# L-SOHC Questionnaire

**Program Request Title:** 31 Accelerated Shallow Lakes and Wetlands Enhancement, Restoration, and Protection Partnership

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## A. REQUEST FOR FUNDING OVERVIEW:

### 1. Why there is an urgent need to act NOW?

Over 30 species of wildlife that rely on shallow lakes and wetlands are listed as species of special concern in Minnesota's state wildlife plan *Tomorrow's Habitat for the Wild and Rare - Minnesota's Comprehensive Wildlife Conservation Strategy*. Minnesota breeding duck population estimates in 2009 were 507,000, 19% below the long-term average and the 4$^{th}$ lowest estimate since 1983. Even more telling is the decline in the Minnesota portion of Mississippi Flyway duck harvest. Recent years have seen the proportion attributed to Minnesota decline to nearly half of what it was in the 1970s.

A significant factor is the decline of shallow lake and wetland quality. The Minnesota Pollution Control Agency has reported that nearly two-thirds of the Minnesota's shallow prairie lakes tested are impaired for water quality. In addition, almost a third of the shallow lakes tested in the transition area between prairie and forest are impaired. This impairment is primarily the result of the conversion of wetlands and grasslands within their contributing watersheds to other uses and the impact of invasive fish and plant species. The resulting increase in suspended phosphorus and dominance by phytoplankton dramatically reduces water clarity. This loss of water quality directly affects aquatic life by reducing the ability of rooted aquatic plants to survive, eliminating habitat for invertebrates, ducks, muskrats and other wetland wildlife.

Shoreline development contributes to this loss of quality by increasing disturbance of near shore vegetation, increasing runoff, and contributing to wave action from recreational boating. Many shallow lakes and wetlands are now faced with development pressures and potential conversion to uses that are incompatible with wildlife and wildlife oriented recreation. While shoreline and associated land prices will fluctuate over time, the long-term trend will be steadily increasing demand, urban development from population expansion, and continued conversion of existing native habitats to other land uses.

## B. CONSTITUTIONAL CONTEXT FOR PROGRAM ACTIVITIES

### 1. Tell the Council how much of your proposal is acquisition and how much restoration/enhancement?

Approximately 44% of the requested grant funds are for fee-title acquisition of land or protection of shoreline through purchased perpetual easements by Ducks Unlimited. The remainder of the request is for restoration and enhancement of shallow lakes and wetlands by the Department of Natural Resources and Ducks Unlimited working in partnership.

### 2. How will the public be able to use the all the projects in this program and enjoy the benefits of this public investment?

All waters to be assessed, enhanced, restored, or protected through this proposal are public waters of the state and open to public access. Structure and flowage easements to allow enhancement of shallow lakes will be purchased from willing sellers for the purpose of access for construction and future management of the basin and to gain the right to manipulate water levels that adjoin private land. These easements generally do not provide for use by the general public but are key to improving shallow lake and wetland condition. Similarly, the land to be purchased in fee-title by Ducks Unlimited

will be restored and open to the public. DU will also purchase conservation easements on private land on shallow lakes managed by the Department of Natural Resources, and although private landowners will retain the right to permit trespass, the shallow lakes themselves are open to the public.

**C. PRIORITIES**

**1. Specifically, how does your program address the Council's statewide and/or regional priorities?**

This proposal addresses the shallow lake and wetland enhancement priorities of the Council in a programmatic and holistic statewide approach. It dramatically accelerates the project evolution from assessment through engineering design and easements to construction and management. It includes an effort to purchase land rights to protect and restore shallow lakes and shoreline, also a priority of the Council. The foundation for this proposal is the DNR Duck Recovery Plan, a science-based strategic planning and evaluation model to guide protection, restoration and enhancement of waterfowl habitat. Shallow lakes, including wild rice lakes, are priority habitats in the Northern Forest, Forest/Prairie Transition, and Prairie Sections. The highest priority shallow lakes and wetlands targeted for restoration, enhancement, and protection in this proposal are within or adjacent to existing WMAs and WPAs, increasing the quality of existing and future habitat complexes. All of the lakes and wetlands in this proposal are open to public use.

**2. Tell the Council how do you set priorities among the opportunities available to this program? Be SPECIFIC**

Those shallow lakes and wetlands identified for restoration and enhancement are prioritized on the amount of publicly owned shoreline managed for wildlife habitat. The highest priorities are basins completely within wildlife management areas, waterfowl production areas or similar public ownership categories. The next highest priority is those basins partially within public ownership. The only exceptions to these criteria are shallow lakes specifically designated for wildlife management or those with high historical use by waterfowl and formal public access.

**3. Tell the Council how you define "science-based strategic planning"**

Science- based strategic planning employs a four-part circular sequence that includes assessment of current conditions (Where are we?), identification of desired conditions (Where do we want to go?), determining challenges and needed strategies to attain the desired conditions (How do we get there?), and assessment of accomplishments (Did we make it?).

This approach is employed in the Department of Natural Resources 2006 Duck Recovery Plan that provides the framework for this proposal. This plan identified the current status of Minnesota duck populations and recreational use, established statewide duck population and harvest objectives, identified the challenges to be met in achieving those objectives, proposed specific strategies for habitat restoration and protection to achieve those objectives, and selected specific metrics for evaluating progress.

This approach is also applied at the site level with the assessment of shallow lake condition, determination of needed management, development of engineering plans and structure construction as needed, and assessing results. The scientific foundation for this on-site work is described in the book The Ecology of Shallow Lakes by Martin Scheffer and by research conducted in Minnesota by Dr. Mark Hanson PhD (MNDNR), Dr. Kyle Zimmer PhD (University of St. Thomas), Dr. Malcolm Butler PhD (North Dakota State University) and others.

## D. PROGRAM DETAILS:

### 1. The Work

**a. Enumerate the specific kinds of action you plan to take to protect, enhance, and/or restore natural systems.**

This proposal will restore, protect and enhance identified shallow lakes and wetlands by accelerating the restoration of previously drained wetlands and shallow lakes, placing or upgrading needed water level control structures and fish barriers on existing basins to restore or enhance habitat quality, and protecting wetlands and shorelines through acquisition in fee title or perpetual easements.

Shallow lakes and wetlands typically exist in one of two stable states. Either they have poor water clarity, few rooted aquatic plants but abundant phytoplankton or they have clear water, abundant rooted aquatic plants and limited phytoplankton. The highest wildlife habitat values are strongly associated with the clear water state and abundant rooted aquatic plants. Restoration to the clear water state usually requires a temporary drawing down of water levels or the nearly complete removal of undesirable fish or both.

Restoration and enhancement of wetlands and shallow lakes in Minnesota's highly altered prairie landscapes requires water level management through the development of water level control structures and fish barriers. The delivery process requires three steps: 1) assessment and feasibility analysis (Pre-design on approximately 300 sites), 2) engineering survey, design, review, and easements (Design on approximately 50 sites), and 3) actual installation of the designed structure (Construction on 22 sites).

**b. What species will be helped?**

This proposal is primarily intended to benefit waterfowl and other wetland-dependent wildlife. The restoration of rooted aquatic plants provides habitat for the aquatic invertebrates that form the backbone of healthy aquatic systems by providing the necessary food resources for amphibians, ducks, shorebirds, songbirds, terns, and rails. Some species such as herons, mink, and otter depend on these wildlife species for food. Others, such as swans, muskrats, geese, and some ducks feed directly on the aquatic plants. Dense emergent aquatic plants can also serve as winter cover for deer and pheasants.

Wildlife species of greatest conservation need as identified by the state wildlife plan *Tomorrow's Habitat for the Wild and Rare - Minnesota's Comprehensive Wildlife Conservation Strategy* that will benefit from this proposal include the common mudpuppy, common snapping turtle, western grebe, horned grebe, eared grebe, red-necked grebe, northern pintail, American black duck, lesser scaup, American bittern, least bittern, ruddy turnstone, dunlin, white-rumped sandpiper, semipalmated sandpiper, greater yellowlegs, buff-breasted sandpiper, short-billed dowitcher, marbled godwit, Hudsonian godwit, whimbrel, Wilson's phalarope, American golden-plover, American avocet, marsh wren, sedge wren, swamp sparrow, yellow rail, King rail, Virginia rail, trumpeter swan, common moorhen, common loon, black-crowned night-heron, American white pelican, black tern, and Forster's tern.

**c. Do you currently have the capacity to get the work done that you are requesting dollars for in FY 2011? -- Explain**

Yes, MN DNR and Ducks Unlimited have the organizational structure to carry out this proposal if funds are received. While most work will be done with vendor contracts, a limited number of positions are needed to accomplish the proposed work.

Ducks Unlimited can provide regional engineering support for projects with personnel funding such as is being requested here, and can scale the level of engineering support needed to match the grant funds provided and project workload required. Similar to DNR, however, acceleration of assessment and development of new shallow lake projects throughout Minnesota will require additional DU shallow lake biologist staff capacity to develop the next generation of shallow lake enhancement projects.

### 2. Program Work Location

**a. What percent of your work will be prairie?**

100% of the work will be on wetlands and shallow lakes, with 100% of the restoration, 90% of the protection and 47% of the enhancement occurring within the prairie region.

**b. What percent of your work will be wetland?**

100% of the work will be for wetlands and shallow lakes.

**c. What percent of your work will be forest?**

100% of the work will be for wetlands and shallow lakes, with about 5% of the construction occurring within the northern forest region.

**d. What percent of your work will be aquatic systems?**

None.

**e. Is it part of a larger habitat complex? If yes BRIEFLY describe the complex.**

Yes. The majority of the wetlands and shallow lakes proposed for restoration and enhancement are wholly or partially within existing Wildlife Management Areas or Waterfowl Production Areas that comprise the basis for existing or future habitat complexes.

**3. How We Plan to Use the Funds Requested**

**a. What percent reduction could you accept without rendering your project inoperable?**

This project proposal is scalable. The amount of proposed work that can be accomplished is proportional to the amount of funding received so it is difficult to arrive at a minimum amount of funding. Rather dramatic cuts would be necessary within the Pre-design and Design components in order to significantly reduce the funding request. Greater savings can be achieved with smaller cuts to the construction and protection projects, however, these projects provide the most immediate wildlife benefits and the bulk of our deliverable habitat acre accomplishments .

**b. Have you also applied to the Outdoor Heritage Fund Conservation Partners Grant Program operated by DNR?**

No.

**c. Where else might you get money for this project?**

Both the Department of Natural Resources and Ducks Unlimited proposed similar work to the Legislative-Citizen Commission on Minnesota Resources (LCCMR) through the Habitat Conservation Partnership for funding from the Environment & Natural Resources Trust Fund. The LCCMR has recommended DNR receive a $45,000 grant and DU a $75,000 grant as part of the Habitat Conservation Partnership pending approval by the 2010 Minnesota Legislature.

**4. Personnel Details**

**a. Describe the personnel duties. Are they office staff or field staff – existing or new positions?**

All of the Department of Natural Resources personnel in this request are new temporary field positions. Five of the positions are full-time temporary natural resource specialists proposed to work on the Pre-design and Design components. These positions will report to existing full-time wildlife lake specialists. Both will be supported in the Pre-design work by 20 seasonal interns conducting on-site habitat assessments.

Ducks Unlimited personnel include field biologists, engineers, surveyors, engineering technicians, construction managers, and an office program manager. Several existing DU field biologists will be supported by this grant to assist agency field staff to assess and deliver new projects and land protection work. Two others will be new positions to help accelerate new projects throughout remote parts of the state. DU engineering staff supported involve a combination of existing office and field positions that survey, design, and manage construction of shallow lake enhancement water control structures and fish barriers.