



PERGAMON

Available online at www.sciencedirect.com

SCIENCE @ DIRECT®

Marine Pollution Bulletin 46 (2003) 700–702

MARINE
POLLUTION
BULLETIN

www.elsevier.com/locate/marpolbul

Focus

How multiagency partnerships can successfully address large-scale pollution problems: a Hawaii case study

Mary J. Donohue

National Marine Fisheries Service, Southwest Fisheries Science Center, Honolulu Laboratory, 2570 Dole Street, Honolulu, HI 96822-2396, USA

Abstract

Oceanic circulation patterns deposit significant amounts of marine pollution, including derelict fishing gear from North Pacific Ocean fisheries, in the Hawaiian Archipelago [Mar. Pollut. Bull. 42(12) (2001) 1301]. Management responsibility for these islands and their associated natural resources is shared by several government authorities. Non-governmental organizations (NGOs) and private industry also have interests in the archipelago. Since the marine debris problem in this region is too large for any single agency to manage, a multiagency marine debris working group (group) was established in 1998 to improve marine debris mitigation in Hawaii. To date, 16 federal, state, and local agencies, working with industry and NGOs, have removed 195 tons of derelict fishing gear from the Northwestern Hawaiian Islands. This review details the evolution of the partnership, notes its challenges and rewards, and advocates its continued use as an effective resource management tool.

© 2002 Elsevier Science Ltd. All rights reserved.

Keywords: Hawaii; Management; NGOs; Partnership

The Hawaiian Archipelago includes the populated, volcanic main Hawaiian Islands and the uninhabited coral atolls and volcanic islands of the Northwestern Hawaiian Islands (NWHI) (Fig. 1). By area, the extensive coral reefs of the NWHI represent nearly 70% of the United States' (US) coral reef system (Miller and Crosby, 1998). Here, faunal diversity is exceedingly rich. In addition to subpopulations of the endangered Hawaiian monk seal, the world's only living tropical seal, the NWHI are also the nesting habitat for over 20 species of seabird. Threatened marine turtles use these islands for feeding, nesting, and resting. Although lobster, longline, bottomfish and other fisheries once operated in this region, only commercial bottom fishing and recreational fishing are currently permitted.

Management responsibilities for the NWHI are complex and often shared. The US Department of the Interior, Fish and Wildlife Service (FWS) manages marine resources and extractive activities in the National Wildlife Refuges (NWRs). Except for Kure Atoll, these refuges include all emergent lands and waters seaward to 10 fathoms (20 fathoms around Necker Island); Kure is

currently under the jurisdiction of the state of Hawaii (state). The FWS also manages Midway Atoll NWR under federal ownership, although the state claims jurisdiction over certain submerged lands within the refuge. The quasi-federal Western Pacific Regional Fishery Management Council (Council) maintains fishery management authority over all federal US waters from 3 to 200 miles, extending to the shoreline of US possessions such as Midway Atoll. There remains some dispute between the state and the federal government regarding the 3-mile state/territorial limit and certain archipelagic boundaries between those islands lying farther than 3 miles out. The City and County of Honolulu also have obligations and authority within the NWHI.

US Executive Orders (2000) and (2001) created a NWHI Coral Reef Ecosystem Reserve with an inner border beginning 3 miles from emergent lands and with seaward borders at the boundaries of the NWRs. These orders designate reserve preservation areas where extractive activities are prohibited and also provide for the creation of a NWHI Coral Reef Ecosystem National Marine Sanctuary administered through the US Department of Commerce (DOC), National Ocean Service (NOS). DOC, National Marine Fisheries Service (NMFS) is tasked with building sustainable fisheries and

E-mail address: mary.donohue@noaa.gov (M.J. Donohue).

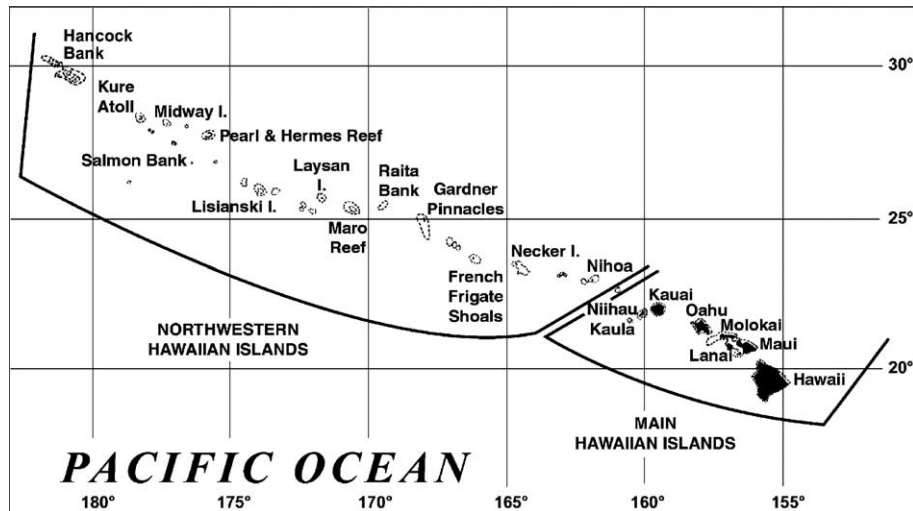


Fig. 1. The Hawaiian Archipelago delineating the Main and Northwestern Hawaiian Islands.

recovering protected species (Hawaiian monk seals and marine turtles) in the NWHI. While the number of management agencies with involvement in the NWHI presented a daunting challenge to any coordinated multiagency effort, the opportunity to partner diverse stakeholders in mitigating the effect of derelict fishing gear to NWHI coral reef ecosystems provided an attractive incentive to those involved.

Derelict fishing gear not only greatly damages NWHI coral reef ecosystems by abrading and scouring living coral polyps but also alters reef structure by destroying the reefs' coral skeleton foundation (Donohue et al., 2001). Marine mammals, turtles, sharks, other fishes, lobsters, and crabs have been observed entangled in this fishing gear, and efforts to recover the Hawaiian monk seal are seriously hampered when seals become lethally entangled in derelict fishing gear (Donohue et al., 2001; Henderson, 2001).

The NMFS, in an effort to reduce monk seal entanglement, has been removing derelict fishing gear from NWHI beaches since the early 1980s (Henderson, 2001). Despite these efforts monk seal entanglement continued to increase, and in 1996 and 1997 the NMFS conducted investigative search and removal efforts for derelict fishing gear on shallow NWHI coral reefs. The National Oceanic and Atmospheric Administration (NOAA) University of Hawaii Sea Grant College Program (UHSGCP) worked with NMFS to responsibly dispose of recovered debris. These pilot efforts clearly demonstrated that significant amounts of derelict fishing gear were present in the NWHI and had already caused serious ecosystem-wide damage.

In an insightful response to this information the UHSGCP, in cooperation with NMFS, engaged other NWHI stakeholders in these mitigation efforts. In 1998, federal, state, local, industry, and NGO representatives

came together for the first NWHI multiagency marine debris removal research cruise. Through this coordinated effort, 14 tons of debris were removed, and a vital partnership was established. This endeavor involved multiple large ship platforms provided by NOAA and the US Coast Guard. In addition, divers from the US Navy, University of Hawaii, University of Alaska, US Coast Guard, and NOAA removed underwater debris. NGO, NMFS, and state scientists analyzed recovered fishing net at sea. Remarkably, this project received no formal funding, save for a coordinator position funded by the NMFS, until 2000, thriving on in-kind contributions of member organizations. Since 1998, the partnership has conducted increasingly successful annual efforts.

Although the diversity of the group has presented mission and cultural challenges, the project has been successful. The members' conflicting interpretations of NWHI management authorities and obligations have been put aside as funding and positive media attention have increased. Some concern has been expressed, however, that if funding continues to increase, group members could begin competing for these resources. Every effort will be made to prevent any potential eroding of the partnership's foundation. The group must remain focused on and committed to the problem of derelict marine debris, even if its members disagree on other issues. The following factors continue to support the group's success:

- (1) Clearly defined focus and objective.
- (2) Refusal of the group to address contentious interagency issues unrelated to its objective.
- (3) Formal identification of benefits specific to each partner resulting from the group's activities.
- (4) Full participation and decision-making at the local level.

- (5) Requirement that all partners actively contribute to the group's efforts.
- (6) Acknowledgment that due to partnership diversity, contributions will vary in form.
- (7) Unbiased and sophisticated evaluation of partner contributions, when warranted, acknowledging that both tangible and intangible contributions have value.
- (8) Full trust, cooperation, and coordination of the members' public affairs, public information, or public relations officers to ensure that all partners receive appropriate recognition.

In addition to these factors, group efforts in the NWHI provide tangible and positive results to participating individuals and institutions by the removal of measurable amounts of pollution and by the reduction of wildlife entanglement. As a result, participants have become personally and professionally invested in the program's success, and strong public and institutional approval have become incentives for continued participation on all levels.

This Hawaii case study illustrates that if objectives are similar and sufficiently focused, multiagency partnerships can succeed despite non-parallel, or even conflicting, partner mission statements. Multiagency partnerships can reduce out-of-pocket or in-kind costs to involved organizations and while concurrently increasing productivity. Enhanced collaboration between organizations working in the same region can avoid costly duplicate efforts. For example, data collection protocols can be standardized for optimal field effort information, ship schedules can be efficiently consoli-

dated, and equipment can be shared. Partnerships allow the varied resources and strengths of each organization to be used by the group for value-added results. These partnerships also serve as bridges between government and the private sector, ideally creating networks of mutual concern for how natural resources are managed. Given the recent trend toward costly litigious relationships between NGOs and the US government concerning natural resource management and responsibilities, this multiagency effort will serve as a model to other partnerships interested not only in mitigating marine pollution but in addressing other threats to precious natural resources.

References

- Donohue, M.J., Boland, R.C., Sramek, C.M., Antonelis, G.A., 2001. Derelict fishing gear in the Northwestern Hawaiian Islands: diving surveys and debris removal confirm threat to coral reef ecosystems. *Marine Pollution Bulletin* 42 (12), 1301–1312.
- Executive Order 13178. (2000) Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve. Presidential Documents. Federal Register 65 (236), 76901–76910.
- Executive Order 13196. (2001) Final Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve. Presidential Documents. Federal Register 66 (15), 7395–7397.
- Henderson, J.R., 2001. A pre- and post-MARPOL Annex V summary of Hawaiian monk seal entanglements and marine debris accumulation in the north-western Hawaiian Islands, 1982–1988. *Marine Pollution Bulletin* 42 (7), 584–589.
- Miller, S.L., Crosby, M.P., 1998. The extent and condition of U.S. coral reefs. In National Oceanic and Atmospheric Administration (NOAA) State of the Coasts Report, p. 34, Silver Spring, MD. Available from: <http://state-of-the-coast.noaagov/bulletins/html/crf_08/crf.html>.