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CURRENT MANAGEMENT OF COLONIAL WATERBIRDS IN THE UNITED STATES

A Panel Discussion

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Summary

During the early decades of this century, and earlier, the major threat to colonial waterbirds was direct and premeditated human disturbance such as shooting and egg collecting. The kind of management required to correct these problems was relatively simple, in most cases consisting of restrictions to human activities at nesting sites. Beginning in different regions at different times, but recognized as early as the 1930s in Florida, habitat destruction or alteration, including land management for purposes other than wildlife protection, increasingly became a serious stress or limiting factor on colonial waterbirds. Habitat losses in combination with growing rates of other forms of indirect human disturbances (pollution, recreational activities, etc.) are now the principal factors responsible for colonial waterbird declines. Thus, the kinds of management required to maintain viable colonies or populations have changed during this century, becoming more complex and more costly.

The wide range of management activities required, both historically and within the broad framework of present needs, required a broad definition of "management" as it relates to colonial waterbirds. A suggested definition is as follows: any purposeful action designed to influence the

dynamics of colonial waterbirds. This definition includes such diverse activities as predator control, island building, planting vegetation, creating impoundments, and putting up fences.

Following are the major kinds of colonial waterbird management reported by representatives of one private conservation organization, three federal agencies and one state agency, all with long experience in the land and wildlife management business.

1. National Audubon Society

The National Audubon Society owns or leases 64 sanctuaries throughout the United States, with about 15 managed wholly or in part as colonial waterbird breeding areas. The Society chooses not to formulate a strong central philosophy for sanctuary management; rather it encourages independent initiative on the part of sanctuary managers in developing plans based on needs for each site and on local expertise available to the manager. As a result, management of colonial waterbird colonies ranges from relatively simple efforts designed to reduce human intrusion into colonies to elaborate programs of habitat or species manipulation. Monitoring of colonial waterbird populations on sanctuaries is jointly conducted by sanctuary and research staff, while long-term studies for the purpose of gaining information needed to solve biological problems or to understand the dynamics of colonies is wholly handled by the Research Department.

The considerable diversity of management practices on National Audubon sanctuaries is revealed by the programs at four sites reviewed for this conference. At Cruickshank Sanctuary in Maine, the Society, in cooperation with the Canadian Wildlife Service and Massachusetts Audubon Society, has undertaken a program to establish a breeding colony of Common Puffins at a site where this species nested historically but was eliminated during the 15th Century due to excessive hunting. Nestling puffins have been acquired from a Canadian colony annually since 1973 and fledged from nest cavities in the Cruickshank Sanctuary. Subadult puffins have returned to the sanctuary in 1977 and 1978 and, if successful, adult puffins should return in 1980.

At Rainey Sanctuary in coastal Louisiana and Alafia in Tampa Bay, Florida, habitat has been manipulated to provide nesting sites for terns. At Rainey, a 200 by 500 foot sand island was created in 1966 by depositing dredged material adjacent to an extensive marsh in a region where tern nesting habitat was extremely limited. At Alafia, in cooperation with the Corps of Engineers, maintenance dredged material was deposited at one end of the existing island to create badly needed tern and gull nesting habitat. The remainder of the Alafia island is heavily vegetated and is an important nesting site for herons and ibises. The management plan for the dredged material is to keep the higher portions clear of vegetation where terns are likely to nest, while Spartina is being planted in the intertidal zone in an effort to reduce erosion and stabilize the entire feature.

At Corkscrew Sanctuary, in southern Florida, the Society has experimented with artificial feeding for nesting Wood Storks. At Corkscrew

nesting habitat is in good shape; nevertheless the colony often fails because of food shortage in adjacent wetlands. The Society experimented with raising fish in artificial ponds and making these fish available to nesting storks when natural supplies of food were low. The work at Corkscrew demonstrated that artificial feeding of storks is feasible, but expensive.

2. U.S. Fish and Wildlife Service

The major thrust of wildlife and habitat management by the Fish and Wildlife Service, historically, has been directed towards game species. This resulted, in large part, from strong and influential lobbying by sportsmen for legislation and funding of waterfowl management and related activities. Waterfowl management programs have indirectly benefited colonial waterbirds, primarily through acquisition and development of the network of National Wildlife Refuges. In fact, the 398 refuges include vast areas of wetland habitats that may be as important to many colonial waterbirds as to ducks. Although most wetland refuges have been established and managed primarily for ducks and geese, a few were specifically established to protect nongame waterbirds (for example, the Pelican Island and Great White Heron Refuges in Florida).

Presently, the main ways that the Service manages colonial waterbirds are through direct protection of the birds and their habitats on refuges, and through law enforcement outside, as well as within, the refuges. To a limited extent, the Service has conducted animal control projects; both to control predators of colonial birds and to attempt reduction of number or colony relocation for certain species. The Service is tightening its procedures for issuing Scientific Collecting Permits, Banding Permits, and Special Use Permits.

The Service protects colonial waterbirds, either directly or indirectly, through its administration and enforcement of various acts and treaties and their amendments. These include the Migratory Bird Treaty Act, the Migratory Bird Conservation Act, the Federal Aid in Wildlife Restoration (Pittman-Robinson) Act, and the Endangered Species Act. Federal Aid and Endangered Species Programs provide assistance to states for acquisition of wetland habitats and cooperative management of threatened or endangered species. Some of the Service's Regional Offices place high priority on acquisition of colonial waterbird nesting sites under the unique wildlife ecosystems program of the Land and Water Conservation Fund Act. Wetland habitats are protected through the Fish and Wildlife Coordination Act, by which the Service reviews Federal water development projects.

The Service is also involved with colonial waterbirds through migratory bird assessment studies. Through its Biological Services Program it has recently sponsored surveys of nesting colonies of seabirds and wading birds in Alaska, the U.S. Great Lakes and on the Atlantic and Gulf coasts and will start comparable studies on the Pacific coast. Number and distribution of birds revealed by the inventories will become the baseline data for establishing much needed regional and national management plans. Ideally, these plans should include management goals derived from an assessment of the status of each species within a region or ecosystem.

3. State of Florida

The Florida Game and Freshwater Fish Commission conducts surveys to determine distribution, numbers and nesting sites for species of colonial waterbirds of special interest, primarily the species included on the state's list of endangered or rare vertebrates. Presently, the Commission is surveying Brown Pelican nesting sites on the coasts, and in a cooperative program with National Audubon Society and Florida Audubon Society, is surveying colonial wading-bird colonies throughout the Florida peninsula. Special attention is directed to the Wood Stork, a species rated as endangered on the Florida list. Future plans for the cooperative wading bird survey include production of a state atlas of wading-bird colonies and an attempt to assess nesting success related to colony types and locations. An important part of the future program will be to measure human influence on nesting colonial wading birds, including levels of nesting success at artificial colony sites such as water impoundments.

The Commission has recently initiated a program to provide increased protection to colonial waterbird colonies on private islands where the state will post a colony as closed to human visitation if both the land owner and a state biologist concur that the colony is important and should be offered special protection. Posted colonies are subject to patrol by state game agents, and unauthorized entry is classified as a misdemeanor offense.

The Florida Game and Freshwater Fish Commission has conducted pesticide and food habit studies of Brown Pelicans, and in a cooperative program with the Louisiana Wildlife Commission, has transported nestling Brown Pelicans from Florida colonies for release in Louisiana in an effort to re-establish nesting Brown Pelicans in Louisiana. The program apparently is successful, as transported birds have bred in Louisiana—some as early as three years of age when still in the all-brown plumage.

4. U.S. Army Corps of Engineers

The Corps of Engineers has constructed over 2,000 dredged-material islands during the past 100 years. Although not constructed for use by colonial waterbirds, these man-made islands are of considerable importance as nesting and roosting habitat for this group of birds and have caused the Corps to become increasingly concerned with colonial waterbird management. The Corps is limited in the action it can take for colonial waterbirds for three reasons. First, the Corps has congressional authority for operation and maintenance of navigation channels and other works involving wetlands, but does not have authority to manage colonial waterbirds or their habitats. The Corps has only a limited number of staff biologists who can give attention to colonial waterbirds. And funds for dredging are earmarked for maintenance and operation, not for biological research or management. In spite of these limitations, the Corps can manage colonial waterbird habitats in the following two ways.

When channel maintenance is called for, the Corps has some flexibility

in deposition of dredged material. Working in cooperation with governmental agencies or private conservation organizations, the Corps can use new dredged material to alter vegetation on a dredged-material island. Decisions about how dredged material is deposited are made in District Planning Offices, which are responsive to requests by outside agencies or organizations.

Other considerations related to the effects of dredging activity on colonial waterbirds are timing of the operations and the kind of diking utilized at dredge sites. The Corps seeks information on waterbird use of dredged-material islands, both by in-house efforts by their own biologists and by getting up-to-date information from experienced local ornithologits for consideration in timing of dredging operations and selecting the type of diking used.

The Corps can aid in the protection of colonial waterbird nesting colonies on dredged material islands. The Corps is willing to work in cooperation with other agencies or organizations to post dredged-material islands, but has no authority to position wardens at such colonies. A legal problem is that the Corps does not own the dredged-material islands it builds.

5. National Park Service

Approximately 230 areas are managed by the National Park Service. The large natural areas, including most national parks and many seashores and national monuments, place particular emphasis on protection of wildlife populations. About 25 of these National Park Service areas contain important breeding populations of colonial waterbirds. The overriding philosophy in National Park Service management of natural areas is preservation of ecosystems rather than management for individual species. However, none of the 25 National Park Service units with major waterbird colonies encompasses the full habitats or ecosystems required to sustain regional waterbird populations independent of outside influences.

The National Park Service fosters protection of colonial waterbirds through programs of inventory, monitoring, research, and management. Regional inventories conducted by National Park Service personnel have accelerated during the 1970s, in part stimulated by recent collaborative surveys and the publication of Paul and Francine Buckley's in-house guide for colonial waterbird management. The National Park Service is beginning to organize long-term monitoring programs for colonies in National Park Service units in the North Atlantic and South Florida, as well as in individual parks. Successful monitoring programs require long-term commitment, consistent methods and commitment of funds and personnel. Research and Resource Management personnel now assigned to parks and regional offices provide the professional cadre necessary to carry out such programs.

Research is considered an essential prerequisite to all phases of any active National Park Service management programs.

Whenever possible, such research is undertaken with an ecosystem perspective. Everglades National Park is now involved in a program of ecosystem-level research in the southern Everglades in an effort to produce management programs that will restore ecosystem processes and thereby stabilize the decline in the colonial wading-bird populations that traditionally nested in that region.

A standard National Park Service management procedure for colonial waterbird nesting sites is closure to the public and protection from other forms of unnatural disturbance. Closure of sand-nesting colonies is often difficult because of the need to allow visitor access to the beaches. This is an example of the conflict thatmay come from the dual National Park Serfice responsibility to protect natural processes while allowing public use. In general, National Park Service management readily supports such colony closures. It is most likely that management would oppose construction of new dredged-material islands in natural areas because of the unnatural character of such sites. Management of existing dredged-material islands for wading birds may be encouraged, especially in recreation areas. Predator control programs, where native species are involved, are usually in conflict with the National Park Service philosophy of allowing natural processes to occur. Control of natural predators occurring at natural densities would likely be opposed in most natural areas. In all such management, it is necessary to consider total regional populations of the affected species not just populations within a park.

The National Park Service ecosystem-oriented role in waterbird protection and management requires a regional perspective since few parks hold more than a fraction of the total regional population of a species. A regional perspective is the realization that the entire remaining natural area is critical to colonial waterbirds. Management policies by all agencies and organizations holding land within a region, as well as conditions in unmanaged areas, together define the fate of regional colonial waterbirds. Unified regional policies can best be accomplished through management plans that have been written and approved by representatives of agencies responsible for regional populations. Regional monitoring programs should be carried out through the combined efforts of the responsible agencies.