

9 August 2002

Admiral (Retired) James D. Watkins
U.S. Commission on Ocean Policy
Suite 200 North
1120 20th Street, N.W.
Washington, D.C. 20036

RE: Incorporation of educational programs into laws and regulatory practices

Dear Admiral Watkins:

This letter is in response to your request for "specific examples...for incorporating educational programs into laws and regulatory practices". The most effective stewardship of coral-reef assets and ecosystem productivity requires involvement of the local community. Public talks, media presentations, and development of school curricula are helpful, and their effect is further enhanced by the active involvement of local communities in resource management, including development and assessment of regulations, laws, and mitigation practices.

An example of good management of the coral-reef ecosystem by means of education is the endeavor of the Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve Advisory Council (NWHI-CRER). The policies for use and zoning were developed and publicly reviewed at stakeholder meetings. The numerous public hearings on regulations and management policies of the NWHI-CRER were held on all major islands in Hawaii and were widely publicized; nearly a thousand people attended. Approximately 12,000-13,000 suggestions were recorded at the public hearings or received from the public via e-mail or letter. The hearings caused the public to take an interest in, and learn about, the coral-reef ecosystem in the NWHI.

There is strong public support for the coral-reef ecosystem reserve in Hawaii because of the increasing awareness of the NWHI as a national heritage. A scheduled sailing of a long-distance sea-going traditional canoe to the NWHI will help to remind Hawaiians and residents of Hawaii of the role of coral reefs in their cultural heritage. The canoe, named the Hokulea, will have telecommunication links to a marine center where school classes can observe activities on-board as they happen. In addition, a public aquarium and museum will showcase the NWHI coral reef reserve to educate the public on the nature of the resources and ecosystem processes that characterize the reserve.

Your request for specific examples of incorporating educational programs into laws and regulatory practices is timely. In Hawaii, the Interagency Coral Reef Mitigation Working Group, consisting of participants from USFWS, USEPA, NMFS, USGS, U.S. Army Corps of Engineers, and State of Hawaii agencies, is beginning a process to incorporate educational programs into compensatory mitigation. In developing compensatory mitigation, the local community of stakeholders and residents may participate in the meetings, may be active in monitoring the effectiveness of the compensatory mitigation, and may be involved in determining the validity of the outcome of the mitigation. Mitigation must focus on replacing ecological processes and functions

rather than physical structures or area. As has been the case with some wetland mitigation, artificially replaced reefs may not support the required ecosystem processes provided by the original habitat, such as providing refuges for juvenile fishes or modifying the oceanographic processes.

Public involvement in creating perpetual stewardship as a mitigation process and in monitoring the success of the compensatory mitigation has been shown to increase the effectiveness of the public in making sound decisions in ecosystem management. On the big island of Hawaii a multi-level program of public involvement has been successful in creating perpetual stewardship. A similar approach should be required in any future mitigation process. The success of compensatory educational mitigation should be monitored to document the effectiveness of the public in making wise decisions in ecosystem management.

The U.S. Fish & Wildlife Service may take on the responsibility of contacting communities and looking for local citizen groups to be involved in resource management, mitigation, and developing regulations. The primary goal would be to get the community involved with coral reef resource stewardship, with the development of educational materials for schools and the public media as a secondary goal.

The Government of American Samoa is presently conducting an educational program aimed at establishing community-based control of their coral-reef fisheries and other resources. Scientists and government agencies support the concept of management at the local community level. When local communities have the management responsibility for local resources, they manage for sustainability and the future. Traditionally, local laws and culture-specific regulations were effective in Hawaii, Palau, American Samoa and some other communities because the system was based on social controls, peer pressure, and a strict, locally enforced code of conduct in fishery management. Peer pressure has been shown to be more effective than regulations from governments or from a higher administrative level. A village in Hawaii that currently operates under a community-based system maintains sustainable fisheries yields and a fish biomass that equals the biomass in some officially designated no-take reserves. In many island communities in the Pacific, these traditions and the resulting sustainable yields were broken down when well-meaning government agencies attempted to develop the local economy by opening access to everyone.

An effective approach to the creation of educational programs should focus on reestablishing an awareness of the heritage of the indigenous population, the past productivity of the coral-reef ecosystem in their area, and the effectiveness of their traditional management policies.

Sincerely,

Charles Birkeland