

HOW CAN EXPERT PERCEPTIONS INFORM HERRING FOOD WEB RECOVERY AND MANAGEMENT?

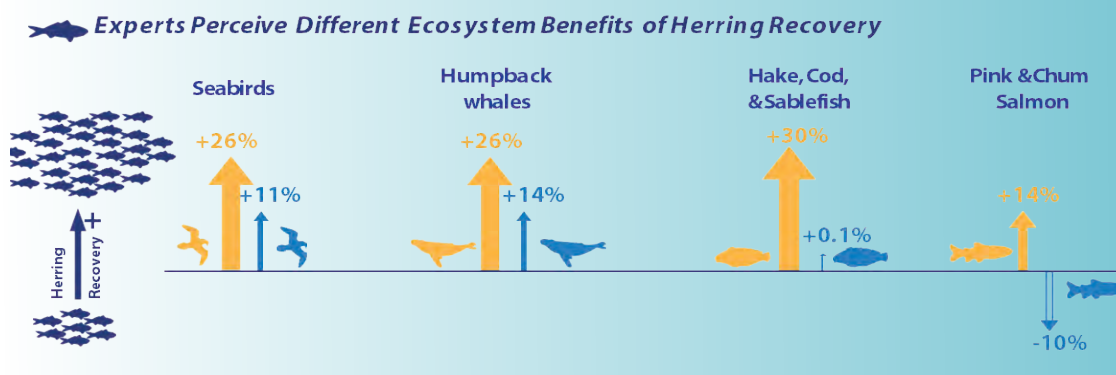
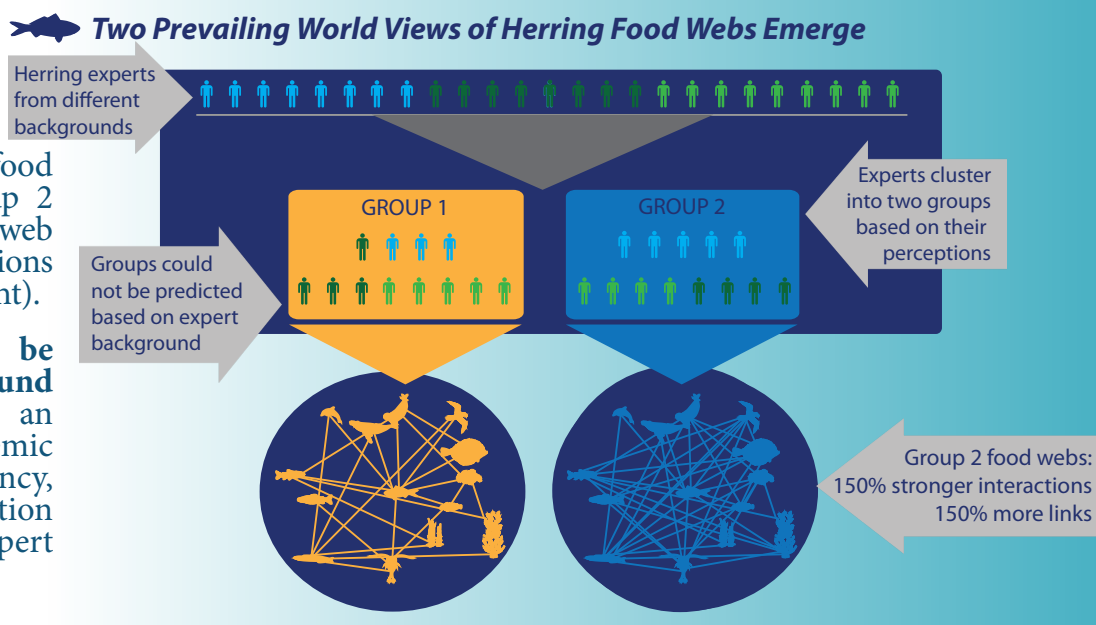
We interviewed experts to explore how they perceive food web interactions centered on Pacific herring in the region of Haida Gwaii. We found that experts vary widely in their views of the linkages between species. These differences could not be predicted based on an expert's background. This study exposes gaps in understanding and highlights the necessity of recognizing a diversity of perspectives in herring management.

What did we find?

Experts **varied widely** in their perceptions of the herring food web structure.

Two main views of herring food web structure emerged. Group 2 perceived a more complex food web with more and stronger interactions than Group 1 (see figure on right).

Differences could not be predicted based on background or affiliation—i.e., whether an expert was from an academic institution, government agency, or Haida community organization did not predict how that expert perceived the food web.



The two groups differed on (1) **how much other species will be impacted** by herring recovery, and (2) whether those **impacts will be positive or negative** (see figure on left).

For example, when we used experts' food webs to look at how an increase in herring abundance would affect other species, some webs showed an increase in pink and chum salmon as a result, while others predicted a decline.

Why is this study important?

Pacific herring are known to be ecologically, economically, and culturally important in Haida Gwaii, but the strength and number of connections they have with other species within the food web are not well known. Without this important information, marine managers charged with stewarding herring populations often look to expert knowledge to help fill information gaps and inform management decisions.

However, even expert's perceptions of the world can vary dramatically. Because of this it is vital to understand where differences in perception exist among ecological experts and how this variability may underlie conflict among stakeholders.

How can expert opinion inform herring food web recovery and management?

- The variety of food web world views and the fact that they cannot be predicted by demographic characteristics suggests that there are strong differences in opinion around how much the food web will benefit from herring recovery.
- Different food web perceptions may contribute to conflict surrounding future herring management.
- Variable perceptions of the direction and strength of connections between herring and other species suggests the need to build consensus about herring and ecosystem-based management.



Photo credit: Guy Monty

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OCEAN TIPPING POINTS

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