

**Lessard-Sams Outdoor Heritage Council
FY 2011 Recommendation
Accomplishment Plan**

Date: December 22, 2009

Project or Program Title: Accelerated Shallow Lakes & Wetlands Enhancement, Restoration, & Protection Partnership

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	Council Recommendation Funding	Out-Year Projections of Needs			
		FY 2011	FY 2012	FY 2013	FY 2014
Funds Recommended (\$000s)	FY 2011				
Minnesota DNR subtotal:	\$1,463,000	\$5,000,000	\$5,000,000	\$5,000,000	\$5,000,000
Ducks Unlimited subtotal:	\$5,042,000	\$5,000,000	\$5,000,000	\$5,000,000	\$5,000,000
Outdoor Heritage Fund total:	\$6,505,000	\$10,000,000	\$10,000,000	\$10,000,000	\$10,000,000

Appropriation Language:

Abstract

This programmatic partnership between the Minnesota Department of Natural Resources (DNR) and Ducks Unlimited (DU) will accelerate enhancement, restoration, and protection of shallow lakes and wetlands important to waterfowl. This partnership will assess, design, and implement shallow lake and wetland enhancement, restoration, and protection projects to address the most important wetland issues facing waterfowl and other wetland wildlife in Minnesota. Every statewide conservation plan recognizes the need for improving and protecting Minnesota's shallow lakes and wetlands for wildlife habitat. The MN DNR *Duck Recovery Plan* calls for the enhancement and active management of 1,800 shallow lakes while adding 64,000 wetlands to Minnesota's landscape. DU's *Living Lakes* conservation initiative supports this plan with a goal of improving 300 shallow lakes in Minnesota.

DNR and DU will accelerate efforts to enhance, restore, and protect shallow lakes and wetlands through increased assessment and engineering plus funding for water structure construction and land control. Enhancing and properly managing shallow lakes and wetlands will involve three components: assessment and feasibility analysis (Pre-design), engineering survey, design, review, easements and permits (Design), and ultimately water structure installation (Construction). DU will also work with private landowners to permanently protect lands adjacent to shallow lakes through permanent conservation easements and to purchase other lands in and adjacent to drained basins in fee-title to allow for restoration (Protection). In total, DNR and DU will conduct 200 assessments, work on 50 designs, restore 63 acres, structurally enhance 7,172 acres, and protect 30 acres through permanent conservation easement and 720 in fee-title.

Narrative

An estimated 90% of Minnesota's prairie wetlands have been lost, and those that remain are often larger basins that were more difficult to drain. Throughout the state, these shallow lakes and large wetlands provide critical habitat for wetland wildlife production and migration, especially for waterfowl and other wetland-dependent birds. High quality shallow lakes and wetlands have clear water and abundant rooted aquatic vegetation. Emergent aquatic plants such as rushes and wild rice provide protective cover from weather and predators and over-water nesting habitat, while submerged plants provide food in the form of seeds and tubers and critical habitat for aquatic invertebrates. An abundance of aquatic invertebrates such as insects, amphipods, and snails are critical for breeding ducks and for duckling growth and survival. Protein and carbohydrates from seeds and tubers are critical foods during both spring and fall migration. Seasonally flooded wetlands often fill these needs for shorebirds and dabbling ducks, particularly during spring. However, it is typically the larger, more permanent wetlands and shallow lakes that are important to diving ducks in spring and provide the most important fall habitat for all waterfowl.

However, the quality of shallow lakes and wetlands providing wildlife habitat has declined markedly due to landscape drainage and intensive agricultural land use, shoreline development, increased runoff carrying sediment and nutrients, and invasive plant and fish species. Invasive fish, such as bullheads, carp, and fathead minnows reduce the invertebrates and aquatic plants necessary for quality habitat. Highly altered landscape hydrology now allows these invasive fish to access and sustain populations in most of our remaining wetlands.

The worst damage has occurred within the prairie and transition portions of the state where conversion of habitat to other uses has degraded the watersheds of shallow lakes and associated wetlands. Restoration of wetland and grassland complexes restores habitat and reduces excessive runoff that can improve water quality. However, in-basin management is also needed to switch turbid shallow lakes back to their preferred clear water state. While watershed improvements benefit shallow lakes and wetlands, and both regulatory and voluntary programs to minimize and mitigate watershed degradation are ongoing by many conservation agencies, watershed work alone will not often switch turbid lakes to clear lakes and improve waterfowl habitat in them.

It is only through active water level management that simulates periodic droughts and stimulates aquatic plant growth combined with the removal of invasive fish that the quality of this important aquatic habitat can be rejuvenated and sustained into the future. Similar to the effects of periodic fires in upland prairie systems, temporary droughts in wetlands are essential to maintaining wetland productivity and to rejuvenating turbid shallow lakes. Water level variation drives wetland ecology, and has long been a well-established, science-based wetland management technique employed throughout the world.

This programmatic partnership between the Minnesota Department of Natural Resources (DNR) and Ducks Unlimited (DU) will accelerate enhancement, restoration, and protection of shallow lakes and wetlands important to waterfowl. This partnership will assess, design, and implement shallow lake and wetland enhancement, restoration, and protection projects to address the most important wetland issues facing waterfowl and other wetland wildlife in Minnesota. Central to our work will be the feasibility analysis, design, and installation of water control structures, pumps, and fish barriers that will provide state and federal conservation agency land managers with the ability to conduct temporary water level draw-downs that simulate the natural hydrologic regimes that drive wetland ecology. All projects will be constructed on public land or land under permanent easement by state or federal agencies, and all projects will be managed by Minnesota DNR field staff or by field staff of the U.S. Fish & Wildlife Service. Other agencies and tribal interests will be consulted and queried for input as projects are assessed, designed, and implemented. This proposal is based on the best available shallow lake and wetland management science coupled with over four decades of experience by Minnesota DNR and over two decades of wetland engineering expertise by DU.

Specifically, at least 200 shallow lakes and wetlands will be assessed for their current condition and feasibility for needed improvement as determined by DNR and DU field staff. Meanwhile DNR and DU biologists and engineers will work on 50 shallow lake and wetland design projects to review and finalize engineering plans, obtain legal land rights and public support, and secure all necessary permits and approvals for project implementation. Landowner outreach will be conducted and public meetings held when needed to review, revise, and fully develop wetland structure projects for implementation. Finally, several wetland restoration projects will be implemented to restore 63 wetland acres, and 16 structural shallow lake and wetland enhancement projects will be constructed to allow managers to enhance over 7,000 wetland acres.

To protect the state's investment in water structures and management, DU will also work with private landowners to explore opportunities for conservation easements and to protect 30 acres or more of shallow lake shoreland through permanent conservation easements held and monitored in perpetuity by DU. Also, to make future restoration of drained wetlands legally feasible, DU will also purchase 720 acres of land in fee-title in and adjacent to drained shallow lake basins. The land will eventually be transferred to the Minnesota DNR or U.S. Fish & Wildlife Service. Initial contacts with landowners and local governmental representatives have been favorable to our land acquisition plans, and county board approval will be sought before any land acquired is transferred to Minnesota DNR or the U.S. Fish & Wildlife Service.

Finally, DU will use \$50,000 in grant funds over two years to coordinate this work and administer this grant.

Relationship to *Minnesota Conservation and Preservation Plan* and other published resource management plans.

Several recent statewide Minnesota planning efforts have called attention to the dramatic loss in both quantity and quality of wetland and shallow lake habitat over the last century and a half. *Minnesota Statewide Conservation and Preservation Plan, A Fifty-Year Vision – Minnesota Campaign for Conservation, Tomorrow's Habitat for the Wild and Rare*, and *MN DNR Duck Recovery Plan* all emphasize the importance of shallow lakes and associated wetlands in creating viable wetland habitat complexes that are necessary for improvements in wetland wildlife populations.

The *Minnesota Statewide Conservation and Preservation Plan* identifies habitat loss and degradation as the number one driver of change for wildlife in Minnesota. This Plan specifically recommends fee acquisition for WMAs, protection of shallow lake shoreline, and restoring shallow lakes, wetlands, and wetland associated watersheds as important strategies. *Tomorrow's Habitat for the Wild and Rare - Minnesota's Comprehensive Wildlife Conservation Strategy* for species in greatest conservation need has identified significant loss and degradation of habitat as the number one management challenge and one of the principle strategies is to provide protection through selective acquisition of key habitats in each Ecological Section. Over 30 species that rely on shallow lakes and wetlands are listed as species of special concern. Minnesota's *Long Range Duck Recovery Plan* lists the objective of restoring a breeding population of 1 million ducks by 2056. The primary strategy is the protection and restoration of 2 million additional acres of habitat including the restoration of 64,000 wetlands and actively managing 1,800 shallow lakes.

Project Design and Evaluation

Project Scope	Wetlands and Wetland Systems	Prairies and Prairie Systems	Forests and Forest Systems	Habitats for Fish, Game and Wildlife (Include Description in Footnote)
Restore	63 acres			
Protect	490 acres	260 acres		
Enhance	7,109 acres			

Counties in which activities will take place	Wetlands and Wetland Systems	Prairies and Prairie Systems	Forests and Forest Systems	Habitats for Fish, Game and Wildlife
Restore	Nobles, Stearns, Sherburne, Benton, Mille Lacs, Isanti, Kanabec			
Protect	Big Stone, Douglas, Pope, Grant, Stearns, Stevens, Murray	Big Stone, Douglas, Pope, Grant, Stearns, Stevens, Murray		
Enhance	Blue Earth, Crow Wing, Cottonwood, Nobles, Big Stone, Stevens, Becker, Polk, Pope, Marshall, Kittson, Roseau, Benton, Isanti, Stearns, Sherburne			

Acres Within Each Ecological Section	Metropolitan-Urbanizing Area	Forest-Prairie Transition	Southeast Forest	Prairie Region	Northern Forest
Restore	10 acres	8 acres		45 acres	
Protect		30 acres		720 acres	
Enhance	65 acres	6,171 acres		563 acres	310 acres

Funding Per Ecological Section	Metropolitan-Urbanizing Area	Forest-Prairie Transition	Southeast Forest	Prairie Region	Northern Forest
Restore	\$ 10,000	\$ 8,000		\$ 200,000	
Protect*		\$ 155,000		\$2,681,000	
Enhance**	\$ 50,000	\$1,000,000	\$ 1,000	\$2,000,000	\$400,000

* Protect includes \$2,580,000 for permanent conservation easement and fee-title acquisition payments to landowners.

**Enhance includes \$85,000 for DNR water control structure or flowage easement payments to landowners.

Funding Resource Type	Wetlands	Prairies	Forests	Habitats for Fish, Game and Wildlife
Restore	\$ 218,000			
Protect*	\$1,805,000	\$ 1,031,000		
Enhance**	\$3,451,000			

* Protect includes \$2,580,000 for permanent conservation easement and fee-title acquisition payments to landowners.

**Enhance includes \$85,000 for DNR water control structure or flowage easement payments to landowners.

Acquisition and Tax Data	Wetlands	Prairies	Forests	Habitats for Fish, Game and Wildlife
Acquired in Fee with State PILT Liability	490 acres	230 acres		
Acquired in Fee without State PILT Liability				
Permanent Easement		30 acres		

Budget

Budget Item	Fiscal Year 11	Fiscal Year 12	Fiscal Year 13
Personnel	\$1,000,000	\$ 511,000	
Contracts	\$1,000,000	\$ 723,000	
Equipment/Tools	\$ 80,000		
Materials/Supplies			
Fee Acquisition	\$2,000,000	\$ 500,000	
Easement Acquisition	\$ 65,000	\$ 100,000	
Easement Stewardship		\$ 15,000	
Travel	\$ 100,000	\$ 55,500	
DNR Professional Services	\$ 200,000	\$ 155,500	
Other (DNR structure easements)			
TOTAL	\$4,445,000	\$2,060,000	

Relationship to Current Budget

This grant funding represents a significant increase in the Minnesota conservation budget of Ducks Unlimited, and will account for over 80% of DU's Minnesota conservation budget after the first year of spending. This grant funding is all new additive funding for DU and will allow DU to focus and accelerate shallow lake habitat enhancements and protection efforts in Minnesota. Current DNR Division of Fish and Wildlife expenditures for wetland and shallow lake work for wildlife habitat total approximately \$2,360,000 out of a total Division budget of \$92,600,000. The total DNR annual budget approximates \$350,000,000.

Personnel

Position	Name	Amount
DU Biologist	Unknown (new hire)	\$220,000
DU Biologist	Josh Kavanagh	\$140,000
DU Biologist	Robert Usgaard	\$140,000
DU Program Manager	Jon Schneider	\$ 50,000
DU Engineering Staff	Multiple - TBD	\$531,000
DNR Temp Specialists (3)	Multiple new hires	\$300,000
DNR Seasonal Interns (12)	Multiple interns	\$130,000

Leverage

SOURCE	FY 11		FY 12		FY 13	
	In hand	Anticipated	In hand	Anticipated	In hand	Anticipated
State						
Non state						
Local Sportsmen Club		\$ 5,000		\$ 5,000		
NAWCA Small Grant		\$ 70,000				
DU Indirect Expense		\$100,000		\$ 70,000		
Federal Aid Reimburse		\$500,000		\$500,000		
In-kind/Volunteer						
DNR in-kind staff time	\$ 25,000		\$ 25,000			
TOTAL	\$ 25,000	\$675,000	\$ 25,000	\$575,000		

Leverage	State				Non-State			
	Wetlands and Wetland Systems	Prairies and Prairie Systems	Forests and Forest Systems	Habitats for Fish, Game and Wildlife	Wetlands and Wetland Systems	Prairies and Prairie Systems	Forests and Forest Systems	Habitats for Fish, Game and Wildlife
Restore					\$ 15,000			
Protect					\$ 5,000	\$ 5,000		
Enhance					\$1,275,000			

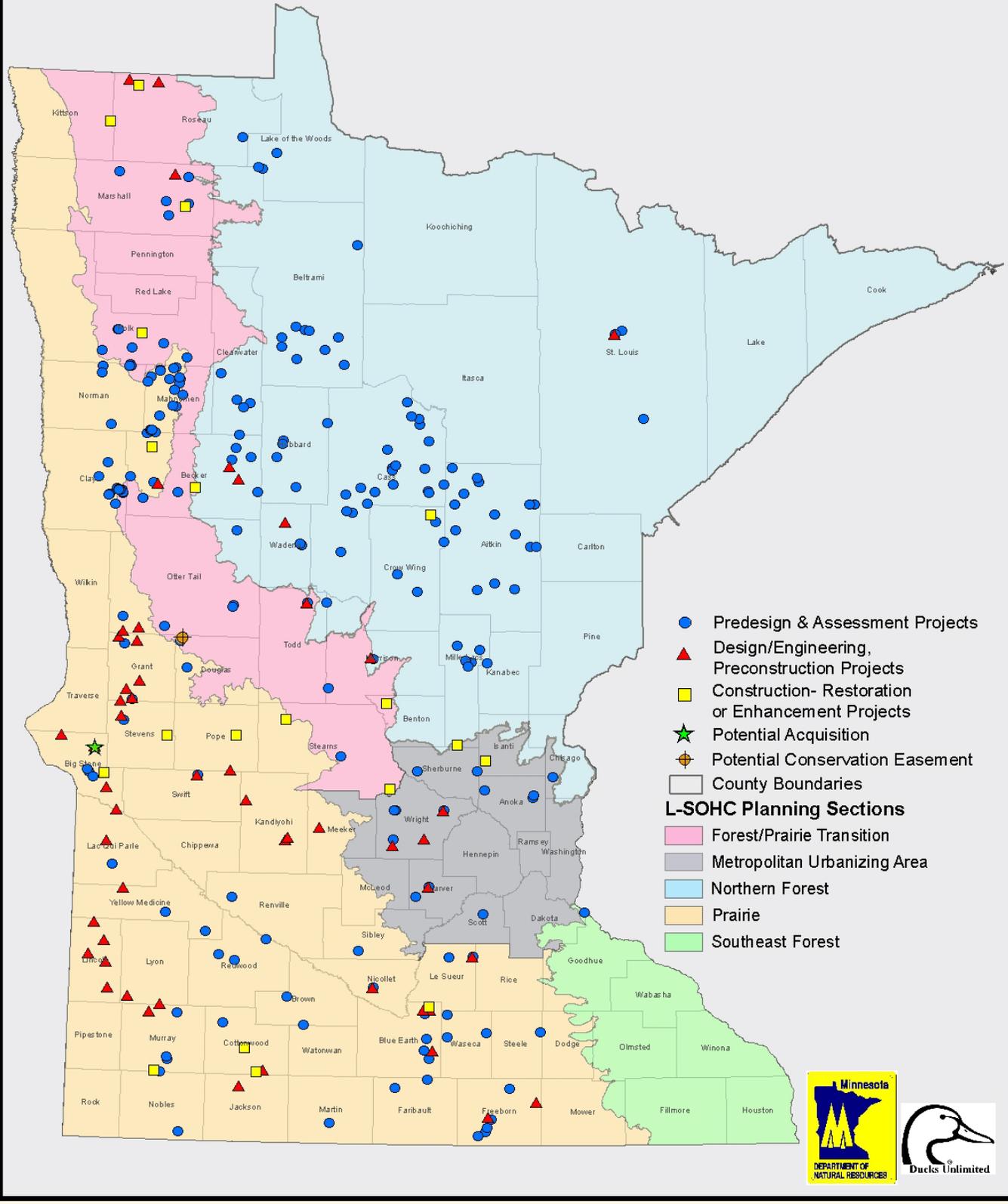
Accomplishment Timeline

<i>Milestones</i>	FY 2011	FY 2012	FY 2013	Budgetary Expenditure
Pre-design Assessments and New Shallow Lake Project Identification	50 Surveys	150 Surveys		\$1,072,000
Project Design and Development	20 Projects	30 Projects		\$ 763,000
Restoration Project Construction	1 Projects for 45 wetland acres	2+ Projects for 18 acres		\$ 218,000
Enhancement Project Construction	10 Projects for 2,109 acres	6 Projects for 5,000 acres		\$1,616,000
Fee-Title Land Acquisition	600 acres acquired in fee	120 acres acquired in fee		\$2,681,000
Permanent Easement Acquisition		30 acres protected		\$ 155,000

Maintenance and Sustainability

The pre-design and design components of this proposal will prepare sites for future construction or treatment proposals. The management and maintenance of basins with completed construction or protected by fee acquisition will be conducted by existing staff of the Department of Natural Resources or United States Fish and Wildlife Service depending on location of the specific project. These staff are funded through license fees and legislative or congressional appropriations. Periodic enhancements such as invasive species removal, supplemental vegetation planting or water control structure installation and replacements will be accomplished through annual funding requests to a variety of funding sources including, but not limited to, the Game and Fish Fund, bonding, gifts, the Environment and Natural Resources Trust Fund, the Outdoor Heritage Fund, and federal sources such as North American Wetland Conservation Act grants. Lands acquired in fee title by DU will be promptly transferred to the Minnesota DNR.

Accelerated Shallow Lakes and Wetlands Restoration, Protection and Enhancement Partnership



- Predesign & Assessment Projects
- ▲ Design/Engineering, Preconstruction Projects
- Construction- Restoration or Enhancement Projects
- ★ Potential Acquisition
- ◆ Potential Conservation Easement
- ▭ County Boundaries
- L-SOHC Planning Sections**
- Forest/Prairie Transition
- Metropolitan Urbanizing Area
- Northern Forest
- Prairie
- Southeast Forest

