



COASTAL RESOURCES MANAGEMENT, INC. COMPANY PROFILE

WHAT WE DO

Coastal Resources Management, Inc. (CRM), located in Corona del Mar, California provides public and private sector clients with marine biological and wetland environmental consulting and research services. The types of consulting services that CRM provides include:

- *California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) document preparation and consultation;*
- *California Coastal Commission Coastal Development Permit and ACOE Section 10/404 Permit acquisition assistance;*
- *Habitat restoration and mitigation program design, implementation, and monitoring;*
- *Sensitive habitat surveys and habitat mapping for rocky intertidal habitats, seagrass beds, benthic soft bottom and hard bottom habitats, coral reefs, salt marshes, kelp beds and aquatic habitat;*
- *NMFS/CDF&G-certified dive surveys for invasive algae, *Caulerpa taxifolia* ;*
- *Intertidal, neritic, and subtidal biological field studies, impact assessments, and monitoring programs;*
- *Water and sediment quality sampling, data analysis, and impact analysis;*
- *Endangered species studies, Section 7 consultations and biological assessments;*
- *Oil spill contingency planning and damage assessment;*
- *Under-and-above water video documentation;*
- *Under-and-above water 35 mm photography;*
- *Remote Operated Vehicle (ROV) biological surveys*

Mr. Rick Ware, senior marine biologist and principal of CRM, Inc. has accumulated 33 years of experience in the marine resources consulting field and has participated in environmental studies along the West Coast of United States, Alaska, Hawaii, Palau, Fiji, and the British Virgin Islands. In 1992, he formed the small-business consulting firm of Coastal Resources Management, Inc. Mr. Ware has performed and managed environmental projects related to: marina and harbor development; shoreline protection structures and beach nourishment projects; onshore and offshore power energy facility construction, operation, and abandonment (generating stations, oil platforms, pipelines, cable laying/repair, processing plants; liquefied natural gas (LNG) facilities; dredging; protection of Marine Protected Areas (MPAs); wetland and marine habitat restoration; hotel resorts; and public recreation facilities. A certified SCUBA diver (NAUI, 1970), he has accumulated over 1,900 dives investigating underwater communities at depths to 150 feet.

CLIENT BASE

CRM conducts numerous types of field studies, including habitat mapping, biological sampling and analysis for wetlands, bays, harbors, and open coastal environments; water quality sampling and analysis; CEQA and NEPA environmental impact reports/environmental impact statements and assessments; mitigation planning and monitoring studies for wetlands, bays, harbors, and open coastal habitats; and technical report

preparation. Our client base includes cities (Dana Point, San Clemente, Laguna Beach, Newport Beach, Huntington Beach, Seal Beach, Long Beach, Rancho Palos Verdes, Morro Bay, Cambria), counties (Orange, Long Beach, Los Angeles, Santa Barbara), state agencies (California Dept of Fish and Game, Cal Trans District 7), federal agencies (U.S. Navy and NOAA), public utilities and water agencies (L.A. Department of Water and Power, Cambria Community Services District, Capistrano Beach Water District, Southern California Edison, Encina Generating Station), oil companies (Union, Exxon, Chevron), ports and harbors (San Diego Unified Port District, Morro Bay Harbor), coastal engineering firms (Cash & Associates Engineers, Ashba Engineering, RBF Engineering, Dames & Moore, Coastal Frontiers, Inc., Padre Associates, Bluewater Design Group, Noble Consultants, Inc., Moffatt & Nichol), environmental firms (EDAW, Inc., BonTerra Consulting, Michael Brandman Associates, EIP Associates, L. A. de Wit, Consultant, Chambers Group, Inc., Ultrasystems International, Larry Munsey Associates), and development companies (Athens Group, Montage Resorts International). We have conducted international work in Palau for Larry Munsey Associates, and participated in marine research in the British Virgin Islands on an NSF Grant in association with the LA County Museum of Natural History, and in Yaqara, Fiji through Loma Linda University.

FACILITIES

Coastal Resources Management's office is located in Corona del Mar, California. For field studies and out-of-office work, CRM uses IBM compatible laptop computers equipped with modem and wireless capabilities, and portable printers that can be used in the field for direct data entry and to obtain real time hydrological/water quality data. Specialized analyses, such as two-way classification analysis (cluster analysis), and parametric and/or non-parametric statistical analysis are employed when it is appropriate to determine trends in plant and animal distribution and abundance, and to determine the significance of environmental changes. CRM is well versed in GIS applications and other types of geographical and engineering-based software programs.

FIELD EQUIPMENT

CRM operates a 14 ft inflatable vessel and a 22 ft vessel capable of working in embayments and nearshore marine environments for sampling and field analysis. We lease larger vessels for offshore and long-term studies. CRM owns its own SCUBA diving equipment, SCUBA tanks, Diver Propulsion Vehicles, Ocean Technology Systems (OTS) surface-to-diver and diver-to-diver underwater communication systems, and retains an array of benthic sampling devices, field transect tapes and quadrats, water quality instruments (a YSI Multiprobe Water Quality Meter, Apogee Quantum Sensor (PAR) meters, HOBO underwater light/temperature data loggers, secchi disks, soil salinity meters, a pH/Eh meter, refractometers, fish sampling nets, and other field equipment required to conduct marine habitat, plant, and animal surveys. We use side-scan sonar to map bottom profiles and to conduct large-scale habitat mapping projects. CRM utilizes Thales and Magellan Mobile Mapper Pro and Mobile Mapper CX Differential Global Position System instruments (DGPS) for locating sampling sites and grids, mapping wetland, kelp bed, and seagrass bed resources. Additional field equipment may be necessary for specialized studies and will be obtained on a rental and/or lease agreement. CRM field and office software is compatible with GIS format programs and can be directly integrated into GIS.

DIVE TEAM TRAINING AND SUPPORT

CRM dive team members are sanctioned for U.S. Army Corps of Engineers dive programs and have current dive certifications and safety training. CRM dives under the training manual regulations of the U.S. Army Corps of Engineers and American Academy of Underwater Sciences Dive Manuals.

PHOTOGRAPHIC AND VIDEO DOCUMENTATION

CRM owns and utilizes a wide array of land and underwater digital and standard 35 mm format cameras and video/dv systems to document the results of shoreline and subtidal field surveys for subsequent analytical purposes or project presentations. CRM owns two Ocean Systems, Inc. "Deep Blue" remote underwater video camera systems to document subtidal conditions in conditions too deep or unsuitable for SCUBA, for ground-truthing sidescan sonar mapping surveys, and to map underwater features and conduct large-scale field operations where diving is impractical due to the scale of the project. Photographs and video can be directly integrated into the text of reports to assist the reader, for example, in interpreting data collection methods, or in clarifying the locations of sampling stations, or types of equipment used in field programs. Underwater video surveys are edited and a running commentary is added to the video copy. Both VHS-C and Digital Video (DV) can be provided to the client. We also are experienced in conducting ROV submersible video surveys for clients.

For more information, please contact:

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