*Qualifications Summary*

- 15 years of experience studying rocky subtidal, estuarine, and pelagic habitats throughout southern California, Hawaii, and French Polynesia.
- Biological and oceanographic experience has focused on the ecology and physical dynamics of pelagic systems, ecology of demersal marine fishes, invertebrate life histories and parasite ecology.
- These areas have been explored using satellite oceanography, interpolation of *in situ* data, community ecology analyses, and biological modeling.
- Experienced in all aspects of project management, experimental design, data collection, reduction, and analysis.
- Member of the American Academy of Underwater Sciences; Western Society of Naturalists, Southern California Academy of Sciences, American Society of Limnology and Oceanography, and the Southern California Association of Marine Invertebrate Taxonomists.
- Holds Diving Rescue and Divemaster certifications, is an active AAUS scientific diver, and has been a certified scuba diver since 1986. Has thousands of logged dives in central and southern California, Hawaii, Florida and French Polynesia.

# A. KIMO MORRIS

## Fields of Competence

Marine Biology; Biological oceanography using acoustics, *in-situ* samplers, and satellite techniques; Larval invertebrate transport; Biological sampling at sea; Nearshore fish ecology; Eelgrass and giant kelp restoration; Estuarine ecology; Sediment toxicity studies; Biology, ecology and evolution of parasitic organisms.

## Education

Ph.D., Biology, University of California, Los Angeles (2006)
M.Sc., Entomology, Oregon State University (1997)
B.A., Zoology, University of California, Santa Barbara (1994)

## Employment History

| | |
|---|---|
| 2008-Present | Ecomarine Consulting LLC |
| 2008-Present | Adjunct Professor, Mount San Antonio College |
| 2008-Present | Adjunct Professor, Fullerton College |
| 2007-2008 | Los Angeles County Sanitation Districts |
| 2006-2007 | Weston Solutions |
| 2000-2006 | University of California, Los Angeles |
| 1997-2006 | MBC Applied Environmental Sciences |
| 1995-1997 | Oregon State University |
| 1994-1995 | Bubbles Below Scuba Charters, Inc. |
| 1993-1995 | University of California, Santa Barbara |

## Key Projects

**Ecomarine Consulting LLC**
May 2008 – Present

**Water Resources Action Plan (WRAP), Port of Los Angeles** – Subconsultant to Weston Solutions, Inc., tasked to scrutinize the scientific literature for information pertaining to bioturbation as a contributor to sediment contaminant flux. This information will be summarized and included in a larger document to be provided to the Port of Los Angeles.

**Regional Harbor Monitoring Program (RHMP), Port of San Diego** – Subconsultant to Weston Solutions, Inc., tasked to serve as a senior biologist for trawl data collections throughout Dana

Point Harbor, Oceanside Harbor, Mission Bay, and San Diego Bay.

**Bight '08 Regional Monitoring, Southern California Coastal Water Research Project –** Subconsultant to Weston Solutions, Inc., tasked to serve as a senior biologist for trawl and benthic grab data collections throughout Orange and San Diego Counties.

**Marina Del Rey Harbor Riprap Surveys, Los Angeles County Department of Beaches and Harbors –** Subconsultant to Coastal Resources Management, Inc., tasked to provide scientific diving support in surveying riprap redevelopment operations. Data analysis and reduction was also provided for this project.

**Tijuana River Estuary Offshore Sediment Collections, Moffatt & Nichols –** Subconsultant to Coastal Resources Management, Inc., tasked to provide scientific diving support for a sediment study off of the Tijuana River Estuary.

**Weston Solutions**
October 2006 – Present

> **U.S. Army Corps of Engineers, New Orleans District –** Scientist and field coordinator for a pre-dredge evaluation of the Inner Harbor Navigation Canal Lock widening project. Duties included vibracore sediment collections, sample processing and preparation of sediment chemistry samples, and the management and synchronization of the daily delivery of hundreds of sediment samples to chemistry and bioassay labs in different states.

**Regional Harbor Monitoring Program –** Project manager and chief scientist for a project that aims to develop a statistical monitoring tool for environmental health within the Port of San Diego, Mission Bay, Oceanside Harbor, and Dana Point Harbor. The tool required extensive analysis of historical sediment and water chemistry data to develop a proxy against which current data can be evaluated. After the completion of the evaluation period, the tool will be used to monitor changes in environmental health within southern California ports and harbors.

**Dredge Disposal and Contamination Study in Port Hueneme –** Project manager and chief scientist for a pre-dredge evaluation of depth-specific contamination loads within Port Hueneme for the US Naval Base, Ventura County (NBVC).

**Newport Coast and Laguna Beach Areas of Special Biological Significance (ASBS) –** Marine Scientist for a project that assessed the impacts of dry and wet weather flow on intertidal species, and the propagation of runoff into the nearshore coastal zone within the ASBS. This study involved the implementation of federal intertidal sampling protocols, offshore mussel bioaccumulation, and runoff tracking using an offshore moored conductivity-temperature-depth (CTD) array and acoustic Doppler current profilers (ADCP). Data collection will eventually be used to develop a risk index that will help the Cities develop and prioritize plans for effectively reducing runoff impacts to their ASBS.

**Sediment Characterization on Contaminant Flux Study, Ports of Los Angeles and Long Beach –** Marine Scientist assisting both Ports in addressing new requirements for Total Maximum Daily Load (TMDL) for analytes of environmental concern. Duties included the

collection, analysis and interpretation of water quality data. The data were presented in light of sediment chemistry, toxicity and pore water results.

**University of California, Los Angeles**
Spring 2000 – March 2006

**Graduate Studies** – Pursued research related to plankton aggregations at coastal fronts while a graduate student in the Department of Ecology and Evolutional Biology. This research required extensive field collections in Monterey Bay and Santa Monica Bay, California, of plankton tows, water chemistry, water velocity, tracking of nearshore water masses, and satellite data to characterize patterns of plankton aggregations. Southern California work focused on the influence of nearshore currents to plankton behavior near Dockweiler State Beach and Marina del Rey Harbor.

**MBC Applied Environmental Sciences**
August 1997 – October 2006

**Coastal Generating Station NPDES Monitoring Studies** – Project Scientist for annual NPDES water quality monitoring studies at 11 coastal generating stations from Ventura County to Orange County. Clients include the Los Angeles Department of Water and Power, Southern California Edison Company, AES Corporation, Houston Industries, NRG Energy, Inc., and Sempra Energy. These studies, ongoing since 1977, include water quality measurements, sediment sample collection and analysis, intertidal and subtidal surveys, fish and macroinvertebrate trawls, fish transects, and benthic infauna and macrobiota studies. All results are presented and interpreted in annual monitoring reports to the regulatory agencies.

**Giant Kelp Restoration and Monitoring** – Project Scientist on numerous monitoring efforts related to giant kelp (*Macrocystis pyrifera*), including density estimates from infrared aerial photography, *in situ* measurements, and kelp transplant mitigation activities. Project manager for the Central Region Kelp Survey Consortium – a 7-member body consisting of LACSD, NRG, LADWP, Reliant Energy, City of Oxnard, LA City Bureau of Sanitation and OCSD.

**Chevron Marine Oil Terminal EIR** – Project Scientist and manager for the California State Lands Commission 30-year lease renewal of the Chevron El Segundo Marine Oil Terminal in Santa Monica Bay. Responsible for preparation of water quality and marine biological sections of the EIR.

**316(b) Ichthyoplankton and Adult Fish Entrainment Studies** – Project Scientist involved in field collections at sea and in-plant of larval and adult fish and target invertebrate taxa. These studies are being carried out for LADWP, AES and NRG power generating companies in an effort to estimate losses due to once-through cooling water intake systems.

**Golden Shore Marine Reserve Monitoring Program** – Project Scientist for a five-year program to monitor progress of the newly created Golden Shore Marine Reserve mitigation park in Long Beach Harbor for the City of Long Beach. The Reserve is mitigation for impacts caused by construction of the Queensway Development Project. The program includes monitoring of

water quality, currents, fish and intertidal/subtidal invertebrate communities, use by resident and migratory birds, and establishment of planted salt marsh vegetation.

**Queensway Bay Dredge Monitoring Program** – Project Scientist for a dredge monitoring program in Long Beach Harbor for the City of Long Beach. The program required extensive water quality monitoring in the vicinity of Pier Point Landing, Long Beach.

**Upper Newport Bay Dredge Monitoring** – Project Scientist responsible for management of water quality turbidity testing and data analysis studies for dredging operations in Upper Newport Bay. Dredging is conducted to remove sediment buildup within the Bay. Dredged material was taken to the LA-3 disposal site in Newport Canyon. Monitoring required water sampling and dive surveys of the entire Upper Newport Bay for the presence of eelgrass and *Caulerpa*.

**Communications Cable Landfalls Biological Assessment** – Project Scientist responsible for a marine and terrestrial biological reconnaissance of 20 potential cable landfall sites from Nadonna Beach, Oregon to Del Mar, California. Assisted in the preparation of a CEQA document including a review of existing biological conditions along proposed alignment routes, evaluation of potential impacts to biological resources, and suggested mitigation measures where there could be significant impacts.