

REFERENCES

- Ackerman, J. T., J. Y. Takekawa, C. A. Eagles-Smith, and S. A. Iverson. 2008. Mercury contamination and effects on survival of American avocet and black-necked stilt chicks in San Francisco Bay. *Ecotoxicology* 17: 103–116.
- Alpine, A. E., and J. E. Cloern. 1992. Trophic interactions and direct physical effects control phytoplankton biomass and production in an estuary. *Limnol. Oceanogr.* 37: 946–955.
- Anonymous 2003. 2003 State of the Bay Conference Proceedings. Morro Bay National Estuary Program. <http://www.mbnep.org/files/pdfs/StateoftheBay04Proceedings.pdf>
- Baldwin, J. R., and J. R. Lovvorn. 1994. Habitats and tidal accessibility of the marine foods of dabbling ducks and brant in Boundary Bay, British Columbia. *Mar. Biol.* 120: 627–638.
- Barnard, P. L., D. M. Hanes, D. M. Rubin, and R. G. Kvitek. 2006. Giant sand waves at the mouth of San Francisco Bay. *EOS* 87.
- Barrett, E.M. 1963. The California oyster industry. CDFG Fishery Bulletin 123.
- Baye, P. 2007. Prospects for San Francisco Bay Beach Habitat Expansion. A report for Audubon California.
- Bonnot, P. 1935. The California oyster industry. *California Fish and Game*, 21: 65–80.
- Boyer, K.E., S. Wyllie-Echeverria, S. Cohen, and B. Ort. 2008. Evaluating buoy-deployed seeding for restoration of eelgrass (*Zostera marina*) in San Francisco Bay. Final Report Submitted to The NOAA/UNH Cooperative Institute for Coastal and Estuarine Environmental Technology (CICEET).
- Carlson P. R., J. L. Chin, and F. L. Wong. 2000. Bedrock knobs, San Francisco Bay: Do navigation hazards outweigh other environmental problems? *Environmental & Engineering Geoscience* 6: 41–55.
- Carr, L. 2008. Epifaunal community structure and trophic interactions in San Francisco Bay eelgrass (*Zostera marina*) habitats. Masters thesis, San Francisco State University.
- Carr, L.A., K. E. Boyer, and A. J. Brooks. In review. Spatial and seasonal variation in epifaunal communities on San Francisco Bay eelgrass (*Zostera marina*). *Estuaries and Coasts*.
- Chin J. L., F. L. Wong, and P. R. Carlson. 2004. Shifting Shoals and Shattered Rocks—How Man Has Transformed the Floor of West-Central San Francisco Bay. U.S. Geological Survey Circular 1259, Reston, VA.

- Cloern, J. E. 1987. Turbidity as a control on phytoplankton biomass and productivity in estuaries. *Cont. Shelf Res.* 7: 1367–1381.
- Cloern, J. E. 1999. The relative importance of light and nutrient limitation of phytoplankton growth: a simple index of coastal ecosystem sensitivity to nutrient enrichment. *Aquat. Ecol.* 33: 3–16.
- Cloern, J. E., A. D. Jassby, J. K. Thompson, and K. A. Hieb. 2007. A cold phase of the East Pacific triggers new phytoplankton blooms in San Francisco Bay. *Proc. Natl. Acad. Sci. USA* 104: 18561–18565.
- Cohen, Andy. 2005. Rapid Assessment Channel Survey for Exotic Species in San Francisco Bay.
- Cole B. E., and J. E. Cloern. 1984. Significance of biomass and light availability to phytoplankton productivity in San Francisco Bay. *Marine Ecology Progress Series* 17: 15–24.
- Connolly, R. M. 1997. Differences in composition of small, motile invertebrate assemblages from seagrass and unvegetated habitats in a southern Australian estuary. *Hydrobiologia* 346: 137–148.
- Dame, R., T. Chrzanowski, K. Bildstein, B. Kjerfve, H. McKellar, D. Nelson, J. Spurrier, S. Stancyk, H. Stevenson, J. Vernberg, and R. Zingmark. 1986. The outwelling hypothesis and North Inlet, South Carolina. *Marine Ecology Progress Series* 33: 217–229.
- Duarte, C. M. 1991. Seagrass depth limits. *Aquat. Bot.* 40: 363–377.
- Duarte, C. M., and C. L. Chiscano. 1999. Seagrass biomass and production: a reassessment. *Aquat. Bot.* 65: 159–174.
- Dugdale, R. C., F. P. Wilkerson, V. E. Hogue, and A. Marchi. 2007. The role of ammonium and nitrate in spring bloom development in San Francisco Bay. *Estuarine, Coastal, and Shelf Science* 73: 17–29.
- Erdle, S., J. Davis, and K. Sellner, eds. 2008. *Management, Policy, Science and Engineering of Nonstructural Erosion Control in the Chesapeake Bay: Proceedings of the 2006 Living Shoreline Summit*. CRC Publication No. 08–164, Gloucester Point, VA 136 pp.
- Foster M. S., A. P. DeVogelaere, C. Harrold, J. S. Pearse, and A. B. Thum. 1986. Causes of spatial and temporal patterns in rocky intertidal communities of Central and Northern California. Volumes 1 and 2, Minerals Management Service.
- Fuller, J. 2010. Phytoplankton growth under varying conditions of atmospheric CO₂. MS Thesis in Biology, San Francisco State University.
- Garcia and Associates 2001. Final Survey Report. San Francisco Rock Removal Benthic Survey Off Alcatraz Island, CA. Submitted to San Francisco District, U.S. Army Corps of Engineers.
- Grant, N. E. 2009. Use of eelgrass (*Zostera marina*) by fishes and invertebrates in Elkhorn Slough, CA. California Estuarine Research Society annual meeting, Bodega Marine Lab.

- Greene, H. G., T. L. Vallier, J. J. Bizzarro, S. Watts, and B. E. Dieter. 2007. Impacts of bay floor disturbances on benthic habitats in San Francisco Bay. In: B.J. Todd and H.G. Greene (eds.), Mapping the seafloor for habitat characterization. *Geol. Assoc. Can. Spec. Pap.* 47, pp. 401–419.
- Grinnell, J., and A. H. Miller. 1944. The distribution of the birds of California. *Pac. Coast Avifauna* No. 27. 608 pp.
- Grosholz, E., J. Moore, C. Zabin, S. Attoe, and R. Obernolte. 2007. Planning for Native Oyster Restoration in San Francisco Bay. Final Report to California Coastal Conservancy Agreement # 05–134.
- Guarini, J. M., J. E. Cloern, J. Edmunds, and P. Gros. 2002. Microphytobenthic potential productivity estimated in three tidal embayments of the San Francisco Bay: A comparative study. *Estuaries* 25: 409–417.
- Hanes, D. M., and P. L. Barnard. 2007. Morphological evolution in the San Francisco Bight. *J. Coast. Res. Sp. Issue* 50: 469–473.
- Hanson, C.H., J. Coil, B. Keller, J. Johnson, J. Taplin and J. Monroe. 2004. Assessment and Evaluation of the Effects of Sand Mining on Aquatic Habitat and Fishery Populations of Central San Francisco Bay and the Sacramento-San Joaquin Estuary. Prepared for Hanson Aggregates Mid-Pacific, Inc., RMC Pacific Materials, Inc. and Jerico Products, Inc./Morris Tug and Barge. Hanson Environmental, Inc., Walnut Creek, CA.
- Harwell, M. C., and R. J. Orth. 2002. Long-distance dispersal potential in a marine macrophyte. *Ecology* 83: 3319–3330.
- Holling, C. S. 1978. *Adaptive environmental assessment and management*. Wiley.
- Huntington, B. E., and K. E. Boyer. 2008. Effects of red macroalgal (*Gracilariopsis* sp.) abundance on eelgrass *Zostera marina* in Tomales Bay, California, USA. *Marine Ecology-Progress Series* 367: 133–142.
- Hymanson, Z. P. 1991. Results of a spatially intensive survey for *Potamocorbula amurensis* in the upper San Francisco Bay estuary. Interagency Ecological Program for the San Francisco Bay/Delta Estuary. Technical Report 38.
- Jaffe, B. E., R. E. Smith, and A. C. Foxgrover. 2007. Anthropogenic influence on sedimentation and intertidal mudflat change in San Pablo Bay, California: 1856–1983. *Estuarine, Coastal, and Shelf Science*. 73: 175–187.
- Jassby, A. D., W. J. Kimmerer, S. G. Monismith, C. Armor, J. E. Cloern, T. M. Powell, J. R. Schubel, and T. J. Vendlinski. 1995. Isohaline position as a habitat indicator for estuarine populations. *Ecol. Appl.* 5: 272–289.
- Josselyn, M. N., and J. A. West. 1985. The distribution and temporal dynamics of the estuarine macroalgal community of San Francisco Bay. *Hydrobiologia* 129: 139–152.
- Kamer, K., P. Fong, R. Kennison, and K. Schiff. 2004. Nutrient limitation of the macroalga *Enteromorpha intestinalis* collected along a resource gradient in a highly eutrophic estuary. *Estuaries* 27: 201–208.
- Keller, B. R. 2009. Literature review of unconsolidated sediment in San Francisco Bay and nearby Pacific Ocean coast. San Francisco Estuary and Watershed Science. Available from: <http://repositories.cdlib.org/jmie/sfews/vol7/iss1/art2>

- Kimbro, D. L. and E. D. Grosholz. 2006. Disturbance influences richness, evenness, but not diversity in a native California oyster community. *Ecology* 87: 2378–2388.
- 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) 2: Issue 1, Article 1. <http://repositories.cdlib.org/jmie/sfews/vol2/iss1/art1>.
- Kiriakopolis, Stephanie. 2009. Unpublished data. San Francisco State University.
- Kneib, R. T. 1997. The role of tidal marshes in the ecology of estuarine nekton. *Oceanography and Marine Biology Annual Review* 35: 163–220.
- Kondolf, G. M. and others 2008. Projecting Cumulative Benefits of Multiple River Restoration Projects: An Example From the Sacramento-San Joaquin River System in California. *Environ. Manage.* 42: 933–945
- Larned, S. T. 2003. Effects of the invasive, nonindigenous seagrass *Zostera japonica* on nutrient fluxes between the water column and benthos in a NE Pacific estuary. *Marine Ecology-Progress Series* 254: 69–80.
- Logothetis, E. A., M. H. Horn, and K. A. Dickson. 2001. Gut morphology and function in *Atherinops affinis* (Teleostei : Atherinopsidae), a stomachless omnivore feeding on macroalgae. *J. Fish Biol.* 59: 1298–1312.
- Lopez, C. B., J. E. Cloern, T. S. Schraga, A. J. Little, L. V. Lucas, J. K. Thompson, and J. R. Burau. 2006. Ecological values of shallow-water habitats: Implications for the restoration of disturbed ecosystems. *Ecosystems* 9: 422–440.
- McKee, L.J., N. K. Ganju, and D. H. Schoellhamer. 2006. Estimates of suspended sediment entering San Francisco Bay from the Sacramento and San Joaquin Delta, San Francisco Bay, California. *J. Hydrology* 323: 335–352.
- Merkel and Associates, Inc. 2004. Baywide eelgrass inventory of San Francisco Bay: Pre-survey Screening Model and Eelgrass Survey Report. Report to California Department of Transportation.
- Merkel and Associates, Inc. 2005. Baywide eelgrass (*Zostera marina*) inventory in San Francisco Bay: Eelgrass bed characteristics and predictive eelgrass model. Report prepared for the State of California Department of Transportation in cooperation with NOAA Fisheries. Available at www.biomitigation.org
- Merkel and Associates, Inc. 2009. San Francisco Bay Eelgrass Atlas. October–November 2009. Submitted to California Department of Transportation and National Marine Fisheries Service.
- Merkel and Associates, Inc. 2010. San Francisco Bay Eelgrass Inventory October–November 2009. Submitted to: California Department of Transportation and National Marine Fisheries Service. 12 pp.
- Merkel and Associates, Inc. 2010. San Francisco Bay Eelgrass Atlas October–November 2009. Submitted to: California Department of Transportation and National Marine Fisheries Service. 74 pp.

- Miller, A. W., A. L. Chang, N. Cosentino-Manning, and G. M. Ruiz. 2004. A new record and eradication of the Northern Atlantic alga *Ascophyllum nodosum* (Phaeophyceae) from San Francisco Bay, California, USA. *J. Phycol.* 40: 1028–1031.
- Moore, J. E., and J. M. Black. 2006. Slave to the tides: Spatiotemporal foraging dynamics of spring staging Black Brant. *Condor* 108: 661–677.
- Moore, K.A. and J.C. Jarvis. 2008. Environmental factors affecting recent summertime eelgrass diebacks in the lower Chesapeake Bay: Implications for long-term persistence. *Journal of Coastal Research* S.I. No. 55: 135–147.
- National Research Council (NRC). 2007. *Mitigating Shore Erosion along Sheltered Coasts*. National Academies Press, Washington.
- Neira, C., E. D. Grosholz, L. A. Levin, and R. Blake. 2006. Mechanisms generating modification of benthos following tidal flat invasion by a *Spartina* hybrid. *Ecol. Appl.* 16: 1449–1460.
- Nichols, F. H. 1979. Natural and anthropogenic influences on benthic community structure in San Francisco Bay, p. 409–426. In T. J. Conomos [ed.], *San Francisco Bay: The Urbanized Estuary*. Pacific Division, American Association for the Advancement of Science.
- Nichols, F. H. 1985. Abundance fluctuations among benthic invertebrates in two Pacific estuaries. *Estuaries* 8: 136–144.
- Nichols, F. H., and J. K. Thompson. 1985. Persistence of an introduced mudflat community in south San Francisco Bay, California. *Mar. Ecol. Prog. Ser.* 24: 83–97.
- NOAA Restoration Center. Accessed on-line at <https://habitat.noaa.gov/restorationtechniques/public/>
- Oros, D. R., J. R. M. Ross, R. B. Spies, and T. Mumley. 2007. Polycyclic aromatic hydrocarbon (PAH) contamination in San Francisco Bay: A 10-year retrospective of monitoring in an urbanized estuary. *Environmental Research* 105: 101–118.
- Orth, R. J. and others 2006. A global crisis for seagrass ecosystems. *BioSc* 56: 987–996.
- Orth, R. J., M. Luckenbach, and K. A. Moore. 1994. Seed dispersal in a marine macrophyte—Implications for colonization and restoration. *Ecology* 75: 1927–1939.
- Ostrach, D. J., J. M. Low-Marchelli, K. J. Eder, S. J. Whiteman, and J. G. Zinkl. 2008. Maternal transfer of xenobiotics and effects on larval striped bass in the San Francisco Estuary. *Proc. Natl. Acad. Sci. USA* 105: 19354–19359.
- Phillips, R.C. 1984. The ecology of eelgrass meadows in the Pacific Northwest: a community profile. U.S. Fish Wildl. Serv. FWS/OBS-84/24. 85pp.
- Polis, G. A., W. B. Anderson, and R. D. Holt. 1997. Toward an integration of landscape and food web ecology: The dynamics of spatially subsidized food webs. *Annual Review of Ecology and Systematics* 28: 289–316.
- Robertson, A. I. 1980. The structure and organization of an eelgrass fish fauna. *Oecologia* 47: 76–82.

- San Francisco Estuary Institute (SFEI) 2009. *The Pulse of the Estuary: Monitoring and Managing Water Quality in the San Francisco Estuary*. SFEI Contribution 583. San Francisco Estuary Institute, Oakland, CA.
- Schaeffer, K., K. McGourty, and N. Cosentino-Manning (eds.) 2007. *Report on the subtidal habitats and associated biological taxa in San Francisco Bay*. NOAA Santa Rosa Office.
- Schoellhamer, D. H. 2002. Comparison of the Basin-scale Effect of Dredging Operations and Natural Estuarine Processes on Suspended Sediment Concentration. *Estuaries* 25: 488–495.
- Schoellhamer, D. H., M. A. Lionberger, B. E. Jaffe, N. K. Ganju, S. A. Wright and G. G. Shellenbarger. 2005. Bay sediment budget: Sediment Accounting 101. pp 59–63 in: *Pulse of the Estuary 2005*, San Francisco Estuary Institute, Oakland, CA.
- Schoellhamer, D. H., T. E. Mumley, and J. E. Leatherbarrow. 2007. Suspended sediment and sediment-associated contaminants in San Francisco Bay. *Environmental Research* 105: 119–131.
- Schoellhamer, D. H. 2009. Suspended Sediment in the Bay: Past a Tipping Point. pp 57–65 in San Francisco Estuary Institute (SFEI). 2009. *The Pulse of the Estuary: Monitoring and Managing Water Quality in the San Francisco Estuary*. SFEI Contribution 583. San Francisco Estuary Institute, Oakland, CA.
- Sea Surveyor, Inc. 2000. Marine Geophysical Investigation In Support of the San Francisco Bay Rocks Removal Project. Submitted to San Francisco District, U.S. Army Corps of Engineers.
- Silva, P. C. 1979. The benthic algal flora of central San Francisco Bay, pp. 287–311. In T. J. Conomos [ed.], *San Francisco Bay: The Urbanized Estuary*. Pacific Division, American Association for the Advancement of Science.
- Takekawa, J. Y., S. E. Wainwright De La Cruz, R. L. Hothem, and J. Yee. 2002. Relating Body Condition to Inorganic Contaminant Concentrations of Diving Ducks Wintering in Coastal California. *Arch. Environ. Contam. Toxicol.* 42: 60–70.
- Thom, R. M., G. Williams, A. Borde, J. Southard, S. Sargeant, D. Woodruff, J. C. Laufle, and S. Glasoe. 2005. Adaptively addressing uncertainty in estuarine and near coastal restoration projects. *J. Coast. Res.*: 94–108.
- Thompson, J. K. 2005. One estuary, one invasion, two responses: Phytoplankton and benthic community dynamics determine the effect of an estuarine invasive suspension-feeder, pp. 291–316, Comparative Roles of Suspension-Feeders in Ecosystems. NATO Science Series IV Earth and Environmental Sciences: 47.
- Townsend, C. H. 1893. Report of observations respecting the oyster resources and oyster fishery of the Pacific coast of the United States. U.S. Commission of Fish and Fisheries, Report of the Commissioner for 1889–1891. 343–372 pp.
- USGS. 2008. San Francisco Bay Bathymetry. Data available at <http://sfbay.wr.usgs.gov/sediment/sfbay/downloads.html>

- Valiela, I., J. McClelland, J. Hauxwell, P. J. Behr, D. Hersh, and K. Foreman. 1997. Macroalgal blooms in shallow estuaries: Controls and ecophysiological and ecosystem consequences. *Limnol. Oceanogr.* 42: 1105–1118.
- Vines, C. A., T. Robbins, F. J. Griffin, and G. N. Cherr. 2000. The effects of diffusible creosote-derived compounds on development in Pacific herring (*Clupea pallasii*) *Aquat. Toxicol.* 51: 225–239.
- Walters, R. A., R. T. Cheng, and T. J. Conomos. 1985. Time scales of circulation and mixing processes of San Francisco Bay waters. *Hydrobiologia* 129: 13–36.
- Walters, C. J. 1986. *Adaptive management of renewable resources*. MacMillan.
- Warnock, N., G.W. Page, T.D. Ruhlen, N. Nur, J.Y. Takekawa, and J.T. Hanson. 2002. Management and conservation of San Francisco bay salt ponds: Effects of pond salinity, area, tide, and season on Pacific flyway waterbirds.
- Watters, D. L., H. M. Brown, F. J. Griffin, E. J. Larson, and G. N. Cherr. 2004. Pacific Herring Spawning Grounds in San Francisco Bay: 1973–2000, pp. 3–14. In F. Feyrer, L. R. Brown, R. L. Brown and J. J. Orsi [eds.], *Early Life History of Fishes in the San Francisco Estuary and Watershed*. American Fisheries Society Symposium Vol. 39. American Fisheries Society.
- Waycott, M. and others 2009. Accelerating loss of seagrasses across the globe threatens coastal ecosystems. *Proc. Natl. Acad. Sci. USA* 106: 12377–12381.
- Wright, S. A., and D. H. Schoellhamer. 2004. Trends in the sediment yield of the Sacramento River, California, 1957–2001. *San Francisco Estuary Watershed Sci.* 2: Issue 2 Article 2.
- Wyllie-Echeverria and Rutten, National Marine Fisheries Southwest Region. 1989. Administrative Report SWR-89-05. Inventory of Eelgrass (*Zostera marina*) in San Francisco Bay.
- Zabin, C.J., S. Attoe, C. Coleman-Hulbert, and E.D. Grosholz. 2009. Shellfish Restoration Goals: A Draft Report for the Subtidal Goals Committee.
- Zimmerman, R. C., J. L. Reguzzoni, and R. S. Alberte. 1995. Eelgrass (*Zostera marina*) transplants in San Francisco Bay: Role of light availability on metabolism, growth and survival. *Aquat. Bot.* 51: 67–86.

Personal Communications

CHAPTER 2

Bruce Jaffe (USGS), 2010, to Marilyn Latta

CHAPTER 4

Janet Thompson (USGS), 2009, to Wim Kimmerer

Patrick Barnard (USGS), 2009 and 2010, to Wim Kimmerer

CHAPTER 7

Robert Abbott (Environ), 2009, to Wim Kimmerer

J. Fuller, SFSU, 2010, to Wim Kimmerer

Chela Zabin (UC Davis), 2009, to Wim Kimmerer

Robert Abbott (Environ), 2009, to Wim Kimmerer

Robert Abbott (Environ), Chela Zabin (UC Davis), 2009, to Wim Kimmerer

Betsy Peabody (Puget Sound Restoration Fund), 2007, to Marilyn Latta

Jim Moore (CDFG), 2008, to Marilyn Latta

CHAPTER 8

George Isaac (CDFG), 2010, to Marilyn Latta

Katharyn Boyer (SFSU), 2009, to Wim Kimmerer

John Takekawa (USGS), 2009, to Wim Kimmerer

Keith Merkel (Merkel and Associates), 2009, to Marilyn Latta

George Isaac (CDFG), 2010, to Korie Schaeffer

CHAPTER 9

Ryan Watanabe (CDFG), 2008, to Natalie Cosentino-Manning

Katharyn Boyer (SFSU), 2009 and 2010, to Wim Kimmerer