

## North Dakota Game and Fish Department Outdoor Heritage Habitat Initiative

Name of Organization: North Dakota Game and Fish Department

Federal Tax ID#:45-6002467

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**MAJOR Directive: (select the Directive that best describes your grant request)\***

Choose only one response

**Directive A.** Provide access to private and public lands for sportsmen, including projects that create fish and wildlife habitat and provide access for sportsmen;

**Directive B.** Improve, maintain, and restore water quality, soil conditions, plant diversity, animal systems and to support other practices of stewardship to enhance farming and ranching;

**Directive C.** Develop, enhance, conserve, and restore wildlife and fish habitat on private and public lands; and

**Directive D.** Conserve natural areas for recreation through the establishment and development of parks and other recreation areas.

**Additional Directive: (select the directives that also apply to the grant application purpose)\***

Choose all that apply

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**Directive D.** Conserve natural areas for recreation through the establishment and development of parks and other recreation areas.

**Type of organization: (select the category that describes your organization)\***

State Agency

Political Subdivision

Tribal Entity

Tax-exempt, nonprofit corporation, as described in United States Internal Revenue Code (26 U.S.C. § 501 (c))

**Project Name:**

**North Dakota Game and Fish Department Outdoor Heritage Habitat Initiative**

**Abstract/Executive Summary**

**Objective**

The objective of Outdoor Heritage Habitat Initiative is to utilize OHF project funds to assist the North Dakota Game and Fish Department (Department) in fulfilling its mission by protecting, conserving and enhancing fish and wildlife habitat on private lands through the PLOTS (Private Land Open To Sportsmen) and SOL (Save our Lakes) programs. Over 93 percent of land in North Dakota is held in private ownership. It is essential the Department work with private landowners to manage wildlife and fisheries habitat and to maintain adequate opportunities for the public to access these resources. The Department will utilize existing staff to implement and deliver the Outdoor Heritage Habitat Initiative. The PLOTS program has a long history and proven track record of working with private landowners and implementing a variety of conservation practices on private lands. PLOTS has worked with thousands of private landowners over the last 20 years to enroll over one million acres of habitat and public access. PLOTS offers a menu of program options for landowners seeking opportunities for their land. PLOTS partners with federal USDA farm bill programs wherever possible to leverage funds and provide additional cost share and incentives to private

landowners. The SOL program was created to address aquatic habitat issues (e.g. water quality) facing the state's fishing water bodies, including rivers and streams. SOL works with federal farm bill programs where applicable to leverage funds as well.

#### Expected Results

The Outdoor Heritage Habitat Initiative seeks to enroll up to 4,600 acres through this initial proposal. Approximately 3,000 acres of new and existing habitat will be enrolled in the PLOTS program. Approximately 1,600 acres of shoreline, riparian areas, grassed waterways and other areas will be enhanced for water quality through the Save Our Lakes (SOL) program. PLOTS agreement length will be for a period of 10 years with annual payments; SOL agreements will range from 10-20 years with upfront payments. After demonstrating the need and interest, the Department will likely submit future OHF proposals to build upon this initial proposal.

#### Total Project Costs

The Outdoor Heritage Habitat Initiative is requesting \$2 million over a 10-year period. \$300,000 of existing PLOTS funding and \$300,000 of SOL funding will be used as cash match to provide additional payments for walk-in public access to the 3,000 acres enrolled. \$110,000 of Department private lands biologists salaries, vehicle mileage and equipment such as signs and posts will be used as indirect match and \$5,000 of Department funds will be used as other match for promotion, information and education for the project.

#### Participants

Private landowners will be the primary participants for this project. The number of participants expected to enroll into the program will vary depending upon type of practice, location, and the number of acres offered; it is estimated of 4,600 acres could be enrolled through this grant proposal. Other conservation groups such as Pheasants Forever and Ducks Unlimited will also help promote the OHF project through their system of farm bill biologists located in USDA county offices.

**Amount of Grant request** The Outdoor Heritage Habitat Initiative is requesting \$2 million over a 10-year period.

**Total Project Costs** \$2,733,000

**Amount of Matching Funds** \$733,000 (\$600,000 cash and \$133,000 indirect)

#### Source(s) of Matching Funds

North Dakota Game and Fish Department PLOTS and SOL programs.

#### Certifications

X I certify that this application has been made with the support of the governing body and chief executive of my organization.

X I certify that if awarded grant funding none of the funding will be used for any of the exemptions noted on Page 1 of this application.

## **Narrative**

The Department has the public trust responsibility for managing the state's fish and wildlife resources. The mission for the Department is to protect, conserve and enhance fish and wildlife populations and their habitats for sustained consumptive and nonconsumptive use. The Department's PLOTS (Private Land Open To Sportsmen) program and Save Our Lakes (SOL) program are the mechanisms for delivering the mission on to private lands. The Wildlife Division is the administrating unit for the PLOTS program; the SOL program is administered by the Fisheries Division. The PLOTS and SOL programs are operated out of the Private Land Initiative (PLI). The PLI has three main goals: 1) Conservation of habitats for fish and wildlife populations; 2) Provide landowners interested in wildlife conservation with cost-share assistance for developing and protecting wildlife and fisheries habitat; 3) Provide the public with opportunities to access fish and wildlife resources on private land.

PLOTS and SOL are funded with revenue from the sales of habitat stamps, interest accrued from the Department's reserve fund and special legislative appropriations. A portion of the proceeds from the sale of every hunting and fishing license goes toward a Private Land Habitat and Access Improvement Fund. Three fulltime employees, located in Bismarck, administer the PLOTS program, while eight fulltime employees, located in district field offices, deliver the programs. The SOL program has one staff person located in the Bismarck office. That position coordinates grants, acquires funding, purchases supplies, hires contractors and works with local landowners to improve the water quality of the state's water bodies.

Agreements with landowners are referred to as Conservation PLOTS or SOL agreements. Parcels of land are signed and identified in an annually printed Conservation PLOTS Guide; a full-color hunting atlas, which displays PLOTS lands, as well as other public lands available for hunting.

## **Purpose of Grant**

Project Need – Loss of grasslands

North Dakota has a rich history and heritage of hunting, fishing and outdoor related activities. Hunting and fishing are important to our state. Our large expanses of native grasslands, CRP, prairie pothole wetlands and lakes attract national attention, from hunting and fishing to birding tours and ecotourism. These recreational activities are important to the state's economy. Gross business volume of hunting and fishing in North Dakota was estimated at \$1.4 billion in annual input into the state's economy. Overall, anglers and hunters in North Dakota spent \$642.9 million dollars on equipment, vehicles, boats, travel, lodging, food and many other items. These expenditures generated nearly \$727 million in secondary economic benefits, gross business volume, secondary employment and state-level tax collections. Hunting and fishing accounted for over 2,500 full-time equivalent jobs and generated over \$40 million in state tax collections. (Source: *Hunter and Angler Expenditures, Characteristics, and Economic Effects, North Dakota, 2011-2012*. North Dakota State University)

There are two important components to our hunting and fishing heritage – habitat and access. Without adequate habitat, wildlife and fisheries populations cannot flourish and without access to the habitat, hunters and anglers cannot enjoy the resource. One very important feature on the landscape in North Dakota over the past 25 years has been the

Conservation Reserve Program (CRP). Citizens of the United States, residents of North Dakota, wildlife, private landowners and hunters and anglers benefit from CRP. CRP reduces soil erosion, improves water quality and provides important habitat for a variety of wildlife species. CRP has been attributed to increases in wildlife populations such as waterfowl, pheasants and deer. Reynolds et al. (2007) concluded that CRP in the Prairie Pothole Region (PPR) of North Dakota, South Dakota and northeastern Montana has contributed 2 million additional ducks per year. As more grass was put on the landscape, and adequate water conditions returned to the prairies, the duck index increased. (Figure 1)

The Department's spring pheasant population index shows that since CRP was established in 1985, pheasant populations have increased and as CRP has come onto the landscape, annual pheasant (Figure 2) and deer (Figure 3) harvest has steadily risen. Neilson et al. (2006) estimates a 22 percent increase in counts of ring-necked pheasants for every 4 percent increase in CRP enrolled acres within large units of pheasant habitat. A central North Dakota study by Schaffer (2013) concluded that fawns select bed sites consisting of native grassland and CRP more than 70% of the time; a study in South Dakota had similar results. CRP provides essential habitat for a variety of wildlife species and many hunters focus on CRP for hunting.

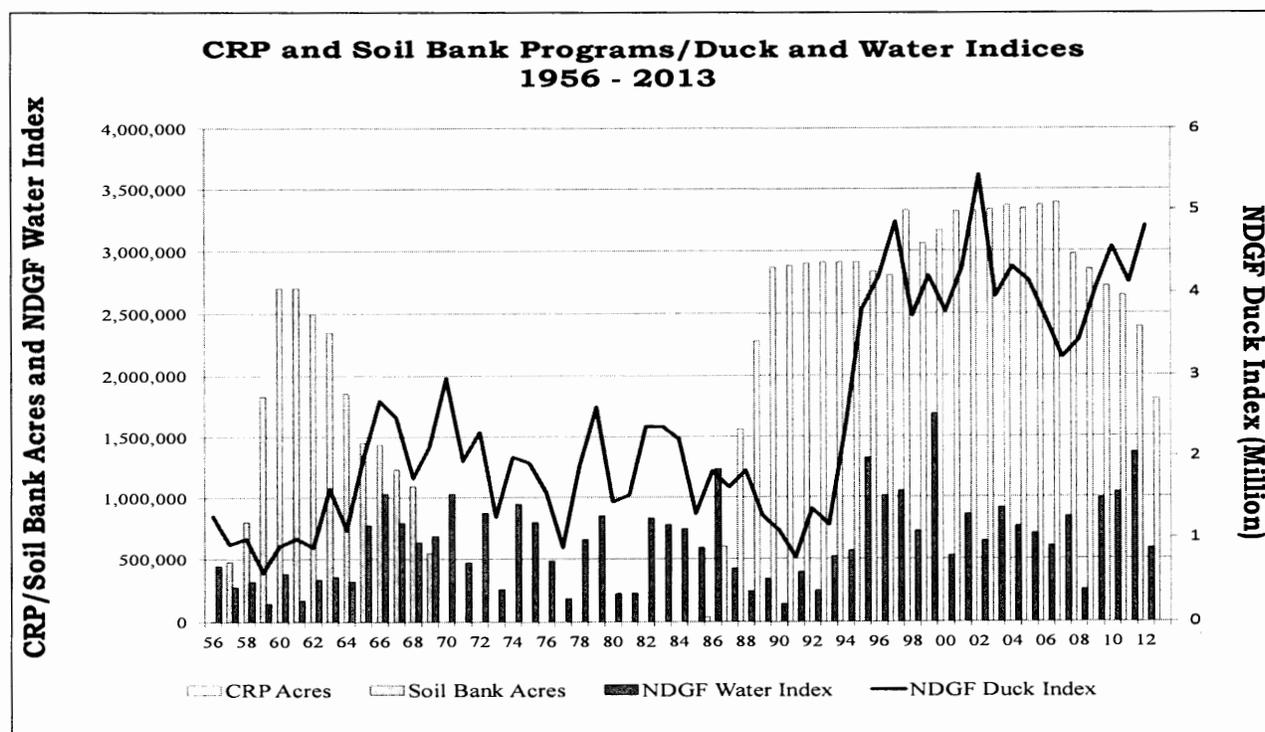


Figure 1. CRP and Duck Indices 1956-2012.

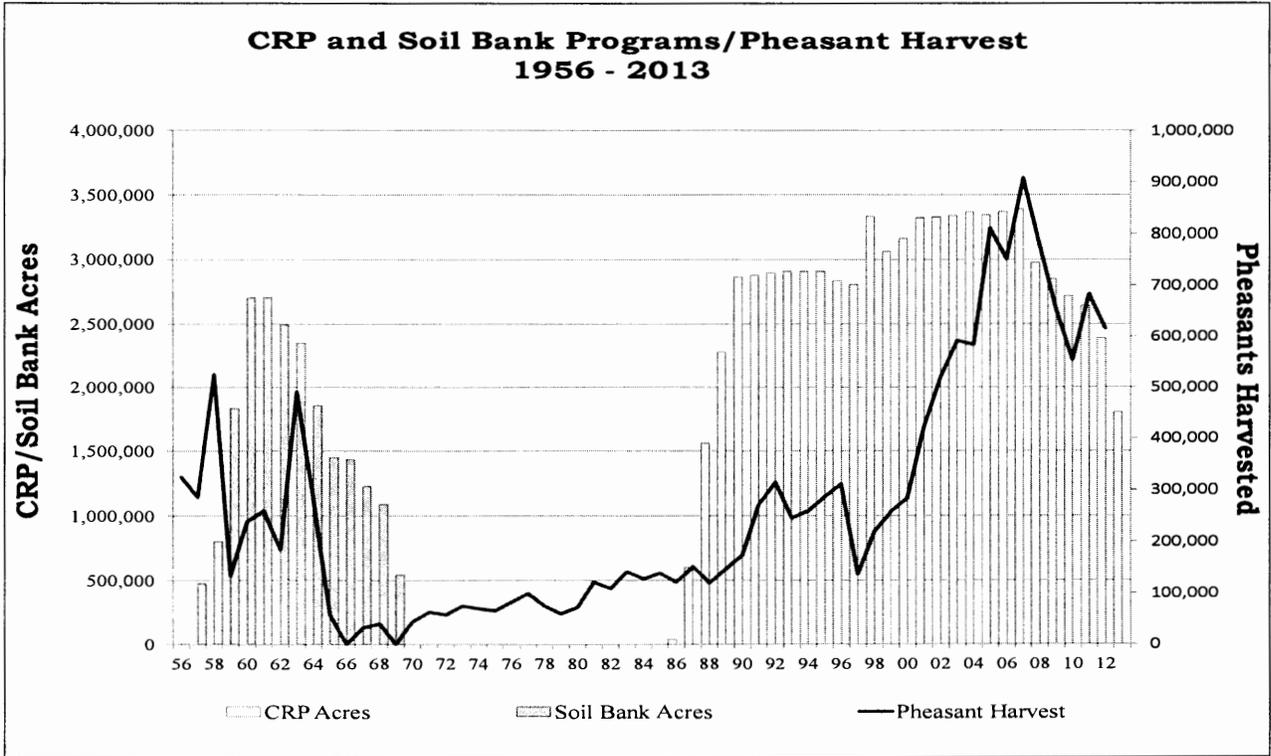


Figure 2. CRP acreage and annual pheasant harvest 1956-2012.

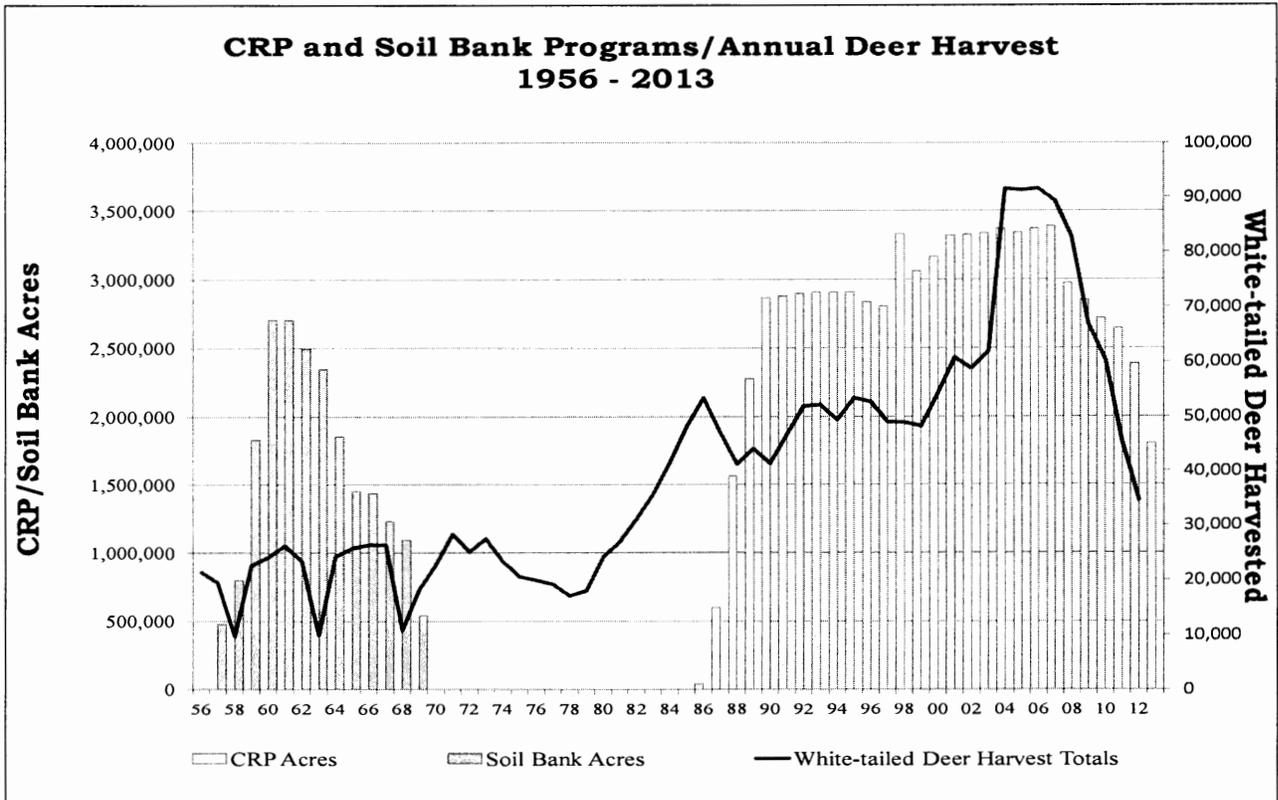


Figure 3. CRP acreage and annual deer harvest 1956-2012.

The CRP peaked in 2007 at approximately 3.4 million acres statewide. (Figure 4) Since 2007, approximately 1.8 million acres have expired in North Dakota. (USDA-FSA report. 2013)

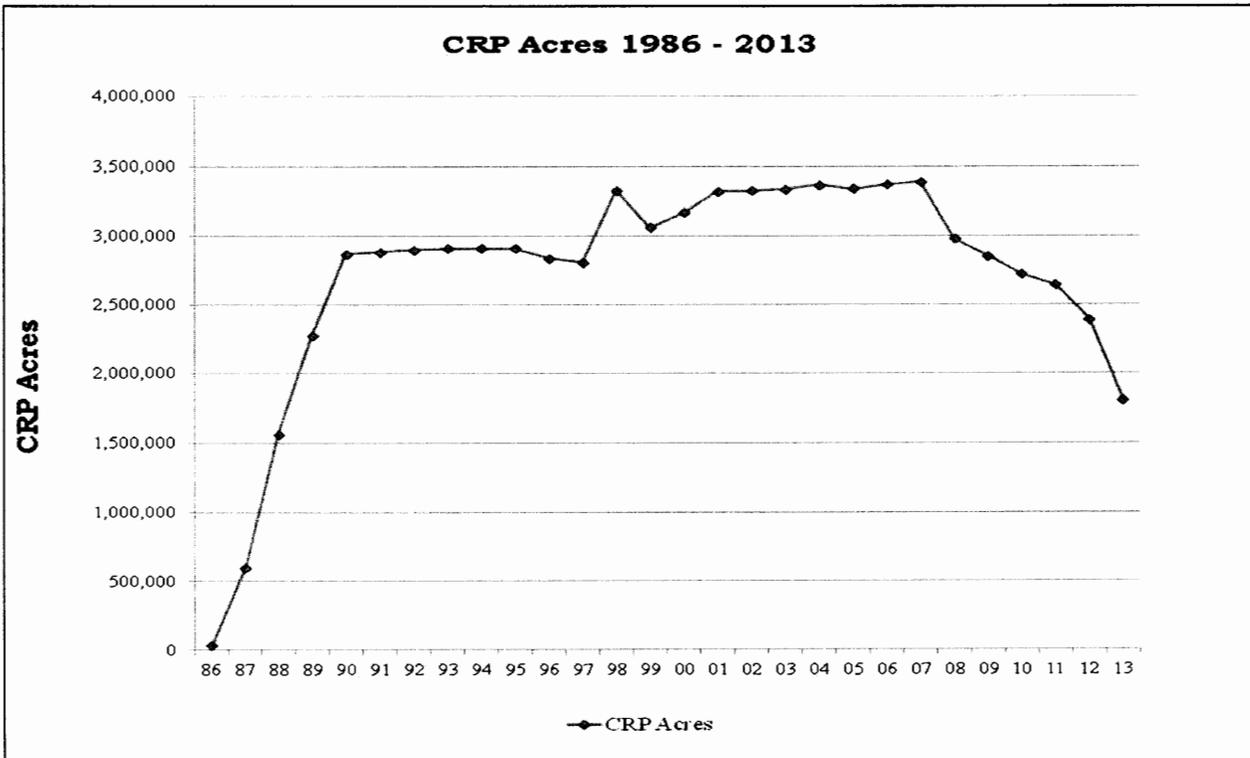


Figure 4. CRP acres, 1986-2013. Source: USDA-Farm Service Agency Report.

Increased commodity prices, high cropland rental rates and reductions in program funding allocations have all factored into the decrease in CRP acres. This loss of habitat will result in declines in wildlife populations, such as grassland nesting birds (Niemuth et al. 2007). The Department is concerned about this loss of habitat and the impacts it will have on wildlife populations, hunter access, hunter recruitment and retention. As less CRP habitat is available, there will likely be an increased demand from hunters for the Department to replace this lost habitat. Expectations are that the Department's PLOTS program will be able to provide rental payments for habitat similar to CRP. The Department's current biennial budget for PLOTS is around \$12 million. In 2007, CRP annual rental payments to producers in North Dakota totaled over \$100 million. During these peak CRP years, North Dakota resident and nonresident hunters harvested nearly 1 million pheasants, available deer licenses totaled 148,550, and a deer harvest was near 100,000 animals. At that same time, the PLOTS program had just over 1 million acres of private land enrolled. In contrast, approximately 1.6 million acres of active CRP contracts remain; 600,000 pheasants and less than 35,000 deer were harvested during the fall 2012 hunting season; and the PLOTS program included approximately 760,000 acres for the fall 2013 hunting season.

Interest in general CRP has decreased recently; however, there is still a segment of producers who want general CRP as an option. Changes to the scoring system for general

CRP do not favor the Northern Great Plains; many offers were not accepted during the past three general CRP signups as shown below.

- 2011 CRP signup – only 45% of acres offered were accepted
- 2012 CRP signup – only 57% of acres offered were accepted
- 2013 CRP signup – only 69% of acres offered were accepted

With the fast pace of agriculture today, producers are less interested in whole field enrollment through general CRP. Producer interest has shifted to continuous CRP (CCRP), which generally targets smaller acreages and addresses specific resource concerns. CCRP contains practices such as CP-38 SAFE (State Acres For wildlife Enhancement), CP37-Duck Nesting Habitat, CP23A-Wetland Restoration and CREP (Conservation Reserve Enhancement Program). The Department and other conservation partners assisted USDA with development of several of the CCRP practices. CCRP practices are in high demand by producers. At the time of this writing, all of the above CCRP practices, with the exception of CREP, were fully subscribed, with a backlog of interest from producers. The Department and other conservation partners have requested additional allocations of CCRP practices but with the lack of a farm bill, an increasing federal deficit and cuts to conservation programs, it is unlikely additional allocations will be received in the near term. The Outdoor Heritage Habitat Initiative seeks to provide options for producers who have expired CRP and were not accepted in recent general CRP signups, and for producers who were not able to enroll into CCRP due to lack of available acreage allocation.

#### Project Need – Water Quality

SOL was created to address aquatic habitat issues (e.g. water quality) facing all of the state's fishing water bodies. The SOL program is split between in-lake habitat work and work within the watersheds. SOL works directly with producers to improve the quality of water entering the state's waterways and ultimately into our lakes and reservoirs. Areas immediately around active fishing water bodies (lakes, rivers and reservoirs) and upstream for a distance of five miles qualify for SOL. Width of upstream riparian buffer zone is generally 100 feet but can be adapted due to factors such as topography, landowner/Department desires, and economics. The program is flexible and other factors may be considered on a case-by-case basis to fit into the producer's operation. Areas under agreement are used to filter runoff before entering into fishing waters. In turn, benefits are realized for aquatic and terrestrial wildlife species, recreationalists and public health.

When a lake is first formed it has very low nutrient levels, appears clear, and has few aquatic plants. This is the oligotrophic stage. As a lake matures, it gains nutrients, plants, and other organisms which help achieve the most productive, eutrophic stage. Reduction of the amount of nitrates and phosphates which encourage excess plant growth will also be beneficial. If phosphorus is present in excessive amounts it may cause excessive aquatic plant growth and/or algal blooms to occur. When the plants and/or algae die, their decay will accelerate the depletion of oxygen in the water. Sources of phosphorus may be: animal wastes, industrial wastes, and/or disturbance of soils which naturally hold phosphorus. Proper application of fertilizers on lawns, gardens, and fields will lessen the impact on storm water runoff. Ensuring that animal and human wastes are properly handled will help prevent surface water pollution from phosphorous. (Figure 5) Excess nitrates will cause excessive plant growth in surface waters as well.



Figure 5. Excessive plant growth as a result of animal waste.

The resulting decay of plant material removes oxygen that is used by fish and other organisms. Nitrates can potentially interfere with the blood's ability to carry oxygen in humans and other animals. In cattle it may cause shortness of breath and the blood will look brown instead of red. Nitrate poisoning may cause cattle to froth at the mouth, suffer convulsions, appear blue around the muzzle and have a bluish tint around the eyes. Moderate poisoning is thought to cause poor growth, infertility, abortions and vitamin A deficiencies. Increased suspended solids can affect dissolved oxygen by causing waters to become warmer and reducing the ability of water to hold oxygen. If fecal coliform counts are high in surface water, a person swimming in that water has a greater chance of getting sick from swallowing the water, or from pathogens entering the body through cuts in the skin, the nose, mouth, or the ears. Diseases such as typhoid fever, hepatitis, gastroenteritis, dysentery, and ear infections can be contracted from waters with a high fecal coliform count. Protection of the land in a watershed from erosion, by the use of conservation tillage measures and giving urban runoff time to settle out before reaching our surface waters is vital for maintaining or improving water quality. Lack of vegetation will result in increased runoff and erosion. (Figure 6) Riparian areas serve as buffers between uplands and the water. Runoff from the uplands is filtered as it passes through the riparian zone, removing nutrients and sediment. The vegetated banks of the riparian area slow and store water during periods of high flow, such as rainstorms and snowmelt. Healthy riparian area vegetation also strengthens stream banks which prevent erosion, maintains the stream channel, and keeps the water clear. The Outdoor Heritage Habitat Initiative seeks to offer producers options for improving water quality through a variety of practices available through the Save Our Lakes program.



Figure 6. Lack of vegetation resulting in increased runoff and erosion.

### **Management of Project**

The Department has been working with private landowners and implementing conservation programs for well over 20 years. Since 1997, Department private lands staff has increased to 12 fulltime positions to achieve and maintain a goal of 1 million quality acres in the PLOTS program and to satisfy producer demand for the program. Department private lands staff are knowledgeable about all state and federal conservation programs and serve as an information source as well. Private lands biologists work with landowners to find programs and practices that fit into each specific operation; often, a private lands biologist will assist a producer with another conservation program outside of the PLOTS program. Department private lands staff are also active with their local county USDA service centers; serving on local working groups and providing technical assistance on wildlife habitat and conservation programs. They work with private landowners every day and have established long-term working relationships with many of them. They also have an excellent network of county agents, state and county USDA staff, soil conservation districts, NGOs and conservation organizations, grazing associations, water boards, federal and state agencies, local wildlife clubs and chapters, and the communities they live and work in.

The Department will utilize existing programs, ranking criteria, and priority areas for determining which offers are funded through the Outdoor Heritage Habitat Initiative. The Department developed a GIS tool that allows the private lands biologist to enter the legal description of the offer and an assigned value is given based on several components that have been established, such as location of offer, if the offer is adjacent to other public lands, if the offer falls in a priority area determined by the Department, if the offer falls within the Department's Wildlife Action Plan focus areas, if the offer falls within a high waterfowl breeding density, if the offer falls within a priority watershed for SOL, and so on. The GIS tool allows the Department to weigh each offer against each other and determine which offers are most beneficial for wildlife and fisheries habitat and hunting access.

The Department has established an estimated time frame for delivering the Outdoor Heritage Habitat Initiative funds. (Table 1) Activities on private lands are very dynamic; interest in conservation varies greatly depending upon a number of factors including; weather, commodity prices, rents and land values, other programs and so on. Therefore, the delivery time frame is simply an estimate. Promotional and outreach efforts will be made in an attempt to enroll acreage as quickly as possible so there may be years when the amount requested for reimbursement may not match up with funding estimates on the table.

### **Evaluation**

The Department monitors every enrolled PLOTS agreement. Annual evaluations and progress reports are completed to ensure compliance, accuracy in signage and agreement terms and conditions. If issues are found, the landowner is contacted by private lands biologists. Most often, the issue can be corrected without any payment reduction or other penalty. Our programs are designed to be flexible so establishing a good working relationship and line of communication with the landowner is essential. The Department has monitoring guidelines established that are used depending on the type of PLOTS agreement. Some of the monitoring components include: GPS photo points, range inventories, vegetation monitoring, species monitoring (bird point-counts, lek counts, roadside counts etc...) and the use of historical imagery.

For SOL projects, photo monitoring will be conducted at each site to document changes in the habitat in the riparian corridor. Test netting of the state's water bodies is also conducted, at a minimum, every other year to document any changes in fish populations. Water quality monitoring is also conducted by the U.S. Geological Survey and the North Dakota Department of Health. Improvements in parameters measured by these agencies may be identified. Wildlife surveys may also be conducted to document colonization and use of these areas by species that did not use these areas before.

The Department also conducts hunter surveys for the PLOTS program that measures overall hunter satisfaction, quality of PLOTS acres, hunting pressure and general comments. Onsite, postcard drop-boxes are used on randomly selected PLOTS tracts to gather information for specific PLOTS tracts. Beginning in 2014, the Department will be undertaking a comprehensive review of the PLOTS program, including landowner and hunter questionnaires about what they feel is needed for improvements or changes to the PLOTS program, and species modeling. Through this effort, we seek to improve the effectiveness of our program, ensure that the needs of landowners and hunters are being met and that we are delivering a product that meets the expectations of our constituents. This planning effort will also provide a framework for the Department to meet habitat goals needed for certain species. These habitat goals can then be delivered through a number of existing state and national plans already in place such as the North American Waterfowl Management Plan (NAWMP), National Pheasant Plan, North Dakota Sage Grouse Plan, North Dakota Wildlife Action Plan, and others. Agreements entered into through the Outdoor Heritage Habitat Initiative will be included in the Department's review and evaluation process.

**Financial Information**

North Dakota Game and Fish Department Outdoor Heritage Habitat Initiative proposed budget. (See below)

| North Dakota Game and Fish Department Outdoor Heritage Habitat Initiative   |                    |                                |                                   |                                    |                               |                    |
|---|--------------------|--------------------------------|-----------------------------------|------------------------------------|-------------------------------|--------------------|
| Project Expense   | OHF Request        | Applicant's Match Share (Cash) | Applicant's Match Share (In-kind) | Applicant's Match Share (Indirect) | Other Project Sponsor's Share | Totals             |
| Habitat Development (1)   | \$2,000,000        | \$600,000                      |                                   | \$5,000                            |                               | \$2,605,000        |
| Private Land Biologist (2)  |                    |                                |                                   | \$110,000                          |                               | \$110,000          |
| Signs/Posts/Equipment (3)   |                    |                                |                                   | \$3,000                            |                               | \$3,000            |
| Mileage (4)   |                    |                                |                                   | \$15,000                           |                               | \$15,000           |
| <b>Totals</b>   | <b>\$2,000,000</b> | <b>\$600,000</b>               |                                   | <b>\$133,000</b>                   |                               | <b>\$2,733,000</b> |
| <b>(1) Habitat Development OHF Request (\$2M)</b>   |                    |                                |                                   |                                    |                               |                    |
| New and Existing habitat (PLOTS): (\$1.5M) Estimated \$50 per acre; includes rental. Approximately 3,000 acres, 10 years of annual payments.  |                    |                                |                                   |                                    |                               |                    |
| Save Our Lakes: (\$500,000) Estimated \$75/acre; includes rental, seeding, grass/tree cost share, wells, fencing and other infrastructure. Approximately 1,600 acres over a 4-year period, upfront payments.  |                    |                                |                                   |                                    |                               |                    |
| Cash Match: North Dakota Game and Fish Department will provide a public access payment of \$6/acre/year and 100% cost share for lands enrolled using OHF dollars, approximately \$300,000. \$300,000 SOL cash match. Total \$600,000 over a 10-year period. |                    |                                |                                   |                                    |                               |                    |
| Other Share: Information and education, outreach, promotional materials, landowner mailings, landowner workshops. Approximately \$5,000 over a 10-year period.  |                    |                                |                                   |                                    |                               |                    |
| (2) Private Land Biologist: 9 private lands biologists/staff will deliver OHF dollars through agreements with private landowners. Estimated 2,500 hours at an average of \$28/hour. Approximately \$70,000 salaries, \$40,000 indirect.                     |                    |                                |                                   |                                    |                               |                    |
| (3) Signs/Posts/Equipment: Estimated 250 signs and posts. Signs @6.20 per sign. Posts @\$6.50 per post. Approximately \$3,000.  |                    |                                |                                   |                                    |                               |                    |
| (4) Mileage: Estimated travel for landowner meetings, field site visits, agreement compliance checks, etc... Estimated 300 miles per year @ \$.55 per mile, 9 private lands staff. Approximately \$15,000 over a 10-year period.                            |                    |                                |                                   |                                    |                               |                    |

X I certify that a project budget will be sent to the Commission

| Practice                   | Year1     | Year 2    | Year 3    | Year 4    | Year 5    | Year 6    | Year 7    | Year 8    | Year 9    | Year 10   | Totals      |
|----------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-------------|
| New/existing Habitat-PLOTS | \$150,000 | \$150,000 | \$150,000 | \$150,000 | \$150,000 | \$150,000 | \$150,000 | \$150,000 | \$150,000 | \$150,000 | \$1,500,000 |
| Save Our Lakes             | \$125,000 | \$125,000 | \$125,000 | \$125,000 | \$0       | \$0       | \$0       | \$0       | \$0       | \$0       | \$500,000   |
| Totals                     | \$225,000 | \$225,000 | \$225,000 | \$225,000 | \$150,000 | \$150,000 | \$150,000 | \$150,000 | \$150,000 | \$150,000 | \$1,500,000 |

Table 1. Estimated time frame for delivery of Outdoor Heritage Habitat Initiative funds.

## **Sustainability**

The Department will enroll acreage into PLOTS and SOL agreements over a 10-year period. Several options may exist for ensuring sustainability of the project after the end of the contract period. The Department will work with the private landowner to utilize these other options before the end of their PLOTS or SOL agreement. Some of these options may include enrolling into another USDA program such as the Conservation Reserve Program or Grassland Reserve Program. We may also encourage landowners to transition to a working lands program like the USDA Environmental Quality Incentive Program (EQIP) or Conservation Stewardship Program (CSP) by providing cost-share toward the end of the contract for fencing, water and other infrastructure. We may work with the producer to extend their contract using existing PLOTS funds, if funding is available, or redirect other existing PLOTS or SOL funds based on interest from producers in extending their contract. If key funding from USDA or other federal programs is not available to producers, it will be important for funding to continue through the OHF if North Dakota wishes to retain its quality hunting, fishing and outdoor related recreational activities, as well as its strong agricultural-stewardship values.

## **Partial Funding**

The Department is requesting \$2 million over a 10-year period; however, if the request is not fully granted due to funding limitations, the Department will simply scale down the amount of acreage enrolled. The Department will likely submit another similar request in future OHF funding cycles.

## **Literature Cited**

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