Cordell Expeditions

Cordell Expeditions (CE) is a nonprofit scientific educational association, formed in 1977 by Dr. Robert W. Schmieder. Its main activities are to carry out expeditions to remote oceanic sites to acquire scientific information that can contribute to rational management and protection of such sites. In addition the group owns and operates a research vessel, the Cordell Explorers, and maintains an ongoing schedule of educational cruises for students and other groups interested in oceanography and marine biology.



Under the leadership of Dr. Schmieder, Cordell Expeditions organized and carried out the following expeditions:

Cordell Bank (California) 1977-1986 Marine research.

First underwater exploration and description of Cordell bank, California. Over a 10-year period many diving expeditions were made, resulting in the first species list, new information about the topography and geology of the Bank, and the nomination to the U. S. National Oceanic and Atmospheric Administration for designation of the Cordell Bank National Marine Sanctuary (done in 1989 by Act of Congress). Extensive collaboration with major institutions including U. S. National Museum of Natural History, Los Angeles Museum of Natural History, etc. More than 200 contributors to the project. All the archival specimens, photographs, logs and other data were accessioned by the California Academy of Sciences. Numerous new species, range extensions, first observations. Monograph: *Ecology of an Underwater Island*.

Pt. Sur (California) 1987-1989 Marine research.

First underwater exploration and description of the bank offshore from Pt. Reyes, eventually resulting in the designation of Schmieder Bank and the inclusion of the area within the Monterey Bay National Marine Sanctuary.

Farallon Islands (California) 1989 Marine research.

First underwater exploration of the North Farallon Islands, resulting in major collections of algae and the discovery of a subsurface tunnel completely penetrating one of the islands. First collections of algae from the Southeast Farallon Island. First diving exploration of Middle Farallon.

Rocas Alijos (Baja California) 1990, 1993 Marine research.

Two expeditions involving 40 persons to the large oceanic volcano lying 200 miles offshore from Baja California. First comprehensive underwater exploration, first ascent of the emerged rocks, first radio contacts from the site, first measurements of currents, water temperatures, etc. Monograph: *Rocas Alijos: Scientific Results of the Cordell Expeditions*, Kluwer Academic Publishers.

Guadalupe Island (Baja California) 1990 Radio operations and marine research.

Excursion on return from the Rocas Alijos expedition. First radio contacts from the island and collection of marine invertebrates for the California Academy of Sciences.

Roqueta Island (Mexico) 1992 Radio operations.

First radio contacts from the island.

Castle Rock (California) 1992 Radio operations.

First radio contacts from the island.

Ventura Rocks (California) 1993 Radio operations.

First radio operation from the rocks.

Farallon Islands (California) 1993 Terrestrial invertebrates and radio operations.

Investigation of avian mortality due to a dermestid-vectored botulism outbreak and the first radio operation from the island.

Peter I Island (Antarctic) 1994 Radio operations and environmental studies

Radio operations from the #1 most-wanted remote site in the World and collections of samples of rocks and lichens for U. C. Berkeley. Book: *3Y0PI: Peter I Island Antarctica*.

Easter Island/Salas y Gómez (Chile) 1995 Marine research and radio operations.

Exploration of the last remaining unexplored subtidal areas of Easter Island, collection of marine specimens, extensive radio communications technology innovations (including first expedition website, online log uploads, etc.). Book: *DX-AKU: Messages from the Easter Island Expeditions*.

Heard Island (Antarctic) 1997 Radio operations.

Radio operations from the #1 most-wanted remote site in the World. Extensive descriptions of the area around Atlas Cove. Book: $VK\emptyset IR$: Heard Island.

San Felix Island (Chile) 2002 Radio operations and environmental sampling.

First amateur radio communications from the island. Collection of marine invertebrates for the L. A. Museum of Natural History. Re-discovery of the large plant *Thamnoseris* (formerly thought to be extinct) and subsequent molecular analysis of nuclear ribosomal DXA sequences, resolving its disputed phylogenetic classification. Book *XROX: San Felix Island, Chile.*

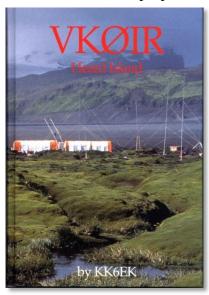
Kure Atoll (Hawaii) 2005 Radio operations and environmental science.

Amateur radio operations, development and first use of DXA, the satellite-linked online log server that enables near real-time updates from the expedition site (cf., www.cordell.org/DXA. Investigation of means for controlling the invasive pest ant *Pheidole megacephala*.

Clipperton Island (Pacific) 2013 Radio operations and environmental science.

Amateur radio operations, including DXA version 2, real-time video, and other advanced communications modes. Search for *Pheidole*, collection of algal specimens for U. C. Berkeley.

In the context of this proposal, it should be noted that Cordell Expeditions carried out the



expedition to Heard Island in 1997, principally for the purposes of amateur radio operation (Schmieder, 1997). The author of this document was the principal logistical organizer of that expedition. That expedition is described in the Participant's Handbook (copy in the library of the AAD), the book listed above, and on the website www.cordell.org/HI

Cordell Expeditions maintains collaborative relations with many organizations and institutions, including: University of California, Berkeley; Los Angeles Museum of Natural History; U. S. National Museum of Natural History, Washington, D.C.; California Academy of Sciences; City of Berkeley; Mt. Diablo College; St. Mary's College; Texas A&M University; Humboldt State University; Ocean Futures (J-M Cousteau); San Diego Museum of Natural History; and many others.

Cordell Expeditions has received numerous awards. Over 30 years the group has produced more than 1000 new species, new depth and

range extensions, and first observations on site, numerous journal publications and seven books. A full bibliography is available on the website.

The website for Cordell Expeditions <u>www.cordell.org</u>, which provides more detailed information about the organization and its projects.

Cordell Expeditions can be reached at info@cordell.org or Schmieder@cordell.org.