

## Southwest Fisheries Science Center La Jolla Laboratory

National Marine Fisheries Service  
Southwest Fisheries Science Center  
La Jolla Laboratory  
P.O. Box 271  
La Jolla, CA 92038

### Laboratory Objectives

The mission of the La Jolla Laboratory is to develop feasible options for managing Pacific coastal fisheries, world and national tuna fisheries, and marine mammal populations—options that are based on the best scientific and statistical information available. The Laboratory also estimates the biological, environmental, economic, and social impacts of these options, and provides advice for international commissions.

The La Jolla Laboratory occupies a cliff top overlooking the Pacific Ocean,

next to Scripps Institution of Oceanography (SIO) on the campus of the University of California, San Diego, in La Jolla, California. Headquarters for the Southwest Fisheries Science Center, the La Jolla Laboratory employs 65 research scientists and a supporting staff of up to 75 in the conduct of multidisciplinary research programs.

Most of its research is organized under four major groups: Antarctic Ecosystem Research Group, Coastal Fisheries Resources Division, Fishery-Marine Mammal Interactions Division, and Pelagic Fisheries Resources Division.

### Personnel

Izadore Barrett, Director  
Richard A. Neal, Deputy Director

David J. Mackett, Program and Planning Officer  
Benjamin F. Remington, Executive Officer  
Rennie S. Holt, Chief, Antarctic Ecosystem Research Group  
Roger P. Hewitt, Leader, Antarctic Krill Stock Assessment Program  
John R. Hunter, Chief, Coastal Fisheries Resources Division  
John R. Hunter, Leader, Coastal Eastern Pacific Population Biology of Fishes  
R. Michael Laurs, Leader, Coastal Eastern Pacific Fisheries Environmental Investigations  
H. Geoffrey Moser, Leader, Ecology and Systematics of Fishes (CalCOFI)  
Richard L. Charter, Leader, Coastal and Pacific Fisheries Resources Investigations  
Paul E. Smith, Leader, Survey Systems Development and Evaluation  
Larry Jacobson, Leader, Commercial and Recreational Fisheries Research for Management  
Douglas P. DeMaster, Chief, Fishery-Marine Mammal Interactions Division  
Jay P. Barlow, Leader, Coastal Marine Mammal Program  
Stephen B. Reilly, Leader, Fishery Dependent Assessment Program  
Andrew E. Dizon, Leader, Photogrammetry Program  
Gary T. Sakagawa, Chief, Pelagic Fisheries Resources Division  
Atilio L. Coan, Leader, Multispecies Data Collection and Evaluation Program  
Norman W. Bartoo, Leader, Stock Assessment and Fishery Impact Analysis Program  
Pierre Kleiber, Leader, Pelagic Ecosystem Model Development Program.  
William F. Perrin, Senior Scientist  
Dorothy D. Roll, Information Technology Services

### Areas of Expertise

The staff of the Coastal Fisheries Resources Division assesses the biomass



of Pacific groundfishes and other valuable fish stocks, and evaluates biological and environmental factors that affect their abundance, distribution, survival, and recruitment. The Division also studies factors that affect the economics of the fisheries supported by these fishes. The work is done primarily in support of the Pacific Fisheries Management Council so that these resources can be managed effectively. The information is based on fishery-independent data on fish stocks collected by the staff on trawl and ichthyoplankton survey cruises, and fishery-dependent data gathered from other sources.

The Fishery-Marine Mammal Interactions Division is responsible for monitoring the status of dolphin populations in the eastern tropical Pacific (ETP) and the coastal marine mammals of California. Provisions of the Marine Mammal Protection Act of 1972 and later amendments guide the activities of the Division. These activities include monitoring the abundance of ETP dolphin and coastal marine mammal stocks, and assessing the impact of fishing operations on these populations. The Division's staff also develops and tests mathematical models to determine how factors such as growth, reproduction, stock interaction, and geographic distribution influence changes in population levels and our estimates of these levels. This work is also augmented by basic research on marine mammals carried out by Senior Scientist Dr. William Perrin.

The Pelagic Fisheries Resources Division provides basic fishery analysis and management information on tunas, billfishes, and other large pelagic fishes. The work supports the U.S. commitment to international management of tuna fisheries, and regional management of fisheries for billfish and other pelagic species. The staff provides technical advice to the U.S. Commissioners on the Inter-American Tropical Tuna Commission and to other U.S. officials, assesses stock condition and abundance, determines the effects of fishing on stock condition and the impacts of management decisions on the fisheries and resources, provides information on distribution and migration of sport-caught billfishes, moni-

tors developments in tuna fisheries worldwide, and develops analytical techniques to improve the precision of fisheries assessments.

The U.S. Antarctic Marine Living Resources (AMLRL) Program was transferred to the Southwest Fisheries Science Center in Fiscal Year 1988. It is a congressionally mandated program assigned to the National Marine Fisheries Service under the Secretary of Commerce in 1984. The program provides a basis for U.S. policy on the management and conservation of Antarctic living resources, and is in direct support of U.S. participation in the international effort to protect the Antarctic and its marine life under the Commission and Scientific Committee of the Convention for the Conservation of Antarctic Marine Living Resources (CCAMLR). Research cruises organized by the program staff at La Jolla are directed at gathering biological information on fish, krill, seal, penguin, and pelagic seabird populations off the northernmost tip of the Antarctic Peninsula and South Georgia, and obtaining vital physical information on Antarctic marine environment.

### Laboratory Features

The Laboratory's buildings are clustered around a central courtyard and a shady grove of melaleuca trees. In addition to offices and laboratories there is an experimental seawater aquarium (9,300 square feet) with water tables and environment rooms. Computer work stations linked through a Local Area Network (LAN) and microcomputers enhanced with expanded memory boards, co-processors, and accelerators enable the scientists to cost-effectively and efficiently carry out their research mission. The library contains over 17,000 books, microfiche, and bound volumes on marine biology, fisheries, and oceanography and is enhanced and supplemented by the extensive libraries at the nearby University of California, San Diego and Scripps Institution of Oceanography.

The 171-foot research vessel, *David Starr Jordan*, has been assigned by NOAA's National Ocean Survey to the La Jolla Laboratory. Each year the *Jordan* logs about 30,000 miles conducting surveys of the fish and marine mam-

mal resources and the oceanography of the eastern Pacific from Oregon to South of the equator. Other ships, such as the NOAA vessels *Surveyor* and *MacArthur*, are used by the Center to conduct surveys in the Pacific Ocean and Antarctic seas.

### Laboratory History

The buildings of the La Jolla Laboratory were dedicated in 1964 and originally housed two federal fisheries laboratories—the Tuna Resources Laboratory and the California Current Resources Laboratory. The land associated with the newly built Fishery-Oceanography Center, as it was first known, was deeded to the federal government by the Regents of the University of California. The Tuna Resources Laboratory conducted oceanographic and biological research on the tunas of the eastern Pacific Ocean. The California Current Resources Laboratory initially examined sources of decline in the California sardine resource, then later broadened this focus to examine factors affecting abundance, distribution, and availability of various oceanic fish in the Current. This work was largely within the framework of the California Cooperative Oceanic Fisheries Investigations (CalCOFI), an interagency consortium formed in 1947 to conduct this type of research on a cooperative state-federal basis.

In 1967, these laboratories were merged to form the nucleus of what is now the La Jolla Laboratory of the Southwest Fisheries Science Center. The first director of the Center, Dr. Elbert H. Ahlstrom, was succeeded by Dr. Alan R. Longhurst the same year. In 1972, Dr. Brian J. Rothschild succeeded Longhurst as Center director, followed by the present director of science and research, Dr. Izadore Barrett, who has been in that position since 1977.

### Cooperating Agencies

The scientific staff of the Center's La Jolla Laboratory has developed close links with the Scripps Institution of Oceanography and the Institute of Marine Resources of the University of California. Several Laboratory staff members have received research appointments to the University of Cali-

fornia, San Diego, faculty as adjunct professors and research associates. Graduate students receive training and research opportunities at the La Jolla Laboratory.

Scientists from the Laboratory, from the California Department of Fish and Game, and from Scripps cooperate in the CalCOFI Program, collecting samples and data at sea on survey cruises. Scripps chiefly processes and analyzes oceanographic observations and studies the taxonomy and zoogeography of plankton organisms other than fishes, while NMFS scientists at La Jolla are responsible for the fishery biology. As a result of the CalCOFI effort, the biology and oceanography of 250,000 square miles of the Pacific Ocean off California and Baja California is per-

haps the best ecologically understood of any comparable body of water in the world.

The La Jolla Laboratory has a close working liaison with the California Department of Fish and Game. Presently, the state and federal governments collaborate in research on coastal marine mammals, management of fisheries, particularly transboundary stocks such as the northern anchovy (shared with Mexico), and in the preparation of fishery resource stock assessments mandated under the Fishery Conservation and Management Act.

Scientists at the La Jolla Laboratory have developed a formal collaboration known as "MEXUS-Pacifico" with Mexico's Instituto Nacional de Pesca to obtain the best scientific information

available on shared fish stocks, through cooperative research. With the Soviet Union, the La Jolla Laboratory has conducted cooperative studies of the distribution of the Pacific whiting spawning stocks off central and southern California and Baja California, a result of the Governing International Fisheries Agreement (GIFA) between the two countries.

In addition, the La Jolla Laboratory conducts research in support of the U.S. commitments to the Inter-American Tropical Tuna Commission, the International Commission for the Conservation of Atlantic Tunas, and the Commission for the Conservation of Antarctic Marine Living Resources.

*Susan Smith and Lillian Vlymen*

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