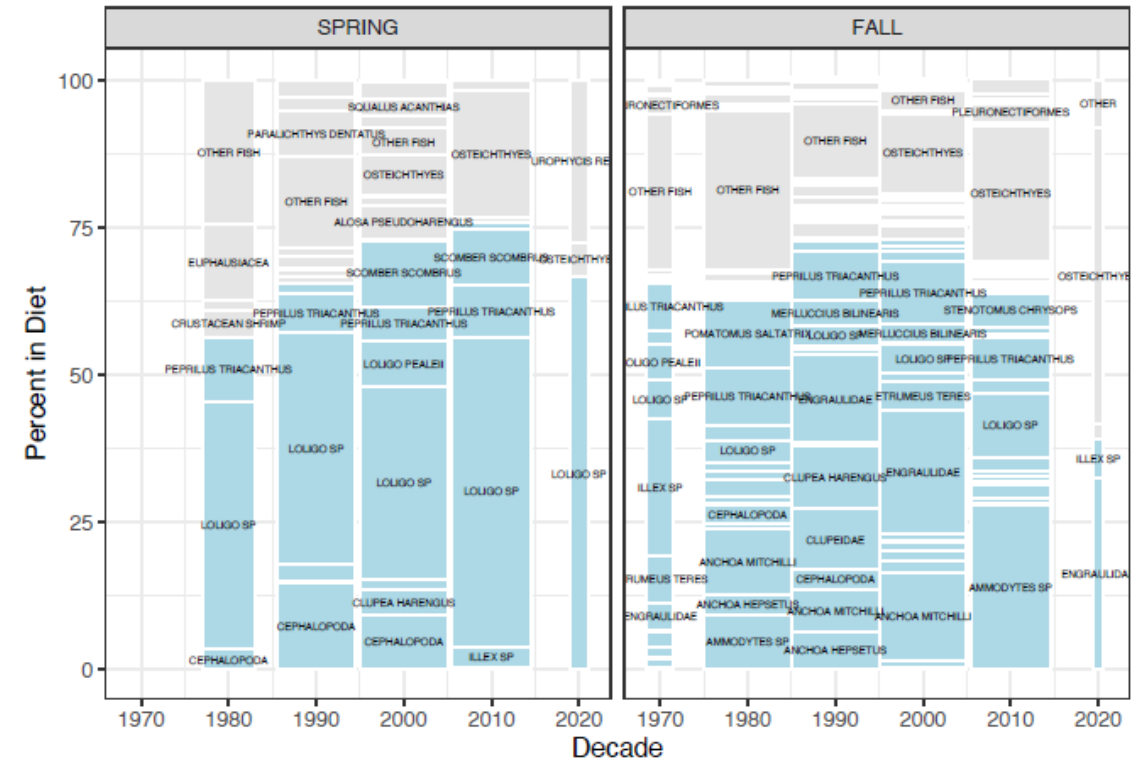
Authors: Sarah K. Gaichas, James Gartland, Brian E Smith, Anthony Wood, Elizabeth Ng, Michael Celestino, Katie Drew, Abigail S. Tyrell, and James T Thorson | AUTHORS INFO & AFFILIATIONS

Publication: Canadian Journal of Fisheries and Aquatic Sciences • 4 October 2023 • <https://doi.org/10.1139/cjfas-2023-0093>

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Abstract



MEPS – Special Issue 24 manuscripts (ecology, biology) ~6 online

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Small pelagic fish: new research frontiers

Small pelagic fish: new research frontiers

Small pelagic fish (SPF) account for more than 30% by weight of the total landings of capture fisheries around the world and are crucial for global food security. SPF also play an important role in the transfer of energy in food webs through mid-trophic levels, so understanding processes affecting the dynamics of their populations, their role in marine ecosystems and how these shape robust management practices continues to be a high priority.

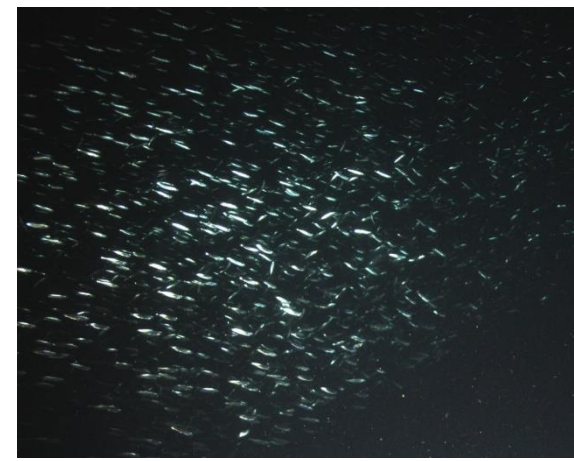
Substantial progress continues to be made on understanding the drivers and dynamics of SPF in marine ecosystems. The integration of numerical models with ever-growing data from monitoring efforts and stock assessments has enabled more comprehensive consideration of hypotheses describing SPF population variability. Additionally, the rapid development of new methods such as eDNA, machine learning, and genome analysis to ascertain population structure can offer new insight to long-standing questions. This TS includes contributions from the 2022 international (ICES, PICES, FAO) symposium on “Small Pelagic Fish: New Frontiers in Science for Sustainable Management” and highlight the state-of-the-art in these and other topics related to the ecology and sustainable management of SPF.

Organizers/Symposium conveners: Myron Peck, Ignacio Catalán, Susana Garrido, Ryan Rykaczewski, Akinori Takasuka



Photo: Col. Estúdio Horácio Novais / FCG – Biblioteca de

Future



- Small report writing workshop in February 2024 (La Paz, Mexico)
- New PICES WG proposed
- PICES topic session
 - Advances in observational, analytical, and modeling tools that lead to better observations and improved understanding of small pelagic fish
 - Jennifer Boldt (Canada), Dongwha Sohn (Korea), Kresimir Williams (USA), Chris Rooper (Canada)
- Small Pelagic Fisheries Symposium, Spring 2026 (La Paz, Mexico)