

# Lessard-Sams Outdoor Heritage Council

## Fiscal Year 2022 / ML 2021 Request for Funding



**Date:** May 27, 2020

**Program or Project Title:** Living Shallow Lake Enhancement & Wetland Restoration Initiative - Phase VII (WRE02)

**Funds Requested:** \$6,930,000

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**County Locations:** Becker, Big Stone, Cottonwood, Douglas, Freeborn, Grant, Kandiyohi, Lac qui Parle, Le Sueur, Lincoln, Mahnomen, Martin, Meeker, Murray, Nobles, Otter Tail, Pope, Redwood, Renville, Sibley, Steele, Stevens, Swift, Watonwan, and Yellow Medicine.

### **Eco regions in which work will take place:**

- Forest / Prairie Transition
- Prairie

### **Activity types:**

- Restore
- Enhance

### **Priority resources addressed by activity:**

- Wetlands

### **Abstract:**

This Phase 7 request for Ducks Unlimited's Living Lakes program will enhance 2,000 acres of shallow lakes and restore 200 acres of small wetlands by engineering and installing water control structures for Minnesota DNR and U.S. Fish & Wildlife Service on public lands and wetlands under easement. Structures will help DNR and Service agency partners restore wetland hydrology and actively manage shallow lake water levels to enhance their ecology for ducks, other birds, and hunters in Minnesota's Prairie Pothole Region. DU will engineer and design projects, and hire private contractors to restore wetlands and construct water control structures.

### **Design and scope of work:**

This is Phase 7 of Ducks Unlimited's ongoing shallow lake enhancement and prairie wetland restoration conservation program, and will enhance 2,000 acres of shallow lakes and restore 200 acres of small wetlands in the Prairie Pothole Region of SW Minnesota. DU provides wetland engineering services to the Minnesota DNR and U.S. Fish & Wildlife Service (FWS) to survey, design, and install water level control structures to enhance degraded shallow lakes and restore drained wetlands on public land and under easement. Water control structures will be used to conduct temporary water level draw-downs to rejuvenate shallow lake ecology and productivity. DU engineers will survey and design water control structures, and will manage their construction by private sector firms contracted by DU.

Shallow lake enhancement and wetland restoration are top priority actions in all major conservation plans for Minnesota. Our work addresses the habitat goals identified in North American Waterfowl Management Plan, Minnesota's Prairie Conservation Plan, and Minnesota's Duck Recovery Plan which calls for the active management of 1,800 shallow lakes and adding 64,000 wetlands to Minnesota's landscape. This work is time-sensitive because complex shallow lake enhancement projects take several years to design and implement, and because wetland restorations are critically needed for breeding waterfowl.

Healthy and abundant wetlands are required to sustain breeding and migrating waterfowl. Minnesota has lost approximately 90% of our prairie wetlands along with 99% of native prairie uplands around them. This has had a profound negative impact on breeding ducks and other prairie wetland wildlife here. Shallow lakes and wetlands that remain are often those that were too deep to drain years ago, and they now function as the core of Minnesota's remaining waterfowl habitat complexes. Unfortunately, these remaining wetland basins now often receive the excessive nutrient-laden water runoff from an intensively drained and interconnected landscape through which invasive fish such as carp have improved access. As a result, many of our remaining wetlands and shallow lakes are turbid and degraded due to highly drained watersheds, high and stable water levels in which nutrients collect and carp and other invasive fish proliferate. The result is that aquatic ecology functions stagnate and wetland productivity declines, and wetland basins with few aquatic plants and invertebrates result. This is especially detrimental to diving ducks and other species that rely exclusively on aquatic plant and invertebrate foods within wetlands and shallow lakes to survive. These factors have caused a decline in Minnesota's diverse waterfowl resources, and in Minnesota's rich waterfowling tradition.

This funding request will support DU projects that biologists and wetland engineering staff assess for shallow lake and wetland restoration project feasibility, and design and manage construction of water control structures and fish barriers required to improve public water shallow lakes and restore wetlands in the Prairie Pothole Region of SW Minnesota. Funding will support ongoing shallow lake technical assistance from DU biologists and engineers to assess, survey, and design future projects for implementation under future OHF appropriations for this program.

### **How does the proposal address habitats that have significant value for wildlife species of greatest conservation need, and/or threatened or endangered species, and list targeted species:**

This proposal enhances shallow lakes and restores non-forested prairie wetlands, which are identified as critical habitats for many "Species of Greatest Conservation Need" listed in Minnesota's "Tomorrow's Habitat for the Wild & Rare: An Action Plan for Minnesota Wildlife." Specific species listed in the Action Plan as requiring shallow lakes (page 273) include lesser scaup, northern pintail, common moorhen, least bittern, American bittern, marsh wren, and Virginia rail, along with being "important for many other species". Specific species listed in the Action Plan as requiring emergent marshes (page 267) include least bittern, American bittern, marsh wren, and Virginia rail, and Forster's terns are listed as requiring large deep-water marshes.

In addition to these specific wildlife species listed as SGCN examples in the Action Plan, shallow lakes and prairie wetlands will provide habitat of significant value for other species listed in Appendix B of the Action Plan too. Enhanced shallow lakes will provide habitat of significant value for other SGCN including: western grebe, black tern, northern harrier, trumpeter swan, common loon, bald eagle, Franklin's gull, whimbrel, black-crowned night heron, American white pelican, horned grebe, red-necked grebe, eared grebe, and common tern. Restored prairie wetlands will provide habitat of significant value for other SGCN including: black tern, northern harrier, trumpeter swan, rusty blackbird and black-crowned night heron.

### **What is the degree of timing/opportunistic urgency and why it is necessary to spend public money for this work as soon as possible:**

Most prairie wetlands have been drained and most shallow lakes degraded in southern Minnesota. Functioning wetland basins are the most important habitat variable for breeding ducks, and the most limiting factor for ducks in the prairie region of Minnesota. Similarly, healthy and productive shallow lakes are the limiting habitat type for diving ducks and most other migrating waterfowl species as they pass through Minnesota in fall and spring. To improve wetland conditions for both breeding and migrating waterfowl in Minnesota, it is imperative that we restore wetlands and enhance shallow lakes, especially in the Prairie Pothole Region of SW Minnesota.

### **Describe how the proposal uses science-based targeting that leverages or expands corridors and complexes, reduces fragmentation or protects areas identified in the MN County Biological Survey:**

Ducks Unlimited uses science-based targeting to evaluate shallow lake and prairie wetland restorations in the Prairie Region, especially small wetland restorations that help improve prairie-wetland complexes for breeding ducks. Models such as the U.S. Fish & Wildlife Service (USFWS) "Thunderstorm Maps" and "Restorable Wetlands Inventory" help determine landscape importance for breeding waterfowl. We consider biological diversity and significance according to the Minnesota DNR County Biological Survey (MCBS). Several project examples include:

Indian Lake is a 377-acre priority shallow lake in Sibley County, identified as having a high level of biological significance, and as having moderate biodiversity significance by the MCBS. Ducks Unlimited has purchased and restored four properties around the lake in an effort to reduce agricultural runoff and improve water quality in Indian Lake, as well as provide increased habitat for waterfowl and other wetland- and grassland-dependent wildlife.

Boon Lake is an 858-acre shallow lake in Renville County, identified as having moderate biological significance, and is located just south of a large cluster of shallow lakes with moderate and high levels of biological significance.

The Shelstad WPA - Shelstad Tract in Big Stone County is located in a landscape near several areas of moderate biodiversity significance and occurs within a large complex of fee-title and permanently protected lands under easement. The property contains 71 restorable wetlands totaling 51 acres in a landscape that currently supports 31-40 breeding duck pairs per square mile, with the potential to support 81-100 breeding duck pairs per square mile once restored.

Big Stone National Wildlife Refuge Pool 4/4A is 275 acres of wetland habitat in Lac qui Parle County. The refuge is home to several sites of outstanding, high, and moderate levels of biodiversity significance. The landscape is currently able to support 41-50 breeding duck pairs per square mile. These enhanced wetlands will provide additional habitat for birds throughout their annual cycle.

Pepperton WPA in Stevens County contains several restorable small wetlands and is home to a wetland of outstanding biodiversity significance in a landscape that supports over 50 breeding duck pairs per square mile.

### **Which sections of the Minnesota Statewide Conservation and Preservation Plan are applicable to this project:**

- H4 Restore and protect shallow lakes
- H5 Restore land, wetlands and wetland-associated watersheds

### **Which other plans are addressed in this proposal:**

- Long Range Duck Recovery Plan
- Managing Minnesota's Shallow Lakes for Waterfowl and Wildlife

### **Describe how your program will advance the indicators identified in the plans selected:**

Ducks Unlimited's "Living Lakes" conservation initiative provides wetland engineering expertise to enhance shallow lakes and restore wetlands to directly support the goals of Minnesota DNR's Long-range Duck Recovery Plan and objectives of its Shallow Lakes Program Plan ("Managing Minnesota Shallow Lakes for Waterfowl and Wildlife").

These plans call for maximizing management of all 200 shallow lakes that are designated wildlife management lakes and those within state WMAs and federal WPAs/NWRs along with the approximately 1,553 shallow lakes with a portion of their shorelines under state, federal, or county ownership for high quality waterfowl habitat, and increasing management of the other 201 shallow lakes with public access. Overall, these plans call for the active management of 1,800 shallow lakes and restoring 600,000 acres of wetlands in 64,000 basins in Minnesota.

This work also supports the goals of Minnesota's Prairie Conservation Plan and NAWMP.

### **Which LSOHC section priorities are addressed in this proposal:**

#### **Prairie:**

- Protect, restore, and enhance shallow lakes

#### **Forest / Prairie Transition:**

- Protect, enhance, and restore migratory habitat for waterfowl and related species, so as to increase migratory and breeding success

### **Describe how your program will produce and demonstrate a significant and permanent conservation legacy and/or outcomes for fish, game, and wildlife as indicated in the LSOHC priorities:**

Ducks Unlimited professional engineers and biologists design and install robust steel and concrete water level control structures that provide long-lasting shallow lake enhancement and wetland restoration tools to Minnesota DNR and U.S. Fish & Wildlife Service field managers. These water structures are essential to enhancing shallow lakes and controlling outflows, and must be engineered to a very high level in order to withstand time and environmental pressures while providing wildlife managers with the means to regularly conduct temporary water level draw-downs to enhance their aquatic ecology to ensure optimal ecological condition for ducks. Similarly, smaller wetland restorations often involve complex drainage systems that require professional engineering to survey, design, and restore without negatively affecting upstream and downstream private landowners. Since 1984, Ducks Unlimited has provided professional wetland engineering services to our state and federal wildlife conservation agency partners.

### **Relationship to other funds:**

- Not Listed

**Describe the relationship of the funds:**

Not Listed

**Does this program include leverage in funds:**

Yes

DU strives to use all of our non-federal expense to leverage federal NAWCA grant funds to further our conservation mission. However, NAWCA is highly competitive and complex, and proposal success is uncertain. Nonetheless, DU works closely with Minnesota DNR, and NGO partners to offer recent past state OHF acquisitions as non-federal match to leverage federal NAWCA funds to help fund shallow lake and wetland restoration projects. DU intends to partner with DNR and other NGOs to pursue NAWCA grant funds in the future to help implement projects funded through this appropriation.

**Per MS 97A.056, Subd. 24, Any state agency or organization requesting a direct appropriation from the OHF must inform the LSOHC at the time of the request for funding is made, whether the request is supplanting or is a substitution for any previous funding that was not from a legacy fund and was used for the same purpose:**

This funding requested, if approved, will supplement traditional funding for Ducks Unlimited's Living Lakes Initiative, and will not supplant or substitute for traditional funding previously used for this purpose by Ducks Unlimited.

**Describe the source and amount of non-OHF money spent for this work in the past:**

Appropriation Year	Source	Amount
2009	DU private and federal USFWS and NAWCA grant funds	\$1,111,000
2010	DU private and federal USFWS and NAWCA grant funds	\$1,205,400
2012	DU private and federal USFWS and NAWCA grant funds	\$839,300
2014	DU private and federal USFWS and NAWCA grant funds	\$731,000
2017	DU private and federal USFWS and NAWCA grant funds	\$400,000 (ongoing)
2018	DU private and federal USFWS and NAWCA grant funds	\$400,000 (ongoing)

**How will you sustain and/or maintain this work after the Outdoor Heritage Funds are expended:**

Shallow lake enhancement water control structures and prairie wetland restorations are engineered and implemented for state and federal agency conservation partners on land under their state or federal long-term control and management responsibility. Thus, all projects constructed will be sustained and maintained by conservation partners Minnesota DNR and U.S. Fish & Wildlife Service, which are the two primary wildlife habitat management agencies in Minnesota.

**Explain the things you will do in the future to maintain project outcomes:**

Year	Source of Funds	Step 1	Step 2	Step 3
2024	DNR Game & Fish Account, OHF for DNR Shallow Lakes Program and DNR Roving Crews	DNR Area Wildlife and Shallow Lakes Program Staff will assess shallow lake and wetland conditions following initial water level draw-downs, and document for management consideration	Every 3-8 years, depending on wetland conditions, water control structures will be used to actively manage and enhance shallow lakes and wetlands via temporary water level draw-down to remove fish, stimulate aquatic plants, and rejuvenate their overall aquatic ecology, which includes stimulating aquatic invertebrate production. Some basins may need pumping via DNR pump purchased by DU via previous 2012 OHF grant.	DNR assess ecological conditions again following subsequent temporary water level draw-downs and refilling management treatments, and communicate results and questions or concerns to DU.

**Identify indicator species and associated quantities this habitat will typically support:**

Ducks Unlimited proposes to restore 200 acres of prairie wetlands and enhance 2,000 acres of shallow lakes to improve their ecological function for waterfowl and many other species of wetland-dependent wildlife. Science-based guidance provided by

Minnesota DNR indicates that 200 acres of restored prairie wetlands and 2,000 acres of shallow lakes may be estimated to:

Support approximately 891 pairs of mallards based on the biological model of the Upper Mississippi River Great Lakes Joint Venture of the North American Waterfowl Management Plan that indicates one pair of mallards needs 2.47 acres of wetlands with adequate adjacent upland nesting habitat to support population growth; and,

Support at least 15 or more pairs of trumpeter swans assuming one pair for every 150 wetland acres, depending on the size, type, and number of wetland basins restored or enhanced.

In addition, using assumptions of the Upper Mississippi River Great Lakes Joint Venture of the NAWMP that large "aquatic bed" wetlands such as shallow lakes provide ducks with 474,791 kcal/acre of energy-rich foods, and using an energy requirement estimate of 309 kcal/bird/day for an average size duck, DU scientists estimate 2,000 acres of shallow lake and large wetland enhancements completed through this program could provide up to 3,073,078 "duck-use-days" of habitat in a year. This estimated habitat enhancement outcome could therefore accommodate 102,436 ducks for 30 days, or 51,218 ducks for 60 days, during spring and fall migration.

## Activity Details

### Requirements:

If funded, this proposal will meet all applicable criteria set forth in MS 97A.056 - **Yes**

Will restoration and enhancement work follow best management practices including MS 84.973 Pollinator Habitat Program - **Yes**

Is the restoration and enhancement activity on permanently protected land per 97A.056, subd 13(f), tribal lands, and/or public waters per MS 103G.005, Subd. 15 - **Yes (WMA, WPA, Permanently Protected Conservation Easements Public Waters)**

Do you anticipate federal funds as a match for this program - **Yes**

Are the funds confirmed - **No**

What is the approximate date you anticipate receiving confirmation of the federal funds - **July 2022 and throughout this 5-year OHF grant as NAWCA grants are secured.**

### Land Use:

Will there be planting of corn or any crop on OHF land purchased or restored in this program - **No**

### Land Use:

Have you received OHF dollars in the past through LSOHC? - **Yes**

### Past appropriations and spending to date:

Apprp Year	Approp Amount Received	Approp Amount Spent to Date	Leverage as Reported in AP/th>	Leverage Realized to Date	Total Acres Affected in AP	Total Acres Affected to Date	Program Complete and Final Report Approved?
2009	2528000	2528000	0	1111100	6000	6882	YES
2010	2417000	2417000	0	1205400	958	1226	YES
2012	4490000	4490000	460700	839300	1500	3086	YES
2014	4910000	4888300	1100000	731000	4000	6011	YES
2017	4716000	4032000	300000	300000	2050	2835	No., pending in 2021
2018	3740000	120000	140000	10000	1050	0	No., grant is ongoing and will be spent in 2020-21, with final report pending in 2022.

## Accomplishment Timeline

Activity	Approximate Date Completed
Recon projects with DNR and FWS partners and begin engineering survey and design of wetland restorations and shallow lake enhancements	June 2019
Complete some small wetland restorations and some larger shallow lake enhancements	June 2021
Complete remaining small wetland projects and larger shallow lake enhancement water control structure installations	June 2022

# Budget Spreadsheet

**Total Amount of Request: \$6,930,000**

## Budget and Cash Leverage

BudgetName	LSOHC Request	Anticipated Leverage	Leverage Source	Total
Personnel	\$1,080,000	\$100,000	DU Private & federal NAWCA	\$1,180,000
Contracts	\$5,300,000	\$500,000	DU Private & federal NAWCA grants	\$5,800,000
Fee Acquisition w/ PILT	\$0	\$0		\$0
Fee Acquisition w/o PILT	\$0	\$0		\$0
Easement Acquisition	\$0	\$0		\$0
Easement Stewardship	\$0	\$0		\$0
Travel	\$120,000	\$30,000	DU Private & federal NAWCA grants	\$150,000
Professional Services	\$120,000	\$0		\$120,000
Direct Support Services	\$110,000	\$10,000	DU Private & federal NAWCA grants	\$120,000
DNR Land Acquisition Costs	\$0	\$0		\$0
Capital Equipment	\$30,000	\$0		\$30,000
Other Equipment/Tools	\$80,000	\$15,000	DU private & federal NAWCA grants	\$95,000
Supplies/Materials	\$90,000	\$15,000	DU Private & federal NAWCA grants	\$105,000
DNR IDP	\$0	\$0		\$0
<b>Total</b>	<b>\$6,930,000</b>	<b>\$670,000</b>		<b>\$7,600,000</b>

## Personnel

Position	FTE	Over # of years	LSOHC Request	Anticipated Leverage	Leverage Source	Total
Manager - Grant Administration & Program Coordination	0.30	3.00	\$90,000	\$0		\$90,000
Professional Engineers, Surveyors, Construction Managers, and Biologists to Design and Implement Projects	3.33	3.00	\$990,000	\$100,000	DU Private & federal NAWCA	\$1,090,000
<b>Total</b>	<b>3.63</b>	<b>6.00</b>	<b>\$1,080,000</b>	<b>\$100,000</b>		<b>\$1,180,000</b>

## Capital Equipment

Item Name	LSOHC Request	Anticipated Leverage	Leverage Source	Total
Tracked ATV with trailer for wetland restoration survey and construction management.	\$30,000	\$0		\$30,000
<b>Total</b>	<b>\$30,000</b>	<b>\$0</b>		<b>\$30,000</b>

Amount of Request: \$6,930,000  
 Amount of Leverage: \$670,000  
 Leverage as a percent of the Request: 9.67%  
 DSS + Personnel: \$1,190,000  
 As a % of the total request: 17.17%  
 Easement Stewardship: \$0  
 As a % of the Easement Acquisition: -%

### How did you determine which portions of the Direct Support Services of your shared support services is direct to this program:

Minnesota DNR grants staff previously reviewed and approved DU accounting methodology for Direct Support Services, which are calculated and included in DU staff costs. DU Direct Support Services constitute approximately 10% of DU overall staff costs on average among all billable DU conservation staff categories. DU breaks out and invoices for Direct Support Service expenses approved by DNR for reimbursement separately from Personnel expenses.

### What is included in the contracts line?

Yes, all of the budget request for Contracts is for shallow lake enhancement and wetland restoration work contracted to private sector construction firms specializing in earth moving and water control structure installation involving steel weirs, concrete culverts, etc.

Does the amount in the travel line include equipment/vehicle rental? - No

**Explain the amount in the travel line outside of traditional travel costs of mileage, food, and lodging:**

None - DU travel costs consist of in-state mileage, food, and lodging only. Travel is primarily mileage and lodging for engineering field staff and biologists during project survey and construction management.

**I understand and agree that lodging, meals, and mileage must comply with the current MMB Commissioner Plan: - Yes**

**Describe and explain leverage source and confirmation of funds:**

DU will seek to leverage OHF grant funds with additional private support from individuals, foundations, and corporations and from federal NAWCA grants by using OHF grant expense as match for federal grants for specific shallow lake and wetland restoration projects proposed in this program, once projects are designed and permitted.

**Does this proposal have the ability to be scalable? - Yes**

**Tell us how this project would be scaled and how administrative costs are affected, describe the "economy of scale" and how outputs would change with reduced funding, if applicable:**

This project can be scaled approximately proportionally to funding recommended on a cost per acre basis. Administrative costs can be reduced too if less funding is recommended than requested, albeit not proportionately due to base costs of program and grant administration and reporting.

**Has funding for these positions been requested in the past? - Yes**

**Please explain the overlap of past and future staffing and position levels previously received and how that is coordinated over multiple years?**

DU strives to complete one phase of this program before starting the next, to minimize overlap. Currently, we anticipate completing Phase 6 and will be out of funding by 2022. Furthermore, DU assigns a unique project number code to each project, and staff charge time to these site-specific project codes as they work on multiple projects throughout the year. Despite DU staff working on multiple projects and grants throughout the year, charges are only billed to one OHF grant or another, and therefore staff charges throughout the year are incurred on multiple projects funded by multiple grants, and DU staff cost invoicing is both sites-specific and OHF grant-specific.

**Give examples of the types of Equipment and Tools that will be purchased:**

GPS survey receiver equipment for performing engineering wetland restoration survey work and engineering surveys of shallow lake and large wetland enhancement projects, including survey equipment lease charges instead of actual outright equipment purchases to avoid buying equipment that becomes obsolete due to upgrades and advancements. Laptop and/or tablet computers, printers and other office equipment for biologists or engineers may be needed, along with other small hand tools and other equipment as needs in the field arise.

## Output Tables

**Table 1a. Acres by Resource Type**

Type	Wetlands	Prairies	Forest	Habitats	Total
Restore	200	0	0	0	200
Protect in Fee with State PILT Liability	0	0	0	0	0
Protect in Fee W/O State PILT Liability	0	0	0	0	0
Protect in Easement	0	0	0	0	0
Enhance	2,000	0	0	0	2,000
Total	2,200	0	0	0	2,200

**Table 2. Total Requested Funding by Resource Type**

Type	Wetlands	Prairies	Forest	Habitats	Total
Restore	\$930,000	\$0	\$0	\$0	\$930,000
Protect in Fee with State PILT Liability	\$0	\$0	\$0	\$0	\$0
Protect in Fee W/O State PILT Liability	\$0	\$0	\$0	\$0	\$0
Protect in Easement	\$0	\$0	\$0	\$0	\$0
Enhance	\$6,000,000	\$0	\$0	\$0	\$6,000,000
Total	\$6,930,000	\$0	\$0	\$0	\$6,930,000

**Table 3. Acres within each Ecological Section**

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	Northern Forest	Total
Restore	0	50	0	150	0	200
Protect in Fee with State PILT Liability	0	0	0	0	0	0
Protect in Fee W/O State PILT Liability	0	0	0	0	0	0
Protect in Easement	0	0	0	0	0	0
Enhance	0	200	0	1,800	0	2,000
Total	0	250	0	1,950	0	2,200

**Table 4. Total Requested Funding within each Ecological Section**

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	Northern Forest	Total
Restore	\$0	\$230,000	\$0	\$700,000	\$0	\$930,000
Protect in Fee with State PILT Liability	\$0	\$0	\$0	\$0	\$0	\$0
Protect in Fee W/O State PILT Liability	\$0	\$0	\$0	\$0	\$0	\$0
Protect in Easement	\$0	\$0	\$0	\$0	\$0	\$0
Enhance	\$0	\$700,000	\$0	\$5,300,000	\$0	\$6,000,000
Total	\$0	\$930,000	\$0	\$6,000,000	\$0	\$6,930,000

**Table 5. Average Cost per Acre by Resource Type**

Type	Wetlands	Prairies	Forest	Habitats
Restore	\$4,650	\$0	\$0	\$0
Protect in Fee with State PILT Liability	\$0	\$0	\$0	\$0
Protect in Fee W/O State PILT Liability	\$0	\$0	\$0	\$0
Protect in Easement	\$0	\$0	\$0	\$0
Enhance	\$3,000	\$0	\$0	\$0

**Table 6. Average Cost per Acre by Ecological Section**

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	Northern Forest
Restore	\$0	\$4,600	\$0	\$4,667	\$0
Protect in Fee with State PILT Liability	\$0	\$0	\$0	\$0	\$0
Protect in Fee W/O State PILT Liability	\$0	\$0	\$0	\$0	\$0
Protect in Easement	\$0	\$0	\$0	\$0	\$0
Enhance	\$0	\$3,500	\$0	\$2,944	\$0

*Automatic system calculation / not entered by managers*

**Target Lake/Stream/River Feet or Miles**

0

I have read and understand Section 15 of the Constitution of the State of Minnesota, Minnesota Statute 97A.056, and the Call for Funding Request. I certify I am authorized to submit this proposal and to the best of my knowledge the information provided is true and accurate.

## Outcomes

### Programs in forest-prairie transition region:

- Wetland and upland complexes will consist of native prairies, restored prairies, quality grasslands, and restored shallow lakes and wetlands *This program will restore and enhance wetlands on federal Waterfowl Production Areas and USFWS Habitat easements, and similar wetlands for MNDNR, each of which will be selected strategically by USFWS and MNDNR to benefit existing wetland complexes and migratory birds for both breeding and migration habitat, and which will be monitored by USFWS and MNDNR.*

### Programs in prairie region:

- Enhanced shallow lake productivity *Wetland and shallow lakes restored or enhanced via temporary water level draw-downs by DU-engineered and installed water control structures will be assessed by Minnesota DNR shallow lakes program surveys both before and after draw-downs to document improvements in water clarity, abundance of aquatic plants, and overall improvements in the aquatic ecology of each basin. Minnesota DNR and U.S. Fish & Wildlife Service field staff also conduct periodic counts of waterfowl and other wildlife using these basins in both spring and fall, along with hunters, and thus wildlife and human use is also monitored on a more informative opportunistic basis.*

## Parcel List

### Explain the process used to select, rank and prioritize the parcels:

Ducks Unlimited prioritizes prairie shallow lake enhancement and wetland restoration opportunities that are located in landscapes most heavily used by migrating and breeding waterfowl, and which our DNR and USFWS agency partners are willing to actively manage for optimal waterfowl habitat. Due to the overall shortage of prairie wetlands for breeding ducks, and relatively few shallow lakes in optimal condition for migrating ducks in Minnesota, DU relies on our DNR and USFWS agency partner biologists with land management responsibility to determine shallow lake and wetland project opportunities on public land or under easement. From there, DU prioritizes wetland restorations within landscapes of higher predicted breeding duck use, and prioritizes enhancement of shallow lakes where management success is most probable due to basin depth, landscape and hydrology conditions, and the likelihood that invasive fish can be minimized.

### Section 1 - Restore / Enhance Parcel List

#### Becker

Name	TRDS	Acres	Est Cost	Existing Protection?
Hamden Slough NWR	13942202	3	\$20,000	Yes

#### Big Stone

Name	TRDS	Acres	Est Cost	Existing Protection?
Helgenon WPA	12145205	1	\$8,000	Yes
Hillman WPA	12145215	1	\$6,000	Yes
Kufrin WPA	12245221	3	\$20,000	Yes
Otre Lake WMA	12245222	116	\$175,000	Yes
Prairie WPA	12246236	2	\$12,000	Yes
Rothi WPA	12145202	3	\$20,000	Yes
Shelstad WPA - Shelstad Tract	12145211	51	\$250,000	Yes
Twin Lakes WPA	12246225	1	\$10,000	Yes

#### Cottonwood

Name	TRDS	Acres	Est Cost	Existing Protection?
Harder Lake WPA	10636216	1	\$5,000	Yes

#### Douglas

Name	TRDS	Acres	Est Cost	Existing Protection?
Benson WPA	12840207	1	\$4,000	Yes

#### Freeborn

Name	TRDS	Acres	Est Cost	Existing Protection?
Halls Lake WPA	10322230	105	\$350,000	Yes
Two Island WPA	10322224	4	\$20,000	Yes

#### Grant

Name	TRDS	Acres	Est Cost	Existing Protection?
Bah Lakes WPA	12940210	4	\$30,000	Yes
Cheney Trust WPA	12744235	94	\$200,000	Yes
Historical Society WPA	12841212	1	\$8,000	Yes

#### Kandiyohi

Name	TRDS	Acres	Est Cost	Existing Protection?
Timber Lake	12235222	202	\$250,000	Yes
Weber WPA	12035228	79	\$300,000	Yes
Yarmon WPA	11834223	263	\$400,000	Yes

**Lac qui Parle**

Name	TRDS	Acres	Est Cost	Existing Protection?
Big Stone NWR Pool 4/4A	12145232	275	\$500,000	Yes
Flinks Slough WMA	11642236	227	\$200,000	Yes
Sweetwater WMA	11746236	69	\$200,000	Yes
Wild Wings WMA	11643223	73	\$250,000	Yes

**Le Sueur**

Name	TRDS	Acres	Est Cost	Existing Protection?
Diamond Lake	11023223	120	\$250,000	Yes

**Lincoln**

Name	TRDS	Acres	Est Cost	Existing Protection?
Legacy WMA	11246226	10	\$50,000	Yes

**Mahnomen**

Name	TRDS	Acres	Est Cost	Existing Protection?
Jason Barker WPA East	14542224	3	\$20,000	Yes

**Martin**

Name	TRDS	Acres	Est Cost	Existing Protection?
Caron WMA	10333226	37	\$400,000	Yes
Clam Lake	10332215	72	\$200,000	Yes
Gleam WMA	10431216	15	\$200,000	Yes
Rooney Run - Round Lake	10332221	45	\$200,000	Yes

**Meeker**

Name	TRDS	Acres	Est Cost	Existing Protection?
Butler Lake FWS PL Easement	11932210	65	\$400,000	Yes
Powers Lake	12030236	380	\$350,000	Yes

**Murray**

Name	TRDS	Acres	Est Cost	Existing Protection?
Devils Run WPA	10639206	28	\$200,000	Yes
Dovray WPA	10739217	3	\$15,000	Yes
Shetek WMA - Robbins Slough	10840222	245	\$3,000	Yes
Slaughter Slough WPA	10740211	18	\$90,000	Yes

**Nobles**

Name	TRDS	Acres	Est Cost	Existing Protection?
Bloom WPA	10441220	4	\$20,000	Yes
Graham Lake WPA	10439220	14	\$70,000	Yes
Lake Bella WPA	10140227	1	\$5,000	Yes

**Otter Tail**

Name	TRDS	Acres	Est Cost	Existing Protection?
Aaberg WPA	13444212	1	\$6,000	Yes
Busko WPA	13143205	221	\$250,000	Yes
Duenow WPA	13442233	3	\$20,000	Yes
Haugen WPA	13243218	1	\$10,000	Yes
Knollwood WPA	13243223	1	\$10,000	Yes
Mavis WPA	13243211	1	\$10,000	Yes
Nicholson/Tenmile WPA	13143205	3	\$24,000	Yes
Ridgeway WPA	13244216	15	\$50,000	Yes
Scribner WPA	13444224	2	\$14,000	Yes
Townsend WPA	13243210	2	\$16,000	Yes

## Pope

Name	TRDS	Acres	Est Cost	Existing Protection?
Ben Wade WPA	12639204	10	\$100,000	Yes

## Redwood

Name	TRDS	Acres	Est Cost	Existing Protection?
Daubs Lake	11137211	175	\$250,000	Yes
Westline WMA	11139213	200	\$200,000	Yes

## Renville

Name	TRDS	Acres	Est Cost	Existing Protection?
Boon Lake	11731233	858	\$500,000	Yes

## Sibley

Name	TRDS	Acres	Est Cost	Existing Protection?
Indian Lake	11329221	377	\$600,000	Yes
Ward Lake WMA Small Wetlands	11330204	10	\$75,000	Yes

## Steele

Name	TRDS	Acres	Est Cost	Existing Protection?
Straight River Marsh WPA	10520222	50	\$300,000	Yes

## Stevens

Name	TRDS	Acres	Est Cost	Existing Protection?
Bahr WPA	12543212	1	\$4,000	Yes
Freeman WPA	12543221	1	\$6,000	Yes
Pepperton WPA	12543214	1	\$10,000	Yes
Smith WPA	12543201	1	\$6,000	Yes

## Swift

Name	TRDS	Acres	Est Cost	Existing Protection?
Loen WPA	12238218	35	\$150,000	Yes

## Watonwan

Name	TRDS	Acres	Est Cost	Existing Protection?
Sulem WMA	10533205	226	\$500,000	Yes

## Yellow Medicine

Name	TRDS	Acres	Est Cost	Existing Protection?
Spellman WMA - Miedd Lake	11441223	50	\$100,000	Yes

## Section 2 - Protect Parcel List

No parcels with an activity type protect.

## Section 2a - Protect Parcel with Bldgs

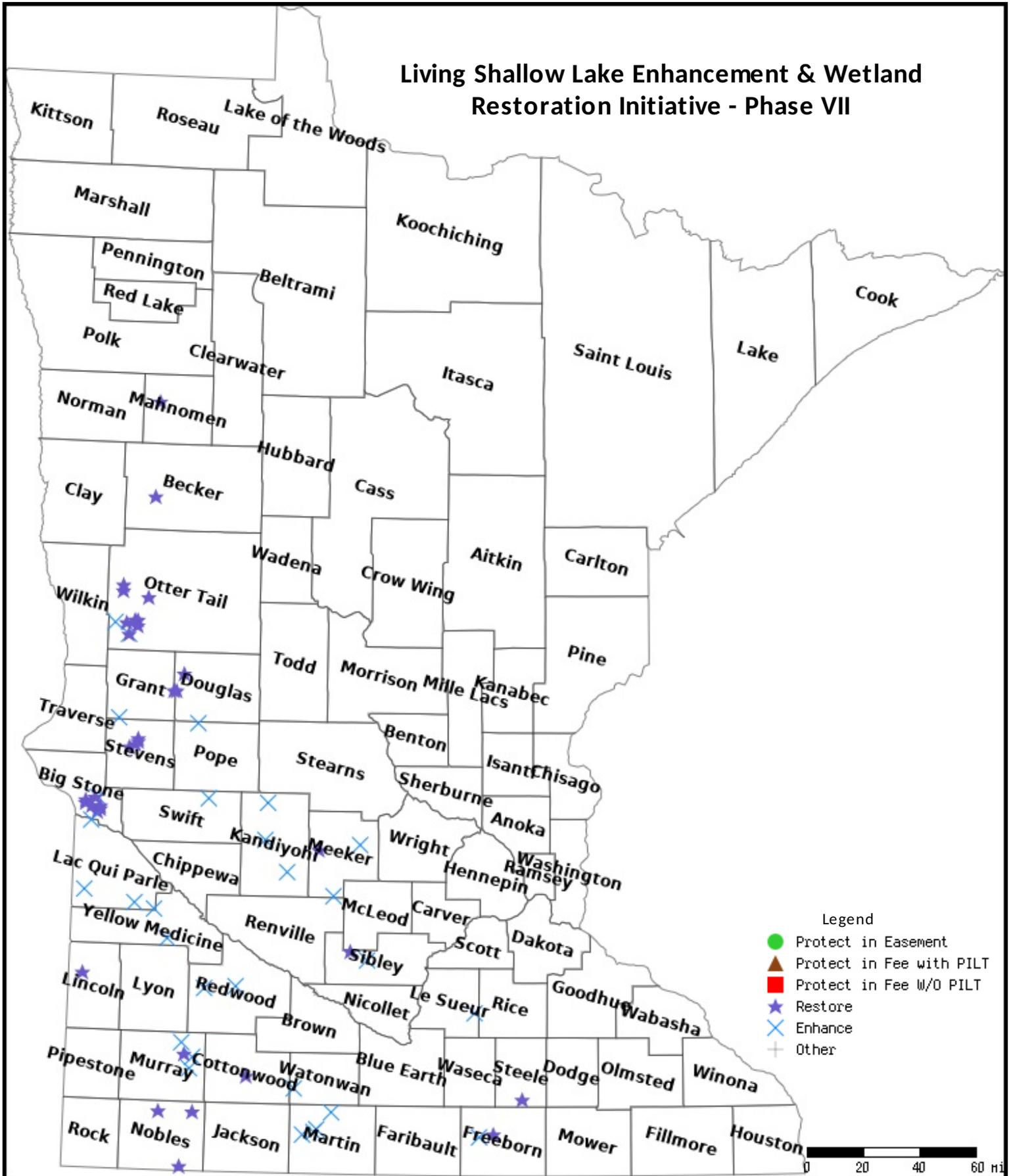
No parcels with an activity type protect and has buildings.

## Section 3 - Other Parcel Activity

No parcels with an other activity type.

# Parcel Map

## Living Shallow Lake Enhancement & Wetland Restoration Initiative - Phase VII



Data Generated From Parcel List



LIVING LAKES

# LIVING SHALLOW LAKE ENHANCEMENT & WETLAND RESTORATION INITIATIVE PHASE VII

**Proposal Request:** \$6,930,000

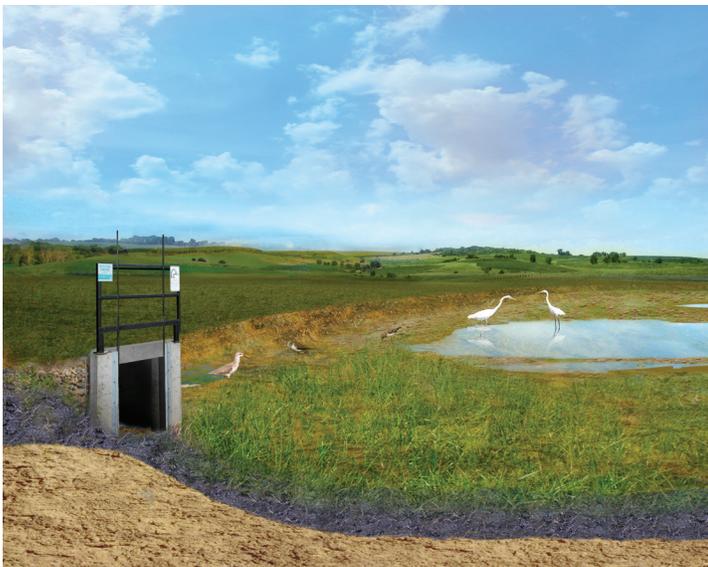
**Proposal Abstract:** This Phase 7 request for Ducks Unlimited's Living Lakes program will enhance 2,000 acres of shallow lakes and restore 200 acres of small wetlands by engineering and installing water control structures for Minnesota DNR and U.S. Fish & Wildlife Service on public lands and wetlands under easement. Structures will be used by DNR and service partners to restore wetland hydrology and actively manage shallow lake water levels to enhance ecology for ducks, other birds and hunters in the Prairie Region of Minnesota. DU will engineer structures and contract with private sector firms for construction and earth moving work.





## STAGE 1

Pre-enhancement turbid water state typical of many shallow lakes located in the prairie and transition zones of Minnesota and Iowa. Note the lack of rooted aquatic plants resulting from stagnant high water levels, as well as the presence of undesirable fish and lack of upland perennial cover creating both internal and external nutrient loading. This condition is exacerbated by above-average precipitation patterns, increased drainage and connectivity within the watershed. Lakes in this turbid water condition provide poor waterfowl and wildlife habitat and impaired water quality.



## STAGE 2

Once the physical and legal means are in place, a drawdown is a common management practice used to shift shallow lakes from a turbid water state to a clear water state. Note sediment consolidation and the re-growth of rooted aquatic plants from the natural seed bank. Drawdown also helps control undesirable fish populations. A DU designed and constructed water control structure such as the one illustrated above will allow agency managers to manipulate water levels to enhance water quality and wildlife habitat. Upland restoration also helps improve habitat and sustain water quality improvements.



## STAGE 3

Post management drawdown clear water state typical of a healthy shallow lake system. Note the restored water levels and water quality, abundance of rooted aquatic plants, invertebrate response, and overall wildlife habitat improvement. When conditions in a managed shallow lake deteriorate over time the water control structure such as the one illustrated above can be managed in accordance with a lake specific comprehensive management plan to help maintain and improve habitat conditions and water quality.

**SPECIAL NOTE:** A managed drawdown mimics natural water level fluctuation such as temporary drought conditions, which are necessary for a healthy shallow lake much like fire is to native prairie.