

DOUGLAS KINZEY

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RESEARCH INTERESTS:

Ecological modeling; fisheries biology; marine food web dynamics; population and community ecology; statistical parameter estimation and inference

EDUCATION:

Ph.D., University of Washington (Aquatic and Fishery Sciences). 2010.

Thesis title: *Multispecies Stock Assessment with Predator-Prey Interactions*.

M.S., University of Massachusetts (Marine Fisheries Biology). 1995.

Thesis title: *The Distribution of Abundance Among Species of Fish and its Implications for Habitat Quality in a New England Estuary*.

B.S., Oregon State University (Zoology). 1980.

EMPLOYMENT:

2010 to present - Research Fisheries Biologist, Southwest Fisheries Science Center, La Jolla, CA.

Build statistical models of Antarctic living resources for the U.S. Antarctic Marine Living Resources (AMLR) program and am a U.S. scientific advisor to the **Commission for the Conservation of Marine Living Antarctic Resources (CCAMLR)**.

Primary developer of an age-based assessment model to estimate the status and productivity of Antarctic krill. The model uses both fishery-dependent and fishery-independent data to evaluate the effects of different levels of proposed future catches compared to decision rules.

CCAMLR Working Group on Fish Stock Assessment (2010 to present)

CCAMLR Working Group on Statistics, Assessment and Modelling (2014 to present)

2002 to 2010 - Graduate Research/Teaching Assistant, University of Washington, Seattle, WA.

Developed and compared parameter estimates from single-species fisheries assessment models with estimates from models that included food web interactions among three species of fish on the Aleutian Shelf, Alaska.

1997 to 2002 - Research Fisheries Biologist, Southwest Fisheries Science Center, La Jolla, CA.

1981 to 1997 - Fishery biologist, marine mammal biologist, and protected species observer for federal, university, private, and non-profit organizations including: Southwest Fisheries Science Center, La Jolla, CA; Northeast Fisheries Science Center, Woods Hole, MA; Coastwise Consulting, Athens, GA; U.S. Fisheries Observer Program, Manomet Observatory, MA; Graduate Research Assistant, University of Massachusetts, Amherst, MA; Point No Point Treaty Council, Poulsbo, WA; NMFS Tuna-porpoise Program, San Diego, CA; Foreign Fisheries Program, Oregon State University, Corvallis, OR; U.S. Forest Service, Portland, OR and Alsea, OR.

PUBLICATIONS:

- Kinzey, D., G. Watters, and C. Reiss. 2015. *Selectivity and two biomass measures in an age-based assessment of Antarctic krill* (*Euphausia superba*). Fisheries Research 168:72-84.
- Kinzey, D., G. Watters, and C. Reiss. 2013. *Effects of recruitment variability and natural mortality on Generalised Yield Model projections and the CCAMLR Decision Rules for Antarctic krill*. CCAMLR Science 20:81-96.
- Shelton, A.O., D. Kinzey, C. Reiss, S. Munch, G. Watters, M. Mangel. 2013. *Among-year variation in growth of Antarctic krill Euphausia superba based on length-frequency data*. Mar. Ecol. Prog. Ser. 481, 53-67.
- Dewar, H., T. Eguchi, J. Hyde, D. Kinzey, S. Kohin, J. Moore, B. L. Taylor, and R. Vetter. 2013. *Status Review of the Northeastern Pacific Population of White Sharks* (*Carcharodon carcharias*) *Under the Endangered Species Act*. NOAA-TM-NMFS-SWFSC-523. 153 pp
- Kinzey, D. and A.E. Punt. 2009. *Multispecies and single-species models of fish population dynamics: comparing parameter estimates*. Natural Resource Modeling 22(1):67-104
- Aydin, K., S. Gaichas, I. Ortiz, D. Kinzey, and N. Friday. 2007. *A Comparison of the Bering Sea, Gulf of Alaska, and Aleutian Islands Large Marine Ecosystems Through Food Web Modeling*. NOAA-TM-NMFS-AFSC-178. 298 pp
- Kinzey, D., and T. Gerrodette. 2003. *Distance measurements using binoculars from ships at sea: accuracy, precision and effects of refraction*. Journal of Cetacean Research and Management 5(2):159-171.
- Kinzey, D., and T. Gerrodette. 2001. *Conversion factors for binocular reticles*. Marine Mammal Science 17:353-361.
- Kinzey, D., T. Gerrodette, A. Dizon, W. Perryman, P. Olson, and S. Rankin. 2001. *Marine mammal data collected during a survey in the eastern tropical Pacific Ocean aboard the NOAA Ships McArthur and David Starr Jordan, July 28-December 9, 2000*. NOAA-TM-NMFS-SWFSC-303:1-100.
- Kinzey, D., T. Gerrodette, J. Barlow, A. Dizon, W. Perryman, and P. Olson. 2000a. *Marine mammal data collected during a survey in the eastern tropical Pacific Ocean aboard the NOAA Ships McArthur and David Starr Jordan, July 28-December 9, 1999*. NOAA-TM-NMFS-SWFSC-293:1-89.
- Kinzey, D., T. Gerrodette, J. Barlow, A. Dizon, W. Perryman, P. Olson, and A. Von Saunder. 1999. *Marine mammal data collected during a survey in the eastern tropical Pacific Ocean aboard the NOAA Ships McArthur and David Starr Jordan and the UNOLS Ship Endeavor July 31 - December 9, 1998*. NOAA-TM-NMFS-SWFSC-283:1-113.

TECHNICAL REPORTS AND WORKING PAPERS:

- Kinzey, D., G.M. Watters, and C.S. Reiss. 2015. *Model diagnostics for the Antarctic krill assessment for Subarea 48.1*. WG-FSA-15/60.
- Kinzey, D., G.M. Watters, and C.S. Reiss. 2015. *Estimating future krill catches that meet the CCAMLR and alternative decision rules for FAO Subarea 48.1 using an integrated assessment model*. CCAMLR WG-EMM-15-15r1. 20 pp

- Ziegler, P., P. Burch, A. Constable, C. Darby, A. Dunn, C. Jones, D. Kinzey, S. Mormede and D. Welsford. 2015. *Towards developing diagnostics tools for fishery stock assessments*. CCAMLR WG-SAM-15/26. 19 pp
- Hill, S., J. Watkins, O.R. Godø, S. Kawaguchi, D. Kinzey, C. Reiss, V. Siegel, P. Trathan and G. Watters. 2015. *Key considerations for planning a large-scale krill survey*. CCAMLR WG-EMM-15/27. 9 pp
- Reiss, C.S., G.M. Watters, J. Hinke and D. Kinzey. 2015. *Within season feedback management system – a pro forma for discussion at WG-EMM 2015*. CCAMLR WG-EMM-15/04. 6 pp
- Kinzey, D., G. Watters, and C. Reiss. 2014. *Integrated models for Antarctic krill (Euphausia superba) using survey data from 1981–2014 in Subarea 48.1*. CCCAMLR WG-SAM-14/32. 30 pp
- Watters, G., C. Reiss, and D. Kinzey. 2014. *Discussion on recent results from an integrated assessment of Antarctic krill (Euphausia superba) in Subarea 48.1*. CCAMLR WG-EMM-14/35. 17 pp
- Kinzey, D., G. Watters, and C. Reiss. 2012. *Effects of recruitment variability and natural mortality on Generalised Yield Model projections and the CCAMLR Decision Rules for Antarctic krill*. CCAMLR WG-EMM-12/26. 16 pp
- Kinzey, D., G. Watters, and C. Reiss. 2012. *An integrated assessment model for Antarctic krill: progress update*. CCAMLR WG-EMM-12/27. 20 pp
- Cossio, A.M., G.M. Watters, C.S. Reiss, J.T. Hinke, and D. Kinzey. 2012. *Semi-empirical acoustic estimates of krill biomass derived from simulated commercial fishery data based on single frequency acoustics*. CCAMLR WG-ASAM 12/04.
- Kinzey, D. 2011. *Research standards for exploratory fisheries*. CCAMLR WG-SAM-11/15 Rev. 1.
- Kinzey, D., G. Watters, and C. Reiss. 2011. *Modeling Antarctic krill: scale, movement and age-structure*. CCAMLR WG-EMM-11/43 Rev.1. 37 pp
- Punt, A.E. and D. Kinzey. 2007. *Including Trophic Interactions in Fish Stock Assessments in the Aleutian Islands*. Final Report to North Pacific Universities Marine Mammal Research Consortium. 117 pp.
- Kinzey, D., T. Gerrodette, and D. Fink. 2002. *Accuracy and precision of perpendicular distance measurements in shipboard line-transect sighting surveys*. Southwest Fisheries Science Center, Administrative Report LJ-02-09:1-30.
- Kinzey, D., P. Olson, and T. Gerrodette. 2000b. *Marine mammal data collection procedures on research ship line-transect surveys by the Southwest Fisheries Science Center*. Southwest Fisheries Science Center, Administrative Report LJ-00-08:1-32.
- Gerrodette, T., P. Olson, D. Kinzey, A. Anganuzzi, P. C. Fiedler and R. Holland. 1998. *Report of the survey design meeting for estimating abundance of eastern tropical Pacific dolphins, 1998-2000, December 17-18, 1997*. Southwest Fisheries Science Center Administrative Report LJ-98-03. 25pp.

CONFERENCE AND WORKSHOP ORAL PRESENTATIONS:

- Kinzey, D., Watters, G., Reiss, C. 2015. *Likelihood profiling of models with different data weightings in an assessment of Antarctic krill*. Data conflict and weighting, likelihood functions, and process error. Center for the Advancement of Population Assessment Methodology (CAPAM), La Jolla, CA. October 19-23.

- Kinzey, D., Watters, G., Reiss, C. 2015. *Antarctic krill assessment for Subarea 48.1 and the CCAMLR decision rules*. 12th National Stock Assessment Workshop. Portland, OR. August 13-15.
- Kinzey, D., Watters, G., Reiss, C. 2014. *Modeling annual growth in Antarctic krill*. Growth: theory, estimation, and application in fishery stock assessment models. Center for the Advancement of Population Assessment Methodology (CAPAM), La Jolla, CA. November 3-6.
- Kinzey, D. and Watters, G. 2013. *An integrated modeling framework for assessing Antarctic krill (Euphausia superba)*. World Conference on Stock Assessment Methods. Boston, MA. July 17-19.
- Kinzey, D. and Watters, G. 2013. *Selectivity and two biomass measures in an age-based assessment of Antarctic krill*. Selectivity: theory, estimation, and application in fishery stock assessment models. Center for the Advancement of Population Assessment Methodology (CAPAM), La Jolla, CA. March 11-14.
- Kinzey, D. and Punt, A.E. 2008. *An age-structured, multispecies modeling framework with an example from the Aleutians*. Center for Independent Experts Review, Alaska Fisheries Science Center, June 9.
- Kinzey, D. and Punt, A.E. 2007. *A modeling framework to assess the effects of trophic interactions and fishing on three fish species in the Aleutians*. American Fisheries Society Annual Conference, San Francisco, CA. September 2-6.
- Kinzey, D. and Punt, A.E. 2007. *Comparing population features estimated from single-species and multispecies models*. Alaska Fisheries Science Center Multispecies Workshop. Seattle, WA. August 6-9.
- Kinzey, D. and Punt, A.E. 2007. *Comparing population features estimated from single-species and multispecies models*. 2007 World Conference on Natural Resources Modeling. Cape Cod, MA. June 19-22
- Kinzey, D. and Punt, A. E. 2007. *Multispecies assessment of Pacific cod, walleye pollock and Atka mackerel on the Aleutian Shelf*. Alaska Fisheries Science Center Pacific Cod Workshop, Seattle, WA. April 24-25.
- Kinzey, D. and Punt, A. E. 2006. *Extending single-species stock assessments to account for predation: application to cod, mackerel and pollock in the Aleutian Islands*. Alaska Chapter American Fisheries Society Annual Conference, Fairbanks, AK. November 13 - 16.
- Kinzey, D. and Punt, A.E. 2006. *When resources collide: predator-prey interactions in a fisheries system*. World Conference on Natural Resource Modeling. Bergen, Norway. June 25 - 28.
- Kinzey, D. and Punt, A.E. 2006. *Multispecies assessment of three fish species in the Aleutians*. NOAA Fisheries 9th National Stock Assessment Workshop. San Francisco, CA. April 18 - 20.
- Kinzey, D. and Punt, A. E. 2005. *Incorporating predation into an age-structured assessment of three Aleutian fish stocks: moving from single to multispecies models*. Washington Cooperative Fish and Wildlife Research Unit annual Meeting. Pullman, WA. April 20.
- Kinzey, D. and Punt, A. E. 2005. *Multispecies assessment of three stocks with predator-prey interactions in the Aleutians*. North Pacific Fishery Management Council Science and Statistical Committee. Seattle, WA. February 10.

- Kinzey, D. and Punt, A. E. 2004. *Adding trophic interactions in a three-species stock assessment in the Aleutian Islands*. 134th Annual Meeting of the American Fisheries Society. Madison, WI. August 22 - 26.
- Kinzey, D. and T. Gerrodette. 2001. *Accuracy of sighting distances to marine mammals at sea*. Center for Independent Experts Review, SWFSC, La Jolla, CA. October 15-17.