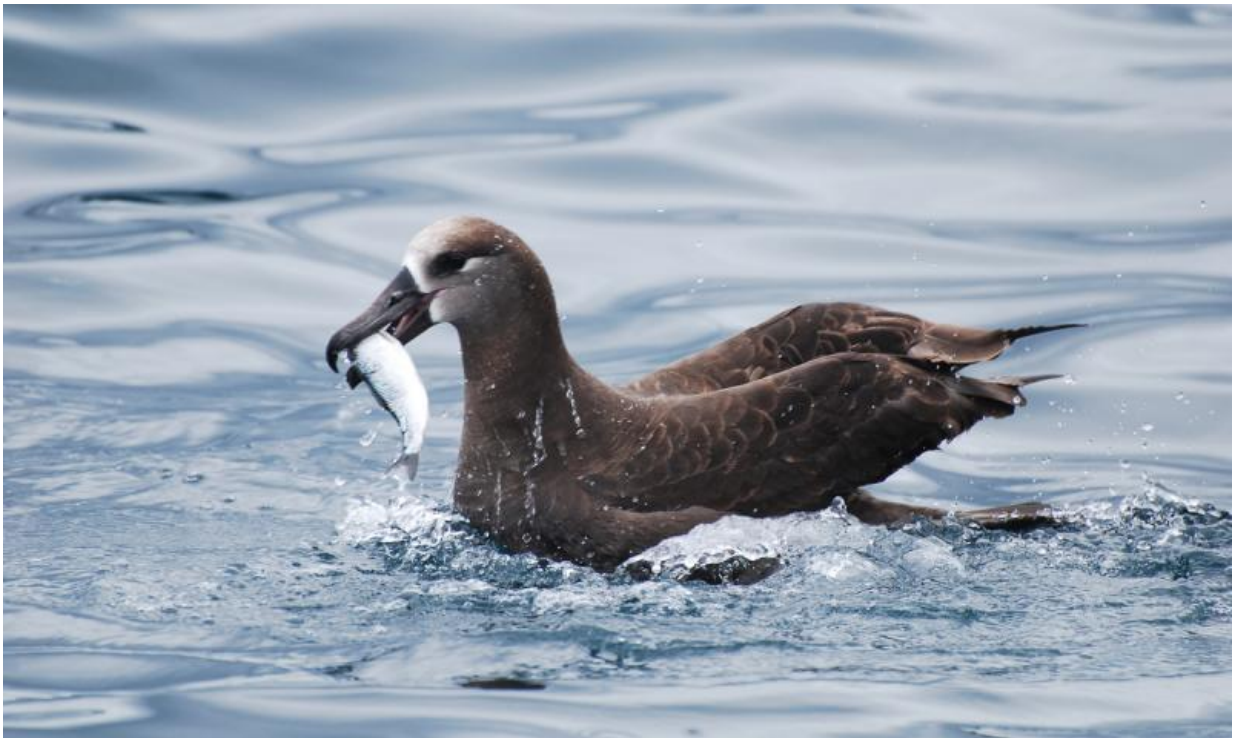


## Ocean Modeling Forum to bring human element to herring fishery, others

June 4 2015, by Michelle Ma

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An albatross catches a herring. Credit: Langara Fishing Adventures

Similar to how hurricane forecasters combine all projected paths of the storm to predict landfall, a new group aims to take the most useful science and perspectives to gauge how the world's oceans should be best managed.

[The Ocean Modeling Forum](#), a collaboration between the School of Aquatic and Fishery Sciences at University of Washington and NOAA Fisheries, is trying something very rare—bringing together multiple science models and people who care about a particular ocean resource or fishery to decide what's most important for its vitality and the communities it serves.

"We've gotten to this point now where there's an amazing amount of science, but it's fragmented," said Phil Levin, the Ocean Modeling Forum's co-director and senior scientist with NOAA Fisheries. "We want to bring it together and exploit the strengths of all these different models and data streams and try to overcome the weaknesses."

The Ocean Modeling Forum will address all ocean management issues, facilitating conversations among as many stakeholders as possible. Its first project, focused on the recently closed Pacific sardine fishery, will have its fourth and final meeting later this month in Seattle. The group will kick off its second project June 8-10 in Richmond, British Columbia, with a summit focusing on the Pacific herring fishery.

The goals of the herring summit are to hear from tribes and First Nations peoples, social and natural scientists, the fishing industry, nonprofits, and federal and state wildlife managers about the role herring plays socially and ecologically, and to begin to develop a framework for how traditional ecological knowledge—in addition to scientific data—can be used in [fisheries](#) management practices.

"I think there is a lot to be gained in bringing together people who are working on common problems so we can use models in new ways," said André Punt, director of the UW's School of Aquatic and Fishery Sciences and co-director of the Ocean Modeling Forum.



First Nations boats launch from a beach. Credit: Margo Hessing-Lewis

The three-day summit in British Columbia comes at a time when many are questioning plans for the Pacific herring fishery. Some First Nations peoples protested and prevented commercial fishing by taking to the water last year and this spring, though Fisheries and Oceans Canada opened a commercial fishery. The First Nations have argued that the herring population, which holds deep cultural significance, hasn't yet recovered to a sustainable level, and some scientists evaluating the fishery agree.

The first day of the summit is devoted to hearing stories about the significance of herring, and many tribes and First Nations peoples are expected to share. An artist will serve as a pictorial recorder, overlaying words, ideas and pictures from the stories into works of art that will

remind participants of the discussions and themes throughout the conference.

The Ocean Modeling Forum's approach for the summit – where the people who set fishing quotas, conduct the science, catch the fish and plan for the future are all brought to the discussion table – is the first of its kind worldwide for fisheries. The goal is to come up with a plan to sustainably manage a fishery in a way that's more nimble to change, and sensitive to both ecological and social factors.

"The idea is to increase the breadth of the approach to address the complex questions that we're facing right now," said Tessa Francis, managing director of the Ocean Modeling Forum and lead ecosystem ecologist with the Puget Sound Institute at UW Tacoma. "Given the particularly knotty ocean management issues faced worldwide, our hope is to bring together all the existing models, with their modeling teams, to provide more reliable and clear advice."

Some models combine a hypothesis and data to try to predict how healthy a fishery is ecologically, while others look at how well it's performing from an economic standpoint. Nearly all involve complicated math, and scientists agree that all models are flawed in some way. So, by looking at every option on the table, organizers hope the best parts of each will rise to the surface.



What is the cultural significance of herring? Harvesting herring roe, or eggs, on a cedar branch. Credit: Max Bakken

The result is a way for managing a fishery that offers more than any single model could on its own.

Over the next year and a half, a smaller working group will take information from the herring summit and construct a framework that agencies can adopt when they are ready to incorporate human dimensions, such as the cultural significance of fishing, into fisheries management.

The sardine project launched with a similar meeting in March 2014, and its working group will wrap up this summer with a paper summarizing its



findings and recommendations.

In the future, organizers say, the Ocean Modeling Forum could be used to address other fish and animal species, or issues such as how to manage resources affected by ocean acidification.

"I think the sky is the limit in terms of the sorts of issues we can address and the scope with which we can address them," Levin said.

Provided by University of Washington

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