

INTER-SESSIONAL MEETING
JOIN PICES-ICES WORKING GROUP ON SUSTAINABLE FORAGE FISH COMMUNITIES

February 25–27, 2025
Portuguese Institute of Sea and Atmosphere, Lisbon

PROVISIONAL AGENDA

Day 1, February 25, 2025

10:00–13:00 – Introduction of Working Group activities

- a. WGSPF activities and outputs during the last triennium
- b. WG chairs proposal of new Activities and proposals from members during the WGSPF meeting in Hawaii (October 2024) (**see Annex I**)

13:00–14:30 – Lunch break

14:30–18:30 – New discussion on Activities/Tasks, finalizing list – what are we missing, who will lead

Day 2, February 26, 2025

10:00–12:00 – Breakout rooms for activities **2+3** and **6** (brainstorming new ideas, collaborations or at least directions, etc.)

12:00–13:00 – Breakout rooms for each task/activity **4+5**, **7+8** (brainstorming new ideas, collaborations or at least directions, etc.)

13:00–14:30 – Lunch break

14:30–15:30 – Breakout rooms for activities **4+5**, **7+8** (brainstorming new ideas, collaborations or at least directions, etc.)

15:30–18:30 – Plenary discussion of Activity **1+9+new activities** (brainstorming new ideas, collaborations or at least directions, etc.)

Day 3, February 27, 2025

10:00–12:00 – Plenary updates on former day breakout group discussions

12:00–13:00 – Planning and session identification for the symposium on *“Navigating Changes in Small Pelagic Fish and Forage Communities: Climate, Ecosystems, and Sustainable Fisheries”* (May 4–8, 2026, La Paz, Mexico)

13:00–14:30 – Lunch break

14:30–18:30 – Symposium planning and session identification (writing up descriptions and identifying co-convenors); *Symposium workshops will also be brainstormed, but we expect wider community input for workshop ideas.*

ANNEX I

DRAFT ACTIVITIES OF THE WGSPF TO BE DISCUSSED IN THE LISBON MEETING

Task Force 1: Ecological Process Knowledge

Activity 1: Critical review, evaluation and testing of SPF hypotheses

Synopsis of activity: This activity has been looking at current SPF-related hypotheses and evidence for and against across regions. Examples of hypotheses that have been considered are related to ecosystems (e.g. wasp-waist, top-down, bottom-up control), recruitment (e.g. match-mismatch, optimal stability) and other processes. There are many SPF processes with attached hypotheses, so this is a ripe area of study and potential literature reviews. This activity should seek to include hypotheses that address more recent climate events (e.g. marine heat waves) in its ongoing activities. There are many existing collaborations within this group. This activity is a continuation of ongoing research from the initial phase of the WG during 2020-2024.

Activity 2: Life cycle closures: Bottlenecks and gaps in knowledge

Synopsis of activity: This activity focused on comparing between regions the spatial processes responsible for life cycle closure. For example, the activity has looked at spatio-temporal variability in key life history processes and species distribution modeling across regions and species. This has been a good venue for collaboration across regions and seeks to identify and close knowledge gaps. There are many existing collaborations within this group. This activity is a continuation of ongoing research from the initial phase of the WG during 2020-2024.

Activity 3: Drivers of spatial distribution and phenology

Synopsis of activity: This activity compares regional drivers of changes in fish reproductive phenology and spatial distribution attributing these changes to fluctuations in oceanographic conditions, stock status, and species characteristics. This activity also sponsored a 2022 Small Pelagic Fish Symposium session on non-linear dynamics and tipping points related to SPF and ecosystems switching to alternative stable states, especially relating to shifts in SPF distributions and timing of spawning/early life history/migration. Current research products under development focus on continental scale comparisons (i.e., North America, Europe), whereas we aim to expand the international reach of this research in the next phase of this activity. There are many existing collaborations within this group. This activity is a continuation of ongoing research from the initial phase of the WG during 2020-2024.

Activity 4: Food-web Dynamics

Synopsis of activity: Comparisons of food web dynamics across regions/species/systems/life history stages. This is an important topic because of forage fish trophic position in the food web. As exploited species, there is a potential for conflict between SPF catches and their ecosystem services as forage for top predators. In the next iteration of this activity, it will work to include more predator-prey interactions from the lower to the upper trophic levels in the marine food webs (e.g. marine mammals, fish and seabirds). There are many existing collaborations within this group. This activity is a continuation of ongoing research from the initial phase of the WG during 2020-2024.

Activity 5: Internal and external drivers of growth, reproduction, and survival

Synopsis of activity: Compare internal processes (e.g. density dependence) to external processes (e.g. climate change) and impacts on core processes for SPF. These comparisons have been made across regions/ecosystems and include topics like trait comparisons and bioenergetics modeling. There are many existing collaborations within this group. This activity is a continuation of ongoing research from the initial phase of the WG during 2020-2024.

Task Force 2: Translating Process Knowledge

Activity 6: Advancing technologies and methodologies for assessing SPF

Synopsis of activity: The original activity (2020-2024) was designed around comparative studies of survey methods/survey data analysis. The group examined surveys across regions/ecosystems and tried to get a global picture of survey methods used. We anticipate a shift in direction for this activity to look at new technologies/methods rather than comparisons of surveys across regions. For example, research topics could include as non-lethal survey methods, incorporating industry vessel acoustics, image-based surveys/catchability, model-based survey methods, etc. This focus is more in line with the PICES 2024 Session ([S3 “Observational frontier and new studies for understanding of ocean and ecosystem”](#)) and will hopefully bring in new voices and collaborators.

Activity 7: Improving short-term forecasts and/or long-term projections

Synopsis of activity: This activity was designed around finding methods/mechanisms to predict SPF dynamics both for short term processes (e.g., recruitment) with short term forecasting and longer-term processes (e.g., distribution shifts) with historical hindcasting. The idea is to do this research across multiple systems (e.g. Canary Current, California Current, Humboldt Current and Kuroshio Current) to explore single drivers and more complex models. There are many existing collaborations within this group. This activity is a continuation of ongoing research from the initial phase of the WG during 2020-2024.

Activity 8: Improvements to management

Synopsis of activity: This activity addresses how to develop tools for better management of SPF (e.g., advancing management strategy evaluations) and developing metrics for better understanding of stock and ecosystem status through models/simulations and other studies that address ecosystem-based fisheries management (e.g., incorporating ecosystem models in forage fish management). This has been a very active group and contains the best potential linkages (at the moment) between science-management-economics, as they have been working with and thinking about end-to-end models that include fisheries as components. There are many existing collaborations within this group. This activity is a continuation of ongoing research from the initial phase of the WG during 2020-2024.

Activity 9: Social-ecological analysis

Synopsis of activity: The initial idea for this activity was to address qualitative and quantitative bioeconomic modelling in various forms, including end-to-end modelling and vulnerability and risk assessments utilizing stakeholder generated data. The lack of economist participation hampered the full development of this group, but some of the peripheral activities were taken up by other activities under Task Force 2. In the new WGSPF, we are proposing adding this activity as a more general concept that would address all socio-economic analyses and be a cross-cutting group that could integrate more with Activities 7 and 8. Also, we would like to expand the topics addressed by this Activity to include traditional ecological knowledge (TEK) and other knowledge types, which are of increasing interest. We will also reach out to additional audiences to generate new participants/directions for this activity.

Ideas proposed as potential new activities in the Hawaii WG meeting:

Activity X: Ecosystem services

Potential new task/activity that looks at the value of SPF to ecosystems (similar to the food web modelling, but including humans and other components of services they provide)

Activity X: Distribution shifts, migration and connectivity

Potential new task: How is global warming going to change species distributions in unexpected ways? Example of Japanese Sardine pathway across the Pacific, which seems to have moved onto US West Coast and showed up in the survey due to thermal pathway opening up across the Pacific.

Activity X: Non-climatic anthropogenic impacts

Potential new task, covering microplastics, noise, saltwater intrusion, other pollutants, low oxygen conditions, and wind energy impacts.

Activity X: Moving beyond boundary currents

Potential new task, proposed new activity on mesopelagic organisms, squid, and krill, that would consider areas beyond the current focus on boundary currents. There are likely greater gaps in knowledge for these organisms. This activity could also focus on estuarine fishes.

Activity X: Future

Cross-cutting activity idea: Conceptual projection of the state of SPF in the year 2050, including from a societal perspective.