

LOOKING TO THE FUTURE

An Implementation Plan for the Rainwater Basin Joint Venture



North American Waterfowl
Management Plan



Looking To The Future: An Implementation Plan For The Rainwater Basin Joint Venture

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An Invitation To Participate

Rainwater Basin wetlands have gained the public recognition they deserve as internationally important spring staging and migration habitat for waterfowl and other water birds. Because of this importance, significant time has been spent planning and developing the framework necessary to protect this critical natural resource.

But recognition and planning do not protect wetlands — people do. We need your help, and the help of many of other individuals, organizations, businesses, corporations and agencies willing to make a commitment to ensure the continued existence of this special natural resource. Some will be able to commit money, others time, and others will commit to work cooperatively with resource managers to restore and enhance waterfowl habitat on their land. Regardless of what it is you have to contribute, there is a place for you in this Joint Venture.

The Rainwater Basin Joint Venture Management Board cordially invites you to join hand-in-hand with them and other committed individuals and organizations to work toward meeting the Joint Venture goal.

RAINWATER BASIN JOINT VENTURE MANAGEMENT BOARD



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9/29/92
Date



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5 October 1992
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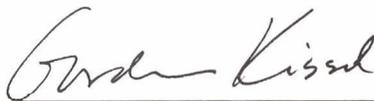
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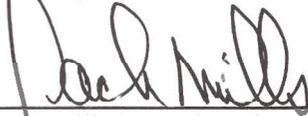
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Executive Summary



Nebraska's Rainwater Basin (RWB) wetland area is identified by the North American Waterfowl Management Plan (NAWMP) as a waterfowl habitat area of major concern in North America. The Rainwater Basin area is recognized as the focal point of a spring migration corridor used by millions of ducks and geese annually (Figure 1). This migration corridor is shaped like an hourglass, with the Rainwater Basin and Central Platte River located at the constriction.

Waterfowl leave the wintering grounds in the southern United States and Mexico in late winter and stop here for extended periods to feed and rest before continuing north to their breeding grounds. Studies indicate that nutrient reserves acquired during spring staging in southcentral Nebraska are of critical importance to the reproductive success of both ducks and geese. Further, this area is recognized as important migration habitat for endangered species and other migratory water birds.

An assessment of Rainwater Basin wetland habitat indicates that: a) values to waterfowl, endangered species, and other water birds are of international importance; b) water quality, flood control, recreation and economic benefits of these wetlands provide important values to the people of Nebraska; c) wetland loss or degradation is extensive; d) lacking new and innovative initiatives, the probability of future wetland loss is certain.

This plan serves as a framework for a comprehensive wetland protection program by identifying the following goal, objectives, and strategies:

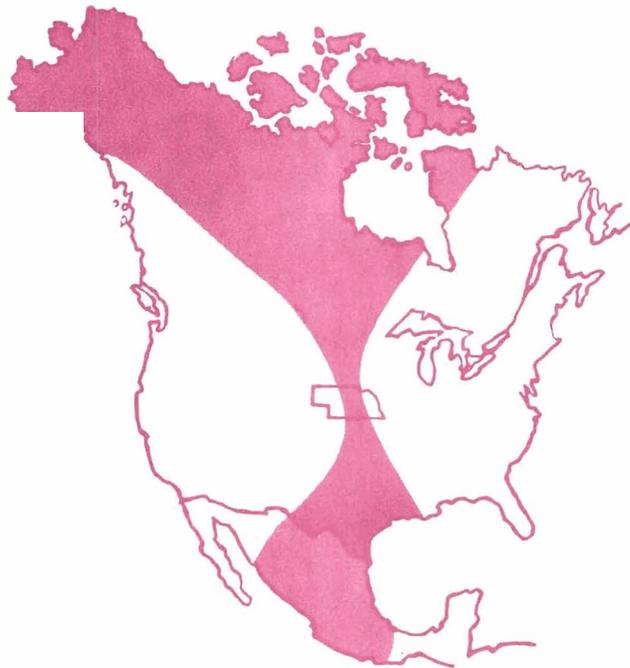


Figure 1. Generalized shape of Central Flyway spring waterfowl migration corridor.

The Rainwater Basin Joint Venture Goal

Restore and maintain sufficient wetland habitat in the Rainwater Basin area of Nebraska to assist in meeting population objectives identified in the North American Waterfowl Management Plan.

Objective 1

Protect, restore, and create an additional 25,000 wetland acres, plus 25,000 acres of adjacent upland habitat.

Strategy 1 - Protect 10,000 acres of existing wetlands, plus associated upland.

Strategy 1A - Protect 5,000 acres of wetland habitat by implementing a cooperative Private Lands Program.

Strategy 1B - Acquire 5,000 wetland acres from willing sellers by fee title or perpetual easement.

Strategy 2 - Restore and protect 12,000 acres of degraded or destroyed wetlands, plus associated upland.

Strategy 2A - Restore and protect 6,000 acres of degraded or destroyed wetlands through a cooperative Private Lands Program.

Strategy 2B - Restore and protect 6,000 acres of degraded or destroyed wetlands by fee title acquisition or perpetual easement on a willing seller basis.

Strategy 3 - Create and protect 3,000 acres of new wetlands, plus associated upland.

Strategy 3A - Create and protect 1,500 acres of new wetlands on private land.

Strategy 3B - Create and protect 1,500 acres of new wetlands on public land.

Objective 2

Provide reliable water sources for a minimum of 1/3 of all protected wetland acres to assure sufficient water quantity, quality, and distribution to meet migratory waterfowl and water bird needs.

Strategy 1 - Establish a Water Management Work Group to coordinate with Natural Resource Districts (NRD), Nebraska Department of Water Resources, Nebraska Natural Resources Commission, local irrigation districts and others to identify acceptable, quality supplemental water sources for RWB wetlands.

Strategy 2 - Assess and prioritize protected wetlands to determine which warrant supplemental water sources. Sites should: a) be cost effective and publicly acceptable, b) aid in distributing waterfowl throughout the RWB area, c) diversify the wetland types available for water bird use, and d) involve private landowner participation when available.

Strategy 3 - Develop an annual RWB water management program that addresses the estimated quantity of water needed annually, the timing of water delivery and distribution needs.

Objective 3

Develop and implement wetland enhancement strategies to optimize those values wetlands provide to waterfowl, endangered species and other water birds.

Strategy 1 - Identify acceptable wetland management options and programs that assist landowners in managing wetlands on private land.

Strategy 2 - Use the Public Lands Work Group to identify RWB wetland management techniques and best management practices to manage wetlands on public land.

Comprehensive Strategies

The following strategies apply to all objectives:

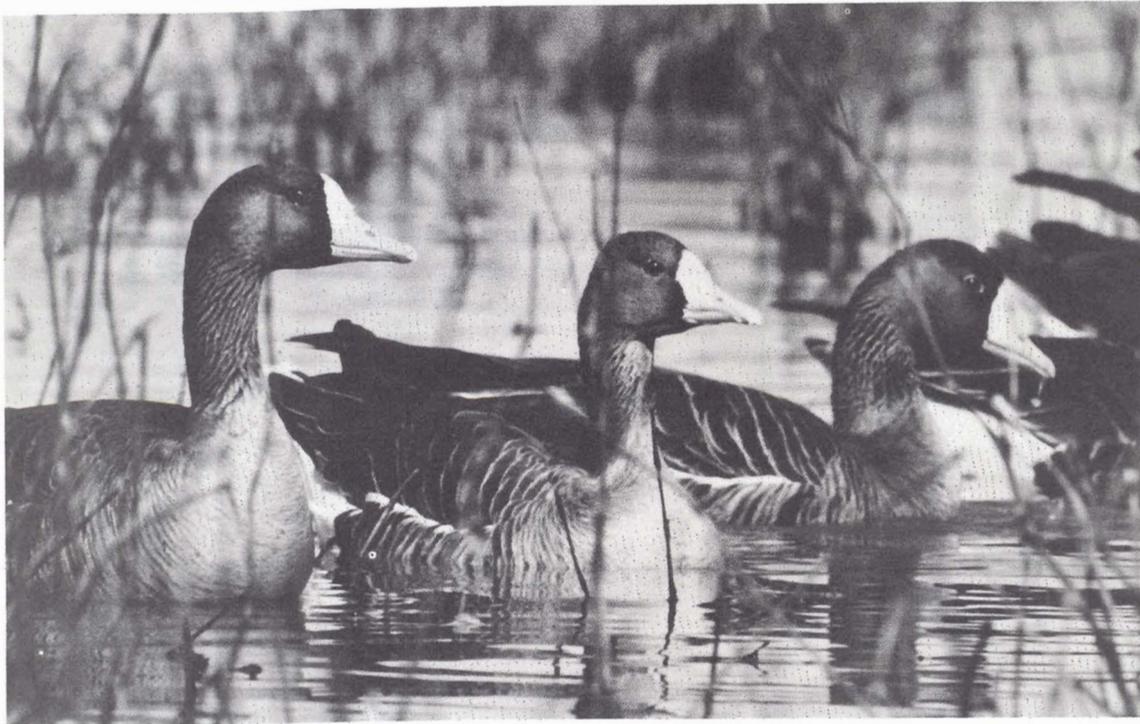
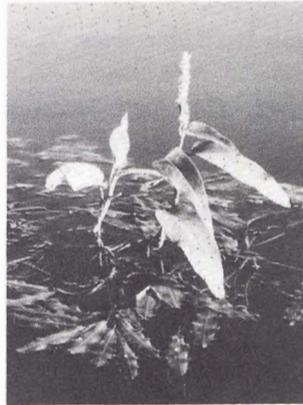
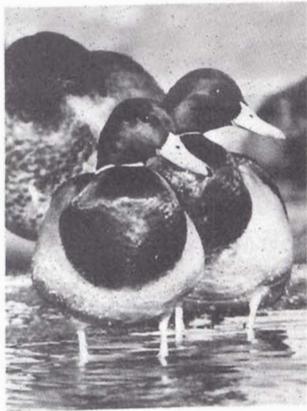
Comprehensive Strategy 1 - Develop a broad base of support and cooperation among local, regional and national interests.

Comprehensive Strategy 2 - Support legislative programs that assist in meeting the Rainwater Basin Joint Venture (RWB JV) and NAWMP goals.

Comprehensive Strategy 3 - Develop funding sources to: a) meet the estimated \$3 million average annual cost of RWB habitat protection, restoration and creation, b) provide supplemental water sources necessary to ensure that one-third of all protected wetlands have water during migration periods, c) operate and maintain publicly owned or managed RWB wetlands.

Comprehensive Strategy 4 - Conduct research to fill existing wetland/water bird data gaps, increase understanding of RWB wetland values and optimize protection and enhancement activities.

Comprehensive Strategy 5 - Adapt the North American Waterfowl Management Plan Evaluation Strategy to assess accomplishments of all phases of wetland protection, restoration, creation and enhancement in the RWB area.





Changing Times

Waterfowl are the most prominent and economically important group of migratory birds in North America. Despite past efforts to preserve and manage waterfowl habitat, a continued loss of breeding, migration and wintering

and a logical guide to the protection of waterfowl habitat in North America. With a goal to return waterfowl populations to levels that existed during the 1970's, the NAWMP identifies specific waterfowl habitat needs to ensure an adequate habitat base for the perpetuation of North American waterfowl populations.

Nebraska's Rainwater Basin wetland area is identified by the NAWMP as a waterfowl habitat area of major concern in North America.

habitat resulted in alarming declines in the population size of many waterfowl species. These declines prompted the United States and Canadian governments to adopt the North American Waterfowl Management Plan in 1986. This plan serves as a challenge

The NAWMP serves as a broad policy framework that describes the overall scope of requirements for management of migratory waterfowl in Canada, the United States and Mexico. To implement this agreement, the plan calls for the establishment of Joint Venture projects for each waterfowl habitat area of major concern in North America. Each Joint Venture will work to develop a broad base of local support for the planning, funding, implementation and evaluation of waterfowl habitat protection initiatives.

Nebraska's Rainwater Basin wetland area is identified by the NAWMP as a waterfowl habitat area of major concern in North America. In 1991, the NAWMP Committee officially recognized the RWB as the 8th area in the United States to receive Joint Venture status.

The overall goal of the Rainwater Basin Joint Venture is to restore and maintain sufficient wetland habitat in the RWB area of Nebraska to assist in meeting population objectives identified in the NAWMP.



Area Description

■ The RWB area encompasses 4,200 square miles within 17 counties of south-central Nebraska (Figure 2). Topographically recognized by Condra (1939) as the Loess Plains Region of Nebraska, this area is characterized by flat to gently rolling loess plains formed by deep deposits of wind-blown silt loam soils.

4,000 major wetlands totaling nearly 100,000 acres were present within this area at the time of settlement (NGPC 1984). More detailed, modern soil surveys indicated that many smaller wetlands existed historically that potentially doubled or even tripled the total number and area of wetlands that once existed in the 17 county area.

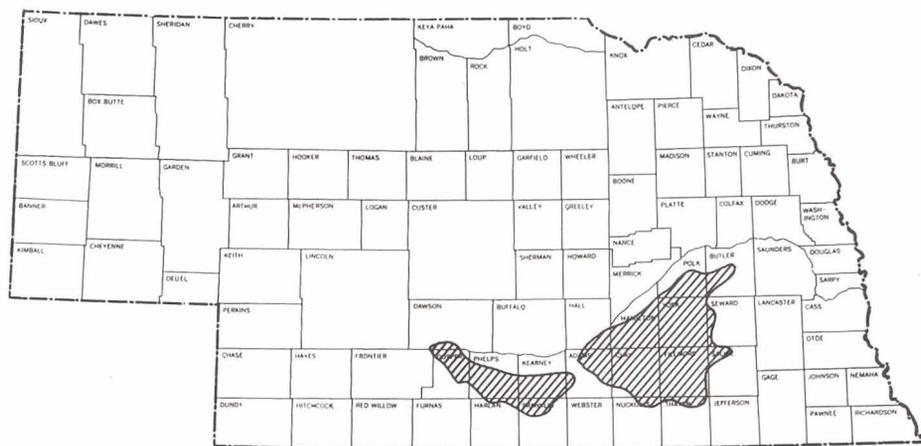


Figure 2. The Nebraska Rainwater Basin area.

Surface water drainage is poorly developed resulting in numerous closed watersheds that drain into low depressional areas. Where watersheds are of adequate size, these topographic depressions collect runoff from snow melt and rainfall to form wetlands. Original soil survey maps from the early 1900's indicate that approximately

Vegetatively, the RWB area was a part of both the true prairie and mixed prairie ecosystems. Intermixed throughout this region were the depressional areas that supported a wetland plant community adapted to alternating wet and dry conditions (Weaver and Bruner 1954).

The Changing Landscape

By the late 1800's, southcentral Nebraska was recognized as an area of highly fertile upland soils that were well suited for agricultural purposes.

■ By the late 1800's, southcentral Nebraska was recognized as an area of highly fertile upland soils that were well suited for agricultural purposes. At the turn of the century, nearly all areas were converted to either pasture or row crop. With the encouragement and financial support of the U.S. Department of Agriculture, landowners began converting wetlands to gain additional farm ground. Drainage efforts progressed slowly, but at a steady pace, until the late 1940's when a booming post war economy and associated technological advances in earth moving equipment and farm machinery facilitated intensified efforts to convert wetlands.

A wetland survey completed in 1965 indicates that agricultural practices and road construction had eliminated 82% of the 3,907 major wetlands and nearly 65% of the 94,695 wetland acres identified by original soil maps (NGPC 1984). A second survey, completed in 1983, indicated less than 10% (374) of these wetlands (Figure 3) and 22% (20,942 acres) of the area identified as wetland soils (Figure 4) remained. Nearly 50% of all wetlands that provided waterfowl habitat in the early 1960's were destroyed by 1983 (NGPC 1984). In addition to the waterfowl habitat lost during this 20 year period between surveys, Schildman (NGPC 1984) noted that virtually all remaining wet-

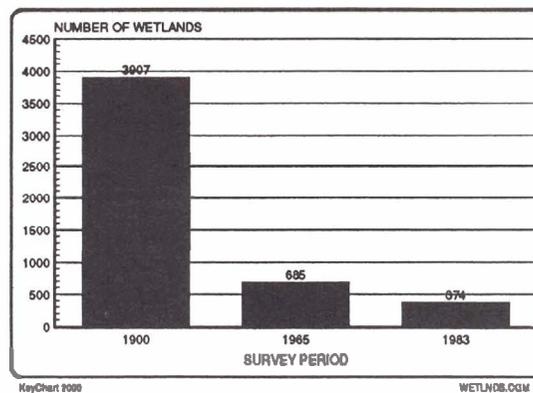


Figure 3. Total number of Rainwater Basin wetlands reported on three NGPC surveys (NGPC 1984).

lands had undergone reductions in size or water permanence.

Nearly all wetland loss or modification has been caused by attempts to gain additional agricultural land (NGPC 1984). Drainage ditches, the concentration of water in large excavated pits, and filling associated with land leveling have been and continue to be the primary means of wetland loss. Deepened county road ditches have provided the means to carry water from ditch-drained basins. Drainage ditches to roadsides ac-



counted for over 50% of all destroyed basins, while concentration pits, ditches to pits, and direct wetland fill associated with pit construction or land leveling accounted for nearly all remaining wetland loss (NGPC 1984).

It also appears that virtually all of the smaller wetlands noted but not mapped on old soil surveys have been lost to land-leveling or drainage. Evidence of the past existence of these small

wetlands persist as Fillmore and Scott soils or depression symbols on modern soil surveys.

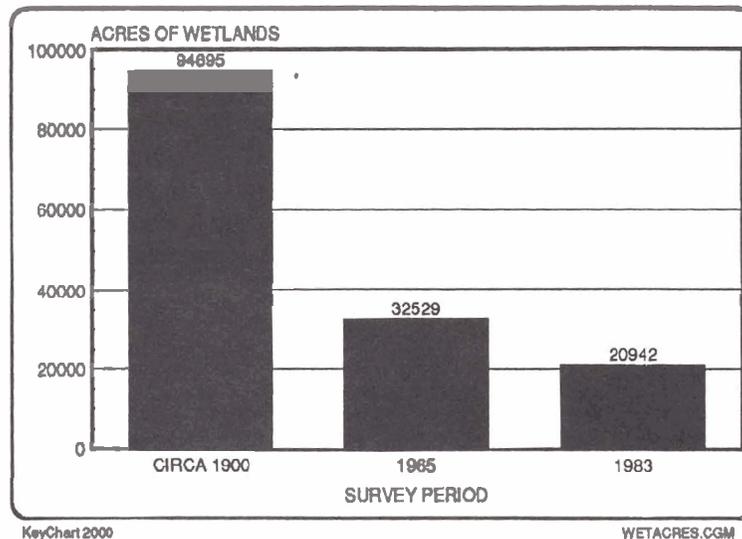


Figure 4. Total acreage of Rainwater Basin wetlands reported on three NGPC surveys (NGPC 1984).

The Effects Of Wetland Loss

■ A major result of wetland destruction is the loss of wildlife habitat for millions of waterfowl and other wildlife that use the RWB area (USFWS 1986, USFWS and NGPC 1986). Ninety percent of the mid-continent population of 250,000 white-fronted geese (Benning 1987), over one mil-

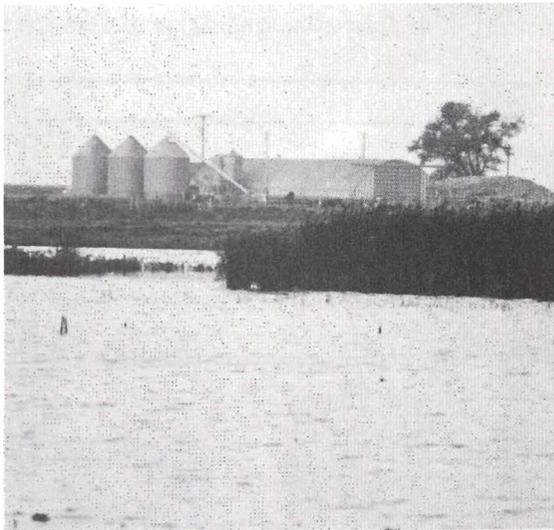
lion lesser snow geese (Gersib et al. 1989a), 50% of the continental breeding population (survey data) are estimated to use the RWB area during spring migration (USFWS and NGPC 1986; Bortner et al. 1991). The RWB area is a place where waterfowl stop for extended periods to feed and rest before continuing to their breeding grounds. Studies indicate that nutrient reserves acquired during spring staging in southcentral Nebraska are of critical importance to the reproductive success of both ducks and geese (Gersib et al. 1989a).

Although spring staging habitat is of paramount importance, the RWB wetlands also provide important fall migration and breeding habitat for waterfowl as well as spring and fall migration habitat for endangered species (e.g., whooping crane and bald eagles), and thousands of shorebirds, wading birds and other bird species (Gersib et al. 1989a). In addition, RWB wetlands provide local wildlife with a diversity of food, cover, and nesting habitats.

This crowding has increased the susceptibility of these birds to catastrophic losses from natural environmental disasters such as severe spring storms, drought, and disease. Symptomatic of this wetland loss and over-crowding are the avian cholera outbreaks which have killed over 200,000 waterfowl since 1975 (Stutheit 1988). These waterfowl losses, and the potential for catastrophic losses to disease or inclement weather, must be recognized as an important mortality factor of North American waterfowl.

The RWB area is recognized as the focal point of the Central Flyway spring migration corridor used by millions of ducks, geese and other migratory birds annually.

lion lesser snow geese (Gersib et al. 1989a), 50% of the continental breeding population



of 5.4 million mallards (1991 survey data), and 30% of the continental breeding population of 1.8 million northern pintail (1991

Changing Values

During the first three-quarters of the 20th century, waterfowl were abundant and wetlands were considered by most to be impediments to economic growth.

■ During the first three-quarters of the 20th century, waterfowl were abundant and wetlands were considered by most to be impediments to economic growth. During this period, our nations priorities focused on increased agricultural production, first to build a stable economic base for the United States and later to feed the world. Toward this end, federal agencies like the U.S. Department of Agriculture (USDA) developed extensive programs that encouraged nearly three generations of landowners to convert wetlands to agricultural use.

Habitat for waterfowl and other water birds in Nebraska has continued to diminish despite efforts since the 1940's to preserve and manage this resource. This continued loss of breeding, migration, and wintering habitat has resulted in alarming declines in the population size of many waterfowl species (Figure 5).

As more information was compiled on the importance of wetlands to migratory water birds and people, our nations opinion of wetlands as wastelands began to change. This change is nowhere more apparent than with the U.S. Department of Agriculture's 1985 and 1990 Farm Bills that now deny agricultural program participation to individuals that degrade wetlands.

The value of RWB wetlands to waterfowl and other water birds is well docu-

mented (Gersib et al. 1989a). Values that these wetlands provide to the people of Nebraska are only now beginning to be understood. Water quality benefits are especially important in areas of agricultural runoff where high concentrations of nutrients and chemicals are assimilated by aquatic plants and retained in the wetland or allowed to break down before they can reach underground aquifers. RWB wetlands also provide flood control by storing excess runoff and can function as recharge or discharge points for underlying aquifers. Further, active and passive recreation in the form of hunting, trapping, birdwatching, and wildlife photography provide economic benefits to the state while providing recreational opportunities for all Americans (Gersib et al. 1989b).

Nearly half of all remaining wetlands and virtually all wetland restoration sites are privately owned. As our human population increases, additional production demands on the land can be expected. Further, economic demands on farmers will continue to force them to maximize production on all land under their control, including wetlands.

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A March, 1991 survey by the Clean Environment Committee shows that seven out of ten respondents said they would sign a petition (71%) and vote (72%) to "allow Nebraska to restore wetland habitat" if funding methods were fair and affordable. This survey indicates that Nebraskans recognize the need to protect and restore wetlands and

waterfowl habitat. To effectively protect waterfowl habitat in the RWB area of Nebraska, a program must be developed that works cooperatively with wetland owners to provide new land-use options that can economically compete with the agricultural production potential of wetlands.

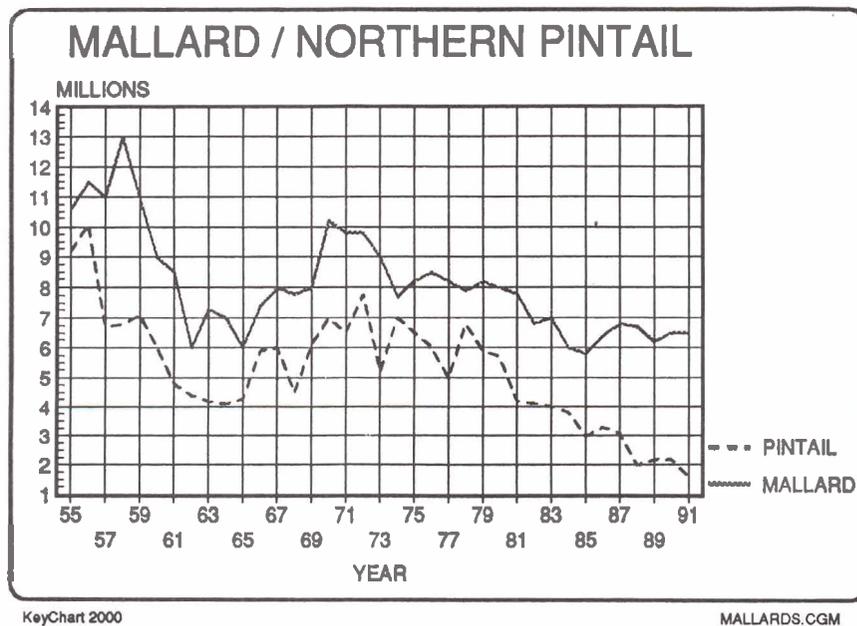


Figure 5. Breeding population estimates of mallards and northern pintails (Bortner et al. 1991).

Developing The Implementation Plan

The RWBJV Implementation Plan is intended to guide and direct non-regulatory wetland protection activities in southcentral Nebraska.

In 1989, the Nebraska Game and Parks Commission, the U.S. Fish and Wildlife Service, and Ducks Unlimited, Inc. began work on a justification document for Joint Venture status under the NAWMP. This document, entitled "Concept Plan For Waterfowl Habitat Protection, Rainwater Basin Area of Nebraska" (Gersib et al. 1990) documented the international values of this wetland complex and established a goal and three primary objectives for the proposed Joint Venture. This concept plan was submitted to the NAWMP Committee in January of 1990 and the RWB received official Joint Venture status in 1991. The goal and three main objectives identified in the concept plan have been expanded in the implementation plan to include specific strategies and tasks.

The goal of the RWBJV is to restore and maintain sufficient wetland habitat in the Rainwater Basin area of Nebraska to assist in meeting population objectives identified in the North American Waterfowl Management Plan.

The RWBJV Implementation Plan is intended to guide and direct non-regulatory wetland protection activities in southcentral Nebraska. To be successful, the plan must

reflect overall public sentiment, it must be flexible, it must identify ways to develop a broad base of public support and it must develop programs that work cooperatively with landowners to maintain and enhance wetlands.



With the realization that no plan would be successful for the RWB area without the input of landowners, conservation organizations, and the agricultural community, a facilitated scoping meeting was held on June 29, 1991 to gain public input prior to beginning work on the implementation plan. Public input from this eight hour meeting was instrumental in

the development of a draft plan.

With the completion of the draft plan, the public was invited to comment on the plan. Initial input was gained through evening meetings on March 10 and 11, 1992 in York and Minden, Nebraska, respectively. These meetings also initiated a 30-day written comment period to ensure that all interested individuals and organizations had ample time to review the plan in detail. These comments and those from the March meetings formed the basis for final revisions to the implementation plan.

Managing The Implementation Plan

■ A significant amount of time and money has been invested in the development of this implementation plan. To ensure that this investment is justified, an organizational structure was developed to facilitate program development and implementation. Figure 6 represents the basic organizational flow chart of the Rainwater Basin Joint Venture.

waterfowl and resource management and is responsible for developing effective plans and programs to meet the RWBJV goal. Like the Management Board, the Technical work team is a permanent component of the organizational framework.

To facilitate continued public input into the planning and implementation process,

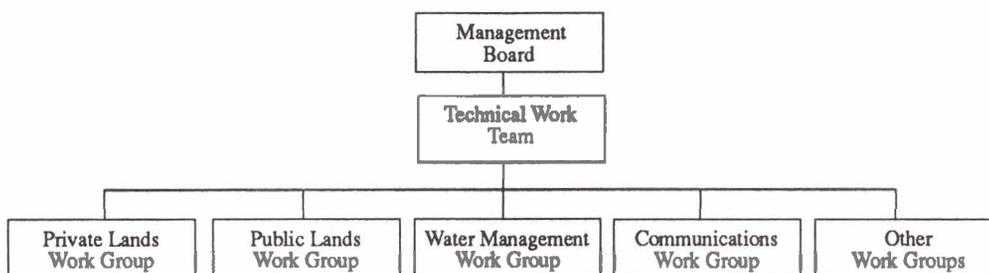


Figure 6. Rainwater Basin Joint Venture organizational flowchart.

After receiving official Joint Venture status from the NAWMP Committee in January, 1991, the RWBJV Management Board was formed to guide and facilitate all planning and implementation activities. The Management Board consists of public, private and corporate leaders representing a diversity of viewpoints with one unified goal of waterfowl habitat maintenance, enhancement and restoration in the Rainwater Basin area.

Along with the Management Board, a Technical Work Team was formed to provide direct technical support to the Management Board. This work team consists of professionals with diverse expertise in wetlands,

small work groups are planned to address specific technical needs. Work groups will be chaired by a Technical Work Team member and consist of interested individuals, organizations and agencies that have a specific interest or expertise in the topic to be addressed. Work groups will facilitate direct public input and participation in program development. Initial work groups will develop recommendations for private lands programs, public lands management, water management and communications. The Management Board will form and disband work groups as appropriate. The Technical Work Team will be responsible for organizing and directing work group activities.

The Need For Plan Flexibility

■ To make this plan an affective document at guiding the maintenance and restoration of migratory bird habitat, it must identify programs that are able to adapt to the needs and desires of landowners. Program flexibility is also essential to maximize the wetland protection opportunities of future federal wetland programs such as the U.S. Department of Agriculture Wetland Reserve Program.

Although this implementation plan identifies specific acreage targets for habitat protection on private lands and for acqui-

The flexibility of the plan will ensure that programs that provide the most publicly acceptable habitat protection initiatives are facilitated.

tion, these targets only serve as general guidance for habitat initiatives rather than being absolute values. The flexibility of the plan will ensure that programs that provide the most publicly acceptable habitat protection initiatives are facilitated.





**A
Framework
For
Wetland
Protection**



The Rainwater Basin Joint Venture Goal

Restore and maintain sufficient wetland habitat in the Rainwater Basin area of Nebraska to assist in meeting population objectives identified in the North American Waterfowl Management Plan.

Habitat levels existing in 1965 were chosen as the benchmark on which objectives are based,...

Population objectives of NAWMP call for a return to a mean 1970 through 1979 population of 62 million breeding ducks, 100 million ducks in the fall flight and 5.5 million wintering geese. The lack of waterfowl population survey data for the Rainwater Basin area during the 1970's and waterfowl dependence on other areas for adequate breeding and wintering habitat preclude establishing area population objectives for migrating ducks and geese. Habitat levels existing in 1965 were chosen as the benchmark on which objectives are based, for two reasons. First, a Rainwater Basin

wetland survey was conducted in 1965 which quantified wetland habitat. Second, it has been hypothesized that wetland losses crossed a threshold in the early 1970's which resulted in the escalation of avian cholera die-offs. These die-offs provide evidence that adequate wetland habitat is not presently available in the Rainwater Basin area. It is proposed that adequate wetland habitat equates to the 32,500 historically inventoried wetland acres and an estimated 4,000 to 5,000 acres of smaller uninventoried wetlands which existed in 1965.



OBJECTIVE 1

Protect, restore, and create an additional 25,000 wetland acres, plus 25,000 acres of adjacent upland habitat.

■ This objective seeks to restore wetland acres and functional values equal to those which existed at the time of the 1965 NGPC Rainwater Basin wetland survey (Gersib et al. 1990).

Approximately 21,000 historically inventoried wetland acres are known to still exist within the Rainwater Basin area. Of these, approximately 12,000 acres have been afforded some form of protection. Objective 1 seeks to protect the remaining 9,000 acres of inventoried wetlands and an estimated 1,000 acres of smaller wetlands which were not inventoried from original soil survey maps. The remaining 15,000 acres of wetlands necessary to reach this objective must come from restoration of degraded wetlands and the creation of new wetlands.

Some degree of wetland loss or degradation can be expected to occur before all existing wetlands are protected. Plan flexibility allows for additional wetland restoration if existing wetlands are lost.

Regardless of whether wetland protection occurs on private or public land, past experience and the best professional judgment of wetland managers indicate that approximately one acre of upland habitat should be protected for each acre of wetland to serve as a vegetated wetland buffer where feasible. This means a total of 50,000 acres will be protected in some manner. Public concern and financial limitations restrict the

opportunity to protect additional upland acres.

Emphasis must be placed on a strong private lands program to protect, enhance, restore and develop wetland habitat without fee title acquisition when possible.

Emphasis must be placed on a strong private lands program to protect, enhance, restore and develop wetland habitat without fee title acquisition when possible. This approach may be most effective at protecting and restoring smaller wetlands and single owner wetlands which exist in this area. However, in some cases, the high degree of loss and the continuing threat of additional losses dictate acquisition by fee title and perpetual easements for long-term protection.

Opportunities also exist for wetland restoration and enhancement on publicly owned lands not acquired for wetland protection purposes. Wetlands exist or once existed on federal and state owned lands (e.g. school lands, USDA Meat Animal Research Center, state highways) within the Rainwater Basin area that can contribute to the RWBJV goal. Efforts will be made to work with each appropriate government entity to ensure that all publicly owned wetlands maximize benefits to migratory waterfowl and water birds.

Strategy 1: *Protect 10,000 acres of existing wetlands, plus associated upland.*

Rationale - Wetland loss and degradation have been so extensive within the Rainwater Basin area that protection of remaining wetlands is necessary to meet Objective 1.

Strategy 1A: *Protect 5000 acres of wetland habitat by implementing a cooperative Private Lands Program.*

Rationale - Due to landowner preference or management constraints, the acquisition of all remaining wetlands within the RWB area is neither feasible, desirable nor practical. Development of options to protect wetlands and maintain private ownership is warranted.

- **Task 1** - Establish a Private Lands Work Group under the Technical Work Team to identify acceptable, efficient methods for protecting wetlands on private land. This committee should consist of Technical Work Team members, private landowners, interested agricultural organizations, University of Nebraska - Lincoln Extension Service personnel, and interested natural resource agencies.
- **Task 2** - Identify programs to support or financially supplement ex-

isting wetland protection programs (e.g. SCS Water Bank and Wetland Reserve Programs) on private land.

- **Task 3** - Provide wetland management technical assistance to enhance waterfowl migration habitat.
- **Task 4** - Provide technical assistance regarding upland habitat management techniques that benefit wildlife.

Strategy 1B - *Acquire 5000 wetland acres from willing sellers by fee title or perpetual easement.*

Rationale - Public ownership is critical to long-term protection of key wetlands within a wetland complex and for enhancing spring staging habitat through intensive management.

- **Task 1** - Identify existing wetlands on both private and public lands from USFWS National Wetland Inventory maps; Soil Conservation Service wetland inventories, county soil surveys and other information sources.
- **Task 2** - Establish evaluation criteria and prioritize acquisition sites. At a minimum, criteria should consider: a) the proportion of protected wetlands to unprotected wetlands in each county, b) a sites ability to assist in dis-

tributing waterfowl evenly throughout the RWB area, c) the ability to acquire a wetlands entire hydric soil area, d) the need to acquire the privately owned portions of wetlands that are otherwise in public ownership, e) the diversity of wetland types provided by nearby wetlands, f) alterations to the historic watershed, g) disease history, and h) prior use (i.e. animal, agricultural and chemical use).

- **Task 3** - Assure adequate realty support to satisfy acquisition needs.
- **Task 4** - Pursue the use of fee title and perpetual easements through USDA programs.

Strategy 2 - Restore and protect 12,000 acres of degraded or destroyed wetlands, plus associated upland.

Rationale - Wetland loss and degradation have been so extensive within the RWB area that wetland restoration is necessary to meet Objective 1.

Strategy 2A - Restore and protect 6,000 acres of degraded or destroyed wetlands through a cooperative Private Lands Program.

Rationale - Due to landowner

preference and management constraints, acquisition for restoration is neither desirable nor feasible in many instances. Development of wetland restoration options that maintain private ownership is warranted.

Wetland loss and degradation have been so extensive within the RWB area that wetland restoration is necessary to meet Objective 1.

- **Task 1** - Identify potential wetland restoration sites by overlaying soil survey maps with National Wetland Inventory maps.
- **Task 2** - Apply the U.S. Army Corps of Engineers Wetland Restoration Predictive Hydrology Model to assess restoration feasibility for sites larger than 10 acres.
- **Task 3** - Use available technology and professional expertise to assess restoration feasibility of sites less than 10 acres in size.
- **Task 4** - Use the Private Lands Work Group to identify publicly acceptable, cost effective techniques that restore wetland hydrology while allowing landowners to continue farming the wetland. Examples include: a) construction of

water control structures in surface drains to impound water outside the time period when crops are being grown, and b) pumping water from a pit into a wetland after harvest to provide surface water during migration; water is then drained from the wetland back into the pit in preparation for spring field work.

- **Task 5** - Use the Private Lands Work Group to identify publicly acceptable, cost effective techni-

ing and mechanical treatment, and d) providing technical assistance to landowners regarding management techniques that benefit wildlife.

- **Task 6** - Facilitate establishment and implementation of the USDA Wetland Reserve Program for Nebraska. Provide technical assistance and/or additional incentives to make this program successful in the RWB area.
- **Task 7** - Determine target acreages by county for the restoration of wetlands on private land based, in part, on the proportion of existing wetlands to historic wetlands.

In some cases acquisition by fee title or perpetual easement will be necessary and desirable to restore wetlands.

ques that restore wetlands and natural wetland vegetation on private land. Examples include: a) the establishment of a program to construct water control structures, drain plugs and the filling of pits on private land to restore natural wetland hydrology and vegetation, b) the establishment of a program to seed upland buffer strips to permanent grass vegetation of high value to upland nesting birds, c) providing recommendations for the control of woody vegetation in and near wetlands through controlled burn-

Strategy 2B - *Restore and protect 6,000 acres of degraded or destroyed wetlands by fee title acquisition or perpetual easement on a willing seller basis.*

Rationale - Public ownership is critical to long-term protection and management of key wetlands within a complex. Large historic wetland areas with multiple owners reduce the opportunity to meet Objective 1 using only a private lands program. In some cases acquisition by fee title or perpetual easement will be necessary and desirable to restore wetlands.

- **Task 1** - Identify potential wet-

land restoration sites on both private and public lands by overlaying soil survey maps with National Wetland Inventory maps.

- **Task 2** - Determine target acreages for restoration by county.
- **Task 3** - Use the Corps of Engineers Wetland Restoration Predictive Hydrology Model to assess restoration feasibility of each site.
- **Task 4** - Use evaluation criteria established in Strategy 1B to prioritize restoration sites.
- **Task 5** - Identify publicly acceptable, cost effective means of restoring wetlands. Examples include the construction of water control structures and drain plugs and the filling of pits to restore natural wetland hydrology and vegetation.

Strategy 3 - Create and protect 3,000 acres of new wetlands, plus associated upland.

Rationale - Opportunities exist for the creation of new wetland habitat on public and private land in the Rainwater Basin area. While artificial wetlands can not replace the values provided by natural wetlands, they can enhance the values of existing wetlands.

Strategy 3A - Create and protect 1500 acres of new wetlands on private land.

Rationale - Due to landowner preference and management constraints, wetland creation efforts on private land are a desirable, cost effective means of supplementing existing wetland resources.

- **Task 1** - Use the Private Lands Work Group to identify creative, cost effective techniques for creating wetlands on private land.
- **Task 2** - Facilitate the implementation of private wetlands creation projects by providing technical assistance and financial incentives.
- **Task 3** - Establish evaluation criteria and prioritize wetland creation projects on private land. At a minimum, criteria should consider: a) a sites probability of holding water during spring and fall migration periods, b) what portion of the wetland is less than three feet deep, c) the relative location to historic wetland complexes targeted for restoration, d) the ability to assist in distributing waterfowl throughout the entire RWB area, e) cost per wetland acre and f) water source.

Strategy 3B - Create and protect 1500 acres of new wetlands on public land.

Rationale - Cooperative efforts with government agencies responsible for land management and surface water projects can provide a cost effective means of providing additional wetland habitat.

- **Task 2** - Work with Nebraska Department of Roads and county road departments to create migratory water bird habitat when constructing borrow areas during road construction.
- **Task 3** - Identify and incorporate acceptable project modifications that enhance values to migratory water birds.



- **Task 1** - Work with the Natural Resource Districts and the Nebraska Natural Resources Commission to identify new flood control dams or modifications to existing impoundments, groundwater recharge impoundments, flood retention cells and other water holding structures planned for each district that have the potential to provide waterfowl migration and spring staging habitat.
- **Task 4** - Facilitate the implementation of cooperative wetland creation projects by providing project endorsement and financial incentives.
- **Task 5** - Establish evaluation criteria and prioritize wetland creation projects on public land. At a minimum, criteria listed under Strategy 3A should be considered.

Objective 2

Provide reliable water sources for a minimum of 1/3 of all protected wetland acres to assure sufficient water quantity, quality, and distribution to meet migratory waterfowl and water bird needs.

Avian cholera die-offs that have occurred in Rainwater Basin wetlands each year since 1975 may be attributed, in part, to the loss and degradation of wetland habitat. Direct wetland degradation and indirect watershed modifications have resulted in nearly all remaining Rainwater Basin wetlands being reduced in both size and water permanence. This indicates that it will be necessary to protect both the wetland and the wetland water source to ensure that long-term waterfowl benefits are maintained. Where water source protection is not possible, as in the case of watershed modifications, alternative water sources will need to be developed. The identification and selection of alternative water sources should be based, at least in part, on the need to distribute water and water birds throughout the entire Rainwater Basin area. It is proposed that a minimum of 1/3 of all protected wetland acres possess water of adequate depth and quality during migration periods each year to ensure adequate habitat for migrating water birds.

Strategy 1 - Establish a Water Management Work Group to coordinate with NRD's, Nebraska Department of Water Resources, Nebraska Natural Resources Com-

mission, Nebraska Department of Environmental Quality, local irriga-

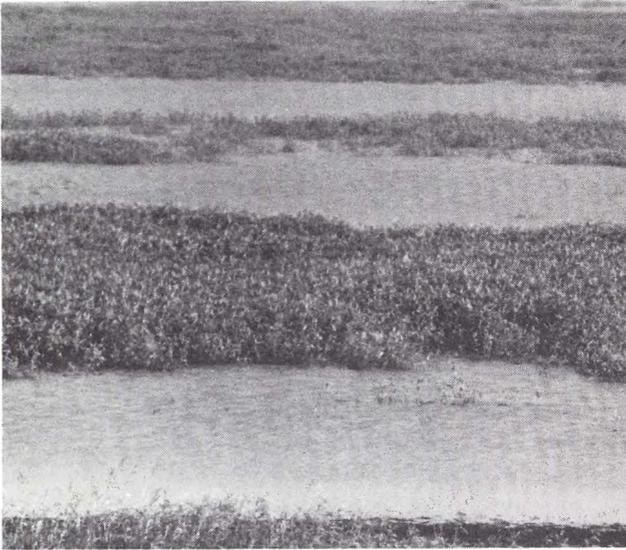
Direct wetland degradation and indirect watershed modifications have resulted in nearly all remaining Rainwater Basin wetlands being reduced in both size and water permanence.

tion districts and others to identify supplemental water sources of acceptable quantity and quality for RWB wetlands.

Rationale - A wetland's location dictates the supplemental water source options available to managers. To most effectively meet Objective 2, these options must be identified and assessed in relation to concerns from area residents, the quality of the water source and the need to distribute water birds throughout the area to reduce the risk of major avian cholera die-offs.

- **Task 1** - Identify acceptable supplemental water source options. Some options include: a) pumping groundwater directly into wetlands, b) contracting for ground and surface water from land-

owners or through an established delivery system, c) receiving irrigation return flows, d) increasing natural runoff through the restoration of altered watersheds that restrict flows from reaching wetlands, e) high-flow stream diver-



sions into wetlands, and f) the construction of flood control reservoirs and road structures that can supplement natural wetland water levels.

- **Task 2** - Assess the feasibility of supplemental water source options for each protected wetland by estimating the cost per acre-foot of water for each water

source option and by ranking their public acceptance level.

- **Task 3** - Establish guidelines for the quality of supplemental water sources.

Strategy 2 - *Assess and prioritize protected wetlands to determine which warrant supplemental water sources. Sites should: a) be cost effective and publicly acceptable, b) aid in distributing waterfowl throughout the RWB area, c) diversify the wetland types available for water bird use, and d) involve private landowner participation when available.*

Rationale - Priorities must be established to enhance habitat values provided through the use of supplemental water sources.

Strategy 3 - *Develop an annual RWB water management program that addresses the estimated quantity of water needed, the timing of water delivery and distribution needs.*

Rationale - To properly fund a supplemental water program for RWB wetlands, cost estimates must be developed each year. An annual water management plan would assess existing conditions and identify where water is needed and in what amounts.

Objective 3

Develop and implement wetland enhancement strategies to optimize those values wetlands provide to waterfowl, endangered species and other water birds.

Wetlands require vegetation management to optimize spring staging values to waterfowl.

■ Wetlands require vegetation management to enhance spring staging values to waterfowl. Abundant emergent vegetation can physically hinder waterfowl use, and insufficient vegetation can reduce the nutritional benefits provided to waterfowl. Wetland management strategies and techniques are needed on both private and public land to ensure that each wetland provides maximum values to waterfowl, endangered species and other water birds.

Strategy 1 - Identify acceptable wetland management options and programs that assist landowners in managing wetlands on private land.

Rationale - To ensure that privately owned wetlands provide maximum habitat values to water birds, a program must be established and made available to landowners that identifies habitat enhancement needs and provides financial incentives to meet those needs.

- **Task 1 - Utilize the Private Lands Work Group to identify acceptable, cost effective programs to manage wetlands on private land.**

Strategy 2 - Use the Public Lands Work Group to identify RWB wetland management techniques and best management practices to manage wetlands on public land.

Rationale - Wetlands provide different values to waterfowl and other water birds depending on water depth and permanence. Management options must be identified that can be used to provide high quality migration habitat for a variety of species.

- **Task 1 - Review existing literature and databases and assemble information on the field experiences of Technical Work Group members and other professional wetland managers to develop wetland habitat management practices for RWB wetlands. At a**



minimum, management practices should establish: a) open water to vegetation ratios for each wetland type, b) frequency and extent of supplemental water use, c) water level management criteria for creating exposed shorelines/mudflats for shorebirds, d) criteria for the management of upland vegetation, and e) criteria for the management of woody vegetation.

- **Task 2** - Use the technical information gathering process identified in Task 1 above to identify wetland management tools available to achieve best management practices. Examples of management tools include specialized

grazing rotations, flooding schedules for wetlands, mechanical manipulation, supplemental water schedules, haying and prescribed burning.

- **Task 3** - Comply with all state noxious weed laws.
- **Task 4** - Monitor for the presence/expansion of purple loosestrife and control where necessary.
- **Task 5** - Minimize exposure of waterfowl and other water birds to disease organisms through early recognition of disease outbreaks and implementation of management techniques to reduce the risk of bird loss.

Comprehensive Strategy 1

Develop a broad base of support and cooperation among local, regional and national interests.

Rationale - Other Joint Ventures have clearly shown that a broad base of public support is needed for a large-scale wetland protection initiative to be successful. Communication and cooperation with the public are essential components of gaining this support. Public comments from the June 29, 1991 RWBJV facilitated scoping meeting support this strategy.

- **Task 1** - Create a favorable atmosphere for wetland protection and restoration in the RWB area through communication, cooperation and mutual respect. Examples include: a) conducting meetings to gain landowner input before programs are developed, b) encouraging participation by landowners and agricultural organizations throughout the RWBJV process, c) recognize individuals or communities that become RWBJV partners, d) develop a RWBJV newsletter that informs and communicates with landowners and the agricultural community and e) reducing public confusion by clearly defining responsibilities of various agencies regarding wetland

regulatory programs such as Section 404 of the Clean Water Act, Swampbuster, the Advanced Iden-

Communication and cooperation with the public are essential components of gaining support.

tification Program and Joint Venture.

- **Task 2** - Develop a broad base of local, regional and national support from conservation organizations, businesses, corporations and interested individuals. Examples include: a) developing an aggressive information program to inform organizations, businesses, corporations, and key individuals that their involvement is needed to protect this internationally important natural resource, b) recognize individuals, organizations, businesses and corporations that become RWBJV partners, c) developing a newsletter to inform partners, prospective partners and landowners of RWBJV activities, d) producing and distributing an

annual report to inform the public of RWBJV accomplishments, e) establishing an active public relations campaign that may include print and broadcast media, informal update meetings, a speakers bureau, special events participation (i.e. county fairs), tours, team building seminars and programs such as the Adopt-A-Wetland for schools and organizations, f) identifying ways to increase local tourism and improve the local

economy, g) developing educational programs that emphasize the social and economic values of wetlands along with the wildlife values, h) develop flagship projects and demonstration projects to highlight and illustrate RWBJV wetland programs and i) promoting sustainable agriculture and other farming practices that reduce the level of farm chemicals and other environmental contaminants entering wetlands.



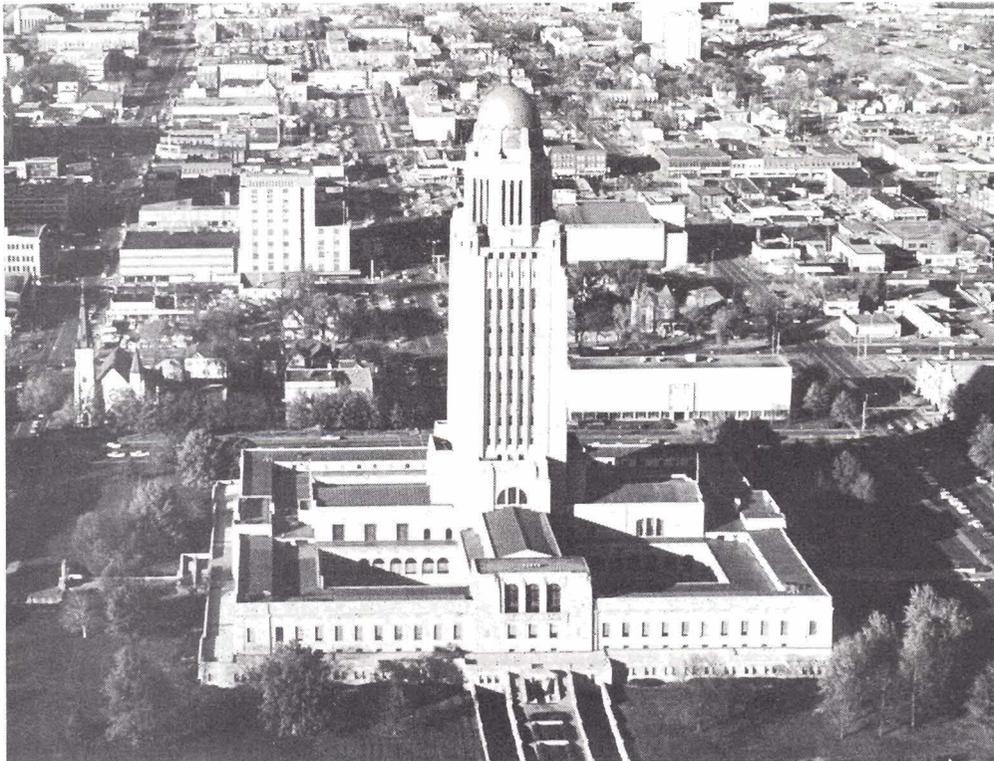
Comprehensive Strategy 2
Support legislative programs and administrative actions that assist in meeting the RWBJV and NAWMP goals.

Rationale - While the RWBJV is based on cooperative programs and incentives to protect wetlands, legislation can be used to develop the incentives necessary for wetland protection.

- **Task 1** - Monitor wetland related

legislation and develop proposals for new legislation.

Task 2 - Establish and maintain open lines of communication with state legislators and Nebraska's Congressional delegation.



Comprehensive Strategy 3

Develop funding sources to: a) meet the estimated \$3 million average annual cost of RWB habitat protection, restoration and creation, b) provide supplemental water sources necessary to ensure that one-third of all protected wetlands have water during migration periods, c) operate and maintain publicly owned or managed RWB wetlands.

Rationale - The protection and maintenance of 25,000 acres of wetland habitat plus associated upland cover will require significant effort and financial commitments from Joint Venture partners. All tasks identified in this plan are dependent upon public, private and corporate support for implementation. Without funding, the RWBJV goal cannot be met.



- **Task 1** - Submit a minimum of \$2,000,000 in acquisition and restoration projects to the USFWS

and North American Wetlands Conservation Council for funding each year.

- **Task 2** - Facilitate state funding through enactment of environmental funding legislation, customized license plates and other creative means of funding through state legislation.
- **Task 3** - Facilitate private donations through the use of tax deductible foundations or other similar organizations.
- **Task 4** - Facilitate private donations through creative funding mechanisms such as the Adopt-A-Wetland program.
- **Task 5** - Facilitate conservation organization donations through the identification and promotion of projects in need of funding.
- **Task 6** - Facilitate corporate donations by using the fund raising staff resources of Region 6, U.S. Fish and Wildlife Service, private conservation organizations and foundations.

Comprehensive Strategy 4
Conduct research to fill existing wetland/water bird data gaps, increase understanding of RWB wetland values and optimize protection and enhancement activities.



Rationale - While it is clear that RWB wetlands provide essential spring staging habitat for waterfowl and other water birds, there is limited understanding of wetland/water bird relationships and water bird response to management activities. Research can improve the understanding necessary to most effectively meet stated objectives.

- **Task 1** - Identify, assess and prioritize research needs.
- **Task 2** - Coordinate and facilitate wetland/water bird research activities in the RWB area.

Comprehensive Strategy 5

Adapt the North American Waterfowl Management Plan Evaluation Strategy to assess accomplishments of all phases of wetland protection, restoration, creation and enhancement in the RWB area.

Project evaluation is necessary to fine tune implementation activities and maintain support for Joint Venture programs.

Rationale - Project evaluation is necessary to fine tune implementation activities and maintain support for Joint Venture programs.



Task 1 - Numerically track habitat protection, restoration, creation and enhancement accomplishments.

- **Task 2** - Monitor status of RWB wetland habitat and wetland dependent wildlife populations through the use of inventories, surveys and disease monitoring.
- **Task 3** - Develop evaluation mechanisms necessary to guide management programs and ensure proper RWBJV implementation.
- **Task 4** - Compile an annual report that assesses accomplishments in relation to stated objectives.
- **Task 5** - Implement a Geographic Information System to assist in habitat assessment. The database should be interactive and available to all participants.



Priority Tasks 1992-1996

Many of the priority tasks require specific programs to be identified. When completed, each program, with a list of projects, will be maintained by the Joint Venture Coordinator and made available to all prospective Joint Venture partners.

The Implementation Plan provides a general planning framework for reaching the Rainwater Basin Joint Venture goal. This framework will be successful only with the combined efforts of a diverse group of public, private and corporate partners. To ensure that identified tasks are completed expeditiously, tasks have been prioritized and assigned a deadline and responsible person, agency or work group. Tasks are presented in the order in which they occur in the Implementation Plan with references to the appropriate objectives and strategies.

Many of the priority tasks require specific programs to be identified. When completed, each program, with a list of projects, will be maintained by the Joint Venture Coordinator and made available to all prospective Joint Venture partners.

1. Establish a Private Lands Work Group responsible for developing the overall RWBJV Private Lands Program.
 - a. Responsibility: RWBJV Technical Work Team
 - b. Completed: May 1, 1992
 - c. Reference: Objective 1, Strategy 1A, Task 1
2. Develop a Private Lands Wetland Protection Program that identifies publicly acceptable, cost effective programs and techniques for protecting, restoring, creating and managing wetlands on private land.
 - a. Responsibility: Private Lands Work Group
 - b. Deadline: January 1, 1993
 - c. References: Objective 1, Strategy 1A, Tasks 2
Objective 1, Strategy 2A, Tasks 4,5
Objective 1, Strategy 3A, Tasks 1,2
Objective 3, Strategy 1, Task 1
3. Hire a full-time RWBJV Coordinator, two full-time Private Lands Biologists and appropriate support staff to facilitate RWBJV implementation.
 - a. Responsibility: U.S. Fish and Wildlife Service, Nebraska Game & Parks Commission
 - b. Deadline: January 1, 1993
 - c. Reference: Coordinator - All Strategies
Biologists - Objective 1, Strategy 1A, Tasks 3,4
Objective 1, Strategy 3A, Task 2

4. Write the Resource Development Program that identifies and prioritizes all existing wetlands and all wetland restoration sites suitable for protection. Evaluation criteria will be established to prioritize wetland creation projects.
 - a. Responsibility: Technical Work Team
 - b. Deadlines: partial site list - October 1, 1992, completed plan - January 1, 1993
 - c. References:
 - Objective 1, Strategy 1B, Tasks 1,2
 - Objective 1, Strategy 2A, Tasks 1,2,3,7
 - Objective 1, Strategy 2B, Tasks 1,2,3,4
 - Objective 1, Strategy 3A, Task 3
 - Objective 1, Strategy 3B, Task 5
5. Assure adequate realty support to satisfy acquisition needs.
 - a. Responsibility: U.S. Fish and Wildlife Service, Nebraska Game & Parks Commission
 - b. Deadline: January Annually
 - c. Reference:
 - Objective 1, Strategy 1B, Task 3
6. Work closely with USDA in the development and implementation of farm programs that affect wetlands. Explore ways to increase USDA program effectiveness in the RWB area by supplementing federal programs with Joint Venture moneys.
 - a. Responsibility: RWBJV Coordinator (NGPC/USFWS)
 - b. Deadline: Ongoing
 - c. References:
 - Objective 1, Strategy 1B, Task 4
 - Objective 1, Strategy 2A, Task 6
7. Establish a Public Lands Work Group responsible for identifying publicly acceptable wetland management techniques on wetlands and developing a list of best management practices for public lands.
 - a. Responsibility: RWBJV Technical Work Team
 - b. Completed: May 1, 1992
 - c. References:
 - Objective 1, Strategy 2B, Task 5
 - Objective 3, Strategy 1,2
8. Identify acceptable wetland management techniques and develop best management practices for public lands.
 - a. Responsibility: Public Lands Work Group
 - b. Deadline: January 1, 1993
 - c. References:
 - Objective 1, Strategy 2B, Task 5
 - Objective 1, Strategy 3B, Task 3
 - Objective 3, Strategy 1,2
9. Work with the Natural Resource Districts, Nebraska Department of Roads and other public or private organizations to identify and facilitate impoundment or excavation projects that provide additional wetland habitat in the RWB area.

- a. Responsibility: RWBJV Coordinator (NGPC/USFWS)
 - b. Deadline: Ongoing
 - c. Reference: Objective 1, Strategy 3B, Tasks 1,2,3,4
10. Establish a Water Management Work Group to identify publicly acceptable supplement water sources for wetlands.
- a. Responsibility: RWBJV Technical Work Team
 - b. Completed: May 1, 1992
 - c. Reference: Objective 2, Strategy 1
11. Develop a Water Management Program that identifies and prioritizes publicly acceptable water source options. Assess and prioritize protected wetlands to determine which warrant supplemental water sources.
- a. Responsibility: Water Management Work Group
 - b. Deadline: January 1, 1993 with annual updates
 - c. References: Objective 2, Strategy 1,2,3
12. Produce a Habitat Handbook as a primary source of information regarding wetlands and wetland issues in the RWB area for distribution to local, state and federal agencies.
- a. Responsibility: US Fish and Wildlife Service, Technical Work Team
 - b. Deadline: January 1, 1993
 - c. Reference: Comprehensive Strategy 1, Task 1
13. Produce and distribute a RWBJV newsletter.
- a. Responsibility: Communication Work Group
 - b. Deadline: Quarterly
 - c. Reference: Comprehensive Strategy 1, Task 1,2
14. Identify and develop a minimum of two "flagship" projects for RWBJV annually.
- a. Responsibility: RWBJV Technical Work Team
 - b. Deadline: Annually (February 15 deadline)
 - c. Reference: Comprehensive Strategy 1, Task 2
15. Produce a report that evaluates and summarizes RWBJV progress using established evaluation procedures.
- a. Responsibility: RWBJV Coordinator (NGPC/USFWS)
 - b. Deadline: Annually (February 15 deadline)
 - c. References: Comprehensive Strategy 1, Task 2
Comprehensive Strategy 5, Task 4

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16. Develop a Public Relations Program that targets events (i.e. county fairs, tours), informational meetings, publications and programs planned for the upcoming year.
 - a. Responsibility: Communication Work Group
 - b. Deadline: Annually (December 15 deadline)
 - c. Reference:
Comprehensive Strategy 1, Task 2
 17. Develop a Recognition Program to acknowledge landowners, RWBJV partners, legislators, companies and private individuals that have made significant contributions toward achieving the RWBJV goal.
 - a. Responsibility: Communication Work Group
 - b. Deadline: January 1, 1993
 - c. Reference:
Comprehensive Strategy 1, Task 2
 18. Promote sustainable agricultural practices that reduce the level of chemicals and other environmental contaminants entering wetlands.
 - a. Responsibility: Communication Work Group, Private Lands Work Group
 - b. Deadline: Ongoing
 - c. Reference:
Comprehensive Strategy 1, Task 2
 19. Identify and prioritize wetland/water bird research needs. Review and assess priority status annually.
 - a. Responsibility: Technical Work Team
 - b. Deadline: January 1, 1993
 - c. Reference:
Comprehensive Strategy 4, Task 1
 20. Coordinate and facilitate wetland/water bird research activities in the RWB area.
 - a. Responsibility: RWBJV Coordinator (NGPC/USFWS)
 - b. Deadline: Ongoing
 - c. Reference:
Comprehensive Strategy 4, Task 2
 21. Adapt the North American Waterfowl Management Plan Evaluation Strategy to stated RWBJV objectives necessary to track, monitor and assess Joint Venture progress.
 - a. Responsibility: Technical Work Team
 - b. Deadline: January 1, 1993
 - c. References:
Comprehensive Strategy 5, Tasks 1,2,3

22. Develop and coordinate a "menu" based program format that provides landowners and prospective Joint Venture partners with a list of wetland protection programs/options that are available to assist in meeting stated objectives.
 - a. Responsibility: RWBJV Coordinator (NGPC/USFWS)
 - b. Deadline: January 1, 1993
 - c. Reference: All Strategies
23. Evaluate the RWBJV implementation plan after one year, three years and then every five years thereafter to maximize progress toward stated goal and objectives and assure compliance with NAWMP.
 - a. Responsibility: RWBJV Coordinator (NGPC/USFWS)
 - b. Deadline: January 15, 1994 and January 15, 1996
 - c. Reference: All Strategies





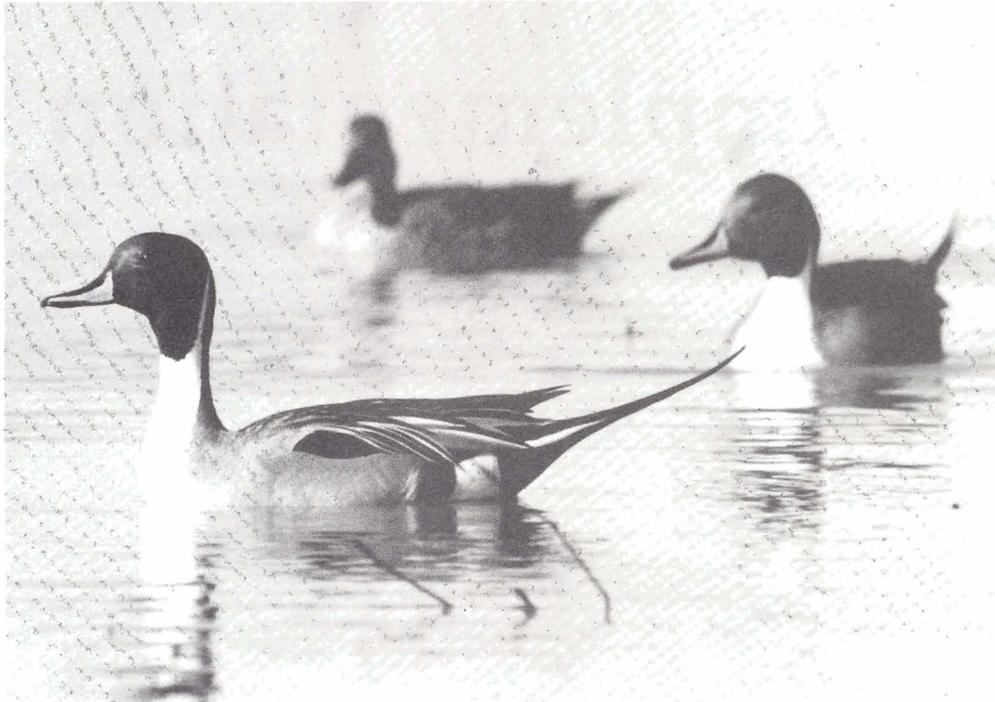
**Cost
Of
Implementation**

The Importance of Stable Funding

...without a stable diversified funding base this Joint Venture will not succeed.

Nebraska's geographic location and natural endowment of migratory bird habitat places the state in a position of responsibility and opportunity to contribute to the needs of North America's waterfowl and water bird resources. Nowhere is this opportunity greater than in the Rainwater Basin area of southcentral Nebraska.

Accepting this immense responsibility requires a commitment of substantial time and money. Significant time has already been spent developing programs that will protect this critical wetland habitat, but without a stable diversified funding base this Joint Venture will not succeed.



How Much Will It Cost

■ To provide the quantity and quality of habitat that existed in 1965, it is estimated that approximately 25,000 wetland acres and an equal amount of upland habitat must be protected on private and public land (Table 1).

nual acreage figure to calculate a first year cost (Table 2). It is estimated that 15-year contracts will require an annual obligation of approximately \$90,600 to protect 1680 acres. Each year of the 15-year planning horizon, an additional 1680 acres will need

Table 1. Rainwater Basin Joint Venture preliminary acreage totals by program.

Technique	Acquisition by Fee Title or Perpetual Easement		Private Lands Program		Totals	
	Wetland	Upland	Wetland	Upland	Wetland	Upland
Protect Existing Wetlands	5,000	5,000	5,000	5,000	10,000	10,000
Restore Degraded Wetlands	6,000	6,000	6,000	6,000	12,000	12,000
Create New Wetlands	1,500	1,500	1,500	1,500	3,000	3,000
Totals	12,500	12,500	12,500	12,500	25,000	25,000

The following cost summary is not a rigid economic analysis but basic preliminary cost estimates provided to assist Joint Venture partners in grasping the financial commitment needed to reach the goal. No attempt was made to adjust project costs for inflation over the 15-year project period.

to be placed under contract, requiring an additional \$90,600 annual obligation. At the end of the 15-year project period (2006), 25,000 acres will be under Private Lands Program contracts at an estimated annual cost of \$1,359,000. This level of protection will need to be provided in perpetuity to maintain the Rainwater Basin Joint Venture goal.

Private Lands Program

Private Lands Program acreage totals identified in Objective 1 and summarized in Table 1 were used to calculate an average annual acreage figure for the 15-year project period. Estimated cost per acre per year was developed for each program category and multiplied by the average an-

It should be noted that a 15-year contract period was used as a convenient means to estimate the annual cost of the Private Lands Program. In reality, a balanced Private Lands Program will be provided that consists of various short and long-term contracts to best suit individual landowner needs.

Table 2. Preliminary Private Lands Program acreage and cost estimates.

Technique	Average Acres/Year	Average Cost/Acre Year	Estimated First Year Cost	Average Contract Term	Estimated Annual Cost Year 15 ¹
Protect Existing Wetlands	340	\$30	\$10,200	15 Yr.	\$ 153,000
Associated Uplands	340	60	20,400	15 Yr.	306,000
Restore Degraded Wetlands	400	60 ²	24,000	15 Yr.	360,000
Associated Upland	400	60	24,000	15 Yr.	360,000
Create New Wetlands	100	60 ²	6,000	15 Yr.	90,000
Associated Upland	100	60	6,000	15 Yr.	90,000
Totals (Private Land Totals)	1,680 acres		\$90,600		\$1,359,000

¹Cost will escalate by \$90,600 per year through year 15 because an additional 1,680 acres will be placed under contract annually. Cost will stabilize at year 15+ because acreage goals have been achieved and new contracts will only be written to replace expired contracts.

²Cost reflects land value plus development expense.

Public Lands Program

Public Lands Program acreage totals identified in Objective 1 and summarized in Table 1 were used to calculate an average annual acquisition acreage figure for the 15-year project period. An average cost per acre was established for each acquisition category and multiplied by the number of acres to be protected each year to get an annual cost total (Table 3). It is estimated that approximately \$2,370,000 will be needed to acquire 1680 acres annually for the 15-year project period.

Adequate funding for operations and maintenance (O&M) activities on lands acquired in fee title is essential to meet the goal. While annual O&M costs are not estimated in this plan, partners responsible for

habitat management after acquisition must develop adequate funding to support habitat management activities.

Annual funding requirements for the Private and Public Lands Programs are summarized in Figure 7. It is estimated that total annual funding needs for these programs range from \$2,460,000 in 1992 to \$3,729,000 in 2006. In all, \$50 million will be needed to reach the Rainwater Basin Joint Venture goal. After the 15-year project period ends in 2006, estimated annual program costs will drop to approximately \$1,400,000 to maintain Private Lands Program contracts and acquire wetlands when available.

Table 3. Preliminary acquisition acreage and cost estimates.

Category	Average Acres/Year	Average Cost/Acre	Estimated Cost/Year
Protect Existing Wetlands	340	\$1,000	\$ 340,000
Associated Upland	340	1,500	510,000
Restore Degraded Wetlands	400	2,000 ¹	800,000
Associated Upland	400	1,500	600,000
Create New Wetlands	100	600 ¹	60,000
Associated Upland	100	600	60,000
Public Land Totals	1,680		\$ 2,370,000

¹Cost reflects land value plus development expense.



plaques and other informational and promotional items necessary to establish and maintain this program.

**Communication
Public
Relations
Program**

■ Additional expense will be incurred through the development and implementation of an effective communication and public relations program. A newsletter, annual reports, press releases, promotional activities and recognition programs will be essential components of any successful Joint Venture. While no line-item cost estimates are available, it is realistic to assume an annual cost of \$20,000 for printing, postage,

The implementation of all objectives and comprehensive strategies will require significant personnel costs which are in addition to the private and public land program costs identified earlier. Funding for a Joint Venture coordinator and Private

Lands biologists and the time commitment of the Management Board. Technical Work Team, Work Groups, clerical staff and other RWBJV partners equates to a substantial funding commitment annually. While no estimates are available on personnel costs necessary to implement this Joint Venture, it is obvious that personnel commitments by many partners will be necessary to reach the RWBJV goal.

Personnel

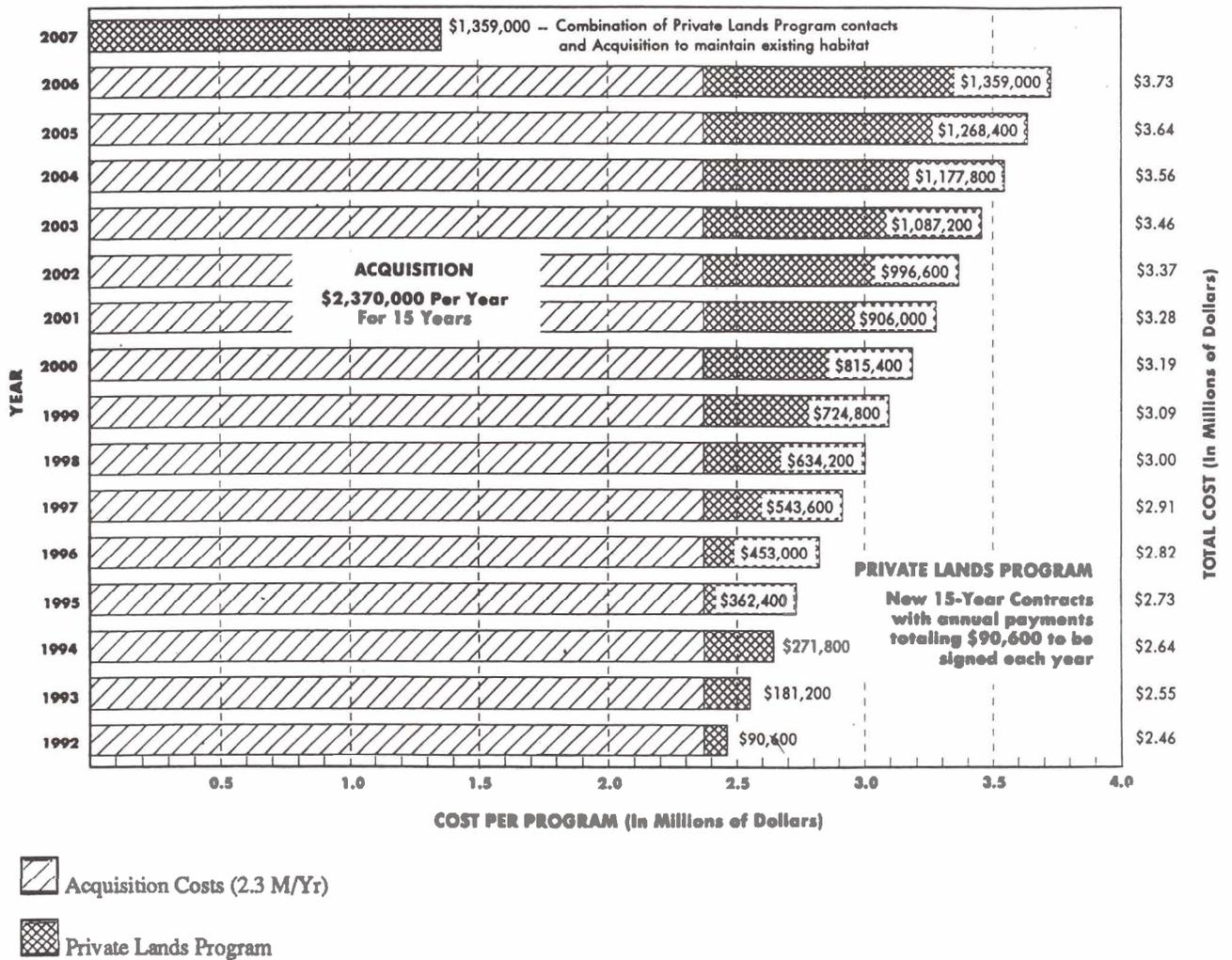


Figure 7. Rainwater Basin Joint Venture annual funding requirements.

Who Pays The Bills

To be successful, financial support must come from many committed Americans and the organiza-

■ The Rainwater Basin Joint Venture will be funded by voluntary contributions from a broad base of individuals, businesses, organizations, corporations and governmental agencies committed to wetland protection. This initiative can not be successful without adequate funding.



In the past, hunters and trappers have been the primary funding source for federal and state wetland protection activities. This funding must continue, but only as one funding component rather than the sole source of revenue. To be successful, financial support must come from many committed Americans and the organizations, businesses and corporations that they represent.

The \$3 million annual cost of the private lands and public lands programs represents a tremendous financial challenge for all Joint Venture partners. Further, major costs for personnel associated with the development and implementation of this plan and the increased cost of the operation and maintenance of protected wetlands are in addition to the \$3 million annual cost of wetland protection programs. To meet this financial obligation, new fund raising initiatives must be developed and existing funding sources expanded. For these initiatives to be successful, the development of a broad base of public support at the grass roots level will be essential. Everyone can and must participate in this effort. However, as with all Joint Ventures, some partners are capable of effective fund raising initiatives while others are more effective at developing public support. Each partner must individually assess where they can most effectively contribute to this monumental effort.

Table 4 identifies partners that have provided personnel to serve on the RWBJV Management Board or Technical Work Team and/or contributed money to wetland protection initiatives since Rainwater Basin Joint Venture activities were initiated in

1989. This list does not recognize the many individuals and organizations that contributed to the development of this plan or the private landowners that are participating in private land programs.

Table 4. Agency/Organization involvement in Rainwater Basin Joint Venture, 1989-1992.

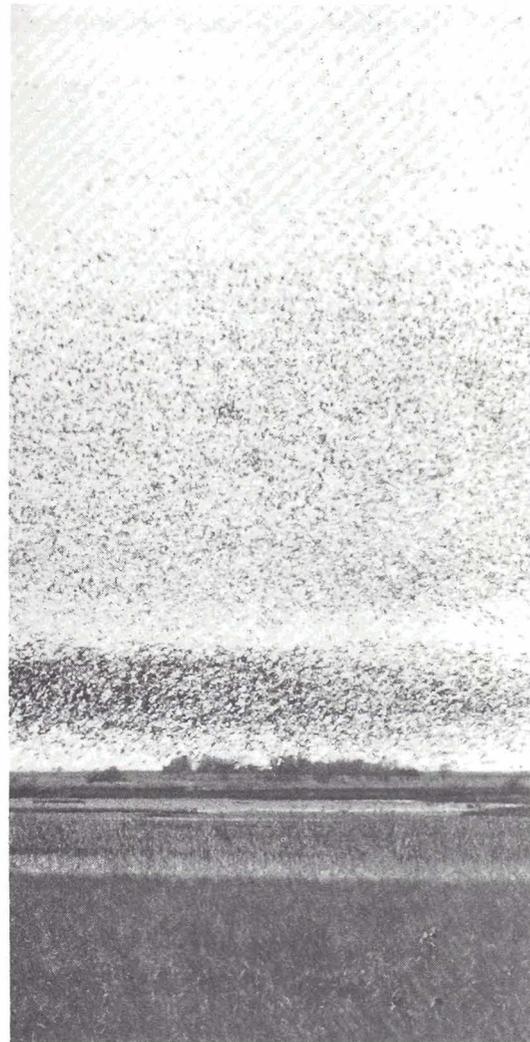
Agency/ Organization	Funding Provided		
	Personnel	Private Lands Program	Wetland Acquisition Restoration
Nebraska Game and Parks Commission	X	X	X
U.S. Fish & Wildlife Service	X	X	X
Ducks Unlimited	X		X
The Nature Conservancy	X		X
Little Blue NRD & Upper Big Blue NRD	X	X	
Soil Conservation Service	X	X	
Nebraska Natural Resources Commission	X		
University of Nebraska - Lincoln	X		
Nebraska Association of County Officials	X		

How Will Funds Be Handled

A menu of projects will be developed to identify specific funding and organizational needs which will be required to meet the RWBJV goal.

■ The Rainwater Basin Joint Venture is designed to maintain the individual integrity of each participating organization or agency regarding fund raising and the use of all funds generated by partners. A menu of projects will be developed to identify specific funding and organizational needs which will be required to meet the RWBJV goal. Joint Venture partners will select the projects which they wish to administer and/or fund. Individuals, businesses, corporations and agencies who also wish to financially contribute toward the Joint Venture can do so through the Rainwater Basin Joint Venture partner of their choice.

An example of this type of individual participation can be found in the Private Lands Program. This program will identify payment rates for landowners who protect wetlands and associated uplands on their property. The program will be administered by the U.S. Fish and Wildlife Service, but organizations like Ducks Unlimited may choose to commit money each year to protect wetland acres on private land, while Pheasants Forever may choose to earmark moneys they have raised for the protection of upland habitat around wetlands. In this example, Ducks Unlimited and Pheasants Forever raised their own money and selected the specific project that best fit within each organizations mission.



A Menu Of Wetland Protection Projects

The Rainwater Basin Joint Venture Implementation Plan working groups will be identifying specific projects and programs that are designed to meet the stated goal. These proposed activities will be compiled in a menu based format to facilitate selection

and implementation by Joint Venture partners. This updated list of projects and programs for funding will be maintained by the Joint Venture Coordinator and made available to all prospective Joint Venture partners.



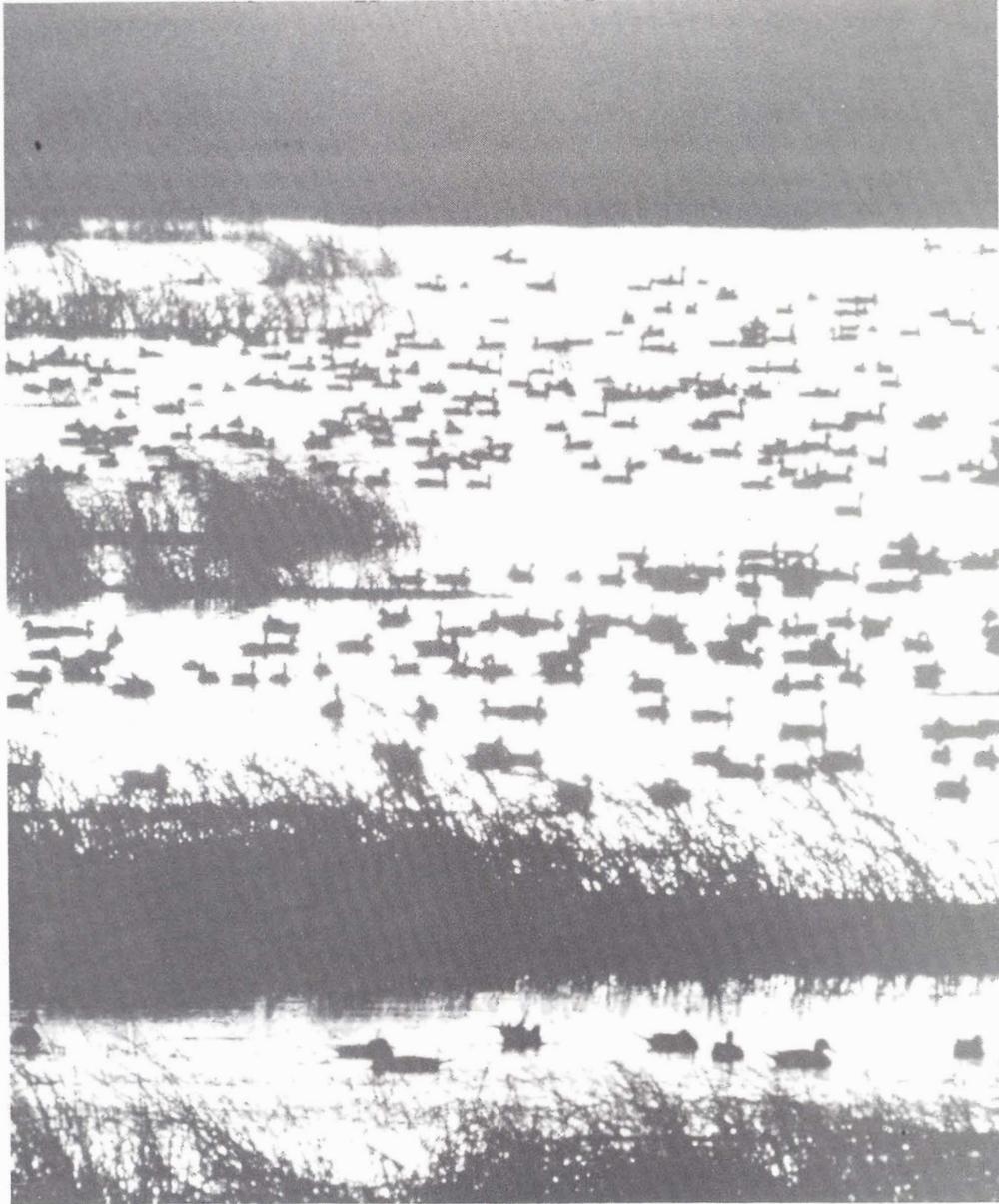
The Need For Future Revisions

■ While substantial time and effort have gone into the development of this implementation plan, it is recognized that changes may be needed to maximize efforts to reach the goal. An initial plan evaluation is scheduled for one year (January, 1994) after implementation has begun. Additional plan evaluations are scheduled after three years (January, 1996) and then every five years thereafter to identify program needs, fine-

tune strategies and assure compliance with the NAWMP.

All RWBJV partners will have direct input into the evaluation of all programs and initiatives developed by this plan. This evaluation process will initiate the development of revised RWBJV implementation plans in 1996 and every five years thereafter to ensure the most effective guidance document possible.







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