

LIGHT UNDER A BUSHEL: A PROFILE OF POINT REYES BIRD OBSERVATORY

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ABSTRACT: Started 31 years ago as a local bird-banding operation, Point Reyes Bird Observatory has grown into a major scientific institution with research operations extending from the Bering Sea to the Great Southern Ocean. PRBO research and advocacy have provided the scientific basis and political impetus for important legislation, judicial decisions, and administrative policy affecting wildlife and wildlife habitat conservation.

In 1965, members of the Western Bird Banding Association founded Point Reyes Bird Observatory with the purpose of establishing a permanent banding station on the Pacific Flyway. Over the following 31 years, PRBO has become a multifaceted nonprofit organization involved in a wide variety of scientific research projects and environmental advocacy. Despite the magnitude and multitude of its contributions, they remain largely unknown and unappreciated.

PRBO was quartered for the first three years of its existence in a bunkhouse on a dairy ranch on the Point Reyes peninsula. At present, the physical facilities consist of a headquarters in Galloway Canyon on the east shore of Bolinas Lagoon, the Palomarin field station on the Pacific coast north of the town of Bolinas, and the Southeast Farallon Island station in the Farallones archipelago about 30 miles west of San Francisco. Palomarin is, at age 28, the oldest continuously operating banding station in western North America; its programs include not only research, but also public education. SEFI, situated amidst the largest seabird colony in the contiguous 48 states of the U.S., is supported by the U.S. Fish and Wildlife Service and the Oceanic Society and has been in continuous year-round operation since 1971. It would be fair to say that PRBO has a third field station at sea; since there is seldom a research cruise undertaken either by government agencies or educational institutions in Central California that does not number PRBO staff among its complement.

Funding comes from a variety of sources. Memberships account for approximately 10% of revenues, another 45% comes from large-donor contributions, including foundation grants, and the remainder comes from fulfillment of research contracts let by industrial clients and government agencies, notably the U.S. Fish and Wildlife Service and the National Marine Sanctuary Program. About 80% of revenue is expended for research, and of that, approximately two thirds goes to marine, estuarine, and coastal research programs.

In general, PRBO's activities can be categorized as either the practice of science or environmental advocacy. In some cases, it is difficult to draw a line between the two. For instance, its scientific input to the U.S. Fish and Wildlife Service has eventuated, among other things, in habitat restoration programs leading to the establishment (or, better, re-establishment) or breeding colonies of rhinoceros auklets, elephant seals, and peregrine falcons in Central California.

Research conducted at Palomar over the years has documented a firm statistical correlation between avian reproductive success and rainfall and has also suggested a link between the Chernobyl nuclear accident in 1986 and a subsequent decline in production of wild bird chicks. PRBO began documenting the effects of oil spills on seabirds at the time of the Chevron oil spill in San Francisco Bay in 1971. It developed the methodology now generally used to study bioaccumulation of contaminants in the marine food web. It is the repository of definitive research data on the snowy plover and collaborated with the Monterey Bay Aquarium in the first successful breeding of this species in captivity. It conducted a beached bird census -- a count by species of all dead birds found on the beach -- over a period of 14 consecutive years along the entire California coast, producing a statistical baseline of seabird mortality patterns.

Under contract to the California Department of Fish and Game, PRBO assessed the impact of a 1991 herbicide spill in the Sacramento River, providing the scientific basis for a lawsuit that eventuated in payment of a \$38 million settlement by the Southern Pacific railroad. It conducted the first comprehensive survey of migrating seabirds in the Central Valley of California, leading to the discovery that rice farms are now a major winter habitat for marine birds. Since 1988, it has coordinated the Pacific Flyway Project, a cooperative effort involving hundreds of volunteers as well as sister scientific institutions seeking to create a statistical baseline on bird populations from Alaska to Baja California and from the Pacific coast and the Rocky Mountains. To a similar end, PRBO trains and coordinates the efforts of field ornithologists throughout Latin America.

PRBO developed the methodology now in general use for at-sea bird censusing during research cruises in Central California waters, the Gulf of Alaska, the Bering, Caribbean, and Tasman Seas, the eastern equatorial Pacific, the Southern Ocean, and the south Atlantic. It took the lead in the first multidisciplinary investigation of pack ice habitats in Antarctica and carried out the first Antarctic wildlife study ever performed over the course of an austral winter.

The average annual rate of publication at PRBO is about two dozen titles, roughly half as gray literature and the other half in refereed journals. Due to the bias in its research programs toward marine and aquatic habitats, its contributions to the literature are well represented in journals held by IAMSLIC member libraries.

PRBO's achievements in the arena of advocacy are as impressive as its more detached scientific endeavors. It petitioned successfully for the listing as a threatened species of both the northern fur seal and the snowy plover and collected data to support the creation of a California state ecological reserve around the Farallon Islands to protect them from the harmful effects of pleasure boating and abalone and sea urchin harvesting. Its data indicating an increase in seabird mortality due to gill netting led to legislative restrictions on the practice both in the Bering Sea and in California. It was a prime mover in the establishment of the United Nations International Biosphere Reserve along the Central California coast and participates with federal and state agencies, as well as with the National Audubon Society, in the Riparian Habitat Joint Venture, whose purpose is to protect songbird habitat.

Since 1940, the Metropolitan Water District of Southern California had diverted water from the tributaries of Mono Lake, east of the Sierra Nevada, for consumption by its urban customers. Like the Aral Sea in Central Asia, Mono Lake was a threatened resource and also the subject of one of the most intensive and protracted environmental conflicts in California. A coalition of environmental advocacy groups, having filed legal and administrative petitions to curtail the

District's water withdrawals, based its case mostly on research data provided by PRBO, which has studied the ecology of seabirds nesting on the islands in the lake for a number of years. This effort was crowned with success, and lake waters are expected to return to historical levels -- rising about five meters in all -- by 2015 AD.

In the wake of the 1971 Chevron oil spill, PRBO developed methodology for rescuing oiled seabirds and trained the California Oil Spill Wildlife Response Team in its use. Studies conducted at SEFI over a number of years helped persuade the California legislature to extend the protection of state law to the white shark. The state of Hawai'i has instituted PRBO's habitat protection plan for the Newell's shearwater and dark-rumped petrel nesting on the island of Kauai, and the International Convention for the Conservation of Antarctic Marine Living Resources, which monitors the impact of commercial fishing and krill harvesting on the Antarctic ecosystem, employs for that purpose a protocol written by PRBO.

Point Reyes Bird Observatory has never been financially well-endowed and is subject to the vicissitudes of political fortune. For instance, both electrical generators serving the SEFI field station failed during the U.S. government shutdown of 1995-1996 and had to be replaced on the personal credit card of a PRBO staff member, who bore the interest charges until the Department of the Interior was fully funded and could reimburse him for what was legally its obligation. It might be appropriate to revise the abstract of this paper to read:

The history of Point Reyes Bird Observatory is the story of an organization which started in 1965 on a shoestring and, 31 years later, is still operating on the same shoestring but has managed to accomplish quite a bit anyway.

This is PRBO Contribution number 770.