

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

Date: December 22, 2009

Project or Program Title: DNR Aquatic Habitat Program

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	Council Recommendation on Funding	Out-Year Projections of Needs		
		FY 2011	FY 2012	FY 2013
Funds Recommended (\$000s)				
Outdoor Heritage Fund	3,416	0	0	0

Appropriation Language

Abstract

This proposal uses a multi-programmatic approach to achieve prioritized aquatic habitat protection, restoration, and enhancement for lakes, trout streams, and rivers across Minnesota. We propose to: i) protect 7.8 miles of shoreline on lakes, rivers and trout streams; ii) effect structural repairs to 2 lake outlet control structures that will integrate fish passage; iii) restore and enhance river and stream functions that will benefit over 50.5 river miles; and iv) enhance 1.6 miles of shoreline habitat on publicly-owned lakeshore. The strategic approach and priority resources targeted in this proposal are supported by a number of internal and external conservation planning documents. The DNR will implement the objectives of this proposal through established and highly successful programs each having strong stakeholder support including: Aquatic Management Area Program, Shoreland Habitat Restoration Program, Stream Habitat Program, and Coldwater Streams Program.

Narrative

What is the problem to be addressed?

Minnesota's aquatic habitats have been degraded or threatened by a century or more of land, hydrology, and human settlement related alterations. The consequences to aquatic species have been reduced habitats for essential life history stages, lack of access to traditional spawning areas, and fragmentation of formerly continuous habitat that served as corridors to facilitate seasonal movements.

Geographically, aquatic habitats are in various states of quality and experiencing differing levels of environmental stress with a general pattern of healthy habitats under low stress in the northeast and less healthy habitats under high stress in the southern and western portions of the state (see Figure H-15 in the State Conservation and Preservation Plan). But even within this generalized pattern there are many notable exceptions – aquatic habitats exhibiting declining quality under high environmental stress in the northeast, and moderate to high quality habitats within high environmental stress landscapes to the west and south. This provides a meaningful framework for providing habitat protection, restoration, and enhancement through DNR’s diverse habitat programs infrastructure.

How will this directly relate to restoring, protecting, or enhancing habitat? Why will this strategy work?

Acquisition of priority habitats provides permanent protection backed by state and federal laws. The AMA designation unit within the Outdoor Recreation System was established by the Legislature in 1992 and has strong support from conservation groups and anglers. The AMA Program currently has an inventory of 830 miles of shoreline in over 330 AMAs, which provide permanent protection of critical riparian habitats, perpetuate fish and wildlife populations, safeguard water quality, and offer public recreational opportunities as an important additional benefit.

Providing fish passage over in-stream barriers such as low-head dams and culverts by backfilling with rock reconnects fish and other aquatic species to upstream habitats essential for spawning, juvenile life stages, and overall abundance and genetic diversity of aquatic species. Stream restoration projects reconstruct the stream’s natural pattern, profile, and dimension. Natural stream design favors hydrologic conditions that do not degrade the stream bank and bed and provides a diversity of microhabitats that are more favorable to fish and other aquatic species. Channel restoration, dam modification, and shoreline enhancement work is based on proven methods and DNR experience with multiple projects. The DNR has worked on large-scale river and stream restoration projects since 1998 and has completed or assisted in design elements of over 100 stream projects addressing restoration, fish passage, dam removal and dam modification to rapids. These are significant and durable accomplishments benefiting aquatic habitat. As examples of these successful strategies, DNR has conducted large-scale projects to restore the Whitewater River to its original channel; reconnected nearly the entire Minnesota portions of the Red River by direct dam removal or modification leaving only a few dams presently remaining that impede fish movements (primarily lake sturgeon); and enhanced 21 miles of shoreline on lakes across the state including many challenging high erosion sites. Also projects address other key components of a stream: wildlife and fish habitat, water quality, connectivity to the floodplain and upstream reaches, and hydrology. By drawing on the accumulated scientific knowledge on all components of the stream DNR strives to deliver the best possible restoration projects using the best science available.

The DNR has conducted shoreline enhancement projects for over 10 years and during that time the program has grown in scope and popularity. The annual number of shoreland restoration projects completed has increased from 23 in 2002 to 60 in 2009. At the end of the L-SOHC grant period, 1.6 miles of public shoreline including AMAs and other state, county, township, and municipal lands will be enhanced to provide erosion protection, habitat diversity for multiple species of fish and wildlife (including game species and SGCNs), and enhanced aesthetics. Native plants and natural materials will be utilized to increase habitat complexity, provide protective cover, stabilize shorelines, and firmly anchor soils. Project habitat benefits will continue to accrue beyond the term of this grant as project sites mature and the shoreline assumes a more natural character.

Describe the nature and extent of any partnerships in this project, stakeholder and public participation processes associated with the project and any anticipated support or opposition to the project.

The AMA Acquisition Planning Committee developed an acquisition plan in 2007 that recommended purchasing an additional 2,595 miles of riparian lands over 25 years to meet the habitat protection needs of a rapidly changing Minnesota. This stakeholder-developed plan guides DNR’s AMA program implementation.

Restoration and enhancement elements of this project are linked to various landscape or system-specific management plans (e.g., Lake Superior Management Plan) that have been developed through extensive internal and external coordination. These elements represent shared priorities with multiple partners and stakeholders.

For land acquisitions, indicate local government support and approval

Township and County support are usually obtained as part of the acquisition process. County Boards are typically notified after AMA parcels have been optioned and consistent with DNR policy.

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

Reference resource management plans and their priorities that support this project.

MNDNR Strategic Conservation Agenda Update:

Meets the criteria of conservation in the Mission Statement, ‘work with citizens to conserve and manage the state’s natural resources;’ and Strategic Conservation Agenda goals to conserve, restore, and enhance Minnesota’s natural lands and habitats, water resources, and watersheds.

Minnesota Conservation and Preservation Plan

This proposal addresses a number of recommendations contained in the Statewide Conservation and Preservation Plan including:

- Habitat Recommendation 2, Protect critical shorelands of streams and lakes (p. 67). Fee acquisition and conservation easements among tools needed for protection of critical shorelines of streams and lakes. Acquiring the highest-priority shorelines “is one essential component of a multi-strategy approach to preserving the clean water legacy that Minnesota’s citizens and visitors are used to experiencing. (p.69)” Benefits include protection of critical shoreline habitats from degradation, public angler access, and providing areas for education and research.
- Habitat Recommendation 6A, Restore habitat structure within lakes (p. 76). This recommendation seeks “... to restore the natural features of lakeshore habitats (area comprising the shoreland, shoreline, and near-shore).”
- Habitat Recommendation 6B, Protect and restore in-stream habitats (p. 82). Several approaches can be implemented to protect and restore in-stream habitats. Removal or modification of dams and installing culverts with increased capacity would improve connectivity of aquatic systems. Riparian vegetation can be restored to stabilize stream banks. Channelized streams can be reconstructed to provide a flood plain to dissipate stream energy and allow the channel to remeander, which will provide more diverse habitat for aquatic organisms.

Tomorrow’s Habitat for the Wild and Rare

The State’s Wildlife Action Plan is a rare species condition assessment and habitat conservation guidance document for Minnesota’s species of greatest conservation need. Several aquatic species of biota are included in this plan including plants, insects, mussels, fish, and water-dependent and seasonal migrant bird species.

Minnesota’s AMA Acquisition Plan 2008-2033

The DNR’s AMA Acquisition Plan calls for shoreline acquisition to ensure shoreline habitat protection, water quality maintenance, and angler access for present and future generations. This plan envisions acquisition of 3,428 miles of lake and stream habitat during the next 25 years.

Strategic Plan for Coldwater Resources Management in Southeast Minnesota 2004-2015

This plan establishes targets to protect, improve, and restore coldwater aquatic habitat and fish communities. The plan identifies important issues and strategies that will enable DNR to maintain and improve the short and long-term values of the unique trout stream resource of the Southeast and provide angling clientele with diverse angling opportunities.

Red River of the North Fisheries Management Plan

The overall approach to habitat management in the Red River is to maintain, restore, enhance, and protect riverine and upland habitats and their functions. The plan includes the following recommended actions:

- Establish and maintain stable stream channels.
- Improve and protect high quality fish spawning and rearing habitats within Red River and tributaries.
- Provide uninterrupted fish passage/river connectivity.
- Provide appropriate heterogeneous and complex physical habitat components.
- Provide water of sufficient water quality to sustain healthy aquatic systems.
- Re-establish a more natural flow regime.

Midwest Glacial Lakes Partnership: Strategic Plan for Fish Habitat Conservation in Midwest Glacial Lakes

The Midwest Glacial Lakes Partnership (MGLP) is a formal Fish Habitat Partnership under the National Fish Habitat Action Plan ([.fishhabitat.org](http://fishhabitat.org)). The mission of the Midwest Glacial Lakes Partnership is to work together to protect, rehabilitate, and enhance sustainable fish habitats in glacial lakes of the Midwest for the use and enjoyment of current and future generations. MGLP has developed a strategic plan ([.MidwestGlacialLakes.org/resources/](http://MidwestGlacialLakes.org/resources/)) to protect and restore aquatic habitats in naturally-formed glacial lakes across the upper Midwest states. The MGLP strategic plan identifies a number of objectives (p. 26-29) designed to conserve (protect, restore, and enhance) the habitats of Midwestern glacial lake fish populations, to support a broad natural diversity of aquatic species, to promote self-sustaining fish populations, and to provide successful fishing opportunities.

National Fish Habitat Action Plan

The National Fish Habitat Action Plan is a national partnership-based framework for achieving protection and restoration of priority aquatic habitats that support a broad natural diversity of fish and other aquatic species. The plan uses a science-based approach to target priority areas and implement needed projects that address causative factors and use best management practices. The Action Plan is implemented through regional Fish Habitat Partnerships (functionally analogous to Waterfowl Joint Ventures under the North American Waterfowl Management Plan which is supported by the North American Wetlands Conservation Act). Fish Habitat Partnerships leverage national and state resources to achieve local priorities for habitat protection and restoration. ([.fishhabitat.org/documents/plan/National_Fish_Habitat_Action_Plan.pdf](http://fishhabitat.org/documents/plan/National_Fish_Habitat_Action_Plan.pdf))

Individual Lake and Stream Management Plans

The Section of Fisheries produces individual fisheries management plans for every actively managed lake and stream resource in the state. In addition to fish population goals and objectives, these plans identify habitat actions unique to each waterbody that are needed or beneficial to sustain quality fisheries.

Project Design and Evaluation

Describe the scope of the project in appropriate measures (i.e. ,acreage numbers of lakes, miles of shoreline)

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				<i>2 miles of Vermillion River channel will be restored; by-pass channel on Mississippi River at Little Falls will reconnect 9 miles downstream of the site to 39.5 miles upstream of the site</i>
Protect				<i>3.1 miles of lakeshore and 4.7 miles of coldwater stream will be permanently protected by fee title or easement</i>
Enhance				<i>2 lake outlet control structures will be repaired and modified to allow fish passage; 1.6 miles (4.7 acres) of public lakeshore will be enhanced</i>

Footnote: This project will address aquatic habitats with particular emphasis benefiting fish.

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				<i>Dakota, Morrison</i>
Protect				<i>Current projects are located in all 5 of the Ecological Planning Sections</i>
Enhance				<i>Becker, Beltrami, Crow Wing, Hennepin, Murray, Ramsey, Stearns, Todd</i>

Acres Within Each Ecological Section	Metropolitan-Urbanizing Area	Forest-Prairie Transition	Southeast Forest	Prairie Region	Northern Forest
Restore	<i>2 miles of Vermillion River channel restored</i>	<i>48.5 miles of Mississippi River reconnected</i>			
Protect	<i>0.4 miles of shoreline permanently protected</i>	<i>1.0 miles of shoreline permanently protected</i>	<i>1.4 miles of shoreline permanently protected</i>	<i>0.6 miles of shoreline permanently protected</i>	<i>4.4 miles of shoreline permanently protected</i>
Enhance	<i>1.20 acres (1750 In ft) of lakeshore enhanced; 1 trout stream barrier modified</i>	<i>1.05 acres (1500 In ft) of lakeshore enhanced; 1 outlet control structure repaired and modified</i>	<i>1 mile of trout in-stream habitat enhanced; 50 miles of stream corridor enhanced (livestock fencing, vegetation planting; invasive species control)</i>	<i>0.35 acres (600 In ft) of lakeshore enhanced</i>	<i>2.15 acres (3250 In ft) of lakeshore enhanced; 1 outlet control structure repaired and modified; 3 tributary barrier designs completed</i>

Funding Per Ecological Section	Metropolitan-Urbanizing Area	Forest-Prairie Transition	Southeast Forest	Prairie Region	Northern Forest
Restore	<i>\$467,000</i>	<i>\$389,000</i>			
Protect	<i>\$77,000</i>	<i>\$372,000</i>	<i>\$217,000</i>	<i>\$185,000</i>	<i>\$924,000</i>
Enhance	<i>\$83,300</i>	<i>\$88,800</i>	<i>\$260,000</i>	<i>\$41,900</i>	<i>\$311,000</i>

Indicate what is being funded

Funding Resource Type	Wetlands	Prairies	Forests	Habitats for Fish, Game and Wildlife
Restore				<i>\$856,000</i>
Protect				<i>\$1,775,000</i>
Enhance				<i>\$785,000</i>

Acquisition and Tax Data	Wetlands	Prairies	Forests	Habitats for Fish, Game and Wildlife
Acquired in Fee with State PILT Liability				<i>3.1 miles of lakeshore at \$1,242,000</i>
Acquired in Fee without State PILT Liability				
Permanent Easement				<i>4.7 miles of coldwater stream at \$533,000</i>

Budget

Please describe how you intend to spend the recommended funds

Budget Item	Fiscal Year 11	Fiscal Year 12	Fiscal Year 13
Personnel	100,000	137,500	132,500
Contracts			
Design/Construction	243,000	215,000	227,000
MCC Crews		125,000	
Grants	225,000		
Equipment/Tools			
Materials/Supplies	90,000	35,000	
Fee Acquisition	670,000	335,000	112,000
Easement Acquisition	287,000	143,000	48,000
Easement Stewardship			
Travel	15,000	15,000	15,000
Additional Budget Items			
Professional Services	125,650	73,700	46,900
TOTAL	1,755,650	1,079,200	581,400

Relationship to Current Budget

Indicate the percentage of this project in relation to your organization/agency's total budget.

This project represents slightly less than 1% of the DNR's FY09 expenditures from all sources.

Demonstrate how this funding and activity will supplement your current budget.

The project work included in this accomplishment plan is above and beyond program activity funded through DNR base budget appropriations. In addition to legislative appropriations from Game and Fish Fund, Heritage (lottery), and capital bonding, the Department actively pursues other funding from a variety of sources including LCCMR, federal grants and private foundation grants to achieve program outcomes. These alternative sources of funding are less certain/predictable and are not part of the Department's base budget.

If existing staff will be reassigned to this project, indicate what current projects or duties will be affected.

One existing staff to be partially funded by this appropriation will be reassigned to manage the public shoreland enhancement element. This position will further provide native vegetation planting design consultation and technical assistance to other elements of this program. LCCMR funding for projects currently managed by this person will conclude at the end of FY10. As a result, no current projects or duties will be affected.

Personnel

List the positions, name (if known) and anticipated program funds to be paid by this recommendation

Position	Name	Amount
Restoration Coordinator		\$285,000
Shoreland Restoration Spec	Lindy Ekola	\$75,000
Student intern(s)		\$10,000

Leverage

List the sources and amounts of leverage you have in hand or anticipate by fiscal year.

SOURCE	FY 11		FY 12		FY 13	
	In hand	Anticipated	In hand	Anticipated	In hand	Anticipated
State						
RIM-CHMP		\$100,000		\$250,000		
Game & Fish	\$75,000					
Non state						
Donation (cash and land value)		\$300,000		\$250,000		
Initiative Foundation				\$50,000		\$50,000
Minnesota Waters				\$10,000		
USFWS Fish Passage Grant		\$10,000		\$75,000		
Local Cash Match		\$60,000				
In-kind/Volunteer						
DNR staff time		\$50,000		\$60,000		\$60,000
Local In-kind match				\$45,000		\$45,000
TOTAL	\$75,000	\$520,000		\$740,000		\$155,000

Indicate how the leverage will be used

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								\$75,000
Protect				\$350,000				\$550,000
Enhance				\$75,000				\$440,000

Accomplishment Timeline

Milestones	FY 2011	FY 2012	FY 2013	Budgetary Expenditure
Miles of shoreline acquired (AMA)	4.6 miles of shoreline acquired	2.4 miles of shoreline acquired	0.8 mile of shoreline acquired	\$1,775,000
Dams repaired/modified	2 dams			\$77,000
Public lakeshore enhanced	Project grants awarded	Projects installed	Projects assessed and sign-off	\$314,000
Streams restored/dams modified	Project design work	Project design and bids	Initiate construction activities	\$856,000
Fish passage enhanced	Initiate design work for North Shore barriers under Hwy 61	1 trout stream barrier passable		\$134,000
Trout streams enhanced	Supplies purchased for stream corridor and in-stream enhancement work	50 miles of existing trout stream corridor enhanced; 1 mile of trout in-stream habitat enhanced; No. Shore barrier design work completed		\$260,000

Maintenance and Sustainability

Please describe how lasting improvement will be maintained/ sustained. For easement acquisitions and fee acquisitions, explain how maintenance and sustaining costs will be paid.

AMA acquisitions will be sustained through fee title ownership and perpetual easements held by the DNR. This is a long-term protection strategy. Routine maintenance of AMA parcels will be accomplished by Area Fisheries Managers as part of their public land management responsibilities. Periodic enhancements such as invasive species removal, prescribed burning, supplemental vegetation planting, shoreline stabilization and restoration, or water control structure installation and replacement will be accomplished through annual funding requests from a variety of funding sources including, but not limited to, Game and Fish Fund, Bonding, Gifts, Federal Sources, Environmental Trust Fund, and Outdoor Heritage Fund.

River and stream restoration activities are designed to work with natural hydrology of systems so as to be durable and self-maintaining over time. Restoring natural channel function or mimicking natural riffles/rapids results in the desired habitat benefit but also provides self-maintenance.

Lakeshore enhancement activities will be sustained by the local units of government receiving grant funds. Routine maintenance will be accomplished by the local unit of government as part of an overall block grant agreement. Supplemental vegetation planting, watering of the restoration site, and removal of invasive plant species are typical maintenance requirements during the early stages of restoration projects. A maintenance plan is required prior to project implementation as well as a 10-year maintenance agreement on all funded projects. Typically if a project is implemented and maintained for a 10-year period, the critical maintenance has been completed and long term project success is likely.

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Accomplishment Plan
LSOHC

