



"BIZHIBAYAASH " Circle of Flight

Model Tribal Wetland And Waterfowl Enhancement Initiative

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Introduction

In 1988 an inter-agency waterfowl management task force was formed as a cooperative effort by the Bureau of Indian Affairs and Minneapolis Area Reservations with the support of federal agencies, state and county governments, and private conservation organizations such as Minnesota Waterfowl Association. In 1991 the House of Representatives Committee on Appropriations for the Department of the Interior recommended an initial \$900,000 grant to fund the Circle of Flight Waterfowl initiative (Bizhibayaash) to improve wetlands and manage waterfowl habitat on the reservations of eighteen tribes in the states of Michigan, Minnesota, and Wisconsin. Since then, a group of inter-agency advisors annually develop projects and assess the accomplishments of the initiative. From 1992 to 1998, the total acres of resource base for Circle of Flight (COF) increased over 100%. This enhancement program has included the restoration of wetlands, restoration of grasslands, and enhancement of existing ecosystems.

Although COF has been a model for many restoration efforts, the program could be improved. As with many programs, money is a controlling factor. However, partnerships have continued to grow along with successful restoration endeavors. This report will focus on the history, funding, management, criteria, accomplishments, and problems facing Circle of Flight.

Historic Perspective

Bizhibayaash, the Circle of Flight model tribal wetland and waterfowl enhancement initiative, began in 1991 in Michigan, Wisconsin, and Minnesota. Many projects were proposed and accomplished in the first year including an addition of 492 acres of wild rice (*Zizania aquatica*) enhancement (seeding), acquisition of 257 acres of wetlands, purple loosestrife (*Lythrum salicaria*) intensive treatment or removal, and the creation of waterfowl/wetland management refuges on reservations in the three states (Bureau of Indian Affairs, 1992). The cultural importance of wild rice as well as its attraction as a traditional food source is the focus of many restoration efforts. "Manomin" or wild rice, well known for its taste and nutrition, is a traditional grain of North American Indian tribes. Wild rice's ecological benefits include providing habitat "for species ranging from moths to moose and snails to rails" (Bureau of Indian Affairs, 1998). Lake wild rice usually produces a good yield in one to four years.

Funding and Management

A joint effort by the Bureau of Indian Affairs, Minneapolis Area Reservations, the Environmental Protection Agency, 1854 Authority, U.S. Fish & Wildlife Service, the North American Waterfowl Management Plan, and the Inter-Tribal Organizations of Native American Fish & Wildlife Society and the Great Lakes Indian Fish and Wildlife Commission annually develops strategies and assesses the accomplishments for their plans (Bureau of Indian Affairs, 1992). The Minneapolis reservations alone manage more than 50,000 acres of natural wild rice beds providing food and nesting areas for waterfowl. COF has distributed 4.3 million dollars to three inter-tribal organizations and twenty four reservations in the three states from fiscal year 1991 to 1998.

Inherent in the Native tradition is an holistic approach to resource management. Tribal programs such as the Circle of Flight are augmented by the Great Lakes Indian Fish & Wildlife Commission (GLIFWC), state agencies, and federal agencies. Funds are used to continue long term management and protection of wetland habitat and waterfowl, non-game, and threatened and endangered species throughout the Great Lakes. The GLIFWC is an intertribal resource management agency formed in 1984 involving eleven tribes in Minnesota, Wisconsin, and Michigan. Four sections of GLIFWC (inland fisheries, wildlife, Great Lakes fisheries, and environment) each have six strategies: Inventory/classification/monitoring; Harvest management; Research/development; Enhancement; Technical assistance to tribes; and Liaison/communication (Great Lakes, 1995). The GLIFWC is also involved with enforcement, planning and development, intergovernmental affairs, and public information. A cooperative effort of fish rearing and stocking began as a result of a grassroots organization, Cable Area Fish for the Future, who approached the Bad River and Red Cliff Bands to gather the eggs from speared fish which are then fertilized and hatched in the tribal hatcheries. Other programs have begun under the GLIFWC. The watershed and wetland projects which are the backbone of the Circle of Flight initiative follow the Indian philosophy of land use.

Criteria for funding

Robert Jackson, chairman of the Minneapolis Area Waterfowl Management Task Force from the Bureau of Indian Affairs Minneapolis Area Office, discussed the criteria used in funding projects for COF in a recent telephone interview . He said the funding must be competitive among all tribal and inter-tribal groups. Although he receives twice the number of project proposals than COF can fund, all applicants generally get some money to at least begin work on their project. Two other criteria are that previous project funds must have been used appropriately and the results submitted for review.

Applicants whose funds will be used in conjunction with another funding source (i.e., matching funds) are given priority. Projects cooperating with other agencies also receive precedence (Jackson, 1998). In a telephone interview with Maureen Gallagher, a member of the task force representing the U.S. Fish & Wildlife Service, she stated that preference is often given to applicants with multiple partners such as Ducks Unlimited, Minnesota Waterfowl Association,

The Nature Conservancy, Pheasants Forever, Minnesota Board of Water and Soil Resources, and local chapters of Soil and Water Conservation Districts.

There is a limit of three phases to any one project, so successive requests for funds must be submitted as a new project instead of a continuation. Occasionally fee titles or conservation easements are included in a project. Wild rice enhancement projects are given funding priority (Jackson, 1998). Restoration and enhancement of wetlands also receives priority (Gallagher, 1998). Mr. Jackson stated there must be a high cost/benefit ratio to assess the effectiveness of the project on an economic scale. Last of all, the criteria includes maintenance of existing COF funded projects by the applicants.

Funding is used to pay for manpower, subcontractors for larger dredging, channeling, or damming projects, and for supplies such as wild rice seed. Any technical assistance prior, during, or after the project for assessment must be funded from another source. Circle of Flight moneys are for the projects only (Jackson, 1998).

Accomplishments of Bizhibayaash

As reported in the Bizhibayaash annual report booklets from the Bureau of Indian Affairs, the total acres of resource base increased from 31,939,032 acres in the 1992 report to 61,890,222 acres in the 1998 report. That represents an increase of over 100% in forest, lakes, and wetlands acreage. In addition the miles of rivers and streams included in the project management areas increased in the same period by 1,079 miles (Bureau of Indian Affairs, 1998).

The first project completed by the Circle of Flight in 1991 was "The Patricia Zakovec Wetland Management Area" on the 1854 ceded area in northern Minnesota. In fiscal year, 1997, thirty-seven Circle of Flight projects on 23 reservations and treaty ceded areas were funded with the \$600,000 appropriated for that year. Some of the projects funded by the Circle of Flight are:

- wild rice seeding on the Bay Mills Reservation in upper Michigan;
- waterfowl management (wild rice seeding and the construction of nesting structures and floating docks) on four wetlands and impoundments located on the Keweenaw Bay Indian Community in upper Michigan;
- prescribed burns on the Leech Lake Reservation to rejuvenate grass and sedge areas for waterfowl nesting;
- control of purple loosestrife on Mille Lacs with methods including the release of the leaf eating beetle *Galerucella pusilla*;
- surveying of breeding, nesting, and fall migration of waterfowl on the Red Lake Farm (2,552 acre Sabo Wild Rice Farm purchased by the Red Lake Band of Chippewa in 1994);

- wetland restoration projects at two sites located in the Lower Sioux Reservation and one site on White Earth Reservation;
- design of the Upper Sioux Wetlands Educational Trail System featuring education displays highlighting Native American culture and relationships with wetlands which will be translated from Dakota language to English;
- trumpeter swan re-introduction on the Bad River Reservation in upper Wisconsin;
- re-establishment of a fish rearing complex on Leech Lake Reservation;
- wetland restoration projects in the Shakopee Mdewakanton Sioux Community initiated in prairie pothole regions after collecting data to determine management priorities;
- tribal GIS updated after successful wetland enhancement on Lower Sioux Reservation.

The list of projects that enhance ecosystems continues to grow for many reservations and ceded areas in Wisconsin, Michigan and Minnesota. Included in the plans are educational projects. The Discover Wisconsin Productions, Inc. television series won a National Telly Award for the 1995/96 episodes featuring the Circle of Flight program. Each year the Circle of Flight has a display in the Education building of the Minnesota State Fair. Increased awareness of the COF program and its successes have increased the number of project proposals.

Program challenges

Although the Circle of Flight has had many successes in its short life, it is not without problems. Some of the problems are: 1) shortage of matching grants, 2) research, technical assistance, and assessment are not included in funding, 3) shortage of professional staff, 4) few written assessments of success, 5) fluctuations in wild rice production, and 6) increasing groundwater and surface water contamination. Some restoration techniques are just now being implemented. For example, a technique of winter draw-down and spring burn was planned for this year to remove unwanted vegetation from the Pat Zakovec Wetland Management Area. Because technological assistance has been limited, there may be suitable restoration techniques that have not been attempted.

One of the greatest concerns for the continued success of the Circle of Flight projects is funding. The Circle of Flight as a national tribal model has obtained most of its operating funds from the federal government. However, state governments (from duck stamp moneys), the Fish & Wildlife Service, and donations from tribes and other organizations such as Ducks Unlimited help fund the planned projects. Tribes are encouraged to solicit matching funds from other organizations. According to Peter David, the most limiting resource for tribes is the lack of professional staff. He would like to see funds for a biologist on each reservation (David, 1998).

As projects succeed, more projects are planned. Expensive projects involving water control structures, replacement of existing earthen dams, culverts, and railroad grades have been planned under the Circle of Flight. Currently, tribes that summarize success in the annual COF report describe the increase in rice yields or increase in the number of waterfowl. As a result, the annual reports appear like stockholders reports emphasizing success.

Since research and feasibility studies are not included in COF funding, success is usually predicted by a similar projects' success. Increasing emphasis on restoration within COF call for development of performance standards which can be established in reference to existing wetlands (Brinson, 1976). No reference wetlands have been established to assess restoration efforts. The causes of high nutrient loading may need to be addressed in order to improve the wetland ecosystem (Moss, 1990). None of the COF reports indicate whether a pre-restoration assessment of nutrient content and the balance of the food web prior to wild rice seeding was used.

Moisture, temperature, mechanical and chemical factors regulate the breaking of wild rice seed dormancy (Rogosin, 1954). Wild rice prefers 18 inches of soft mucky soil to germinate. Once the seedling has begun to grow, other factors such as turbidity, water levels, water chemistry (specifically sulfate concentration), predators (invertebrates as well as birds, fish, and mammals), disease, and toxins limit wild rice success (Rogosin, 1954). Water level fluctuations from dam operations and dry summers diminish the harvest. The size of the lake determines the magnitude of the natural fluctuation of lake hydrology. Fringe wetlands found along the edge of lakes where wild rice grows are affected by forces of waves, seiches, and boat wakes. The density of wild rice seeding, the condition of the seed, and timing must also be considered for planting success (Kussler, 1990).

The water resources investigations reports from the U.S. Geological Survey in cooperation with tribal councils list the water quality problems. In the heavily forested Grand Portage Indian Reservation a 3-year study was conducted to report well yield, general physical and chemical properties of the ground and surface waters, and other properties. Some of the chemicals in the ground and surface waters exceeded the U.S. Environmental Protection Agencies limits in Grand Portage, White Earth, and Fond du Lac Indian Reservations of Minnesota. The only reservation with a healthy water supply of the four reports from the U.S. Geological Society was Red Lake in northwestern Minnesota. The levels of mercury and lead in surface water is of grave concern to the organisms living in and relying upon the lake resources (David, 1997).

Conclusion

Bizhibayaash - Circle of Flight Model Tribal Wetland and Waterfowl Enhancement Initiative efforts have enhanced the habitats for many living creatures in the Great Lakes area. Since the re-establishment of wild rice generally takes many years, it is necessary to monitor and continue to reseed project areas. When COF began in 1991, only a few hundred pounds of rice were broadcast. Now 5-6 tons of wild rice are used to enhance or establish wild rice beds. The goal is for all seeded areas to eventually become self-sustaining (David, 1998). Tribes may want to

include water quality assessments including alkalinity, pH, sulfate ion concentration, and turbidity to better predict the outcome of wild rice harvests (Little, 1968).

Tribes also have donated their money to the Minnesota Department of Natural Resources in a joint effort for waterfowl restoration (Bureau of Indian Affairs, 1994). Partnerships continue to be the key to successful efforts. The Great Lakes Indian Fish and Wildlife Commission, twenty reservations, 1854 Authority and Fond du Lac Ceded Territory have identified funding needs of \$1,038,000 for fiscal year 1999. Increased funding will ensure the Circle of Flight projects will continue to enhance ecosystems on reservations in Minnesota, Wisconsin, and Michigan.

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