ICES/PICES Theme Session E
Do foodweb dynamics matter in fisheries management?

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The world-wide occurrence of abrupt shifts in marine ecosystem function and structure, trophic cascades in exploited foodwebs, and altered species interactions preventing recovery of depleted fish stocks, show the importance of accounting for foodweb dynamics in the management of human activities in marine systems. While there has been much recent progress in the understanding of foodweb dynamics in marine ecosystems, the application of this knowledge in marine management is however, still scarce. Overcoming this 'application gap' is essential to advance marine management using an ecosystem approach as well as sectorial approaches like ecosystem-based fisheries management (EBFM). Using EBFM as an example, bridging this gap would require knowledge on (1) How can foodweb responses to exploitation be monitored and predicted?; (2) How do foodweb dynamics mediate the impacts of fisheries on marine ecosystems, and the effects of system productivity on fisheries?; (3) Which aspects of foodweb dynamics are necessary to account for in fisheries management to ensure sustainable use of marine ecosystems, and which are not? Applying such knowledge into advice for management will require evaluation of existing advice and management performance, as well as development of new decision support tools highlighting, for example, how foodweb interactions affect trade-offs between management objectives, determine the time and probability to achieve management objectives, or provide guidance on the robustness of the advice.

We welcome papers on the following topics:

- Observation or modelling studies on dynamics and functioning of exploited marine foodwebs, identifying intra- and inter-specific interactions within or across ecosystems that are key for fisheries management;
- Comparative simulation studies of single-species *vs*. multispecies or food-web based management strategies;
- Studies advancing foodweb indicators for marine management (e.g. within the EU Marine Strategy Framework Directive, Descriptor 4) by linking them to food-web functioning and dynamics;
- Modelling studies addressing the inclusion of foodweb dynamics in operational assessment and management;
- Innovative decision support tools for marine management accounting for foodweb dynamics, and their uncertainty.