

KELLY J. BENOIT-BIRD

College of Oceanic and Atmospheric Sciences, Oregon State University

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RESEARCH INTERESTS

My work focuses on the mechanisms creating spatial and temporal dynamics in pelagic marine ecosystems, the effects these dynamics have on interactions between organisms, and the mechanisms animals use to cope with these patterns. I use a variety of field and laboratory acoustic techniques, optical methods, and behavioral modeling to investigate the effects of heterogeneity on predation and competition in the ocean. Often, I work to develop new instruments or make fundamental measurements of a species in order to be able to address ecological processes in the ocean.

CURRENT POSITION

ASSOCIATE PROFESSOR, Oregon State University

07/04-present

Biological Oceanography, College of Oceanic and Atmospheric Sciences (Assistant Professor before 07/09)

EDUCATION

UNIVERSITY OF HAWAII AT MANOA, Honolulu, Hawaii

2003

Ph.D., Department of Zoology

“Dynamics of the Hawaiian mesopelagic boundary community and their effects on predator foraging”

BROWN UNIVERSITY, Providence, Rhode Island

1998

B.S. with Honors, Aquatic Biology

DUKE UNIVERSITY MARINE LABORATORY, Beaufort, North Carolina

1/97-5/97

HONORS AND AWARDS

- **R. Bruce Lindsay Award**, Acoustical Society of America 2009
Presented to a member who is under 35 years of age, has been active in the affairs of the Society, and has “contributed substantially to the advancement of theoretical or applied acoustics”.
The citation reads “For contributions to marine ecological acoustics”
- **Ocean Sciences Early Career Award**, American Geophysical Union 2008
Awarded biennially to a member within 8 years of their Ph.D. “in recognition of significant contributions to and promise in the ocean sciences”. The citation reads “for innovative application of acoustical techniques”.
- **Kavli Frontiers Fellow**, National Academy of Sciences 2007
One of 40 young scientists from a wide range of disciplines invited to the 2007 symposium. From the Kavli website: “Attendees are selected from a pool of young researchers (under age 45) who have made significant contributions to science. The National Academy of Sciences has conducted seventeen symposia on the Frontiers of Science, with some of the best and brightest of young American scientists attending to hear, discuss, and debate talks across a wide range of the natural sciences.”
- **Presidential Early Career Award for Scientists and Engineers FY 2005 (PECASE)** 2006
The highest honor bestowed by the United States government on outstanding scientists and engineers beginning their independent careers. The citation reads: “For contributions to the study of the foraging behavior of wild spinner dolphins in Hawaii through acoustic remote sensing, for the application of techniques towards understanding the complex, multi-scale dynamics of distributed marine organisms, and for innovative use of state-of-the-art visual techniques in communicating complex marine behavior to students and public audiences”.
- **Feature Article**, Marine Ecology Progress Series 2006
- **Women in Acoustics Young Investigator Award**, Acoustical Society of America 2006
- **Office of Naval Research Young Investigator Award** 2005
The Office of Naval Research uses these awards to “recognize exceptional young scientists and engineers.” My proposal was one of 28 awarded in FY05 out of 212 proposals.

- **Best Young Presenter Award**, European Congress on Underwater Acoustics, Delft, Netherlands 2004
- **The Future of Animal Bioacoustics and Acoustical Oceanography**, Acoustical Society of America 2004
Selected as one of nine young presenters to speak at the Society's 75th Anniversary Celebration Plenary
- **Excellence in Science Communication Award** 2003
15th Biennial Conference on the Biology of Marine Mammals, Best Presentation by a Non-Student
- **DIALOG V Symposium Invited Participant**, American Society of Limnology and Oceanography 2003
- **Best Student Paper in Acoustical Oceanography**
 - 145th Meeting of the Acoustical Society of America, Nashville, Tennessee 2003
 - First Pan-American/Iberian Meeting on Acoustics, Cancun, Mexico (2nd Prize) 2002
 - 142nd Meeting of the Acoustical Society of America, Ft. Lauderdale, Florida 2001
 - 140th Meeting of the Acoustical Society of America, Newport Beach, California 2000
- **Best Student Paper in Animal Bioacoustics**
 - 145th Meeting of the Acoustical Society of America, Nashville, Tennessee 2003
 - 140th Meeting of the Acoustical Society of America, Newport Beach, California 2000
- **Excellence in Doctoral Student Research Award** University of Hawaii Regents 2002
- **National Science Foundation Doctoral Dissertation Improvement Grant**, IBN 2002
- **Pauley Marine Biology Scholar** Achievement Rewards for College Scientists Foundation 2001
- **Sigma Xi** Inducted as a Member of the scientific honor society 2001
- **Albert Tester Memorial Award** for Best Graduate Student Paper, University of Hawaii 2000
- **Leonida Scholarship Endowment** for Fisheries Research, Oceanography Dept, Univ. of Hawaii 1999
- **Aspect Technology Fund** Award Recipient for the Development of Novel Technology 1999

PREVIOUS EXPERIENCE

- POST-DOCTORAL FELLOW, Hawaii Institute of Marine Biology** 05/03-07/04
Research advisor: *Whitlow Au*
- RESEARCH ASSISTANT, Bottomfish Project, Hawaii Institute of Marine Biology** 08/00-05/03
Research advisors: *Christopher D. Kelley and Whitlow Au*
- RESEARCH ASSISTANT, Hawaii Institute of Marine Biology** 08/99-07/00
- TEACHING ASSISTANT, Biology Program, University of Hawaii** 08/98-08/99
First and second semester of 'Introductory Biology' for science majors.
(Overall rating 4.51/5.0 and 4.62/5.0, both above the course and department average)
- TEACHING INTERN COORDINATOR, Biology Program, University of Hawaii** 01/99-08/99
I oversaw the undergraduate teaching interns for 'Introductory Biology'.
- SCIENTIFIC ILLUSTRATOR, Department of Ecology and Evolution, Brown University** 09/95-06/98
Completed more than 300 scientific illustrations for *The Ecology of Atlantic Seashores*, Mark Bertness, Sinauer Associates, 1998, illustrated a poster for the Ecology Department more than a dozen journal articles.
- TEACHING ASSISTANT, Department of Ecology and Evolution, Brown University** 01/98-05/98
Teaching assistant for seminar style sections of sophomore level 'Foundations of Ecology'.
- RESEARCH ASSISTANT, Duke University Marine Laboratory** 01/97-05/97
Research advisors: *Andrew Read and Heather Koopman*
- RESEARCH ASSISTANT, Psychology Department, Brown University** 12/94-12/96
Research advisors: *Andrea Simmons and James Simmons*

PUBLICATIONS**PEER-REVIEWED JOURNALS**

- Benoit-Bird, K.J. Au, W.W.L., Brainard, R.E., & Lammers, M.O. 2001 "Diel horizontal migration of the Hawaiian mesopelagic boundary community observed acoustically" *Marine Ecology Progress Series*, 217:1-14
- Benoit-Bird, K.J. & Au, W.W.L. 2001 "Target strength measurements of animals from the Hawaiian mesopelagic boundary community" *Journal of the Acoustical Society of America*, 110:812-819.
- Benoit-Bird, K.J. & Au, W.W.L. 2002 "Energy: Converting from acoustic to biological resource units" *Journal of the Acoustical Society of America*, 111: 2070-2075.
- Benoit-Bird, K.J., Au, W.W.L., Kelley, C.D., Taylor, C.D. 2003 "Acoustic backscattering by deepwater fish measured in situ from a manned submersible." *Deep-Sea Research I*, 50: 221-229.
- Benoit-Bird, K.J. & Au, W.W.L. 2003 "Prey dynamics affect foraging by a pelagic predator (*Stenella longirostris*) over a range of spatial and temporal scales." *Behavioral Ecology and Sociobiology*, 53:364-373.
- Au, W. & Benoit-Bird, K.J. 2003 "Dynamic gain control in the echolocation system of dolphins." *Nature*, 423:861-863.
- Benoit-Bird, K.J. & Au, W.W.L. 2003 "Spatial dynamics of a nearshore micronekton sound-scattering layer." *ICES Journal of Marine Science*, 60:899-913.
- Benoit-Bird, K.J. & Au, W.W.L. 2003 "Echo strength and density structure of Hawaiian mesopelagic boundary community patches." *Journal of the Acoustical Society of America*, 114: 1888-1897.
- Benoit-Bird, K.J., Au, W.W.L., & Kelley, C.D. 2003 "Acoustic backscattering by Hawaiian lutjanid snappers I: Target strength and swimbladder characteristics." *Journal of the Acoustical Society of America*, 114: 2757-2766.
- Au, W.W.L. & Benoit-Bird, K.J. 2003 "Acoustic backscattering by Hawaiian lutjanid snappers II: Broadband temporal and spectral structure." *Journal of the Acoustical Society of America*, 114: 2767-2774.
- Benoit-Bird, K.J., Würsig, B., & McFadden, C.J. 2004 Dusky dolphin (*Lagenorhynchus obscurus*) foraging in two different habitats: Active acoustic detection of dolphins and their prey." *Marine Mammal Science*, 20: 215-231.
- Benoit-Bird, K.J. & Au, W.W.L. 2004 "Fine-scale diel migration dynamics of an island-associated sound-scattering layer." *Deep-Sea Research I*, 51: 707-719.
- Benoit-Bird, K.J. 2004 "Prey value and energy needs: Foraging predictions for wild spinner dolphins." *Marine Biology*, 145:435-444.
- Benoit-Bird, K.J., Au, W.W.L. & Kastelein, R.A. 2006 "Testing the acoustic prey debilitation hypothesis: No stunning results." *Journal of the Acoustical Society of America*, 120: 1118-1123.
- Au, W.W.L., Kastelein, R.A., Benoit-Bird, K.J., Cranford, T. & McKenna, M. 2006 "Acoustic radiation from the head of echolocating harbor porpoises (*Phocoena phocoena*)." *Journal of Experimental Biology*, 209:2726-2733.
- Benoit-Bird, K.J. & Au, W.W.L. 2006 "Extreme diel horizontal migrations by a tropical nearshore resident micronekton community." *Marine Ecology Progress Series*, 319: 1-14.
- Au, W.W.L, Benoit-Bird, K.J, & Kastelein, R.A. 2007 "Modeling the detection range of fish by echolocating bottlenose dolphins and harbor porpoises." *Journal of the Acoustical Society of America*, 121:3954-3962.
- Benoit-Bird, K.J., Gilly, W.F, Au, W.W.L, & Mate, B. 2008 "Controlled and *in situ* target strengths of the jumbo squid *Doctidicus gigas* and identification of potential acoustic scattering sources." *Journal of the Acoustical Society of America*, 123:1318-1328.
- Au, W.W.L. & Benoit-Bird, K.J. 2008 "Broadband backscatter from individual Hawaiian mesopelagic boundary community animals with implications for spinner dolphin foraging" *Journal of the Acoustical Society of America*, 123:2884-2894.
- McManus, M.A., Benoit-Bird K.J., & Woodson, C.B. 2008 "Behavior exceeds physical forcing in the diel horizontal migration of a midwater sound-scattering layer in Hawaiian waters." *Marine Ecology Progress Series*: 365:91-101.
- Benoit-Bird, K.J., Zirbel, M.J., & McManus, M.A. 2008 "Zooplankton spatio-temporal distributions in Hawaiian waters favor diel horizontal migration by midwater micronekton." *Marine Ecology Progress Series*, 367:109-123.

- Benoit-Bird, K.J. & Au, W.W.L. 2009 “Phonation behavior of cooperatively foraging spinner dolphins.” *Journal of the Acoustical Society of America*, 125:539-546.
- Benoit-Bird, K.J. & Au, W.W.L. 2009 “Cooperative prey herding by a pelagic dolphin, *Stenella longirostris*.” *Journal of the Acoustical Society of America*, 125:125-137
- Benoit-Bird, K.J. 2009 “Effects of scattering layer composition, animal size, and numerical density on the frequency response of volume backscatter.” *ICES Journal of Marine Science*, 66: 582-593
- Benoit-Bird, K.J., Cowles, T.J., Wingard, C.E. 2009 “Edge gradients provide evidence of ecological interactions in planktonic thin layers.” *Limnology and Oceanography* 54:1382-1392.
- Au, W.W.L., Branstetter, B.K., Benoit-Bird, K.J., Kastelein, R.A. 2009 “Acoustic basis for fish prey discrimination by echolocating dolphins and porpoise.” *Journal of the Acoustical Society of America* 126: 460-467
- Benoit-Bird, K.J., Au, W.W.L., Wisdom, D.W.* 2009 “Nocturnal light and lunar cycle effects on diel migration of micronekton.” *Limnology and Oceanography* 54: 1789-1800
- Benoit-Bird, K.J., Dahood, AD, & Wursig, B. “Using active acoustics to compare predator-prey behavior of two marine mammal species”. Invited Contribution to Special Issue “Applications of Acoustics in Exploring Marine Ecosystems and the Impacts of Anthropogenic Sound” *Marine Ecology Progress Series*, In press.
- Benoit-Bird, K.J., Moline, M.A., Waluk, C.M, Robbins, I.C. “Integrated measurements of acoustical and optical thin layers I: Vertical scales of association.” *Continental Shelf Research*, Special Issue “The Structure and Dynamics of Thin Layers: The Layered Organization in the Coastal Ocean Experiment” Accepted for publication.
- Moline, M.A., Benoit-Bird, K.J., Robbins, I.C. “Integrated measurements of acoustical and optical thin layers II: Critical horizontal length scales.” *Continental Shelf Research*, Special Issue “The Structure and Dynamics of Thin Layers: The Layered Organization in the Coastal Ocean Experiment” Accepted for publication.
- Kaltenberg, A.M.* & Benoit-Bird, K.J. “Diel behavior of sardine and anchovy schools in the California Current System.” *Marine Ecology Progress Series*, Accepted for publication. ***indicates student advisee author**
- Benoit-Bird, K.J. “Three- and four-dimensional of zooplankton thin layers is affected by foraging fish, *Marine Ecology Progress Series*, Accepted for publication.
- Benoit-Bird, K.J., Moline, M.A., Schofield, O.M., Robbins, I.C, Waluk, C.M. “Zooplankton avoidance of a profiled open-path fluorometer.” In review.
- Benoit-Bird, K.J. “Validation of scattering models for elastic shelled animals using multi-frequency in situ measurements of backscatter from pteropods.” In review.

OTHER PUBLICATIONS

- Bertness, M.D., Benoit-Bird, K.J., Illustrator *The Ecology of Atlantic Shorelines*, Sinauer Associates, 1998.
- Benoit, K.J., “Auditory triggers of the alarm response in *Rana catasbeiana* larvae”, Undergraduate Honors Thesis, Brown University, 55 pages, 1996.
- Benoit-Bird, K.J., “Dynamics of the Hawai‘ian Mesopelagic Boundary Community and their effects on Predator Foraging”, Ph.D. Dissertation. Department of Zoology, University of Hawaii, 272 pages, 2003.
- Benoit-Bird, K.J. 2005 (Invited) “Review of Echolocation in Bats and Dolphins. J. A. Thomas, C. F. Moss, and M. Vater, eds.”, *Marine Mammal Science*, 21: 173-174
- Jochens, A., D. Biggs, K. Benoit-Bird, D. Engelhaupt, J. Gordon, C. Hu, N. Jaquet, M. Johnson, R. Leben, B. Mate, P. Miller, J. Ortega-Ortiz, A. Thode, P. Tyack, and B. Würsig. 2008.”Sperm whale seismic study in the Gulf of Mexico: Synthesis report”. U.S. Dept. of the Interior, Minerals Management Service, Gulf of Mexico OCS Region, New Orleans, LA. OCS Study MMS 2008-006. 341 pp
- Churnside, J., Brodeur, R., Horne, J.K., Adam, P., Benoit-Bird, K.J., Reese, D.C., Kaltenberg, A.M., Brown, E. 2009. “Combining techniques for remotely assessing pelagic nekton: Getting the whole picture” Edited Conference Proceedings of The American Institute of Fishery Research Biologists.

- Dahood, A.* & Benoit-Bird, K.J. "Nocturnal foraging of dusky dolphins" Peer-reviewed book chapter in "Dusky Dolphins: Master Acrobats of the Ocean.
- Sullivan, J.M., McManus, M.A., Cheriton, O.M., Benoit-Bird, K.J., Goodman, L., Wang, Z., Ryan, J.P, Stacey, M., Holliday, D.V. "Layered Organization in the Coastal Ocean: An Introduction to Planktonic Thin Layers and the LOCO Project", Continental Shelf Research, In press.

PRESENTATIONS

INVITED PRESENTATIONS

- Benoit-Bird, K.J. "Trophic cascades in Hawaii's nearshore ecosystem: Using observing technology to understand ecological interactions" PICES Annual Meeting, Jeju, Korea. October 23-November 1, 2009.
- Benoit-Bird, K.J. "Three-dimensional structure of thin zooplankton layers is impacted by foraging fish" Acoustics '08. Paris, France. June 30-July 4, 2008.
- Benoit-Bird, K.J. "Effects of scattering layer composition, animal size, and numerical density on the frequency response of volume backscatter" 4th Meeting of the Acoustical Societies of America and Japan. Honolulu, HI. Nov 28-Dec 2, 2006.
- Benoit-Bird, K.J. & McManus, M.A. "Advancing from pattern to process in Hawaii's nearshore pelagic ecosystem" 150th Meeting of the Acoustical Society of America. Minneapolis, MN. October 17-21, 2005.
- Benoit-Bird, K.J. & Au, W.W.L. "Echolocation click rates and behavior of foraging Hawaiian spinner dolphins (*Stenella longirostris*)." 7th European Conference on Underwater Acoustics. Delft, Netherlands. July 5-8, 2004.
- Benoit-Bird, K.J. "Acoustics will play an important role in revealing the biological secrets of the ocean." Celebratory Plenary Session "The Future of ASA", 75th Anniversary Meeting of the Acoustical Society of America, New York, NY. May 24-28, 2004.
- Benoit-Bird, K.J. & Au, W.W.L. "Light and lunar cycle as cues to diel migration of a sound-scattering layer." D.V. Holliday Session, 75th Anniversary Meeting of the Acoustical Society of America, New York, NY. May 24-28, 2004.
- Benoit-Bird, K.J. & Au, W.W.L. "Using acoustics to study the ecology of Hawaii's mesopelagic zone." 2004 Ocean Sciences Meeting, American Geophysical Union; Applications of Acoustics to Oceanography. Portland, OR. January 26-30, 2004.
- Benoit-Bird, K.J. "Using active acoustics to study marine mammal behavior." Pauley Foundation Workshop on the acoustics of whales and dolphins; Hawaii Institute of Marine Biology. Kaneohe, HI. August 10, 2001.
- Benoit-Bird, K.J. & Au, W.W.L. "Foraging behavior of the Hawaiian spinner dolphin observed with active acoustics." 140th Meeting of the Acoustical Society of America; William Cummings session on the acoustics of whales and dolphins. Newport Beach, CA. December 3-8, 2000.

INVITED SEMINARS

- | | |
|---|----------------|
| Oregon Institute of Marine Biology , University of Oregon, Charleston. | August, 2007 |
| Office of Naval Research , Young Investigator Seminar Series, Washington, D.C. | February, 2007 |
| Louisiana State University , Department of Oceanography and Coastal Sciences | March, 2006 |
| University of Washington , School of Aquatic and Fishery Sciences | March, 2005 |
| Office of Naval Research , Washington, D.C. | June, 2004 |
| Rutgers University , Institute of Marine and Coastal Sciences | May, 2004 |
| Scripps Institute of Oceanography , University of California at San Diego, Ecology Program | May, 2004 |
| Woods Hole Oceanographic Institution , Applied Ocean Physics and Engineering | March, 2004 |
| University of Washington , Applied Physics Laboratory | February, 2004 |
| Oregon State University , College of Oceanic and Atmospheric Sciences | January, 2004 |
| University of Connecticut , Avery Point | March, 2003 |

SUBMITTED PRESENTATIONS

- Benoit-Bird, K.J., Cowles, T.J. “Acoustical and optical measurements provide evidence of ecological interactions in planktonic thin layers” 157th Meeting of the Acoustical Society of America. Portland, OR. May 18-22, 2009.
- Kaltenberg, A.M.*, Benoit-Bird, K.J., Emmet, R. “Temporal patterns of fish and mesozooplankton near the Columbia River plume” 157th Meeting of the Acoustical Society of America. Portland, OR. May 18-22, 2009.
- Matteson, R.S.*, Benoit-Bird, K.J., Gilly, W.F. “Humboldt squid distribution in three-dimensional space as measured by acoustics in the Gulf of California” 157th Meeting of the Acoustical Society of America. Portland, OR. May 18-22, 2009.
- Benoit-Bird, K.J. “Three-dimensional structure of thin zooplankton layers is impacted by foraging fish” 2008 Ocean Sciences Meeting, Orlando, FL. March 3-7, 2008.
- Kaltenberg, A.M.*, Benoit-Bird, K.J. “The influence of zooplankton prey abundance and daylight on pelagic schooling fish behavior” 2008 Ocean Sciences Meeting, Orlando, FL. March 3-7, 2008.
- Benoit-Bird, K.J., McManus, M.A., McLaughlin, B. “Thin phytoplankton and zooplankton layers and not so thin micronekton layers off the west coast of Oahu, Hawaii” 2006 Ocean Sciences Meeting, Honolulu, HI. Feb. 20-24, 2006.
- Au, W.W.L., & Benoit-Bird, K.J. “Acoustic properties of the Hawaiian mesopelagic boundary sound scattering layer” 2006 Ocean Sciences Meeting, Honolulu, HI. February 20-24, 2006.
- Cowles, T.J., Briggs Whitmire, A., Wingard, C., Desidario, R., Benoit-Bird, K.J., Concannon, B., & Prentice, J. “Spatial and temporal patterns in planktonic thin layers: the interplay between vertical shear, mixing, and plankton behavior” 2006 Ocean Sciences Meeting, Honolulu, HI. February 20-24, 2006.
- Concannon, B.M., Prentice, J.E. Benoit-Bird, K.J., & Cowles, T.J. “Lidar signatures in regions with thin layers in the coastal ocean” 2006 Ocean Sciences Meeting, Honolulu, HI. February 20-24, 2006.
- Kaltenberg, A.M.*, Churnside, J.H., Benoit-Bird, K.J., Brodeur, R.D., Brown, E.D., & Horne, J.K. “A study of sardines in the NE Pacific using multiple platforms and technologies” 2006 Ocean Sciences Meeting, Honolulu, HI. February 20-24, 2006.
- Smith, J.N.*, Benoit-Bird, K.J., & McManus, M.A. “Effects of lunar phase on biomass at four trophic levels along Oahu, Hawaii’s leeward coast” 2006 Ocean Sciences Meeting, Honolulu, HI. February 20-24, 2006.
- Benoit-Bird, K.J., Au, W.W.L., Kastelein, R.A., & Van de Huel, S. “Testing the prey debilitation hypothesis: No stunning results” 16th Biennial Conference on the Biology of Marine Mammals. San Diego, CA. December 15-18, 2005.
- Benoit-Bird, K.J., Au, W.W.L., Kastelein, R.A., & Van de Huel, S. “Testing the prey debilitation hypothesis: No stunning results” 148th Meeting of the Acoustical Society of America. San Diego, CA. November 15-18, 2004.
- Au, W.W.L., Benoit-Bird, K.J., Kastelein, R.A. & Van De Heul, S. “Acoustic basis for fish prey selection by echolocating odontocetes” 148th Meeting of the Acoustical Society of America. San Diego, CA. November 15-18, 2004.
- Benoit-Bird, K.J. “Predator avoidance by midwater micronekton: Differences between visual and non-visual predators.” Ecological Society of America, Portland, Oregon. August 1-7, 2004.
- Benoit-Bird, K.J. & Au, W.W.L. “Echolocation click rates and behavior of foraging Hawaiian spinner dolphins (*Stenella longirostris*).” 75th Anniversary Meeting of the Acoustical Society of America, New York, NY. May 24-28, 2004.
- Au, W.W.L., Benoit-Bird, K.J., Kastelein, R.A. & Cranford, T. “Array measurement of echolocation signals on the melon of harbor porpoises (*Phocoena phocoena*)” 147th Meeting of the Acoustical Society of America. New York, NY. May 24-28, 2004
- Benoit-Bird, K.J. & Au, W.W.L. “Observing the diel migration dynamics of an island-associated sound-scattering layer.” ASLO/TOS Ocean Research Conference. Honolulu, HI. February 15-20, 2004.
- Benoit-Bird, K.J. & Au, W.W.L. “Echolocation click rates and behavior of foraging Hawaiian spinner dolphins (*Stenella longirostris*).” 15th Biennial Conference on the Biology of Marine Mammals. Greensboro, NC. December 14-19, 2003.
- Benoit-Bird, K.J. & Au, W.W.L. “Hawaiian spinner dolphins aggregate midwater food resources through cooperative foraging” 146th Meeting of the Acoustical Society of America. Austin, TX. November 10-14, 2003.
- Benoit-Bird, K.J. “Sound-scattering layers and the foraging ecology of pelagic marine mammals.” 88th Annual Meeting of the Ecological Society of America. Savannah, GA. August 3-8, 2003.

- Benoit-Bird, K.J., Würsig, B., McFadden, C.J. "Behavior of dusky dolphins foraging on the deep-scattering layer in Kaikoura Canyon, New Zealand." 145th Meeting of the Acoustical Society of America. Nashville, TN. April 22-May 2, 2003.
- Benoit-Bird, K.J. & Au, W.W.L. "Target strength and density structure of Hawaiian mesopelagic boundary community patches" 145th Meeting of the Acoustical Society of America. Nashville, TN. April 22-May 2, 2003.
- Au, W.W.L., & Benoit-Bird, K.J. "Broadband temporal and spectral structure of acoustic backscatter from Hawaiian Lutjanid snappers" 145th Meeting of the Acoustical Society of America. Nashville, TN. April 22-May 2, 2003.
- Benoit-Bird, K.J. & Au, W.W.L. "Fine-scale diel migration dynamics of an island-associated sound-scattering layer." First Pan-American/Iberian Meeting on Acoustics. Cancun, Mexico. December 2-6, 2002.
- Benoit-Bird, K.J., Au, W.W.L., Kelley, C.D., & Taylor, C. "Acoustic backscattering by deepwater fish measured *in situ* from a manned submersible." First Pan-American/Iberian Meeting on Acoustics. Cancun, Mexico. December 2-6, 2002.
- Benoit-Bird, K.J. & Au, W.W.L. "Dynamics of the Hawaiian mesopelagic boundary community studied with active acoustic moorings." ICES Symposium on Acoustics in Fisheries and Aquatic Ecology. Montpellier, France. June 10-14, 2002.
- Kelley, C.D., ¹Benoit-Bird, K.J., Taylor, C., Richman, N., Au, W., & Crook, K. "Two New Submersible Techniques for Deepwater Fisheries Research in Hawaii." 2002 Ocean Sciences Meeting. Honolulu, HI. February 11-15, 2002. ¹presenting author
- Benoit-Bird, K.J. & Au, W.W.L. "Energy: Converting from acoustic to biological resource units." 142nd Meeting of the Acoustical Society of America. Ft. Lauderdale, FL. December 3-7, 2001.
- Benoit-Bird, K.J. & Au, W.W.L. "Foraging behavior of the Hawaiian spinner dolphin, *Stenella longirostris*." 14th Biennial Conference on the Biology of Marine Mammals. Vancouver, BC. November 28-December 3, 2001.
- Benoit-Bird, K.J. "Foraging behavior of the Hawaiian spinner dolphin observed with active acoustics." Animal Behavior Society; W. C. Allee Session. Corvallis, OR. July 15-18, 2001.
- Benoit-Bird, K.J. & Au, W.W.L. "Acoustic investigation of the Hawaiian mesopelagic boundary community" 140th Meeting of the Acoustical Society of America. Newport Beach, CA. December 3-8, 2000.
- Benoit-Bird, K.J. & Au, W.W.L. "Spatial and temporal patterns in the Hawaiian mesopelagic boundary community observed acoustically" Oceanography Seminar. School of Ocean and Earth Science and Technology, University of Hawaii at Manoa. November 16, 2000.
- Benoit-Bird, K.J. "Spinner dolphin foraging and the mesopelagic boundary community" 25th Annual Albert Tester Symposium, University of Hawaii. April 13-14, 2000. Published in: Pacific Science, 55:99.

GRANT AND CONTRACT SUPPORT

Since arriving at Oregon State University in 2004, my research program has attracted funding from diverse sources including the National Science Foundation, Office of Naval Research, National Oceanic and Atmospheric Administration, National Oceanographic Partnership Program, Minerals Management Service, North Pacific Research Board, and Packard Foundation. I have served as the lead investigator on five of these. Many of these grants are collaborative as is typical for inter-disciplinary studies in oceanography. I served as the lead investigator and project director of two such large, interdisciplinary programs. My research program's component of grants received while at OSU currently totals **\$4,037,830**.

CURRENT GRANTS (\$ COAS component)

National Science Foundation, Biological Oceanography 2009-2012

Principal Investigator

(\$463,873)

'Collaborative Research: Physiological limits to vertical migrations of the pelagic, jumbo squid, *Dosidicus gigas*, in the Gulf of California'

Collaborators: William Gilly, Stanford University; Brad Seibel, University of Rhode Island

Office of Naval Research, Marine Mammals & Biological Oceanography Program 2009-2011

Co-Principal Investigator (\$518,856)
 ‘Factors influencing the acoustic behavior and nearshore residence of the gray whale (*Eschrichtius robustus*) along their migration route’
 Collaborators: Timothy Cowles and David Mellinger, Oregon State University

Office of Naval Research, Marine Mammals & Biological Oceanography Program 2008-2011

Principal Investigator (\$281,545)
 ‘Importance of thin plankton layers in Hawaiian food web interactions: Research spanning from physical circulation to spinner dolphins’
 Collaborator: Margaret McManus, University of Hawaii

North Pacific Research Board, Bering Sea Integrated Ecosystem Research Program 2007-2010, Principal Investigator

‘Patch Dynamics of Forage Fish’ (\$375,647)
 ‘Bogoslof Island: Patch Dynamics of Forage Fish’ (\$596,009)
 Collaborator: Scott Heppell, Oregon State University

Packard Foundation 2008-2009, Co-Principal Investigator (\$56,609)

‘Biomass estimates of jumbo squid in the Gulf of California and incorporation into a squid fishery management plan.’
 Collaborator: William Gilly, Stanford University

National Science Foundation, Major Research Instrumentation 2006-2009, Co-Principal Investigator

‘ROV-based System for Sampling Planktonic Thin Layers’ (\$584,119)
 Collaborators: Timothy Cowles, Oregon State University; Mark Benfield, Louisiana State University

Office of Naval Research, Young Investigator Program 2005-2010, Principal Investigator

‘Predator effects on dense zooplankton aggregations in the coastal ocean’ (\$596,609)

National Oceanographic Partnership Program 2005-2008, Principal Investigator, Project Director

‘Novel acoustic techniques to measure schooling in pelagic fish in the context of an operational coastal ocean observatory’ (\$423,614)
 Collaborators: Oscar Schofield, Scott Glenn, John Quinlan, Rutgers University; Christopher Jones, University of Washington; Jeffrey Condiotty, Simrad USA

National Oceanographic Partnership Program 2005-2008, Co-Principal Investigator

‘A novel technique to detect epipelagic fish and map their habitat’ (\$230,549)
 Collaborators: James Churnside, Richard Brodeur, NOAA; John Horne, University of Washington; Evelyn Brown, University of Alaska

COMPLETED GRANTS

(\$COAS component after 2004, \$University of Hawaii component prior to 2004)

Minerals Management Service, Sperm Whale Seismic Study 2005-2008, Co-Principal Investigator (\$36,454)

Office of Naval Research, Ocean Optics and Biology Program 2004-2007, Principal Investigator
 ‘Factors Influencing the Nearshore, Sound-Scattering Layer in Hawaiian Waters’ (\$234,000)

Oregon State University, Research Council Award 2005, Principal Investigator
 ‘The way to a whale’s habitat is through his stomach: Adding prey to sperm whale assessment’ (\$10,000)

NOAA Fisheries Pacific Islands Fisheries Science Center 2004-2005, Co-Principal Investigator
 ‘Fisheries data analysis’ (\$31,000)

Measurements and Signature Intelligence, Defense Intelligence Agency 2004-2006, Co-Principal Investigator
 ‘Acoustic characterization of the mesopelagic boundary community’ (\$120,000)

University of Hawaii SeaGrant College Biennial 2003-2005, Co-Investigator
 ‘The Role of Mesopelagic Boundary Community Dynamics in Hawaiian Fisheries’ (\$123,761)

Defense University Research Instrumentation Program 2004, Co-Principal Investigator
 ‘Mesopelagic processes and underwater noise effects on marine mammals’ (\$399,500)

Office of Naval Research, Marine Mammal Program 2002-2003 , Co-Principal Investigator	(\$197,291)
‘Dynamics of the Hawaiian Mesopelagic Boundary Community and their Effects on Spinner Dolphin Foraging’	
National Science Foundation Doctoral Dissertation Improvement Grant 2002 , IBN, Co-PI	(\$9,065)
‘Fine-scale pelagic predator-prey interactions: Hawaiian spinner dolphins and the mesopelagic boundary’	
University of Hawaii SeaGrant College Biennial 2001-2003 , Co-Investigator	(\$137,600)
‘The Dynamics of the Mesopelagic Boundary Community and their Role in Hawaiian Coastal Fisheries’	
National Undersea Research Laboratory 2001-2003 , Co- Principal Investigator	(3 weeks of ship and ROV time)
‘Simultaneous Video and Acoustic Investigation of Mesopelagic Boundary Layer Structure’	
Hawaii State Department of Land and Natural Resources 2000-2003 , Co-Investigator	(\$1,067,793)
‘Improvement of Bottomfish Stocks in the Hawaiian Islands: Development of Assessment Techniques’	

TEACHING

Zooplankton Ecology (OC441/541)	<i>Spring 06, Spring 08</i>
Acoustical Oceanography (OC679)	<i>Spring 07</i>
Honors College Introduction to Oceanography (OC331H) Guest Lecturer	<i>11/05</i>

MENTORING

Amanda Olsen Kaltenberg , Ph.D. Student	<i>Committee Chair</i>
College of Oceanic and Atmospheric Sciences, Oregon State University	<i>06/05-present</i>
Neal McIntosh , M.S. Student	<i>Committee Chair</i>
College of Oceanic and Atmospheric Sciences, Oregon State University	<i>09/08-present</i>
Robyn Matteson , M.S. Student	<i>Co-Advisor</i>
College of Oceanic and Atmospheric Science, Oregon State University	<i>09/07-present</i>
Andrew Szabo , Ph.D. Student	<i>Committee Member</i>
Department of Fisheries and Wildlife, Oregon State University	<i>04/05-present</i>
Luke Whitman , M.S. Student	<i>Committee Member</i>
Department of Fisheries and Wildlife, Oregon State University	<i>07/08-present</i>
Gregory Kowalke , M.S. Student	<i>Committee Member</i>
College of Oceanic and Atmospheric Sciences, Oregon State University	<i>09/08-present</i>
Renee Gibb , M.S.	<i>Committee Member</i>
Department of Fisheries and Wildlife, Oregon State University	<i>09/07-06/09</i>
Daniel Wisdom , Marine Resource Management M.S.	<i>Committee Chair</i>
College of Oceanic and Atmospheric Sciences, Oregon State University	<i>09/06-12/08</i>
Ladd Irvine , M.S.	<i>Committee Member</i>
College of Oceanic and Atmospheric Sciences, Oregon State University	<i>12/05-12/07</i>
Alyson Azzara , M.S.	<i>Outside Research Advisor</i>
Department of Oceanography, Texas A&M University	<i>06/05-12/06</i>
Joy Smith , B.S.	<i>REU Mentor</i>
Coastal Carolina University, HMSC REU Program	<i>06/05-08/05</i>
Jennifer Pettis , M.S.	<i>Outside Thesis Reader</i>
Georgetown University	<i>12/04-06/05</i>
Kristine Hiltunen , B.S.	<i>REU Mentor</i>
Texas A&M University, University of Hawaii SOEST REU Program	<i>06/01-08/01</i>

CONTINUING PROFESSIONAL EDUCATION

Communicating Ocean Science Workshop , COSEE Pacific Partnerships	02/09
Science Writing Workshop , Author Julia Whitty hosted by OSU’s Spring Creek Project	10/08
Media Training , OSU News and Communications	12/07
Donor Training , OSU Foundation	08/07
Survival Strategies for Faculty New to Teaching , OSU Center for Teaching and Learning	10/06

SEAGOING EXPEDITIONS (Since 2005)

Cruise Date	Vessel	Project	Location	Role
15-Feb - 1-Mar 2005	<i>F/V Alyce C.</i>	Micronekton Migration Patterns	Waianae, Hawaii	Chief Scientist
20-Apr - 27-Apr 2005	<i>F/V Alyce C.</i>	Nearshore Sound-Scattering Layer	Waianae, Hawaii	Chief Scientist
7-May - 10-May 2005	<i>F/V Alyce C.</i>	Nearshore Sound-Scattering Layer	Waianae, Hawaii	Chief Scientist
22-May - 27-May 2005	<i>F/V Alyce C.</i>	Nearshore Sound-Scattering Layer	Waianae, Hawaii	Chief Scientist
3-Jun - 30-Jun 2005	<i>R/V Gyre</i>	Sperm Whale Seismic Studies	Gulf of Mexico	Investigator*
1-Aug - 2-Aug 2005	<i>R/V Shana Rae</i>	Layered Organization in the Coastal Ocean	Monterey Bay, CA	Investigator
17-Aug - 10-Sep 2005	<i>R/V New Horizon</i>	Layered Organization in the Coastal Ocean	Monterey Bay, CA	Investigator
14-Sep - 15-Sep 2005	<i>R/V Shana Rae</i>	Layered Organization in the Coastal Ocean	Monterey Bay, CA	Investigator
8-Aug - 9-Aug 2005	<i>F/V Pacific Journey</i>	Epipelagic Fish Habitat	Astoria, Oregon	Chief Scientist
9-Aug - 15-Aug 2005	<i>F/V Frosti</i>	Epipelagic Fish Habitat	Oregon	Investigator*
1-Feb - 16-Feb 2006	<i>F/V Bundi</i>	Dusky Dolphin Foraging	Kaikoura, New Zealand	Chief Scientist
9-Apr - 15-Apr 2006	<i>F/V Alyce C.</i>	Nearshore Sound-Scattering Layer	Waianae, Hawaii	Chief Scientist
26-Apr - 29-Apr 2006	<i>F/V Alyce C.</i>	Nearshore Sound-Scattering Layer	Waianae, Hawaii	Investigator
12-May - 17-May 2006	<i>F/V Alyce C.</i>	Nearshore Sound-Scattering Layer	Waianae, Hawaii	Chief Scientist
1-Jun - 12-Jun 2006	<i>F/V Frosti</i>	Epipelagic Fish Habitat	Oregon	Investigator*
8-Jul - 30-Jul 2006	<i>R/V Thompson</i>	Layered Organization in the Coastal Ocean	Monterey Bay, CA	Investigator*
11-Jul - 30-Jul 2006	<i>R/V Shana Rae</i>	Layered Organization in the Coastal Ocean	Monterey Bay, CA	Investigator
6-Aug - 9-Aug 2006	<i>R/V Shana Rae</i>	Layered Organization in the Coastal Ocean	Monterey Bay, CA	Chief Scientist
9-Sep - 15-Sep 2006	<i>R/V Sharp</i>	Fish Schooling in Ocean Observatory	Mid Atlantic Bight	Chief Scientist
14-Mar - 30-Mar 2007	<i>R/V Pacific Storm</i>	Jumbo Squid Acoustics	Gulf of California, Mexico	Chief Scientist
23-Jun - 10-Jul 2007	<i>R/V Sharp</i>	Fish Schooling in Ocean Observatory	Mid Atlantic Bight	Chief Scientist
17-May 30-May 2008	<i>R/V Shana Rae</i>	Fish Schooling in Ocean Observatory	Monterey Bay, CA	Chief Scientist
12-Jul 8-Aug 2008	<i>F/V Frosti</i>	Forage Fish Patch Dynamics	Bering Sea	Chief Scientist
22-Aug 30-Aug 2008	<i>R/V Wecoma</i>	Thin Layers ROV Sampling	Oregon	Investigator
9-Nov 19-Nov 2008	<i>R/V BIP XII</i>	Jumbo Squid Acoustics	Gulf of California, Mexico	Investigator
15-Apr 15-May 2009	<i>F/V Alyce C.</i>	Thin Layers in Ecosystem Processes	Waianae, Hawaii	Chief Scientist
17-Jun 26-Jun 2009	<i>R/V Wecoma</i>	Thin Layers ROV Sampling	Oregon	Co-Chief Scientist
16-Jul 13-Aug 2009	<i>F/V Frosti</i>	Forage Fish Patch Dynamics	Bering Sea	Chief Scientist
16-Jul 13-Aug 2009	<i>F/V Gold Rush</i>	Forage Fish Patch Dynamics	Bering Sea	Investigator*

* Participated in cruise planning, preparation, and ship set up but not aboard vessel

PROFESSIONAL ACTIVITIES

Oceanography in 2025 Workshop , Plenary Speaker & Invited Participant, Sponsored by the National Academy of Sciences' Ocean Studies Board and the U.S. Office of Naval Research	01/09
Fish Acoustics Science Review Invited Speaker, Participant, and ONR DRI Working Group Leader	11/07
IEEE Oceanic Engineering Society Technical Committee on Underwater Acoustics	01/06-present
Autonomous and Lagrangian Platforms and Sensors Workshop Invited Participant	11/05
Cooperative Institute for Marine Resources Studies	
Scientific Advisory Council	10/04-04/09
Acoustical Society of America	
Acoustical Oceanography Technical Committee	05/08-present
Outreach Committee on Posters	04/09-present
Website Committee	04/09-present
Animal Bioacoustics Technical Committee	12/02-12/04, 05/05-05/08
Public Relations Committee	05/04-present
Vision 2010 Retreat Participant, the future of the Society after 75 years	11/04
Student Council	2002-2003
Society for Marine Mammalogy	
Education Committee	01/00-present
Hawaii Student Chapter Organizer	02/00-05/03
Western Pacific Regional Fisheries Management Council	03/04-05/04
Presenter and scientific advisor to the Scientific and Statistical Committee and Full Council	
Hawaiian Islands Stranding Response Group Volunteer	12/02-07/04

REFeree

(Average 8 manuscripts/year, 5-6 proposals/year)

Journal of the Acoustical Society of America, Limnology and Oceanography, Aquatic Mammals, Deep-Sea Research Part-I, Fisheries Research, Journal of Marine Systems, Scientia Marina, Aquatic Living Resources, Marine Mammal Science Book Reviews, Animal Behaviour, Marine Ecology Progress Series, Marine Biology, Canadian Journal of Zoology, Fisheries Oceanography, Sea Grant College Programs, Journal of Physical Oceanography, Joint Industry Programme, Natural Science and Engineering Research Council of Canada, North Pacific Research Board, National Science Foundation (Major Research Instrumentation, Ocean Sciences, and Antarctic Biology Programs)

PROFESSIONAL ASSOCIATIONS

Acoustical Society of America
 American Geophysical Union
 Society for Marine Mammalogy
 American Society for Limnology and Oceanography

**UNIVERSITY SERVICE
COMMITTEES**

Faculty Hiring Committee , College of Oceanic and Atmospheric Sciences	12/07-present
Dean's Advisory Committee , College of Oceanic and Atmospheric Sciences	09/06-09/07, 09/08-present
Frontiers Seminar Series Committee , College of Oceanic and Atmospheric Sciences	09/07-09/08
Director Search Committee , Oregon Sea Grant	09/07-06/08
Promotion and Tenure Committee , College of Oceanic and Atmospheric Sciences	09/07-02/08
Oregon State University Faculty Senate	12/04-01/08
Ship Operations Committee , College of Oceanic and Atmospheric Sciences	09/06-09/07
Branding Committee , College of Oceanic and Atmospheric Sciences	09/06-09/07
Cetacean Biologist Search Committee , Dept of Fisheries and Wildlife, COMES	11/04-12/05
Instructional Programs Committee , College of Oceanic and Atmospheric Sciences	09/04-09/05
Scientific Facilities Committee , College of Oceanic and Atmospheric Sciences	09/05-09/06

PUBLIC RELATIONS

Media Listed on OSU's "*Faculty Experts*" website, I am regularly contacted by the press to talk about my research or comment on science in the news

Terra Magazine Interviewed for article "Sounding the Deep" on my recent squid research 07/08

OSU Foundation Campaign for OSU feature article and banner 2007-2008
 Worked with the Development Office on materials representing my work at OSU which included several interviews and a photo-shoot

OSU University Advancement 05/07
 Participated in meetings with the Vice President for University Advancement focusing on the impacts of advancement on the broader implications of research

Oregon State University Board of Trustees Presenter at annual meeting 09/06

OSU University Advancement Presenter 05/06

OSU University Advancement Faces of OSU banner subject 01/06

COAS Board of Advisors Presenter at annual meeting 07/05

OUTREACH ACTIVITIES

COSEE NOW (Centers for Ocean Sciences Education Excellence - Networked Ocean Now) Podcast interview
<http://coseenow.net/> 02/09

Scientists and Fishermen Exchange (SAFE) 09/04-present
 Participant in this group of fishermen and scientists working together to build trust and a mutual understanding of the industry and ocean sciences. Sponsored by Oregon Sea Grant

Oregon State University Board of Trustees Presenter at annual meeting 09/06

COAS Board of Advisors Presenter at annual meeting 07/05

SeaFest 06/05
Featured Speaker, Hatfield Marine Science Center Open House and Marine Science Festival

Oregon Ocean Science and Math Collaborative Program

Technical Advisor, Keynote Speaker, Teacher at Sea Program Host 09/04-5/05

This is the largest single initiative of the Office of Community College and Workforce Development for the State of Oregon. It aims at integrating the expertise of scientists and educators in a collaborative project designed to incorporate ocean sciences into science, math, critical thinking as part of adult education.

Hawaii State Science Fair

04/02, 4/04

Judge, High School Biological Sciences Division

Community Seminar Series, Keynote Speaker, Kula Nai'a Foundation & Kohala Center, Waimea, Hawaii 04/04

MEDIA & WEBSITE COVERAGE

Malamalama University of Hawaii Alumni Magazine Volume 34:1, Article "Ocean acoustics reveal dolphin diet and feeding behavior" 03/09

Honolulu Star Bulletin, Story: "Underwater Dance" by Helen Alton about spinner dolphin foraging 11/10/08

Discovery Channel Canada, Daily Planet Interviewed about research on spinner dolphin foraging for this daily science news program aired 10/22/08

Spinner dolphin foraging research featured on *Bio-Medicine.org, Sciencecentric.com, Physorg.com, Innovations-Report.de, ScienceDaily.com, ScienceNewsDaily.org, FirstScience.com, DrTom.tv, ScienceCodex.com, BiologyNews.net, NSF.gov's* homepage banner, and the American Academy for the Advancement of Science's website *EurekAlert.org* 10/21/08

National Public Radio Guest for story on the Bering Sea Integrated Ecosystem Research Program aired 08/11/08

NSF's Live Science My squid research featured by this public outreach website 06/08

Discovery of Sound in the Sea 12/05

Served as a scientific expert for www.dosits.org, an outreach website about the recently controversial topic of the use of sound in the ocean. I did an on camera interview for the "Scientists Gallery" of the website, provided figures and information for the site, and fact checked the final pages.

Women in Oceanography featured in the *Oceanography* Special Issue Vol. 18, No. 1 03/05

One of a series of autobiographical sketches of modern women in oceanography

Press Conference Panel Member on the applications of acoustics to oceanography, as part of the 2004 Ocean Sciences Meeting 01/04

Acoustical Society of America, Press Room 05/03, 12/01

Prepared Lay-Language Papers for meeting website, fielded press questions at meeting press conferences