DR. TIMOTHY PAUL KRANTZ,

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As a Professor at the University of Redlands and Principal Planner for Timothy Krantz Environmental Consulting, Dr. Krantz provides a unique combination of professional experience in Academia and consultation services in the areas of land use planning, permitting and project facilitation, environmental assessment, and international environmental policy exchange. Dr. Krantz's résumé includes 37+ years of experience with a wide range of specializations. He has been in Academia for eighteen years, where he has chaired two departments at the University of Redlands—Environmental Studies and Latin American Studies. Appointed to the San Bernardino County Planning Commission in his mid-20s, he served six years as a Planning Commissioner for the County—representing the largest district in the largest county in the United States by area. As a private consultant, he has prepared more than 150 environmental assessments for various projects world-wide, ranging from large-scale residential and commercial developments, to mining industry applications, energy projects, and regional open space planning projects. Dr. Krantz was awarded a Fulbright Lecturer position to facilitate environmental technology and policy exchange between the U.S., European Union, California and Austria. Based at the Technische Universität Wien, he was a guest lecturer TUW and TU Graz, as well as featured speaker before the Austrian National Chamber of Commerce, the United Nations Economic Commission for Europe and several international environmental conferences.

EDUCATION

Ph.D. Department of Geography, University of California at Berkeley, 1994. M.A., Latin American Studies, Stanford University, 1991. B.A., University of Redlands, California, 1977.

PROFESSIONAL EXPERIENCE

1997-2014

Full Professor and past-Chairman of the Environmental Studies Program, past-Chairman of the Latin American Studies Program, University of Redlands; First Director of the Redlands Institute for Environmental Design, Management, and Policy (previously Center for Environmental Management); Program Director for the Salton Sea Database Program, a \$4.7 million federal grant assistance program. Dr. Krantz served on the Salton Sea Science Subcommittee for seven years, established under the authority of U.S. Secretary of Interior Bruce Babbitt.

2006-Present

Principal Planner, Timothy Krantz Environmental Consulting, providing a wide range of environmental assessment and permitting facilitations. Most recent work includes writing an Environmental Assessment and Initial Study for the Red Hill Bay wetlands restoration project—a 2.4km² saline habitat restoration project at the Salton Sea (Client: Imperial Irrigation District, CA); peer reviewer of the Environmental Impact Assessment documents for the World Logistics Center, a 3,716m² warehousing development proposal (Client: City of Moreno Valley, CA); facilitation of Streambed Alteration Permits for Sergio Morales and James and Sue Enkosky with the California Department of Fish and Wildlife (San Bernardino County).

2009-2010

Distinguished Fulbright Scholar, appointed to represent the Memorandum of Understanding between Austria and California for cooperation in the areas of renewable energy technologies and environmental policy transfer between the U.S. and E.U., California and Austria. Based at the Technische Universität Wien in Vienna, Austria, Dr. Krantz spoke before sessions of the Austrian National Chamber of Commerce, the United Nations, and other international environmental conferences.

2008, 2014

Invited Delegate to the Trans-Atlantic Research and Development Interchange for Sustainability (TARDIS)—a select group of American and European scholars from various disciplines—meeting on either side of the Atlantic to discuss the elements that comprise "sustainable development". Most recently convened at Estes Park, Colorado, the TARDIS group has made substantial progress over the years toward a broader definition of "sustainability", including economic and social systems indices. Dr. Krantz's contributions to the group have been in the areas of renewable energy policies and programs; and building-scale and neighborhood-scale geographic information systems (GIS) as a tool for designing more energy-efficient communities.

- 1995-1997 Senior Associate Scientist, Levine-Fricke, an environmental engineering firm specializing in hazardous waste remediation. Dr. Krantz developed and managed the Ecological Services Division for the nationwide firm, supervising ecological remediation and restoration programs, including the Arrowhead Marsh (Client: Port of Oakland), the Oro Loma Marsh (Client: East Bay Regional Parks District), and the Pier 98 Wetlands Restoration Project (Client: Port of San Francisco).
- 1979-1995 Environmental consultant, sole proprietor of Bio-Tech, an environmental analysis and planning consultant firm in California specializing in endangered species conflict resolution, mitigation and recovery programs.
- 1983-1988 Member and Vice-Chairman of the San Bernardino County Planning Commission, representing the First Supervisorial District (largest district in the largest county in the nation).
- 1977-Present Dr. Krantz's first area of academic expertise was as a botanist and ornithologist. He is a recognized authority on the flora of Southern California, and published the flora of the San Bernardino Mountains as his dissertation in 1994, based on over 15,000 collection records for the mountain range, including over 1,600 species and subspecies of vascular plants. This represents 1/4th of the flora of California in just 0.007ths of its area; and California hosting the most diverse flora in the continental U.S. and one of the most endemic floras in the world.

Areas of Expertise

- National Environmental Policy Act/California Environmental Quality
 Act Compliance—Dr. Krantz has prepared more than 150 NEPA/CEQA
 documents; teaches Environmental Impact Assessment classes at the
 University of Redlands; and has consulted on hundreds of applications for
 a very wide range of projects.
- <u>Clean Water Act (CWA) Compliance</u>
 –Dr. Krantz has performed and supervised numerous formal wetlands delineations and jurisdictional determinations for projects dealing with Section 400 CWA permit applications; has served as an expert witness in Federal Court on Section 400 issues.
- Endangered Species Act (ESA) Compliance—Dr. Krantz is a recognized authority on endangered plant and animal species, with particular regional expertise in the Southwestern United States and Hawaii; and has consulted on numerous Section 7 and Section 10 consultations under the Federal ESA.
- <u>Public Hearing Representation</u>–Dr. Krantz has testified before dozens of local agency, state, and congressional hearings, representing a wide array of interests ranging from development and environmental advocacy groups, private constituents, and other interested parties.
- Local Agency Representation—Dr. Krantz has worked closely with the City Councils of Redlands, Yucaipa, Calimesa, Colton, San Bernardino, Big Bear Lake, the counties of Riverside and San Bernardino, Coachella Valley Association of Governments, and other local boards and planning commissions for more than twenty-five years; and has developed a reputation for being a pragmatist who can work with both developers and environmental organizations to achieve reasonable compromises and better-designed projects as a result of his mediations.

International Experience–Dr. Krantz has worked extensively abroad on projects in Central and South America, French Polynesia, Indonesia, Southeast Asia and Europe; he was invited to Austria as one of ten U.S. delegates of the George C. Marshall Visit to Austria Program, promoting environmental technology exchange between the United States and Austria (October 2007); was an Honored Guest at the International Energy Globe Awards ceremonies in Brussels, Belgium (May 2008); and was one of four U.S. delegates to the Trans-Atlantic Research and Development Interchange on Sustainability (TARDIS) in Leibnitz, Austria (October 2008) and again in Estes Park, Colorado (June 2014). His most recent work in French Polynesia involves building a geographic information database (GIS) for the Tetiaroa Atoll—owned by the Marlon Brando Estate involving development of a LEED-Platinum-certified resort that aspires to be entirely energy self-sufficient, using an innovative deep sea-water air conditioning and cold water system (SWAC), solar thermal and photovoltaic arrays for hot water and electricity, a phytoremediation wastewater treatment system, small tidal hydroelectric generators and biodiesel gasification system from coconut biomass (planned).

<u>Publications and Presentations</u>

Timothy Krantz Environmental Consulting (TKEC). 2014. *Draft Environmental Assessmen, Initial Study and Negative Declaration: Red Hill Bay Wetlands Restoration Project, Salton Sea, California,* prepared for the Imperial Irrigation District, Imperial, California. 19 June 2014.

TKEC. 2014. Revised Streambed Alteration Permit and Biological Resources Assessment for James and Sue Enkosky, prepared for the California Department of Fish and Wildlife. 20 April 2014.

TKEC. 2013. *Revised Streambed Alteration Permit for Mr. Sergio Morales*, prepared for the California Department of Fish and Wildlife, 12 October 2013.

Krantz, Timothy. 2011. *My Round: micro-brewing's tastiest secrets.* In <u>E&T, Engineering and Technology Magazine</u>, 6(8):15 August 2011. http://eandt.theiet.org/magazine/2011/08/my-round-micro-brewing.cfm

Krantz, Timothy. 2011. *Marlon Brando's six-star eco-paradise*. In <u>E&T</u>, <u>Engineering and Technology Magazine</u>, 6(7):11 July 2011. http://eandt.theiet.org/magazine/2011/07/brandos-eco-island.cfm

Krantz, Timothy. 2011. *Seismology and how it works*. In <u>E&T</u>, <u>Engineering and Technology Magazine</u>, 6(4):18 April 2011. http://eandt.theiet.org/magazine/2011/04/basics-of-seismology.cfm

Krantz, Timothy. 2010. *Piping cold: solar thermal cooling and the world's first solar thermal winery*. In <u>E&T</u>, <u>Engineering and Technology Magazine</u>, 5(7):2 July 2010. http://eandt.theiet.org/magazine/2010/10/piping-cold.cfm Krantz, Timothy. 2010. *Waste-processing technologies transform the town of Güssing*. In <u>E&T</u>, <u>Engineering and Technology Magazine</u>, 5(12): 2 August 2010. http://eandt.theiet.org/magazine/2010/12/waste-processing.cfm

Krantz, Timothy (Lead Author); Brian Black (Topic Editor). 2006. *Salton Sea, California*. In: Encyclopedia of Earth. Eds. Cutler J. Cleveland (Washington, D.C.: Environmental Information Coalition, National Council for Science and the Environment). [Published in the Encyclopedia of Earth September 21, 2006; Retrieved July 21, 2008]. http://www.eoearth.org/article/Salton Sea, California>

Cloern, James (Lead Author); Timothy Krantz (Contributing Author); J. Emmett Duffy (Topic Editor). 2007. "Eutrophication." In <u>Encyclopedia of Earth</u>. Eds. Cutler J. Cleveland (Washington, D.C.: Environmental Information Coalition, National Council for Science and the Environment). [Retrieved July 21, 2008]. http://www.eoearth.org/article/Eutrophication>

Krantz, Timothy (Lead Author); Brian Black (Topic Editor). 2007. *Lake Cahuilla, United States*. In: Encyclopedia of Earth. Eds. Cutler J. Cleveland (Washington, D.C.: Environmental Information Coalition, National Council for Science and the Environment). [First published in the Encyclopedia of Earth October 17, 2006; Last revised March 25, 2007; Retrieved July 21, 2008]. http://www.eoearth.org/article/Lake_Cahuilla, United_States>

Krantz, Timothy. 2005. *Salton Sea International Avian Airport: bird band data and their indications of importance of the Salton Sea for migratory birds.* In Proceedings of the Salton Sea Centennial Symposium, A Salton Sea for the 21st Century: Science, Rehabilitation, Management, March 30-April 1, 2005, San Diego, California.

Krantz, Timothy. 2003. *Salton Sea*. In <u>Encyclopedia of Water Science</u>, Bobby Alton Stewart and Terry A. Howell, eds. Marcel Dekker, Inc. 1040pp.

Krantz, Timothy. 2003. *Salton Sea: California's Everglades*. A booklet brief prepared for Congressional and other elected officials, published by the Salton Sea Authority. 23pp.

Joseph E. Buckles, K. Kashiwase, and T. Krantz. 2002. *Reconstruction of prehistoric Lake Cahuilla shoreline using GIS and GPS*. In <u>Hydrobiologia</u> 473:1-3.

Krantz, Timothy, Ed. 2002. Salton Sea Atlas. ESRI Press. 127pp.

Sculley, Bob, et al. incl. Dr. Krantz. 2002. The potential for fugitive dust problems at the Salton Sea if water levels are lowered significantly from current conditions. White paper summary of the Salton Sea Science Office Air Quality Workshop, April 3-4, 2002, La Quinta, California.

Presentations

Imperial Valley Environmental Health Leadership Summit, November 2, 2013, Imperial, California; hosted by the Promotores Comunitarios del Desierto.

"Salton Sea: Opportunities for Science Pedagogy," presented to the *California Science Teachers Association*, October 25, 2013, Renaissance Esmeralda Resort, Palm Desert, California.

Interviewed guest, Progressive Talk Radio, KPTR 1450 AM, with Elle Kurpiewski. August 1 and 8, 2013.

Interviewed guest. BBC documentary on the Salton Sea. April 3, 2012.

"Salton Sea Video," presented to the Salton Sea Authority, January 26, 2012, El Centro, California.

"Salton Sea Integrated Water Management Plan," presented to the *Desert Valley Builders Association*, February 2, 2012, Palm Springs, California.

"Salton Sea Integrated Water Management Plan," presented to the *Salton Sea Authority*, December 8, 2011, Mecca, California.

"Renewed Visions for a Restored Salton Sea," presented to the *Coachella Valley Renewable Energy Round Table*, November 18, 2010, Palm Desert, California.

Krantz, Timothy. 2005. Featured in the four-time Emmy award-winning documentary film, *Voices of the Monument*, directed by Bernard Nathanson.