

Saginaw Bay Watershed Wildlife Habitat Conservation Framework

by

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WIN Wildlife Stewardship Task Group

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Saginaw Bay Watershed Wildlife Habitat Conservation Framework Executive Summary

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Saginaw Bay Watershed

The 5.5 million acre Saginaw Bay watershed is a tremendous conservation opportunity and challenge. From pre-settlement to the present, it has changed from an extensive habitat for wildlife, where natural forces were dominant, to a world renowned area for agriculture, manufacturing and tourism. Yet it has retained vestiges of its valuable habitat and has the potential for more to be restored. Through recent government and private sector habitat protection, restoration and enhancement efforts, a growing commitment to resource conservation in the watershed has emerged. Improved coordination, stronger linkages between habitat and quality of life issues and a strengthened commitment to sustainable development will reinforce these conservation efforts.

Watershed Initiative Network

In 1996, the Saginaw Bay Watershed Initiative Network (WIN) was formed to balance economic, environmental and social priorities to enhance the quality of life for current and future generations. WIN, supported by 13 area foundations as well as public and private sector organizations, recognized the need to act as a catalyst for sustainable development with conservation as an integral element. One outcome of this recognition, was the need to develop a wildlife habitat conservation framework to most effectively integrate habitat opportunities in WIN funding decisions.

Development of Habitat Framework Focus

Building from existing plans for public lands and the watershed as a whole, the need to protect imperiled species and voluntary conservation efforts by private landowners, non-profit and commercial organizations, a set of priorities was established to best conserve wildlife habitat. These priorities focus on **protection** of existing, quality habitat, **restoration and enhancement** of altered or marginal habitat and **education and planning** to better integrate wildlife habitat into sustainable regional development.

Protection Priorities

The highest priority for protection is habitat lakeward/riverward of the 585 foot contour. This 3% of the watershed is where Great Lakes marshes, lake plain prairies and other key declining habitats are found. It is also the habitat used by the greatest variety of wildlife species in the watershed. The majority of this land is near the Saginaw Bay shoreline, extending further inland at Fish Point, Quanicassee and Wigwam Bay and also upstream along the Saginaw River, including the Crow Island and Shiawassee Flats areas. Currently, only 25% of this highest priority habitat is publicly owned and programs to gain the voluntary cooperation of private owners

rough financial incentives and technical assistance to protect additional acreage have not been fully explored.

Floodplains are the second highest priority for protection. Area rivers and their floodplains provide critical ways for wildlife to travel across otherwise inhospitable lands and connect the islands of quality habitat in public ownership. They are also instrumental in cleansing waters that flow into Saginaw Bay of pollutants and sediment. Floodplains with considerable remaining unaltered habitat include the upper Cass River, the lower Rifle River and sections of the lower Tittabawassee, Flint, Cass and Shiawassee Rivers.

Restoration and Enhancement Priorities

This focus acknowledges the negative impacts of some development on wildlife habitat and uses science and technology to restore habitat or provide enhanced sites to partially mitigate the loss of habitat to permanent developments. The two highest priority restoration and enhancement areas in order are altered or marginal habitat lakeward/riverward of the 585 foot contour and inland wetlands.

Restoration may include removing invasive species such as brush or purple loosestrife from lake plain prairies or restoring natural habitat features such as wetlands through water management. Enhancements may involve excluding destructive exotic species such as carp from otherwise quality wetland habitat or protecting water quality while providing wildlife habitat by planting native prairie grasses adjacent to watercourses. Projects can occur on public lands such as game areas, parks or transportation corridors. Lands of willing private owners are also ideal project sites and funds are increasingly available to both construct projects and to pay incentives to cooperating landowners.

Education and Planning Priorities

The better informed citizens, corporations and government officials to plan for the sustainable future of the watershed with wildlife habitat in mind, the more likely the watershed will have the quality of life all residents and visitors seek. The highest education and planning priority is to update land use information and put it into a Geographic Information System and other formats for widespread use in planning, tracking trends and education. The second highest priority is to identify and demonstrate wildlife habitat projects to highlight positive management practices and their outcomes.

Benefits of Habitat Conservation Framework

Through these efforts, WIN envisions the Saginaw Bay watershed as a stronger and more economically diverse region where thriving agricultural, natural resource based tourism, manufacturing, service and non-profit sectors are symbiotically related. The region's quality of life for residents and visitors will be enhanced by natural resources that support outdoor recreation, aesthetic appreciation, education, and biological diversity.

INTRODUCTION

The Saginaw Bay watershed represents a tremendous conservation opportunity and challenge (Figure 1). The opportunity is that in pre-settlement times there was great biological richness, an intimate physical connection with the Great Lakes, fertile soils, abundant water and little long-term influence by humans. The challenge is that 300 years later the watershed still has fertile soils, abundant water and a surprising amount of biological richness. However, 50% of the land is in agriculture, the area is world renowned for automobile and chemical manufacturing and it is the home of more than 1.5 million people (Figure 2). Publicly owned lands managed primarily for preserving or conserving natural resources are islands in an ocean of human-directed ecosystem change that supports current regional and state economies (Figure 3).

The process to reach this point has been one of generally unplanned development, evolving into the current situation. Unrestricted logging, resulting wildfire, drainage to promote agriculture, scientific innovations in manufacturing, chemistry and agriculture, opening Great Lakes shipping to the Atlantic Ocean and world commerce have all influenced the watershed. The human population has mushroomed in response to the economic opportunities. Paradoxically, through the loss of species and habitats, the negative impacts on outdoor activities, and the challenges to societal well being from compromised environmental health, many are now actively seeking to protect, restore and enhance the watershed. Commodity oriented land uses such as agriculture have also worked to limit the use of current farmland for com-

mercial, industrial and residential development.

With this increasing competition for land, it is more imperative than ever to integrate wildlife habitat into a variety of land uses and situations. The Saginaw Bay Watershed Initiative Network (WIN), a consortium of commercial, non-profit and government organizations, was founded in 1996 to encourage sustainable development through cooperation and common endeavor that recognized the benefits of conservation of natural resources across the watershed. WIN's vision of the future is that through their efforts they will be a catalyst to "balance economic, environmental and social priorities to enhance the quality of life for this and future generations".

To encourage projects with partners to meet this vision, thirteen area foundations are working together as a network to support WIN priorities. This foundation network includes: Bay Area Community Foundation, Charles J. Strosacker Foundation, Charles Stewart Mott Foundation, Consumers Energy Foundation, Harry A. and Margaret D. Towsley Foundation, Kantzler Foundation, Midland Foundation, Rollin M. Gerstacker Foundation, Saginaw Community Foundation, The Dow Chemical Company Foundation, The Herbert H. and Grace A. Dow Foundation, The S.C. Johnson Fund and the Cook Family Foundation. The foundations contribute \$300,000 annually to the Sustainable Communities Initiative Fund of the Bay Area Community Foundation in support of the concepts of sustainable development.

Saginaw Bay Watershed



 Saginaw Bay Watershed

 State of Michigan

 County Boundaries



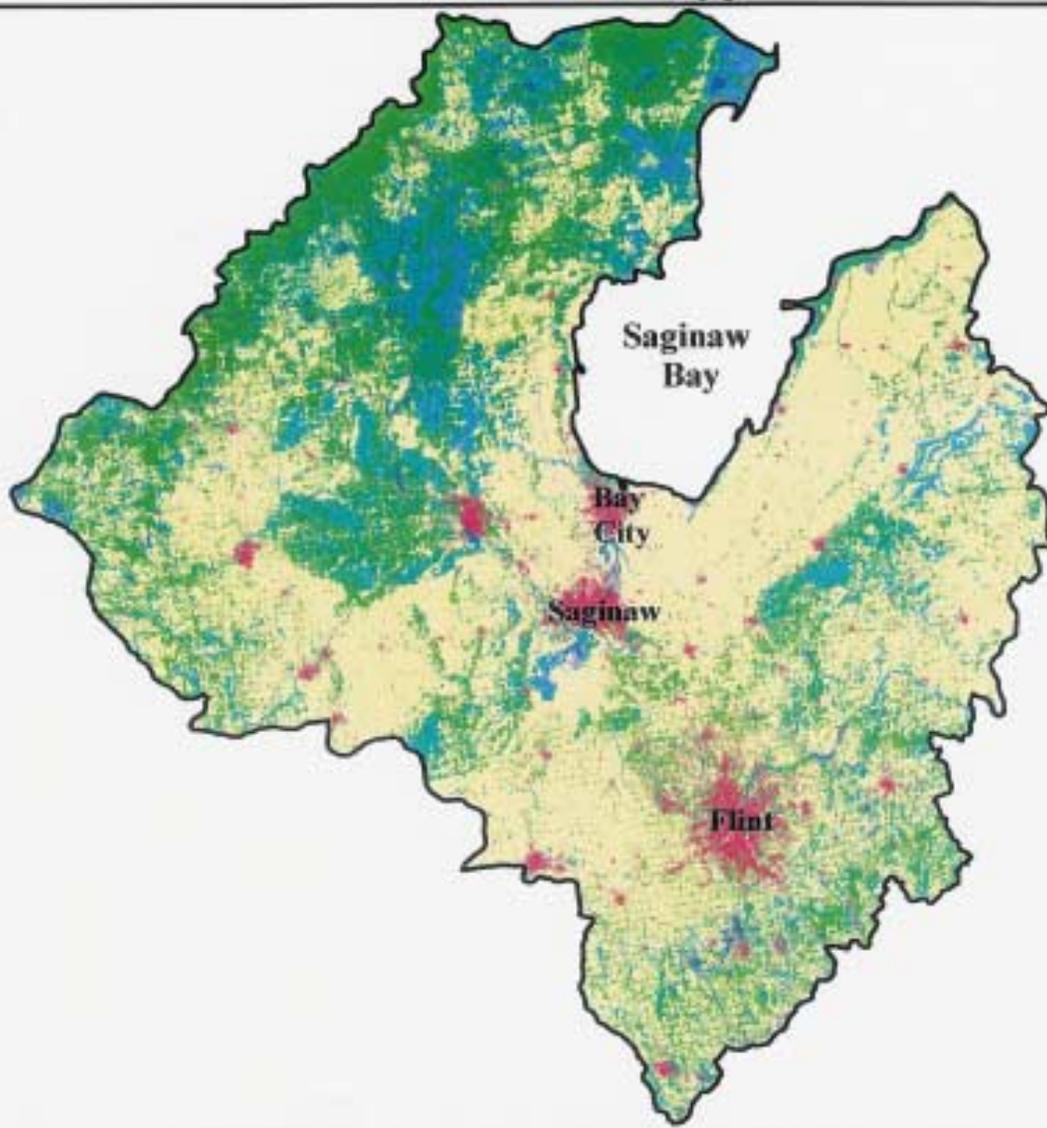
40 0 40 80 Kilometers



DUCKS UNLIMITED

Map Created at:
Great Lakes/Atlantic Regional Office
of
Ducks Unlimited, Inc.

General Land Cover Types

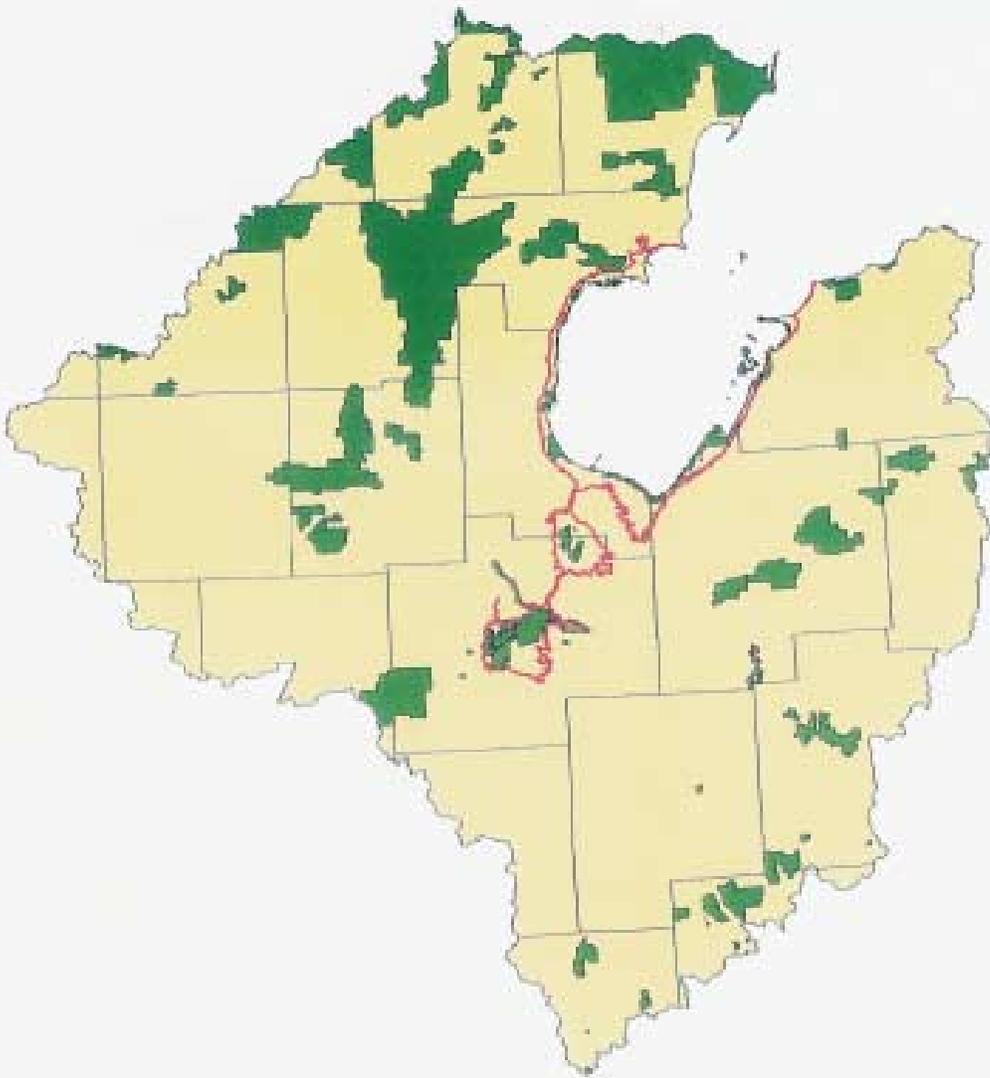


<ul style="list-style-type: none">■ Water■ Forest■ Agriculture■ Urban■ Forested Wetlands■ Herbaceous Wetlands	<p>Scale</p> <p>10 0 10 20 Km</p>
<p>Land cover data from the USGS's National Land Cover Data (NLCD)</p>	

DUCKS UNLIMITED

Map Created at:
Great Lakes/Atlantic Regional Office
of
Ducks Unlimited, Inc.

Public Lands



Public Lands
Proposed USFWS Lands
585 ft. Contour
County Boundaries

Scale
10 0 10 20 Km

DUCKS UNLIMITED

Map Created at
Great Lakes/Midwest Regional Office
of
Ducks Unlimited, Inc.

The Wildlife Stewardship Task Group of WIN has identified habitat conservation as a primary focus for its work to meet the vision of WIN. One key component of this effort is to develop a watershed wildlife habitat conservation framework to facilitate efficiency, effectiveness and coordination. Along with WIN, Ducks Unlimited, the U.S. Fish and Wildlife Service, The Nature Conservancy and the Saginaw Basin Land Conservancy funded the development of the framework.

To craft a functional framework, a shared vision of future habitat conditions is needed among the many interested stakeholders. Based on the recent past, habitat conservation efforts don't appear to suffer so much from a lack of plans or effort, as they do from a lack of coordination. This is apparent in the range and breadth of plans, diverse mission statements and numerous project proposals already in existence to restore, enhance and protect habitat in the watershed.

Coordination involves compromise, change, communication and the tempering of ideology with pragmatism. The benefit is that it provides the trust and a shared working relationship that brings ideas to fruition and develops a long-term commitment to sustainability. While statutory mandates, organization constitutions and scarce resources will limit the ability of partners to share an identical vision of the future, within these constraints common endeavor and vision are possible. Through this framework, WIN demonstrates a clear broad outline of the desired future, with a set of widely supported action priorities and projects to achieve that vision.

The framework is also dynamic. WIN recognizes that new actions, modifications of

existing projects, shifts in land ownership and scientific advances will all contribute to fulfilling the broad vision of the future. Coupled with new opportunities is the need for on-going maintenance, monitoring and research that will guide future actions and insure that past capital improvements remain functional. This evolving situation will continue to need new partnerships, as new insights and possibilities are the catalyst for seemingly disparate interests to find common ground.

METHODS

An initial review was conducted of many of the plans for wildlife habitat conservation in the watershed. While some plans focused on a specific location, such as a state game or wildlife area, others encompassed the watershed and beyond.

After this review, the Wildlife Habitat Conservation Framework Committee, appointed by the Wildlife Stewardship Task Group, and facilitated by the consultant, used a strategic planning process to create a shared vision of future habitat conditions in the Saginaw Bay Watershed. A SWOT (strengths, weaknesses, opportunities and threats) analysis was then done by committee members with facilitation from the consultant, identifying available resources and weaknesses, key courses of action and obstacles to those actions. Following the SWOT analysis, the specifics of the habitat conservation framework were defined in cooperation with the committee.

The framework is divided into the review of habitat conservation plans, vision of future Saginaw Bay watershed wildlife habitat and action priorities and projects for habitat. The habitat priorities and projects include protection, restoration and en-

hancement, and planning and education. It is recognized that on-going management of habitat is also important, but is the primary responsibility of land managers. However, capital improvements that can facilitate future management are highly appropriate for WIN support.

REVIEW OF WILDLIFE HABITAT CONSERVATION PLANS

Habitat conservation plans can be divided into two basic types, those that target a single place or site and those that focus on the wildlife community over a broad area. For the purposes of WIN, this framework effort is the latter type. However, it seeks to integrate site specific efforts as well as landscape level plans into the framework. It is also cognizant of broader environmental efforts mandated by state and federal statutes. The following is a brief review of some of the major habitat conservation plans in the watershed.

Single Site Habitat Plans

The most in-depth single site plans concern the 20 state game and wildlife areas in the watershed. These areas include Shiawassee River, Fish Point, Quanicassee, Wildfowl Bay, Rush Lake, Tobico Marsh, Nayanquing Point, Wigwam Bay, Crow Island, Deford, Sanilac, Vassar, Port Huron, Minden City, Cass City, Murphy Lake, Tuscola, Verona, Lapeer and Gratiot-Saginaw. A 5-year plan is in place for each of these areas with the following basic goals paraphrased below:

1. Manage wildlife and their habitat to maintain viable population levels within healthy, sustainable ecosystems.
2. Provide a variety of wildlife related recreation opportunities including hunt-

ing, fishing, and trapping, as well as wildlife observation, viewing and study.

3. Identify, restore, conserve and protect natural communities and associated threatened and endangered species.
4. Provide information and educational assistance to enable understanding and appreciation of wildlife, habitat, resource management and wildlife associated recreation.
5. Continuously improve wildlife conservation through research, education, training, public participation and responsive management.
6. Assure that game/wildlife area lands are managed through a cooperative, ecosystem based approach with public and private partners.

The AuSable State Forest, managed by the DNR under the co-management of the Forest Management Division and the Wildlife Bureau does not have a forest wide management plan. Rather, there is a general policy of multiple use management for state forest lands. They are to provide wood, environmental quality, outdoor recreation and habitat for the whole fish and wildlife community. Individual parcels, called compartments, have specific 10-year management prescriptions, often relating to vegetative management. Compartments are based on a variety of factors including road boundaries, ecological boundaries (rivers, changes in soils, forest type, etc.) and political boundaries (ownership, county, etc.). Each compartment, which can range in size from 100 to 2,000 acres, is reviewed on the ground once each decade and a compartment management prescription is made. Updated prescriptions are annually reviewed at a public open house in each of the three management units of the AuSable state forest. Hence 10% of the forest has

management prescriptions reviewed and updated each year.

The Shiawassee National Wildlife Refuge is in the process of completing their 15-year comprehensive conservation plan mandated by the 1997 Refuge Improvement Act. It envisions an expansion from the current 9,200 acres to over 16,500 acres, with a focus on protecting the floodplains of the lower Flint and Tittabawassee Rivers. It also proposes a US Fish and Wildlife Service Great Lakes Visitor Center to interpret Great Lakes ecology, with special emphasis on the Saginaw Bay watershed.

Other plans for public lands that impact wildlife habitat in the watershed include those for transportation and parks. These include development of new transportation corridors, restructuring of existing corridors (such as converting abandoned railroad rights of way to rail-trails) and renovation of existing roads. The vast majority of formalized park systems at the county, city and township level have 5-year comprehensive outdoor recreation plans that address habitat issues to some extent. These comprehensive outdoor recreation plans are required to apply for state or federal matching grants from the Michigan Natural Resources Trust Fund or the federal Land and Water Conservation Fund.

Master plans for the state parks and recreation areas, such as Bay City, Port Crescent, Sleeper, Rifle River and others are done on a park by park basis. In general, their thrust has been more related to visitor management and less to park ecosystems. This is slowly changing and individual master plans are being updated with a greater emphasis on the ecological values of parks. Just outside the watershed at Algonac State

Park on the St. Clair River, lake plain prairie restorations have been done in a partnership approach with the DNR Park and Recreation Bureau, Forest Management Division and Wildlife Bureau. Within the watershed, interpretive efforts focusing on habitat are also increasing at state parks, as well as other public and private nature centers, such as the Chippewa Nature Center in Midland.

For private lands, planning for non-corporate land use is seldom a matter of public record and often not formalized. One significant exception is plans for lands under agricultural use that are involved with United States Department of Agriculture (USDA) programs. Such plans are drawn up for willing landowners with Farm Service Administration and Natural Resources Conservation Service assistance. Programs such as the Conservation Reserve and Wetlands Reserve facilitate quality habitat on private lands in lieu of agriculture through technical and financial assistance to establish conservation practices and payments to landowners for maintaining grassland or wetland conditions on selected sites. The US Fish and Wildlife Service, Michigan DNR Wildlife Bureau and Soil Conservation Districts, as well as many private sector organizations such as Ducks Unlimited, Pheasants Forever and the Michigan Wildlife Habitat Foundation also facilitate both planning and implementation of plans for willing landowners.

Watershed and Greater Landscape Level Habitat Plans

The **North American Waterfowl Management Plan** originated at the continental level in 1986 with a goal of providing habitat supporting a North American fall flight of 100 million waterfowl. The plan was revised and specific state level goals were set for Michigan in 1998. They were to increase the breeding duck population in the state from the current 500,000 to approximately 650,000, a 20% increase. This is to be accomplished by restoration or establishment of 30,000 acres of wetlands and 60,000 acres of adjacent grasslands. It also envisioned protection of an additional 100,000 acres of existing habitat. Habitat in the Saginaw Bay watershed is critical in accomplishing statewide goals. Goals for the watershed are for 45,000 acres of habitat to be restored, established or enhanced and another 30,000 acres of existing habitat protected within the Saginaw Bay watershed by 2013. Through the 1998 Saginaw Bay Watershed Phase I North America Waterfowl Conservation Act (NAWCA) grant and partner funds, over 4,000 acres of habitat have been restored, established, enhanced or protected from 1998 to the present. A Phase II NAWCA grant application for one million dollars to protect, restore or enhance more than 4,000 additional acres of habitat has been formally approved with funding beginning in early 2001.

The **Saginaw Bay National Watershed Initiative** (1993) sparked by the federal Environmental Protection Agency (EPA) and developed by the DNR set more modest goals for wetlands. It called for restoration and protection of 7,500 acres of wetlands by 2010 and a no net loss policy. Overall goals of this initiative included

pollution reduction, elimination of the need for health advisories on fish, improved fish and wildlife habitat and more public participation in watershed management facilitated by increased education about the watershed. However, no monies were provided for habitat acquisition/protection and little funding was available for restoration. Only a few small restorations were done with EPA funds, which were discontinued after 1995.

On the positive side of the ledger, the Saginaw Bay National Watershed Initiative did fund a number of research and planning efforts that were completed. These include **Saginaw Bay Land Use and Zoning Study** by Michigan United Conservation Clubs and the Planning and Zoning Center (1993) and **Historical Wetlands of the Saginaw Bay Watershed** by the Michigan Natural Features Inventory (1993). The historical wetlands study suggested that 42% of wetlands in the 8 counties entirely in the Saginaw Bay watershed have been lost since pre-settlement times, with the largest amount lost in Tuscola and Saginaw counties and the greatest percent lost in Genesee county. Following this historical study, **Saginaw Bay Watershed: A Strategy for Wetland Restoration** was developed by Saginaw Valley State University, in cooperation with Public Sector Consultants and Resource Management Group (1994). The strategy detailed three wetland restoration projects, one for each of three land use situations, urban, agricultural and coastal. These three detailed projects were designed as models to spark other restorations. To date, none of the three projects has been completed, although the project focused on restoring natural water flow in and out of the Tobico Marsh is still active and has recently been funded through the settlement funds from a

Saginaw Bay watershed pollution related lawsuit. Detailed planning is underway and it is anticipated bids will be let upon completion and approval of those plans.

Michigan and the federal government agreed to a state **Conservation Reserve Enhancement Program** in September 2000. This USDA program uses conservation practices to protect watersheds from agricultural non-point source pollution. Of the three watersheds targeted in Michigan, the Saginaw Bay watershed is the largest. The program protects watersheds by establishing and maintaining vegetative buffers along watercourses and restoring wetlands. It envisions 80,000 acres of habitat restored or enhanced and then protected. Of that, up to 10,000 acres would be wetland restorations. It is unique in that it pays willing landowners a premium above current land rental rates, funds all conservation practices and offers opportunities for either 15-year or perpetual easements. It is funded by a partnership of the USDA, the Michigan DNR and DEQ, coupled with substantial funding and technical support from Ducks Unlimited and Pheasants Forever.

The Natural Resource Conservation Service of the USDA implements the **Wetlands Reserve Program**. This program provides funds for restoration of impaired wetlands and additional funds to purchase easements from willing landowners to provide long term protection (30-year or in perpetuity). The program began in Michigan in 1995. Currently, it has a backlog of enrollment requests that exceeds the almost 20,000 acres currently enrolled statewide. The Saginaw Bay watershed has been a priority area for the program in the past five years and will continue to be vital to future wetland protection efforts.

Ducks Unlimited's (2000) **Five Year Draft Strategic Plan for the Saginaw Bay Watershed** focuses on protecting, restoring, enhancing and managing wetlands and associated uplands to fulfill the life cycle needs of waterfowl and other wildlife populations. Their tentative goals are to restore or establish 10,000 acres of waterfowl production habitat and enhance another 5,000 by 2005 in the watershed. They also plan to restore 2,500 acres of waterfowl migration habitat, protect another 2,500 and enhance 500 acres in the watershed. These actions are likely to be accomplished in large measure through DUs participation in the newly established Conservation Reserve Enhancement Program. Key benefits of these actions beyond those to waterfowl will include other wetland and grassland associated species, improved water quality through reduced wind and water erosion and better education of watershed residents and visitors about habitat.

The Michigan Natural Features Inventory (1998) conducted **A Watershed-Level Biodiversity Assessment of the Saginaw Bay Watershed**. It was an assessment of past, present and potential future biodiversity. The assessment identified high quality habitat, documented changes in species populations and defined conservation priorities. Rather than setting acreage goals as many other landscape level plans have, they suggested priority areas for conservation. In priority order they are:

1. Lakeplain prairies and Great Lakes marshes lakeward and riverward from the 585' contour.
2. The forested corridor in the northwest portion of the watershed.
3. Remnant prairie fens and former oak savanna in the southeastern portion of the watershed.

4. Riverine forested corridors, especially those with little changed landscapes.
5. Forested shorelines along the northwest and northeast shores of Saginaw Bay.
6. Conversion of agricultural lands to grasslands.

The Nature Conservancy, while they have not drafted a formal plan for conserving biodiversity in the Saginaw Bay watershed as of July 2000, have identified the shoreline of Saginaw Bay, from Wigwam Bay to Pointe Aux Barques as being vital habitat for migratory waterfowl, shorebirds and landbirds. Within this expanse of shoreline, a number of lakeplain prairie, oak savannas and barrens, Great Lakes marshes and river deltas have been targeted as especially critical. The Nature Conservancy seeks to develop specific site plans with partners to conserve biodiversity at these and other sites in the watershed, with a special emphasis on state listed endangered and threatened species.

Researchers Prince and Burton (1995) from Michigan State University studied a number of coastal sites from Bay City to Wildfowl Bay along the southeastern portion of Saginaw Bay. Their goal was to provide an initial landscape perspective on the extent of wetlands in the area and data on biota. Data on biota was used to estimate the function and value of specific wetlands to wildlife. They suggest that key coastal sites for wetland restoration be below the 585' contour. They also note that there is a rich flora and fauna in existing wetlands that will serve as a source of seed and immigration to newly restored areas. Finally, they note that wet prairies and meadows will be some of the most difficult sites to restore as the seed sources for these plants are often minimal and exotic purple loosestrife is an active immigrant that will

quickly invade such sites.

Environmental Statutes

A number of state and federal environmental statutes also play an important role in the protection of wildlife habitat. Michigan statutes vital for protecting habitat include the Great Lakes Bottomland Act, the Goemare-Anderson Wetlands Act, the Shoreland Protection Act, the Inland Lakes and Streams Act and many others. They regulate the use of sensitive environmental areas, whether public or private, to safeguard natural resource values.

At the federal level, the Clean Water Act provides regulatory authority to safeguard surface waters and wetlands. The National Environmental Policy Act mandates a thorough review of major federal actions to assess their impact on the environment, including their effect on human health.

Other Planning Efforts

While not a legal mandate, other planning efforts have included wildlife habitat in the watershed as an integral part of sustainable economic development. For example, Michigan State University Extension (then the Cooperative Extension Service), in cooperation with many partners, worked with Bay County in 1988 in addressing priorities in a Bay County Waterfront Development Strategy. By 1990, the project had expanded to six coastal counties, with Bay at its hub, extending to northward to Iosco and eastward to Huron counties. Many of the initiatives focused on promoting natural resource oriented tourism, safeguarding and restoring habitat to promote fishing, wildlife viewing and hunting, and better educating stakeholders about the economic values of habitat.

Key Findings from Existing Plans

In summary, these single site and landscape level planning efforts provide significant overlap in both goals and steps to achieve goals. They suggest that the partnership approach taken by Saginaw Bay WIN is likely to be effective, as many of them directly espouse the development and nurturing of partnerships with a broad cross section of stakeholders. Also there is a strong emphasis on taking an ecological versus a political orientation to habitat in the watershed. This encourages cooperation among governmental units, the non-profit sector, landowners and commercial interests. Finally the plans support education of stakeholders as a way to gain societal understanding and support for conservation. Key stakeholders identified include landowners, local officials, youth, educators and commercial, agricultural and tourism interests.

Concerning priorities for habitat conservation, the coastal area of the Saginaw Bay watershed, often defined as extending lake-ward/riverward from the 585' contour, is the area of highest priority across many plans (Figure 4). This level of agreement on a top priority suggests it is paramount to develop specific initiatives to conserve this habitat.

There is also substantial support to better connect the existing islands of public habitat. To accomplish this in a region with few inland lakes and many rivers, floodplains are the key. These corridors facilitate the travel of plant and animal species, enlarging gene pools and sustaining plant and wildlife populations. Rural floodplains often are the least changed landscapes, offering opportunities for protection and limit-

ing restoration costs.

Finally, the value of inland wetlands for wildlife habitat, as well as ground water recharge, nutrient reduction in surface waters and flood control is becoming better recognized. Some county drain commissioners, local planning and zoning boards and developers as well as all conservation organizations and public natural resource agencies recognize these unique benefits. Cooperative programs among state, federal and non-profit organizations to restore and protect inland wetlands are strong and growing.

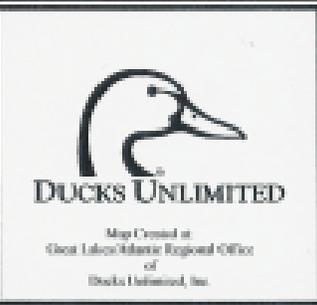
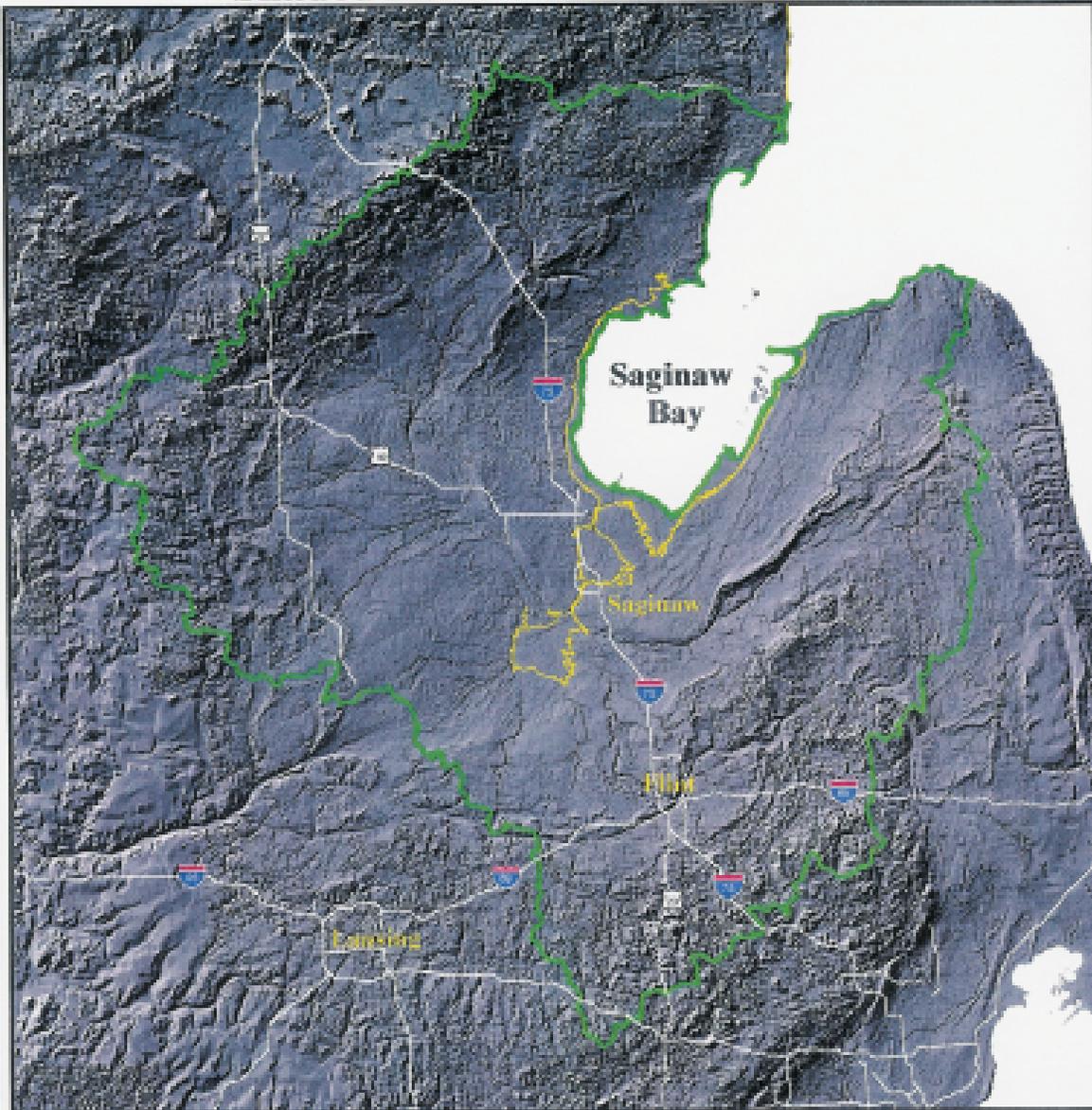
Across all these plans, there is an affirmation that the benefits from quality wildlife habitat are ecological, psychological, social and economic. They note that such benefits are not mutually exclusive, rather the whole is greater than the sum of any one sector. There is often a symbiotic relationship such as a rich biota attracting tourists, which in turn provides economic and image benefits, while enhancing citizen knowledge and fostering respect for the environment.

VISION

The Wildlife Habitat Conservation Framework Committee crafted the following vision for the Saginaw Bay watershed in 2025. The Saginaw Bay watershed will be:

An ecologically significant region where pre-settlement ecological conditions and processes are publicly recognized and help guide the management of large blocks of unbroken forests, functional coastal and inland wetlands, and sizeable grasslands connected by publicly recognized and protected land and water corridors.

Shaded Relief and 585' Contour



A recreationally attractive region where residents and visitors enjoy, experience and support a wide range of natural resource based recreation activities such as nature observation, hunting, fishing, trapping, boating, trail uses and swimming.

A biologically diverse region where common native species are abundant, imperiled and sensitive native species are increasingly common and control of non-native invasive species is successful.

An environmentally renowned region where abundant wetlands and wise vegetative, water and soil management, along with point source pollution reduction and control, provide exceptional water quality supporting viable native fish populations and a wide range of human water uses including swimming throughout the watershed.

An economically diverse region where thriving agricultural, natural resource based tourism, manufacturing, service and non-profit sectors are symbiotically related.

A developmentally sound region where functional cities have vibrant neighborhoods, access to natural features, diverse work opportunities and quality services.

ACTION PRIORITIES AND PROJECTS

Based on the review of existing plans, the vision of wildlife habitat conservation in the watershed in 2025, the SWOT analysis of the Wildlife Habitat Conservation Framework Committee and the consultant's judgement, three key areas for action

were identified. They are **protection** of existing quality habitat, **restoration and enhancement** of altered or marginal habitat coupled with on-going management, and **education and planning** to better integrate wildlife habitat in future regional development and management. The priorities for protection, restoration and enhancement specifically focus on areas with globally significant species and communities and on habitat that facilitates natural watershed functioning by connecting previously unconnected or minimally connected habitat. These priorities also are clearly beneficial to improving water quality and providing the impetus for stronger citizen and government support for such improvements.

Protection

Protection implies that a resource in its current state has enough value to warrant protection. It may also indicate that the area has the potential for greater habitat value upon restoration or enhancement. For protection to be most effective, it needs broad-based public support and long term management attention. Hence, acquisition followed by minimal management interest may actually facilitate habitat degradation, rather than protect habitat. Conversely, appropriate management by landowners heightens public interest, support and compatible recreational use, as well as fueling nature-based tourism.

Accurate monitoring of lands under protection is critical to habitat values. Monitoring includes accurate, accessible records of ownership of rights in land, regular field monitoring and standardized reporting of habitat conditions, wildlife use and public use and opinions. It also involves vigilance concerning encroachments such as pollution, improper use, etc.

Great Lakes Coastal Wetlands, Prairies and Savannas

The highest priority area for protection is Great Lakes and tributary wetlands, prairies and savannas lakeward/riverward from the 585-foot contour (Figure 4). As shown in the figure, this is essentially the shoreline area from Point AuGres on the northwestern shore of the Bay to Sand Point on the southeastern shore. In addition, it extends up the Saginaw River system to include the Crow Island area (including the Crow Island State Game Area) and the Shiawassee Flats area (including the Shiawassee River State Game Area and the Shiawassee National Wildlife Refuge). It also extends landward for a considerable distance near Fish Point, Wigwam Bay and Quanicassee.

The state ordinary high water mark is 580.5 feet. Below that point, the Great Lakes bottomland is in public ownership in almost all instances. However, extending up rivers such as the Quanicassee, Saginaw, Rifle and others, bottomland ownership is in the hands of riparian owners. In May 2000, the level of Lake Huron in Saginaw Bay was 577.36. Hence, much of the state's ownership is exposed for the first time since the low water of the 1960s.

Between the 575 foot and 585 foot level is the zone of transition where through the cyclical highs and lows of Lake Huron, Great Lakes marshes, lake plain prairies and other declining types of habitat are found. This area is the highest priority habitat in the watershed for the Michigan Natural Features Inventory, The Nature Conservancy and others. One declining habitat example in this area is lake plain prairies, where only 1% of the pre-settlement acreage remains.

Currently, the state of Michigan, through the DNR, owns 26,131 acres or 19% of this zone in 9 game and wildlife areas and 1 state recreation area, while the US Fish and Wildlife Service owns 9,200 acres or 6% of this zone in the Shiawassee National Wildlife Refuge. This comprises about 25% of the zone. Increased public ownership would facilitate more natural functioning in the zone of transition through limiting barrier construction (dikes, seawalls, etc.) or moving dikes further landward to higher elevations while still allowing appropriate public recreation opportunities and safeguarding adjacent private property owners.

Key action steps not in priority order for the 585' and lakeward/riverward portion of the watershed are:

1. Expand the dedicated boundaries of Michigan State Game and Wildlife Ar-



reas in the watershed to include the entire 585 foot and lakeward/riverward area except for highly developed locations (marinas, housing, industrial sites, etc.) and existing protected sites such as Michigan state parks, local parks, Wetland Reserve Program easements, etc. This would facilitate public acquisition when parcels were placed on the market by willing sellers.

2. Make public acquisition within the 585' lakeward/riverward zone a special initiative of the Michigan Natural Resource Trust Fund Board, the body appointed by the governor to advise the legislature on appropriate Trust Fund expenditures. This entails providing extra points for Saginaw Bay coastal zone land acquisition and for ecologically sound recreation development projects that interpret the ecological value of the coast. This initiative could be characterized as the Saginaw Bay Coastal Conservation Initiative.
3. Revitalize Michigan's Waterfowl Production Area program with the US Fish and Wildlife Service and include the 585' lakeward/riverward zone in the Saginaw Bay watershed as a high priority within the project area.
4. DNR Lands and Minerals Services Division should facilitate voluntary property exchanges with private sector owners within the 585' lakeward/riverward zone. Special attention should be given to agricultural producers interested in relocating to more upland sites. Greater cooperation of public agencies (state, federal, local), non-profit conservancies and agricultural organizations may enhance such options.
5. Through the use of long term and permanent easements with public agencies, work with willing landowners that desire to maintain ownership and wildlife habitat. Key tools include USDA's Wetlands Reserve Program (permanent and 30-year easements), Conservation Reserve Enhancement Program (permanent and 15-year easements) and 10-year Conservation Reserve Program easements.
6. Use and clearly publicize the options for willing landowners to work with

non-governmental organizations (NGOs) such as The Nature Conservancy, The Conservation Fund, the Little Forks Conservancy, Ducks Unlimited and the Saginaw Basin Land Conservancy. These options include fee simple acquisition, easements, purchase of development rights, protection agreements, etc. Also highlight unique options such as life estates and reten-



tions. NGOs may also provide cost-effective partners to monitor long term and permanent government easements through competent volunteers, innovative fund raising and the use of technology.

Floodplains

The second highest priority for protection is floodplains that connect current islands of high quality habitat or that are characterized as least changed landscapes. For example, the floodplain of the upper Tittabawassee River connects vital areas of least changed forest according the Michigan Natural Features Inventory. This forested northwestern area is MNFI's second highest priority for conservation in the watershed.

Key actions not in priority order for floodplains in the watershed are:

1. US Fish and Wildlife Service acquisition of the lower Flint, Cass, Shiawassee and Tittabawassee River floodplains as described in the Shiawassee National Wildlife Refuge expansion plan, which proposes a 7,500 acre expansion in addition to the current 9,200 acres.
2. DNR expansion of the Crow Island State Game Area dedicated boundaries to support additional acquisition and provide a more substantive habitat connection between Saginaw Bay and the Shiawassee River State Game Area and the Shiawassee National Wildlife Refuge. This would also maintain a strong link to nature for urban residents in Saginaw, Bay City and surrounding suburbs.
3. Seek Michigan Natural River designation for the Cass River upstream from Vassar. The Cass connects five state game areas (Vassar, Deford, Tuscola, Sanilac and Cass City), has good water



quality compared to other Thumb area rivers and is a valuable corridor for

wildlife travel. Safeguarding the corridor, including through the expansion of the five game areas will, in turn, safeguard the quality of water entering Saginaw Bay. While the game areas contained 22,058 acres in July 2000, less than 3% of the acreage has been added since 1990. A more concerted effort at land acquisition is needed to maintain the integrity of the corridor. Natural River designation and additional land acquisition will also create a more recognized outdoor recreation resource, promoting canoeing, fishing, nature observation, etc.

4. Seek Michigan Natural River designation for the lower Rifle River to connect the exceptional habitat at the mouth of the river (Wigwam Bay and the nearby forested shorelines) to the upper Rifle, which is already a designated Michigan Natural River. Focus on the sections of the lower river that are forested in Arenac County. This includes additional public acquisition of large blocks of forest land and managing the state forest ownership adjacent to the river in Arenac County more as sizeable blocks of unbroken forest.
5. Through the use of long term and permanent easements with public agencies, work with willing landowners that desire to maintain ownership and wildlife habitat. Key tools include Wetlands Reserve Program (permanent and 30-year easements), Conservation Reserve Enhancement Program (permanent and 15-year easements when implemented) and 10-year Conservation Reserve Program easements.
6. Use and clearly publicize the options for willing landowners to work with NGOs such as The Nature Conservancy, The Conservation Fund, the Little Forks Conservancy, Ducks Unlim-

ited and the Saginaw Basin Land Conservancy. These options include fee simple acquisition, easements, purchase of development rights, protection agreements, etc. Also highlight unique options such as life estates and retentions. NGOs may also provide cost-effective partners to monitor long term and permanent government easements through their use of technically competent volunteers, innovative fund raising and the use of technology.

7. Cooperate with the Flint River Dike Board and similar entities to identify more natural, realistic floodplains and support levee setbacks and conservation easements that more closely approximate those floodplains.



8. The effect of dams and dredging on the natural functioning of floodplains should also be examined. This is especially true in the case of many low head dams that do not generate power, may create safety hazards, have significant maintenance costs and impede the natural movement of water, fish and wildlife.

Restoration and Enhancement

Restoration and enhancement acknowledges the impacts that people have on the natural functioning of the Saginaw Bay watershed. It also acknowledges the science and technology available to restore more natural functioning. Finally, it notes the need to compensate, through enhancement to optimal habitat conditions, for permanent losses of habitat. For example, the influence of fire in ecosystems such as prairies is vital. Better cooperation with state fire and weed councils concerning the use of fire to restore and maintain valued sites such as lake plain prairies is essential. This helps to restore more natural vegetation. Prescribed fire may be used at intervals different than those in nature however, to counteract the unnatural influences of exotic weed species. Restoring or enhancing water levels through hydrological modification may also be necessary to counteract the rapid fluctuations in water levels, nutrient content and sediment caused by drains that exacerbate the influence of storm events.

While it is preferable that restorations or enhancements can be permanently protected, opportunities for restoration and enhancement may not always be permanent. Examples include the USDA's 10-year Conservation Reserve Program easements and 30-year Wetlands Reserve Program easements or the Fish and Wildlife Service's Partners in Wildlife Program. Another example is a limited term license from an industry, such as a utility, to help maintain a right of way in a manner that allows access to lines, safeguards them from trees and yet still provides optimal habitat for grassland species. Whenever we are able to restore or enhance, even for a limited period, we provide another op-

portunity for wildlife to thrive, for people to benefit from their contact with wildlife and to develop a lasting respect and appreciation for wild creatures and the habitat that sustains them. This respect and appreciation can and often does translate into long term support that strengthens habitat protection efforts, even though the specific project that influenced people may have a limited term.



For restoration or enhancement sites, monitoring should be an integral part of the process. This allows resource managers and their partners to measure the effects of projects on wildlife and people. This includes studying intended as well as any unintended consequences and outside influences from beyond project boundaries. Monitoring also provides information to time the active management often needed to maintain restorations or enhancements. For example, human influences on the environment, such as drains, may not allow appropriate saturation of lake plain prairie soils, even in high water periods, to limit brush. Hence, mowing, water management, prescribed fire and other activities may be necessary to maintain lake plain prairies.

Great Lakes Coastal Wetlands, Prairies and Savannas

The highest priority area for restoration and enhancement is lakeward/riverward from the 585' contour across the watershed. Exclusion of Great Lakes water circulation, type conversion for agriculture and other purposes, drainage, and filling have altered the area at and below the 585' contour. However, through restoration and enhancement, wildlife values may be restored and optimized. Both options, restoration and enhancement, are important. At sites only modestly altered, restoration is often possible and preferable with a goal of regaining pre-settlement conditions and functioning. However, enhancements are critical to optimize available habitat to make up for permanent habitat losses due to development. Further, they may maximize the benefits of mitigation projects to wildlife in areas that were relatively unproductive and sustain more intensive recreational use.



Key actions not in priority order for the 585' and lakeward/riverward portion of the watershed are:

1. Focus on restoration of natural communities and hydrologic functioning where possible on publicly owned



lands. This includes state game and wildlife areas, state parks and state water access sites as well as state highways, publicly held railroad rights of way, and local parks. State water access sites have been neglected in this planning, but now with their inclusion in the Parks and Recreation Bureau of DNR, and with the presence of ecological staff within the Bureau, better opportunities exist to initiate restorations or enhancements on these sites. Publicly held railroad rights of way should be ecologically evaluated. The rights of way may include impediments to Great Lakes water circulation that were necessary for railroad operations, but not for rail-trail operations. Technical habitat assistance to local park agencies may result in better planning with less disruption of the ecosystem.

2. Focus mitigation efforts within the watershed on sites lakeward/riverward of the 585' contour. Have a list of potential public land acquisitions and public land restoration and enhancement projects on file that are facilitated and pre-approved by DEQ, allowing rapid action in mitigation situations.
3. During periods of low water when dredging to maintain boat access is common, effectively utilize clean spoils as sources of native seed for enhancements.

4. Support the expansion of Saginaw Bay watershed native plants nurseries. This may be by the private commercial, non-profit or public sectors.
5. Target areas of altered habitat to maximize natural resource based recreation activities and benefits, lessening pressure on areas where natural processes are more predominant. Hence managed waterfowl areas, highly developed state park campgrounds and nature centers, etc. have an important role and should not be phased out. However, where possible, restoration should be the priority for newly acquired public lands. This will lessen the amount of public infrastructure to be maintained and speed restoration of more areas.



Inland Wetlands

The second highest priority for restoration and enhancement is inland wetlands throughout the watershed. These represent the sources of water for Saginaw Bay and important pockets of habitat scattered across the watershed. They are also the key filters for the watershed and directly contribute to quality ground and surface water.

Key actions not in priority order for inland wetlands are:

1. Expand programs that work with private landowners to restore and enhance wetlands and surrounding uplands.



These include public sector programs such as the Fish and Wildlife Service's Partners for Wildlife and private sector efforts by Ducks Unlimited and others. They may also be coupled with easement programs such as the Wetlands Reserve Program and the Conservation Reserve Enhancement Program. In the expansion, improved coordination is critical. This involves sharing information, trust, a consistent message to landowners and timely response. Landowner concerns about such programs appear to be less about money and cost sharing and more about flexibility, respect and turnaround. This is especially true of non-agricultural owners, many of whom purchased their lands for wildlife conservation and natural resource based recreation purposes. However, since non-agricultural owners are not eligible for agriculturally based programs, companion programs to agriculture based landowner programs need to be established and sup-

- ported.
2. Work with drain commissioners to design and implement wetland restorations and enhancements consistent with their legal responsibilities. Legislative change that allows wildlife habitat and water quality benefits to be part of the overall benefits drain commissioners are mandated to achieve through water management would be positive.
 3. Strongly focus the efforts of Conservation Reserve Enhancement Program (when instituted) on wetland restoration and enhancement. This network of habitat following defined watercourses is often the last line of defense before sediments and pollutants are carried downstream to Saginaw Bay.
 4. At inland wetlands, protect the wetland core by extending restoration and enhancement efforts to the surrounding uplands, upstream locations, etc. Ecosystem thinking about restorations will result in better habitat. Multi-ownership projects through local watershed councils and other entities may help identify such ecologically sound, but often socially challenging projects.
 5. Highlight public land habitat enhancement efforts and opportunities on transportation rights of way. This includes borrow ponds, pits, roadside drainage and surrounding uplands on highway corridors. Simple activities such as litter/trash cleanups can enhance the habitat value of these sites and their visual attractiveness. More biologically oriented enhancement can be done by establishing native prairie grasses, designing basins to favor shallow rather than deep waters and providing undulating rather than straight shorelines. Enhancement activities on existing corridors, which were often designed without habitat in mind, should be high-

- lighted during renovation activities.
6. Target areas of altered habitat to maximize natural resource based recreation activities and benefits, lessening pressure on areas where natural processes are more predominant. Hence managed waterfowl areas, highly developed state park campgrounds, etc. have an important place and should not be phased out. However, where possible restoration should be the priority in newly acquired public lands. This will lessen the amount of public infrastructure to be maintained and speed restoration of more areas.

Education and Planning

Education better informs the citizenry, including landowners and governmental officials, about the rationale for habitat conservation and the effectiveness of various options. Planning provides for the wise use of existing information in decision making and the impetus to gather useful data in a consistent, longitudinal manner.

Update Land Use Data

The highest priority is to update the 1978 land use data for the watershed. While 1978 provides a baseline of modern information about the watershed, it is now out-of-date. Further an update would provide valuable trend information to assess the impact of recent conservation efforts.

Key actions not in priority order are:

1. A top priority is analysis of current remote sensing imagery and creation or updating of Geographic Information System data bases. It should be scheduled on a consistent basis (e.g. every 10 years) to provide on-going trend information with which to measure the ef-

fect of conservation programs on the type, amount and location of wildlife habitat.

2. Sample, representative townships should be tracked on a more real time basis (bi-annually) to provide data to fill in gaps over a decade in watershed land use data. Additional information should be gathered concerning the number of parcels, size of parcels, permits for construction, etc. Much of this information is readily available in secondary data sources, but needs to be tracked and synthesized.



3. On-site use of public lands and attitudes about their management, especially within the highest priority area of the 585' contour lakeward/riverward, should be assessed every 5 years. This can be done using a combination of secondary attendance data (state park entries, hunter registrations, etc.), observations (by observers and remote sensing devices) and through survey research of target populations (birders, hunters, etc.). A current example of the importance of such assessment is to understand the actions of the public and riparian owners on newly exposed Great Lakes bottomland due to low water conditions.

Education Concerning Habitat

The second highest priority is to identify and show watershed habitat projects within the region to highlight positive management practices and their outcomes. This may include wetland creation, control of non-native invasive species or the valuable ecological benefits of low water or a drawdown in restoring wetland vegetation in coastal wetlands.



Key actions not in priority order for habitat education are:

1. Demonstration projects on public lands should be targeted at key audiences including farmers, recreational landowners, industrial and institutional landowners and local officials, such as planning and zoning personnel, drain commissioners and park board members.
2. On-site workshops for landowners and local officials during the construction/establishment phase of restoration and enhancement projects should be available, well publicized and interesting. These should be available on an annual basis to keep up with constant changes in ownership and shifts of local officials. Key activities to showcase may include prescribed fire, wetland restoration,

permitting processes and water management.

3. Monitoring of restoration and enhancement projects should be done so needed alterations can be made and to evaluate the effectiveness of various options to meet project goals. This is also critical for accountability.
4. Education efforts can also reach out to the general public at sites such as highway rest areas, Natural Resources Conservation Service offices, MSU Extension offices and on the internet. For example, at highway rest areas, highlighting the use of native prairie grasses in restorations and the benefits of grasslands to many species can be highlighted. The benefits of appropriate roadside vegetation management, such as control of woody vegetation and delayed mowing to promote grassland species, while providing scenic beauty and economic efficiency can also be explained. Wildlife auto tour routes, such as the Jack Pine Ecosystem Auto Tour route in northeastern Lower Michigan near Mio, may provide another venue to focus interest on habitat and its contributions to society while also benefiting local economies during periods of wildlife migration and other times of heightened viewing interest. An effective, educational program via the Saginaw Bay WIN website concerning habitat protection, restoration and enhancement in the watershed should be developed and regularly updated to provide an accessible information and data base for all. Links to other related websites, such as those promoting birding, waterfowl hunting,

etc. would be useful. This will also showcase conservation efforts far beyond the watershed boundaries.

5. Each state game, wildlife and park area within the 585' contour lakeward/riverward should have a viable wildlife viewing area. This should include appropriate interpretive information about orientation to the area and site management objectives, coupled with discovery learning opportunities about the wonders of nature. Access for all citizens through the use of accessible boardwalks, platforms, etc. will welcome and encourage the broadest range of public use.
6. A biodiversity atlas for the watershed should be developed and maintained. This centralized data base should be available to planners and others as they consider the costs and benefits of locating development in greenfield sites or redeveloping brownfields.
7. Public distribution of Saginaw Bay watershed specific habitat literature through the Cooperative Resource Management Initiative and other venues would be extremely valuable. For example, problems with phosphates and wind erosion on flat areas in the Thumb may require taller, denser vegetative buffers than other areas of the state. Hence, recommendations for upland seed mixes may differ from other areas. This information may be distributed in forms other than the typical brochure or booklet. Videos and websites provide alternate information pathways that may reach new audiences and enhance use by traditional ones.
8. For transportation officials, educational efforts may minimize the impacts of new or expanded transportation corri-

dors through more environmental sensitivity in land acquisition and route design. Reconfiguring borrow areas in such a way that natural drainage patterns are least disrupted and maintaining the integrity of existing habitat such as wetlands and unbroken blocks of forests, would reduce future mitigation challenges.

9. Training should be provided for natural resource professionals so they acquire, maintain and use the latest science and materials to guide restorations and enhancements. Training should also broaden the resource professional's knowledge base regarding habitat for the entire wildlife community.



WWA

SAGINAW BAY

WATERSHED

INITIATIVE

NETWORK



SAGINAW BAY WATERSHED INITIATIVE NETWORK

Guidelines for Project Descriptions

1. The attached form has been developed to assist WIN's Task Groups and Resource Group in evaluating project ideas. This form will be circulated to all members of the Task Group prior to your presentation. If approved by the Task Group, the form will also be circulated to Resource Group members and the Foundation Network.
2. The "Local Champion" is the not-for-profit organization, entity or government agency that will have primary responsibility for insuring that the project is completed. It will also be responsible for accounting for the funds granted.
3. All WIN projects should demonstrate sustainability linkages. That means that they should simultaneously achieve economic, environmental and community goals. However, projects that achieve only one or two sustainability goals may be paired with another WIN project that achieves the remaining goal so that the projects taken together achieve all three goals. For example, the birding group has developed habitat projects, marketing projects, and public access projects. As a group or "package", these projects achieve environmental, economic and community goals. Other groups may follow this model. The form provides space for you to describe the goals your project achieves, and how it might relate to other WIN projects to achieve all three sustainability goals.
4. Many of the project ideas presented to WIN fit the visions and geographic restrictions of local community foundations. For this reason, we ask that local champions make an effort to present their project ideas to the community foundation serving the region that will benefit most from the project's goals.
5. In addition to sustainability linkages, WIN evaluates projects by asking whether projects:
 - ◆ Promote and encourage partnerships by leveraging resources
 - ◆ Balance long-term focus with short-term results
 - ◆ Promote excellence by fostering a sense of identification and pride in the watershed
 - ◆ Serve as pilot or demonstration projects with broad application (can be replicated)
 - ◆ Fit with WIN's Vision, Mission, and Guiding Principles
6. This form will be copied and faxed to other people. Please type or print very clearly so that the completed form will be legible. You may also retype the form. Send completed forms to Mary Kasprzyk, email marykas@tm.net; 4700 Congress, Midland, MI 48642.
7. When completed, the project description form should be no more than three pages. If you have questions about the form or the project review process, please contact your Task Group co-chairs, or Mike Kelly at. 1-877-ASK-4WIN; email: mkelly@svsu.edu.

SAGINAW BAY WATERSHED INITIATIVE NETWORK PROJECT
DESCRIPTION FORM



Project Name: Conservation Tillage for Water Quality and Wildlife

Local Champion: Saginaw Bay Resource Conservation & Dev. Area Inc.

Name & Position of Contact Person: Jim Hergott, Project Coordinator_

Phone: 517-684-5650 Fax: 517-684-5896 email: Saginawbay@aol.com

Sponsoring WIN Task Group(s) (circle one):

Agriculture/Pollution Prevention

Land Use

Water Resources

Communication

Marketing

Wildlife Stewardship

Collaborating Organizations: MDNR, MDEQ, National Fish and Wildlife Habitat Foundation, Soil Conservation Districts, Innovative Farmers, Michigan Duck Hunters Association, DU, National Wild Turkey Federation

Project Description (include the project's relationship, if any, to other programs or projects occurring in the watershed: It will encourage landowners to leave corn stubble undisturbed over the winter for erosion control, wildlife food and promotion of reduced tillage/no tillage systems to improve surface water quality. Will fund the Saginaw Bay RC&D and SCDs administrative/educational efforts so all existing funds from a DEQ 319 Water Quality grant can be used as direct payments to farmers. This will result in more total acres in this practice. Educational efforts will include slide presentations, newsletters, leaflets and face-to-face presentations and discussions with farmers during administrative duties. The SCD Resource professional will also work with high school FFA clubs and other school groups, as well as making media contacts. Innovative Farmers, a group of farmers who current provide technical conservation assistance directly to other farmers will also be involved in project implementation.

Is this a pilot project or a project that could be replicated elsewhere in the watershed? X Yes ___ No

Describe the project's sustainability linkages. If the project is part of a "package" of projects, identify the other projects. Is this project part of a "package" of projects? X Yes ___ No

If yes, please list the names of the other projects: Conservation Tillage by Innovative Farmers, Waterfowl Food Plots, and the proposed Huron County No-Till Drill project.

Does the project promote and encourage partnerships or leverage other resources? X Yes ___ No

If yes, how: It combines the resources of the National Fish and Wildlife Foundation, MDNR, MDEQ, SCDs, National Wild Turkey Federation Ducks Unlimited and Innovative Farmers.

Describe the project's goals and how you will measure whether it has achieved those goals:

Economic goals: Increase landowner profit per acre. Will be measured by increased revenue and decreased production costs.

Community or social goals: Provide recreational opportunities in the form of birding and hunting. This will strengthen opportunities on public lands such as state game and wildlife areas, parks and at water access sites by maintaining larger populations in the area for a longer period of time, but will also result in stronger recruitment of young through healthier breeding birds in the spring. Additional viewing and hunting opportunities will be provided on the actual project lands for both owners and guests and for all viewers during their travels along area public roads.

Environmental goals: Saginaw Bay is a critical staging area for waterfowl migration. Thousands of ducks, geese, swans and other migratory birds depend on waste grain to "refuel" during spring and fall migrations. This is especially critical for tundra swans, who must acquire nearly all the needed protein and energy for migration and egg laying at staging areas prior to reaching Arctic breeding grounds. Coupled with conservation or no-till practices, improvements in surface water quality will result through reduced wind and water erosion.

Describe how the project fits with WIN's Vision, Mission, and Guiding Principles: This project reflects the Saginaw Bay Watershed Habitat Conservation Framework vision of "an economically diverse region where thriving agricultural, natural resource based tourism ...are symbiotically related". Providing farmers a competitive advantage through conservation tillage while benefiting wildlife and improving water quality are the types of sustainable management practices WIN embodies.

What tangible results to you expect from the project and how will you measure them? Tangible results include the increased usage of conservation tillage, decreased erosion from treated fields and additional food resources for migrating birds. In 2001 a minimum of 2,500 acres will be treated and a minimum of 3,000 acres in 2002. In terms of available food resources, this may provide 3-5 bushels of waste corn per acre for wildlife consumption, or from 7,500 to 12,500 bushels in 2001 and 9,000 to 15,000 bushels in 2002. With the additional funding proposed these acreages will increase to 4,100 in 2001 and 3,500 in 2002 with corresponding increases in migratory bird food, reduced erosion and additional acres in conservation tillage.

Time Line:

Project could be commenced within 1 month of funding.

Project will be completed within 14 months of funding.

Project Budget: Please provide a budget which details project expenses and sources of income for this project. Please include:

Personnel Costs: \$16,000 (\$8,000/year) at the rate of 1\$/acre to promote and \$2/acre to draft Conservation Plan

Equipment Costs: _____

Materials & Supplies: _____

Total Project Cost: \$113,690

Funds requested from WIN: \$16,000 (\$8,000/year)

Other funds already obtained: \$82,650 from MDEQ and \$540 MDHA

Other possible sources of funds: National Wild Turkey Federation, National Fish and Wildlife Foundation, Ducks Unlimited

How do you plan to finance the portion not funded by the Foundation Network?

MDEQ	\$82,650	2001/02
MDHA	\$ 540	2001
DU	\$ 2,500	2001
NWTF	\$ 2,000	2001
NFWF	\$10,000	2001

Have you contacted the community foundation in the area most directly benefited by your project?
 Yes No. If yes, with what result? _____

Is this an ongoing project? Yes No. If yes, how will funding be continued?

Contact Information:

Date: _____

Signature of Contact Person

Jim Hergott, Project Coordinator
Printed Name & Title of Contact

Address: 4044 S. Three Mile Rd. Bay City, MI 48706

SAGINAW BAY WATERSHED INITIATIVE NETWORK PROJECT DESCRIPTION FORM

Project Name: Finn Road Park Acquisition

Local Champion: Saginaw Basin Land Conservancy

Name & Position of Contact Person: Charles Curtiss, President

Phone (517) 791-7748 Fax: _____ email: _____

Sponsoring WIN Task Group(s) (circle one):

- Agriculture/Pollution Prevention
- Land Use
- Water Resources
- Communication
- Marketing
- Wildlife Stewardship*

Collaborating Organizations: The Conservation Fund; US Fish and wildlife Service; Hampton Township; Michigan DNR; Bay Area Community Foundation; Kantzler Foundation; The Nature Conservancy

Project Description (include the project's relationship, if any, to other programs or projects occurring in the watershed): Acquisition of 28 acre parcel with 2,278 feet of Saginaw Bay frontage at 2333N. Knight Rd., Hampton Township. The property is primarily a hardwood sand ridge with a strip of Great Lakes coastal wetland.

Is this a pilot project or a project that could be replicated elsewhere in the watershed? X Yes ___ No

Describe the project's sustainability linkages. If the project is part of a "package" of projects, identify the other projects. Is this project part of a "package" of projects? ___ Yes X No

Sustainability linkages include protection and acquisition of Great Lakes wetland below the 585 foot contour level. This links with many other public wetlands and is the highest priority for protection under the WIN Wildlife Habitat Conservation Framework. In particular, the project links with existing Hampton Township parkland and a DNR water access site.

If yes, please list the names of the other projects: _____

Does the project promote and encourage partnerships or leverage other resources? X Yes ___ No

If yes, how: Support will provide match to access to Michigan Natural Resources Trust Fund monies at a 3:1 match. Hampton Township will manage the site once acquired, linking it to its existing park.

Describe the project's goals and how you will measure whether it has achieved those goals:
Economic goals: Ecotourism from birding and nature observation and study.

Community or social goals: Recreational opportunity and opportunity for community school groups and others to engage in ongoing monitoring of environmental conditions of Saginaw Bay, including wetlands, fisheries, water quality and wildlife.

Environmental goals: Habitat for waterfowl, shorebirds and neotropical migrants. Safeguard the environment with careful management of on-going oil production at wells already producing on the property with mineral rights owned by a third party.

Describe how the project fits with WIN's Vision, Mission, and Guiding Principles: It dovetails with other investments in habitat protection including state game, wildlife, park and water access areas and city, county and township parks. It meets two key protection goals of WIN Wildlife Habitat Conservation Framework by protecting Great Lakes wetlands and habitat for neotropical migrants focused on the Saginaw Bay wooded shoreline. It also provides opportunity to improve other public investments, with opportunities for a walking trail through the new property connecting the existing Hampton Township Park with the existing DNR water access site. Finally, it is a partnership effort with support from non-profit organizations and state and local government, including a long-term commitment for local government management.

What tangible results to you expect from the project and how will you measure them? There will be demonstrable use of the site for viewing and nature study and a visible connection with existing recreation and habitat that will enhance public recreation and education. The project will also complete a significant portion of the objectives of the 5-year Hampton Township Parks and Recreation Master Plan.

Time Line:

Project could be commenced within 1 month of funding.

Project will be completed within 12 months of funding.

Project Budget: Please provide a budget which details project expenses and sources of income for this project. Please include:

Personnel Costs: 0

Equipment Costs: 0

Materials & Supplies: Land acquisition \$268,500

Total Project Cost: \$268,500

Funds requested from WIN: \$10,000

Other funds already obtained: Bay Area Community Foundation \$28,000; Kantzler Foundation \$25,000; Saginaw Basin Land Conservancy \$2,000

Other possible sources of funds: DU \$10,000; Michigan Natural Resources Trust Fund \$193,500. Natural Resources Trust Fund money dependent on having 25% match for total project cost. With DU and WIN grant request, match requirement would be met.

How do you plan to finance the portion not funded by the Foundation Network? Much depends on the Michigan Natural Resources Trust Fund. DU money appears available with awarding of Saginaw Bay Watershed Phase II North American Waterfowl Conservation Act of \$1,000,000 to DU. Part of this money is earmarked for acquisition. Project should score well with MNRTF as it is near an urban area, has Great Lakes access, benefits fishing and wildlife, will have non-motorized trail opportunities, and provides habitat for rare, threatened or endangered species.

**Have you contacted the community foundation in the area most directly benefited by your project?
X Yes _____ No. If yes, with what result? Support committed by the Bay Area Community Foundation (\$28,000) and the Kantzler Foundation (\$25,000).**

Is this an ongoing project? X Yes ___ No. If yes, how will funding be continued? Hampton Township will incorporate the acquisition into their Township Park system and maintain it. There is potential for a future request to WIN for development of viewing opportunities through a platform, trail, interpretive signage, etc.

Contact Information:

Date: _____

Signature of Contact Person

**Charles Curtiss
Printed Name & Title of Contact**

Address: _____

SAGINAW BAY WATERSHED INITIATIVE NETWORK PROJECT DESCRIPTION FORM



Project Name: Wolf Creek Riverine Wetland Restoration

Local Champion: Ducks Unlimited

Name & Position of Contact Person: Arnie Karr, DNR Habitat Biologist

Phone: 517-872-5300 Fax: 517-872-4375 email: karra@state.mi.us

Sponsoring WIN Task Group(s) (circle one):

Agriculture/Pollution Prevention
Land Use
Water Resources

Communication
Marketing
Wildlife Steward-

Collaborating Organizations: MDNR-Wildlife, Ducks Unlimited

Project Description (include the project's relationship, if any, to other programs or projects occurring in the watershed): Restore the hydrology of a wetland converted to row crop agricultural purposes on the Shiawassee River State Game Area. Prior to State ownership, an 80-acre farm field included a dike, tile, and pump system adjacent to Wolf Creek. This system enabled the farmer to drain and plant a 10-acre riverine wetland. This project will restore the wetland functions by installing a 36" diameter culvert through the dike to connect the basin (@583' contour) with the Shiawassee River via Wolf Creek. This restoration also provides a Great Lakes coastal wetland as it is lower than the 585' contour.

Is this a pilot project or a project that could be replicated elsewhere in the watershed? Yes No

Describe the project's sustainability linkages. If the project is part of a "package" of projects, identify the other projects. Is this project part of a "package" of projects? Yes No

If yes, please list the names of the other projects: SFCHA, MDHA, P.F., D.U. & MDNR Wetland restorations throughout the watershed. In particular, within the Shiawassee River State Game Area, other restorations along Swan Creek and Marsh Creek and other locations are providing a complex of riverine wetlands, inundated by both seasonal flooding and high levels in Saginaw Bay, either from wind sieche or high Great Lakes levels.

Does the project promote and encourage partnerships or leverage other resources? Yes No
If yes, how: Combines resources of MDNR, WIN and Ducks Unlimited

Describe the project's goals and how you will measure whether it has achieved those goals:

Economic goals: The project will provide some flood relief as floodwaters will be able to flow into the Wetland basin. The dike has previously prevented this. A gauging station can provide temporal estimates of basin water volumes.

Community or social goals: Provide birding, fishing, and hunting opportunities. Periodic surveys of state game area recreation use, known use by school groups and manager observation can document such benefits.

Environmental goals: The wetland will provide a settling area for suspended solids in flood waters, spawning and rearing areas for northern pike and other fish species in higher water years, mud flats for shorebirds during drier years and an overall reduction in sedimentation from surrounding uplands due to establishment of dense nesting cover in adjacent uplands. Periodic surveys of biological productivity are conducted on the game area. In addition, cooperative projects on site with local school biology classes can provide additional data.

Describe how the project fits with WIN's Vision, Mission, and Guiding Principles: The "Saginaw Bay Watershed Wildlife Habitat Conservation Framework" lists the habitats lakeward/riverward from the 585' contour as "the highest priority area for restoration and enhancement.....". In addition, the project provides a multiplicity of benefits to water quality, recreation, biological diversity and the local economy. These linked sustainability benefits are central to the mission of the WIN.

What tangible results to you expect from the project and how will you measure them? This project will complete one of the areas of restoration identified in the 1995-2000 Shiawassee River State Game Area Master Plan. As noted above, increased flood storage, reduced sedimentation, fish and wildlife use and recreational activity will all be measured.

Time Line:

Project could be commenced within 9 weeks of funding.
Project will be completed within 12 months of funding.

Project Budget: Please provide a budget which details project expenses and sources of income for this project. Please include:

Personnel Costs: \$500.00 (D.U. & MDNR in-kind covering engineering and supervision)

Equipment Costs

Materials & Supplies: \$5000.00 (tube, rip rap, filter fabric, excavation)

Total Project Cost: \$5500.00

Funds requested from WIN: \$5000.00

Other funds already obtained: None

Other possible sources of funds: Shiawassee Flats Citizens & Hunters Assoc. and Pheasants Forever.

How do you plan to finance the portion not funded by the Foundation Network? Ducks Unlimited and MDNR, in-kind.

Have you contacted the community foundation in the area most directly benefited by your project?

Yes No If yes, with what result?

Is this an ongoing project? X Yes No. If yes, how will funding be continued? This is one of a number of restoration projects on the game area noted in the management plan. Funding for future projects may come from a wide variety of sources including WIN, DU, Pheasants Forever, the Michigan Duck Hunters Association, the Shiawassee Flats Citizens and Hunters Association and others.

Contact Information:

Date: September 18, 2000

Signature of Contact Person

Arnie Karr, DNR Wildlife Biologist

Printed Name & Title of Contact

Address: DNR, 225 E. Spruce St., St. Charles, MI 48655