

**William J. (“Wim”) Kimmerer, Ph.D.**

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**Current Position**

Research Professor, Romberg Tiburon Center for Environmental Studies, San Francisco State University.

**Education**

University of Hawaii, Ph.D. 1980, Biological Oceanography  
U.S. Navy Nuclear Power School, 1968  
Purdue University, B.S. 1967, Chemistry

**Research and Professional Experience**

1994-present	Senior Research Scientist & Research Professor, Romberg Tiburon Center, San Francisco State University
1986-1995	Senior Scientist, BioSystems Analysis Inc.
1982-1985	Research Fellow, University of Melbourne (Australia), Zoology Dept.
1980-1982	Research Associate/Assistant Director, Hawaii Institute of Marine Biology
1976-1980	Research Assistant, University of Hawaii
1973-1980	Graduate student, University of Hawaii
1972-1973	Flight instructor
1967-1972	U.S. Navy submarine force, final rank Lieutenant

**Research and Professional Interests**

The ecology of estuaries and coastal waters, with emphasis on tropical estuaries and the San Francisco estuary. I study the influence of the physical environment including freshwater flow, tidal currents, and turbulence on behavior, movement, and population dynamics of plankton and fish; predatory control of species composition and abundance of plankton and fish populations; functioning of ecosystems, populations, and material cycling; and human impacts on aquatic ecosystems and the interaction of science and management. I apply a variety of methods to investigate these processes including laboratory studies, field studies, mechanistic modeling such as particle tracking, individual-based models, and hydrodynamic models, and statistical analyses using traditional as well as modern and Bayesian methods.

### **Selected Publications (last 5 years)**

- Kimmerer, W.J. 2004. Open-Water Processes of the San Francisco Estuary: from physical forcing to biological responses. *San Francisco Estuary and Watershed Science* [online serial]. Vol. 2, Issue 1 (February 2004), Article 1.  
<http://repositories.cdlib.org/jmie/sfews/vol2/iss1/art1>
- Sommer, T.R., W. Harrell, A. Mueller-Solger, B. Tom, and W. Kimmerer. 2004. Effects of reach-scale hydrologic variation on the biota of channel and floodplain habitats of the Sacramento River, California, USA. *Aquatic Conservation: Marine and Freshwater Ecosystems* 14:247-261.
- Kimmerer, W.J. 2005. Long-term changes in apparent uptake of silica in the San Francisco Estuary. *Limnology and Oceanography* 50: 793-798
- Kimmerer, W.J., M.H. Nicolini, N. Ferm, and C. Peñalva. 2005. Chronic food limitation of egg production in populations of copepods of the genus *Acartia* in the San Francisco Estuary. *Estuaries* 28: 541–550.
- Gross, E.S., M.L. MacWilliams, and W. Kimmerer. 2006. Simulating Periodic Stratification in San Francisco Bay. *Proceedings of the Ninth Estuarine and Coastal Modeling Conference, ASCE*, pp. 155-175.
- Kimmerer, W.J. 2006. Response of anchovies dampens foodweb responses to an invasive bivalve (*Corbula amurensis*) in the San Francisco Estuary. *Marine Ecology Progress Series* 324:207-218.
- Bouley, P.B. and W.J. Kimmerer. 2006. Ecology of a highly abundant, introduced cyclopoid copepod in a temperate estuary. *Marine Ecology Progress Series* 324:219-228.
- Sommer, T., C. Armor, R. Baxter, R. Breuer, L. Brown, M. Chotkowski, S. Culberson, F. Feyrer, M. Gingras, B. Herbold, W. Kimmerer, A. Mueller-Solger, M. Nobriga, and K. Souza. 2007. The collapse of pelagic fishes in the upper San Francisco Estuary. *Fisheries* 32(6): 270-277.
- Kimmerer, W.J. and M.L. Nobriga. 2008. Investigating dispersal in the Sacramento-San Joaquin Delta using a particle tracking model. *San Francisco Estuary and Watershed Science*. [online serial]. Vol. 6, Issue 1, Article 4.
- Mcmanus, G. B., J. K. York, and W. J. Kimmerer. 2008. Microzooplankton dynamics in the low salinity zone of the San Francisco Estuary. *Verh. Internat. Verein. Limnol.* 30: 196-202.
- Kimmerer, W. 2008. Losses of Sacramento River Chinook salmon and delta smelt to entrainment in water diversions in the Sacramento-San Joaquin Delta. In press, *San Francisco Estuary and Watershed Science*. [online serial]. Vol. 6, Issue 2, Article 2.
- Choi, K-H. and W. Kimmerer. 2008. Mate limitation in an estuarine population of copepods. *Limnology and Oceanography* 53:1656-1664
- Brown, L.R., W.J. Kimmerer, and R.L. Brown. 2008. Managing water to protect fish: a review of California's Environmental Water Account. *Environmental Management*. 43:357-368.
- Kondolf, G. M., P. Angermeier, K. Cummins, T. Dunne, M. Healey, W. Kimmerer, P. B. Moyle, D. Murphy, D. Patten, S. Railsback, D. Reed, R. Spies, and R. Twiss. 2008. Projecting cumulative benefits of multiple river restoration projects: An example from the Sacramento-San Joaquin River System in California. *Environmental Management* 42:933-945.

- Ohtsuka, S., M. Otani, H.Y. Soh, M. Kim, W. Lee, C. Huang, W.J. Kimmerer, T. Shimono, T. Hanyuda, H. Kawai, H. Ueda, and A. Yamaguchi. 2008. Relationships between presence or absence of non-indigenous copepods and ballast water at some international ports of Japan. *Bulletin of the Plankton Society of Japan* 55:115-126
- Choi, K.-H. and W. Kimmerer. 2009. Mating success and its consequences for population growth of an estuarine copepod. *Marine Ecology Progress Series* 377: 183–191.
- Kimmerer, W.J., E.S. Gross, and M.L. MacWilliams. 2009. Is the Response of Estuarine Nekton to Freshwater Flow in the San Francisco Estuary Explained by Variation in Habitat Volume? *Estuaries and Coasts* 32:375-389.
- Grimaldo, L., W. Kimmerer, and A.R. Stewart. 2009. Dietary segregation of pelagic and littoral fish assemblages in a highly modified tidal freshwater estuary. *Marine and Coastal Fisheries* 1:200-217
- Gross, E.S., M.L. MacWilliams, and W.J. Kimmerer. 2009. Three-Dimensional Modeling of Tidal Hydrodynamics in the San Francisco Estuary. *San Francisco Estuary and Watershed Science* 7(2). [http://escholarship.org/uc/jmie\\_sfews](http://escholarship.org/uc/jmie_sfews)
- Thomson, J., W. Kimmerer, L. Brown, K. Newman, R. Mac Nally, W. Bennett, F. Feyrer, E. Fleishman. 2009. Bayesian change-point analysis of temporal patterns in fish abundances in the upper San Francisco Estuary. In press, *Ecological Applications*.
- Mac Nally, R., J.R. Thomson, W.J. Kimmerer, F. Feyrer, K.B. Newman, A. Sih, W.A. Bennett, L.R. Brown, E. Fleishman, S.D. Culberson, and G. Castillo. 2009. An analysis of pelagic species decline in the upper San Francisco Estuary using Multivariate Autoregressive modelling (MAR). In press, *Ecological Applications*.
- Kimmerer, W.J. and A.L. Gould. A Bayesian approach to estimating copepod development times from stage frequency data. In press, *Limnology and Oceanography Methods*.

### **Submitted**

- Gould, A.L. and W.J. Kimmerer. Growth, reproduction, and development of the cyclopoid copepod *Limnoithona tetraspina* in the San Francisco Estuary. Submitted, *Marine Ecology Progress Series*.
- Briggs, A., S. Cohen, and W.J. Kimmerer. An introduced estuarine copepod: genetic diversity in a recent invasion. *Marine Biology*.

### **Selected Presentations**

- Kimmerer, W.J. 2008. Water quality and the foodweb of the upper San Francisco Estuary. Invited presentation to the Bay-Delta Public Advisory Committee, January 2008.
- Kimmerer, W.J. 2008. Variation of Physical Habitat for Estuarine Fish with Freshwater Flow. Invited, Interagency Ecological Program Annual Meeting, Asilomar, CA, February 2008.
- Kimmerer, W.J. 2008. Modeling Approaches for Delta Smelt and Other Fishes in the San Francisco Estuary. Invited presentation to the CALFED Independent Science Board, May 2008.
- Kimmerer, W.J. 2008. Delta Smelt Population Modeling: Preliminary Results of Simulations with an Individual-Based Model. CALFED Science Conference, Sacramento, October 2008

Kimmerer, W.J. 2008. Structure and Function of the Low-Salinity Zone Foodweb in The San Francisco Estuary. Invited, CALFED Science Conference, Sacramento, October 2008.