ECOPATH Celebrated at 25th Anniversary Fete

For the past 25 years, ecologists around the globe have studied ecosystems using ECOPATH, a groundbreaking research tool invented by Jeff Polovina at the Honolulu Laboratory, predecessor to PIFSC. During August 31-September 3, 2009, scientists gathered at the University of British Columbia, Vancouver, Canada, to celebrate the achievement at a special event: 'ECOPATH 25 Years: Conference and Workshop'.



As of October 2009, Ecopath/Ecosim had attracted nearly 7100 registered users in 169 countries (red) and enabled modeling of ecosystem problems in both tropical and temperate regions of the world.

The origins of ECOPATH are traced back to 1975, when a decade-long multi-agency study was launched to describe the ecosystem and resources of the Northwestern Hawaiian Islands (NWHI). The study was a partnership between NOAA's National Marine Fisheries Service (Honolulu Laboratory), the U.S. Fish and Wildlife Service, the State of Hawaii and the University of Hawaii. As part of the investigation, members of the study's steering committee, especially former Honolulu Laboratory Director Richard Shomura and University of Hawaii coral reef ecologist Richard Grigg promoted the development of a quantitative model of the ecosystem at French Frigate Shoals, one of the key locales in the chain of islets and atolls making up the NWHI. In 1984, based on data collected in the NWHI study, Polovina published a paper in the journal *Coral Reefs* describing the energy flow of the ecosystem at French Frigate Shoals. He called his model ECOPATH. As Polovina's approach was adopted by other scientists, it was elaborated and an adjunct model called ECOSIM was developed by them to enable more complex ecosystem simulations.

At the British Columbia celebration, Polovina gave a keynote talk on the origins of ECOPATH. PIFSC scientist Frank Parrish presented a talk on the application of an updated ECOPATH model for French Frigate Shoals to estimate carrying capacity for the endangered Hawaiian monk seal, and PIFSC oceanographer Evan Howell participated in an ECOPATH Workshop in preparation for updating the ECOPATH model for the central North Pacific pelagic ecosystem.

Colleagues at the University of British Columbia, especially Daniel Pauly, Villy Christensen, and Carl Walters, have continued to develop and promote ECOPATH (www.ecopath.org). As of October 2009, there were nearly 7100 registered users of ECOPATH/ECOSIM and well over 200 publications describing applications of the tool. In 2008, ECOPATH was recognized as one of NOAA's top ten scientific breakthroughs.

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