- **Outdoor Heritage Fund**

A 25-year framework:

Minnesota's conservation estate, historic conservation investments and future opportunities

Lessard-Sams Outdoor Heritage Council
December 15, 2010

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The Lessard-Sams Outdoor Heritage Council was created in the legislative branch in 2008, consisting of:

- two public members appointed by the senate Subcommittee on Committees of the Committee on Rules and Administration;
- two public members appointed by the speaker of the house;
- four public members appointed by the governor;
- two members of the senate appointed by the senate Subcommittee on Committees of the Committee on Rules and Administration; and
- two members of the house of representatives appointed by the speaker of the house.

Mr. Lester Bensch, owner/operator, Viking Valley Hunt Club, Ashby, Minnesota
Mr. Ryan Bronson, conservation specialist, Federal Premium Ammunition, Eagan, Minnesota
Mr. James Cox, independent business owner, Cologne, Minnesota
Mr. Wayne Enger, county executive director, USDA Farm Service Agency, Perham, Minnesota
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Mr. Michael Kilgore (Chair), professor of natural resource economics and policy, University of Minnesota, Lino Lakes, Minnesota
Mr. Darby Nelson, retired professor of biology and environmental science, Champlin, Minnesota
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Minnesota Constitution, Article XI: Appropriations and Finances

Sec. 15. **Outdoor heritage, clean water, parks and trails, and arts and cultural heritage; sales tax dedicated funds.** Beginning July 1, 2009, until June 30, 2034, the sales and use tax rate shall be increased by three-eighths of one percent on sales and uses taxable under the general state sales and use tax law. Receipts from the increase, plus penalties and interest and reduced by any refunds, are dedicated, for the benefit of Minnesotans, to the following funds: 33 percent of the receipts shall be deposited in the outdoor heritage fund and may be spent only to restore, protect, and enhance wetlands, prairies, forests, and habitat for fish, game, and wildlife; 33 percent of the receipts shall be deposited in the clean water fund and may be spent only to protect, enhance, and restore water quality in lakes, rivers, and streams and to protect groundwater from degradation, and at least five percent of the clean water fund must be spent only to protect drinking water sources; 14.25 percent of the receipts shall be deposited in the parks and trails fund and may be spent only to support parks and trails of regional or statewide significance; and 19.75 percent shall be deposited in the arts and cultural heritage fund and may be spent only for arts, arts education, and arts access and to preserve Minnesota's history and cultural heritage. An outdoor heritage fund; a parks and trails fund; a clean water fund and a sustainable drinking water account; and an arts and cultural heritage fund are created in the state treasury. The money dedicated under this section shall be appropriated by law. The dedicated money under this section must supplement traditional sources of funding for these purposes and may not be used as a substitute. Land acquired by fee with money deposited in the outdoor heritage fund under this section must be open to the public taking of fish and game during the open season unless otherwise provided by law. If the base of the sales and use tax is changed, the sales and use tax rate in this section may be proportionally adjusted by law to within one-thousandth of one percent in order to provide as close to the same amount of revenue as practicable for each fund as existed before the change to the sales and use tax.
[Adopted, November 4, 2008]

Minnesota Statutes 97A.056, Subd. 3(i):

(i) The council shall develop and submit to the Legislative Coordinating Commission plans for the first ten years of funding, and a framework for 25 years of funding, consistent with statutory and constitutional requirements. The council may use existing plans from other legislative, state, and federal sources, as applicable.

Executive summary

Background

The Outdoor Heritage Fund (OHF) was established with the passage of the Clean Water, Land and Legacy Amendment in 2008. As directed by Minnesota Statutes, section 97A.056, the Lessard-Sams Outdoor Heritage Council (LSOHC) was formed to recommend appropriations from the OHF to the Minnesota Legislature. State statute also required that a 10-year plan and 25-year framework be developed and presented to the Legislative Coordinating Commission (LCC). This document fulfills that requirement with an analysis of the capacity of the OHF to affect conservation, as well as a planned vision and priorities to achieve that vision.

Conservation professionals from a variety of sectors met in 2009 to explore the magnitude of the undertaking for funding statewide conservation programs and gather input for the development of the LSOHC statewide and regional vision and priorities. In late 2009, that information was used to develop a plan for intermediate-term recommendations for appropriations from the OHF. These were most recently published in the council's Call for Funding Requests for 2011 and 2012, and are provided on pages 49-53 of this document. The council reviewed these priorities and affirmed that these statements express its plan for the near term (10 years), with the proviso that the council will review its vision and funding priorities each year.

A 25-year funding framework

In 2010, the LSOHC devised a methodology to draft the plan and framework that included input and review from conservation community leaders, an advisory group to set the specifics of the framework approach, and a working group to collect and analyze data and write a 25-year framework. Finally, the framework was reviewed by internal and external audiences, including the general public, before being submitted to the LCC.

The adopted framework looked at historic and contemporary protection, enhancement, and restoration activity in the state's conservation estate. This was a significant undertaking, since the data required to analyze historic conservation activity as laid out in the Minnesota Constitution, Article XI, Section 15 did not exist. The working group collected data from a variety of sources to quantify existing habitat. Conservation entities that annually spend $1 million or more on habitat acquisition, restoration, and enhancement in Minnesota were surveyed to identify the distribution of past and current protection, restoration, and enhancement activities throughout in the state as well as goals, opportunities, and constraints (challenges) perceived by the conservation community.

Three scenarios were developed to help delineate possible outcomes from investment of the OHF in the next 23 years, as shown in Table 1. All three are simple projections of recent conservation actions over the next 10 and 25 years. The scenarios do not predict the future or set specific goals that bind future LSOHC decisions. They do show the constraints and possibilities associated with various conservation efforts. They are intended to help the council and other decision makers understand the potential impact and trade-offs associated with different levels of support for habitat protection, restoration, and enhancement.

Continued on page 2

Table 1. Scenario description and summary findings.

Scenario and Description	Summary findings
Scenario 1: Pre-Outdoor Heritage Fund Examines conservation work that occurred historically without the benefit of additional OHF investment and estimates the future activity that might occur in the absence of OHF expenditures. This scenario is a base against which the other two scenario outcomes can be evaluated.	After 25 years, the total acres acquired by the state's largest conservation entities could range from 600,000 to 2 million acres without OHF appropriations, depending on the purchasing power of the appropriations as they are influenced by government revenues and inflation. After 25 years, these organizations could restore and enhance between 5.4 million and 17.8 million acres, depending on the purchasing power of their appropriations. These projections may be generous, considering that they are based on past appropriations and organizations noted they face declining initial and long-term funding.
Scenario 2: Current trajectory Scenario 2 extends the OHF's first two years of funding and demonstrates the likely outputs if future OHF appropriations conform to a similar type and pattern as the first two years of funded projects. This scenario is additive to scenario 1.	After 25 years, the total acres acquired through the OHF investment could range from 664,000 to 1.5 million, depending on the purchasing power of the OHF revenues. After 25 years, the OHF could restore and enhance between 620,000 and 1.7 million acres, depending on the purchasing power of OHF revenues.
Scenario 3: Maximized allocations by habitat type and activity Scenario 3 describes the outputs that could be achieved if all of the OHF were dedicated to a single habitat and activity. While not likely to be adopted, it does show the maximum outputs each habitat could garner.	The OHF alone could support about 25 percent of the 2009 target acres, with a few exceptions. Even if all OHF monies were allocated to one activity and habitat type, the 2009 wetlands and prairies/grasslands protection targets and the forests and aquatic habitat restoration/ enhancement targets are unmet without the financial support of conservation partners.

Additional information and analysis

In addition to the three scenarios, appendices to the framework provide additional contextual information and analysis.

- Appendix A provides a summary of input from conservation organizations regarding their goals, future opportunities and constraints (organizational challenges).

Continued on page 3

- Appendix B provides some options for consideration, suggested by the working group. Note that these options have not yet been considered or approved by the council.
- Appendix C provides the council's statewide and section-specific visions and priorities, as well as a results management framework that draws relationships between inputs, outputs and outcomes. The visions and priorities are considered the guiding document, or plan, to inform funding decisions in the next ten years, with the proviso that the council will review its vision and funding priorities each year.
- Appendix D provides a membership list of groups assisting and advising this effort.
- Appendices E-G provide technical summaries and additional details on calculations performed for the scenarios.

The goals highlighted by conservation organizations (summarized in Appendix A) included long-term health of the land and ecosystems as well as protection, improvement, and restoration of watershed and riparian areas. Opportunities identified included numerous public and private funding sources, coordinated management between sectors, and increasing private landowner interest in conservation activities and programs.

Among a list of 22 possible organizational, conservation, political, and environmental constraints that respondents were asked to evaluate, the degradation and loss of functioning systems was of most concern. Many of the challenges in this constraint remain steady over time and include ecological degradation, competing land uses, land use changes, habitat loss, fragmentation, and invasive species. Declining initial funding and a shortage of staffing and human capital were the next most highly rated constraints. With a declining base of funding support and the generational shift in human capital, these constraints were of great concern in the near and long-term.

Conclusions

The 25-year framework suggests that while the OHF will play a critical funding role in the future, the 2009 planning targets greatly exceed the 25-year capacity of the fund, even when combined with resources of major conservation organizations. Furthermore, total accomplishments could vary greatly, depending on sales tax revenues and the future buying power of those revenues. Success in conservation will depend highly on leveraging traditional and other sources of conservation funding with available OHF funds and coordinating efforts with conservation partners. Further refinement is necessary in targeting restoration, enhancement, and protection goals on private as well as public land. Finally, different conservation strategies are necessary for the five ecological sections, given that each has unique land cover and ownership characteristics.

Next steps

The council, council staff and members of the working group are available to discuss the framework with the LCC at its earliest convenience. The council intends to replicate the scenario analyses in future years – as additional funding cycles occur, a clearer picture of the future will emerge. The council is also considering improvements to its process for future planning cycles, and invites the LCC's feedback for future efforts.

Introduction

The Lessard-Sams Outdoor Heritage Council and its planning process

The Minnesota Legislature established the Lessard-Sams Outdoor Heritage Council (LSOHC) to provide annual recommendations to the Legislature on appropriations of money from the Outdoor Heritage Fund (OHF). The OHF was one of four funds established by a 2008 constitutional amendment to fund outdoor heritage, clean water, parks and trails, and arts and cultural heritage.[1]

The LSOHC strives to be consistent with the state constitution and state law by recommending appropriations that directly relate to the restoration, protection, and enhancement of wetlands, prairies, forests, and other habitat for fish, game, and wildlife. The council has already made recommendations for fiscal years 2010 and 2011, which have collectively provided $138 million in resources to 30 programs.[2]

In addition to annual recommendations for funding, the Legislature also requires the LSOHC to develop and submit a report to the Legislative Coordinating Commission (LCC) on its longer-term plans. Minnesota Statutes, section 97A.056, subd. 3(i), requires that:

> (i) The Council shall develop and submit to the Legislative Coordinating Commission plans for the first ten years of funding, and a framework for 25 years of funding, consistent with statutory and constitutional requirements. The Council may use existing plans from other legislative, state, and federal sources, as applicable.

This report summarizes the work of a group of conservation professionals (see Appendix D for membership) that assisted the LSOHC in developing this 10 year plan and 25 year framework. This report builds on habitat planning initiated by the LSOHC in 2009, which included council-sponsored meetings around the state with some 150 conservation professionals. In eight weeks, the council received useful information on the "magnitude of the undertaking" for funding conservation projects, as well as helpful feedback for developing its statewide vision and priority actions as it approached its funding recommendations for FY2011.[3]

[1] Constitutional Amendment – Article XI, found at: http://www.lsohc.leg.mn/constitution.html
[2] A summary of funding to date and accomplishments is available at http://www.lsohc.leg.mn/accomplishments.html
[3] A summary of the 2009 input meetings is available at http://www.lsohc.leg.mn/materials/09_Mtg/LSOHC-planning-meetings-summary.pdf

A 25-year funding framework

Table 2 describes the working definitions of a plan and a framework, as LSOHC staff and the working group understood them.

Table 2. Distinction between a plan and a framework for funding.

A plan…	*A framework…*
➢ Defines the organization's mission (often articulated in statute) ➢ Articulates a vision for the future ➢ Defines core strategies to help the organization realize this vision ➢ Is a public leadership and governance role that may be informed by professional input but should not be delegated	➢ Accepts the mission, vision, and core strategies as givens ➢ Qualitatively and quantitatively describes what can be accomplished within organizational resources ➢ Articulates the "sideboards" or boundaries the plan might encounter ➢ May be delegated to staff for technical assistance

A *plan* has already been developed and is incorporated into Appendix C of this document. The language of the state constitution and state statutes establishes the LSOHC's mission. The council has already articulated statewide priority criteria, as well as a vision and priority actions for each LSOHC ecological section. These were most recently published in the council's Call for Funding Requests for 2011 and 2012 Appropriations, and are provided on pages 49-53 of this document. The council reviewed these priorities and affirmed that these statements express its plan for the near term, with the proviso that the council will review its vision and funding priorities each year.

The LSOHC has noted that the vision and core strategies will likely change over time to reflect public input and take into account unforeseen environmental and economic changes. The council reviews its vision and priorities, along with statewide priorities, annually before it releases its Call for Funding Requests, and also plans to revisit its longer-term funding progress at least every five years.

The LSOHC's *framework* builds on the accomplishments of the 2009 planning process, which defined both funding and acreage targets for protection, restoration, and enhancement. The 2009 process did not attempt to distinguish what the OHF could accomplish separate from the work of public and private conservation partners. Participant and public feedback suggested the targets were also very rough estimates. Furthermore, while planning participants gave feedback that helped prioritize what type of land should be selected for acquisition (whether for fee or conservation easement) and what restoration and enhancement should take place, they were not asked what might limit or constrain their actions. This report builds on the 2009 results by providing more detail on what could be accomplished with the OHF over the next 23 years.

Methods

Development of the framework

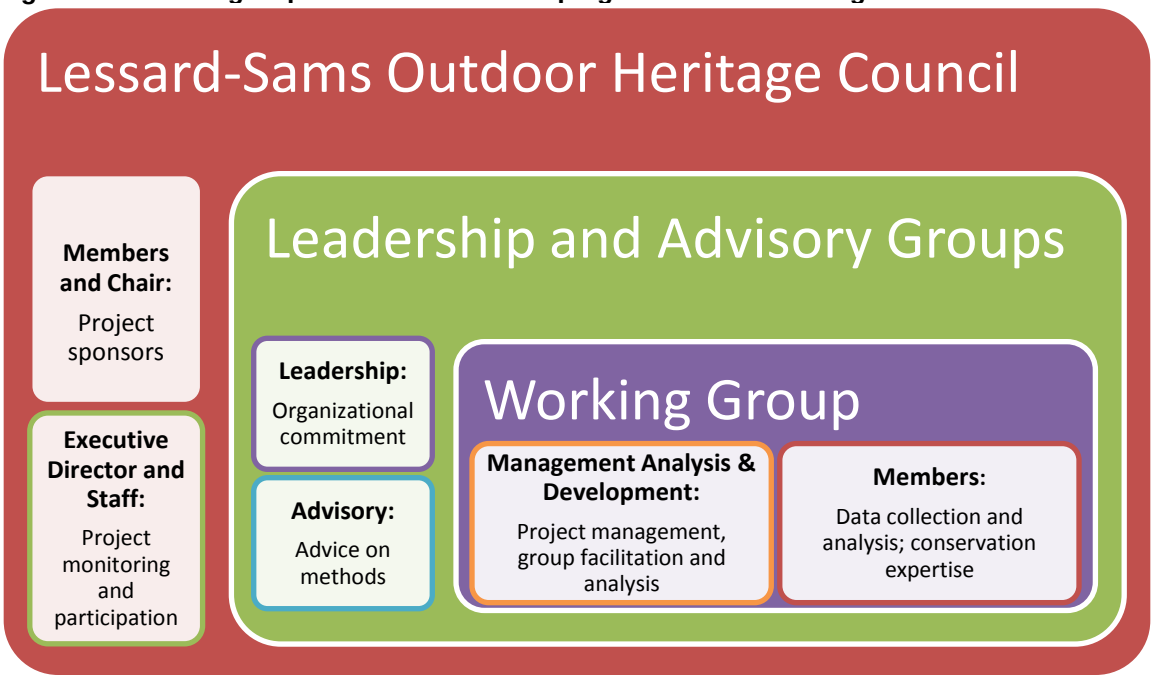
The approach for this framework was determined in consultation with the LSOHC chair, executive director, and staff; staff from House Research; and staff from Senate Counsel and Research. This group met in January 2010 with Management Analysis & Development (MAD), the state's in-house management consulting group, to discuss developing a framework for funding consistent with Minnesota statutes.

MAD began scoping the framework project in spring 2010. This included:

- **Leadership consultation.** MAD met March 9, 2010, with state and federal agency and nongovernmental organization (NGO) leaders identified by council staff (Appendix D). The goal was to obtain feedback on the objectives and plan developed by MAD and council staff, their organizations' commitment to help develop the 25-year framework, and their recommendations for staff to be part of a planning and technical advisory group.
- **Advisory group consultation.** Recommended advisory group members (Appendix D) met with LSOHC members and staff, and MAD consultants on April 8, April 27 and October 6, 2010. The group approved an outline for the 25-year framework developed by the LSOHC chair that set specifics and provided guidance on how to keep the project manageable. Advisory group members offered the names of staff who could perform the analyses called for in the framework outline. Two members of the advisory group were also appointed to the working group.
- **Working group.** The working group met bimonthly between May and October 2010 to collect and analyze data for the framework and prepare a report for the council's consideration. MAD facilitated working group meetings and council staff attended each meeting to provide advice and continuity to the project. Meetings have been listed on the LSOHC website and have been open to the public.
- **Internal and external review.** The LSOHC reviewed a draft of this report on November 4. Conservation professionals and the public reviewed it between November 23 and December 10.

Figure 1 on the next page describes the roles of the groups participating in the project. See Appendix D for a listing of group members.

Figure 1. Roles of groups involved in developing the LSOHC funding framework



Framework components

The framework consists of three parts: a description of Minnesota's conservation estate, a summary of historic conservation efforts, and a presentation and analysis of three scenarios for the future.

Conservation activities and expenditures over the past 10 years, along with the current status of the conservation estate, provide a useful context for habitat protection, enhancement, and restoration. Historic and current status information answers basic questions such as: How much habitat do we already have in Minnesota? Where is it located? How much of it is permanently protected? How much restoration and enhancement is accomplished? Answers to these questions are addressed in the conservation estate and historic conservation efforts parts of the framework.

Minnesota's conservation estate

How much habitat do we have in Minnesota? How much of it is permanently protected? Where is it located? To answer these questions, the working group used a Geographic Information System (GIS) to map and calculate the total acreage of Minnesota's terrestrial and aquatic areas habitat as of June 30, 2009. The resulting data capture the *quantity*, not quality, of land currently meeting a minimum threshold definition of habitat that excludes from consideration highly converted landscapes such as urban areas and cropland. The analysis includes data from a variety of sources in four categories (see Appendix E for a complete description):

1. **Publicly owned terrestrial habitat** – public lands owned and managed for conservation, such as state wildlife management areas (WMAs) and scientific and natural areas (SNAs), state parks, state forests, Chippewa and Superior National Forests, Voyageurs National Park, the Boundary Waters Canoe Area Wilderness (BWCAW), and county lands such as tax-forfeited lands.

2. **Privately owned, permanently protected terrestrial habitat** – lands permanently protected for conservation by a conservation easement or in fee title. Some examples are the state's Reinvest in Minnesota (RIM) conservation easements, the U.S. Fish and Wildlife Service's wetland management district conservation easements, and The Nature Conservancy's not-for-profit landholdings. Private conservation easements, such as those protected by the Minnesota Land Trust, are also in this category, but are not identified due to lack of available spatial data.[4]
3. **Private terrestrial habitat** – privately owned lands deemed to provide at least basic wildlife habitat value based on land cover classification. This includes acres enrolled in temporary easement programs, such as the U.S. Department of Agriculture (USDA) Conservation Reserve Program (CRP), that *temporarily* set aside land for conservation.
4. **Public, permanently protected aquatic habitat** – state waters within the Public Waters Inventory (PWI). These waters are lakes, wetlands, and watercourses for which regulations provide basic protection from alteration. Regulated development activities include filling, excavation, installation of docks or marinas, water level control, dredging, and damming. [5]
5. **Not publicly protected aquatic habitat** –all other lakes and streams that appear on the U.S. Geological Survey 7.5 minute topographic quadrangle maps (1:24,000 scale) outdoor recreationists commonly use for navigation.

The conservation estate is presented by five LSOHC sections (Figure 2). The LSOHC is required by statute to use sections of the state based upon the ecological sections and sub-sections developed by the Minnesota Department of Natural Resources (DNR), and to establish objectives for each section and sub-section to achieve the purposes of the fund. The five LSOHC sections are an aggregation of the state's 10 ecological sections.

Historic conservation efforts

What is the level of habitat acquisition activity? How much restoration and enhancement is accomplished? How much is expended on these activities? To answer these questions, the working group collected 10 years of funding and acreage information from public and private organizations that were estimated to spend more than $1 million per year on land/aquatic habitat acquisition, enhancement and restoration work.[6] Although many types of conservation work, such as public education, regulation, enforcement, environmental review, conservation status and priority assessments contribute to protection, restoration and enhancement, the working group focused on efforts similar to those the LSOHC funded in its first two years and those that directly conserve habitat[7] so data for historic funding and recent council expenditures would be as comparable as possible.

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[4] A recent assessment of conservation easement activity in Minnesota indicated that privately owned conservation easements account for about 7 percent of all conservation easement acreages (Prohaska, J. 2010. *Protecting Minnesota Forests From Parcelization With Conservation Easements.* A report prepared for the Minnesota Forest Resources Council. Found at: www.frc.mn.gov/initiatives_policy_forestparcelization.html)

[5] Please see Appendix E for caveats and assumptions (or for additional information) regarding the use of the term "public waters inventory for protected aquatic habitat."

[6] Organizations listed on page 23.

[7] Minnesota Statutes, section 97A.056, subd. 3, instructs the LSOHC to make recommendations "that **directly** relate to the restoration, protection, and enhancement of wetlands, prairies, forests, and habitat for fish, game, and wildlife, and that prevent forest fragmentation, encourage forest consolidation, and expand restored native prairie." (emphasis added)

Three scenarios for the future

The working group considered three scenarios for the future. All three are simple projections of conservation actions[8] over the next 10 and 25 years. The scenarios do not predict the future or set specific goals that bind future LSOHC decisions. They do show the constraints and possibilities associated with various conservation efforts. They are intended to help the council and other decision makers understand the potential impact and trade-offs associated with different levels of support for habitat protection, restoration, and enhancement.

Scenario 1: Pre-Outdoor Heritage Fund
This scenario describes the conservation activity and outputs prior to the passage of the legacy amendment. It assumes that:

- expenditures for the next 23 years would be the same as past expenditures (with declining state resources and no additional funds, this may be generous)
- the annual average acres protected, restored, enhanced, and maintained in 2010–2034 will be the same as the average protected, restored, enhanced, and maintained in 2000–2009 by the state's largest conservation entities
- no significant changes will occur in pre-OHF conservation funding amounts or allocations among direct protection, restoration, and enhancement activities.

Scenario 2: Extend the OHF's first two funding years
This scenario shows the likely habitat outputs if future OHF appropriations are similar to those of the past two years. This is a "distributed" investment scenario that shows the future outputs if current annual appropriation patterns hold. It assumes that 2010–2011 protected, restored, and enhanced acreage (with the exception of one unusually large forest easement project) will be replicated annually for the next 23 years.

Scenario 3: Maximized allocations
This scenario describes the habitat outputs that could be achieved if all OHF funds were allocated to a single habitat type and activity for the next 23 years. (Under this scenario, the constitutional mission and the LSOHC's vision and priorities are not realized which clearly articulate the desire for protecting, restoring, and enhancing habitat for fish, game, and wildlife.) These are not intended to be realistic scenarios; rather, they show an upper bound for each habitat type and serve as a reality check for expectations of what the OHF can reasonably accomplish over the next 23 years. This scenario assumes:

- OHF annual funding is $80 million in 2010 dollars for the next 23 years
- average cost per acre is based on the 2009 conservation planning session estimates.[9]

[8] Conservation actions are protection through fee acquisitions and permanent easements, restoration, and enhancement.
[9] See Appendix G for the average cost per acre by habitat and activity.

Each scenario's projections are presented by:

- Three annual rates of change to illustrate the implications of inflation, variability in sales tax revenues (OHF's income source), and other economic variables. Combined, these factors will cause the OHF's purchasing power to fluctuate over the years. The three rates of change represent a 5 percent decline, zero change, and 5 percent growth[10] in purchasing power, and show that, over 23 years, different rates significantly affect conservation outputs.
- The time period 2010–2034 (25 years) with calculations for the next 10 years (2012–2021). Scenarios 2 and 3 add the 2010–2011 OHF funded acres to the 23-year projections for the 25-year time period (2010–2034).
- Single counting for acres protected and restored/enhanced, rather than double counting for acres that are protected and restored through the same project. For example, if 430 acres are restored/enhanced but 80 of those acres first had to be purchased, the report would indicate 80 acres protected and 350 acres restored/enhanced.
- Assumes that costs of future protection, restoration, and enhancement work will remain constant.

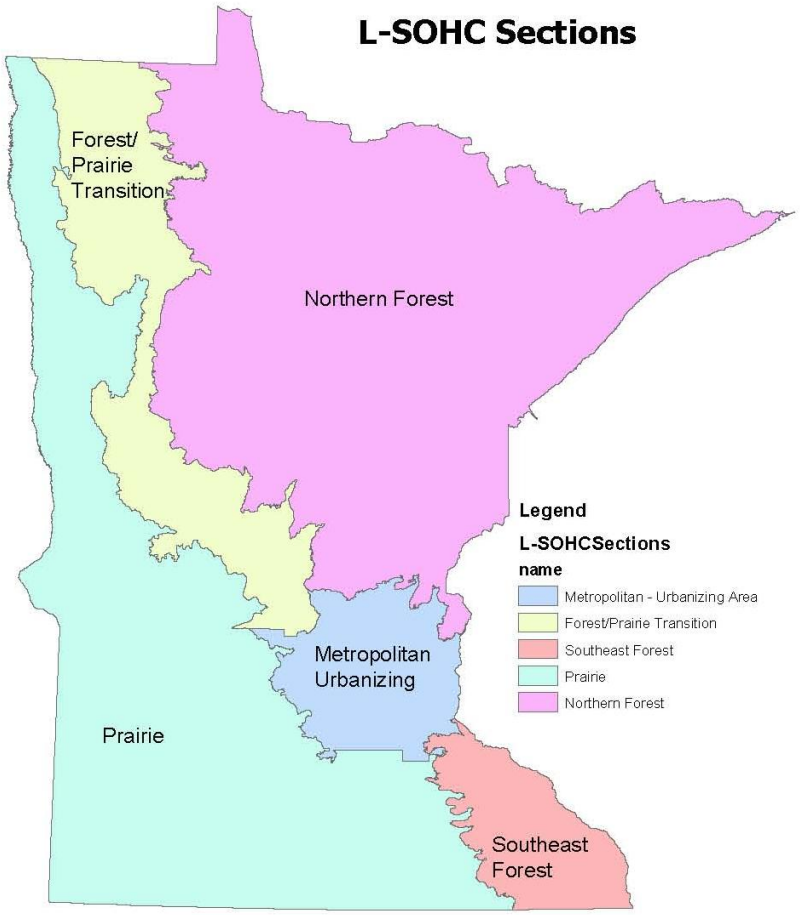
[10] The projections used Microsoft Excel's Future Value function, with -5 percent, zero and +5 percent annual rates, a 23-year period, and annual average acres per year.

Minnesota's conservation estate

Figures 4-8 and Tables 3–6 summarize Minnesota's conservation estate—the land providing wildlife habitat. This includes all terrestrial land except highly converted cover types as identified by land cover or programmatic data, and all lakes and streams. Creation of these maps was briefly summarized in the Methods section above; see Appendix E for more detail, including data sources.

The LSOHC organized the conservation estate into five sections (Figure 2). The LSOHC sections are an aggregation of the ecological sections and subsections developed by the DNR as part of its ecological classification system.[11]

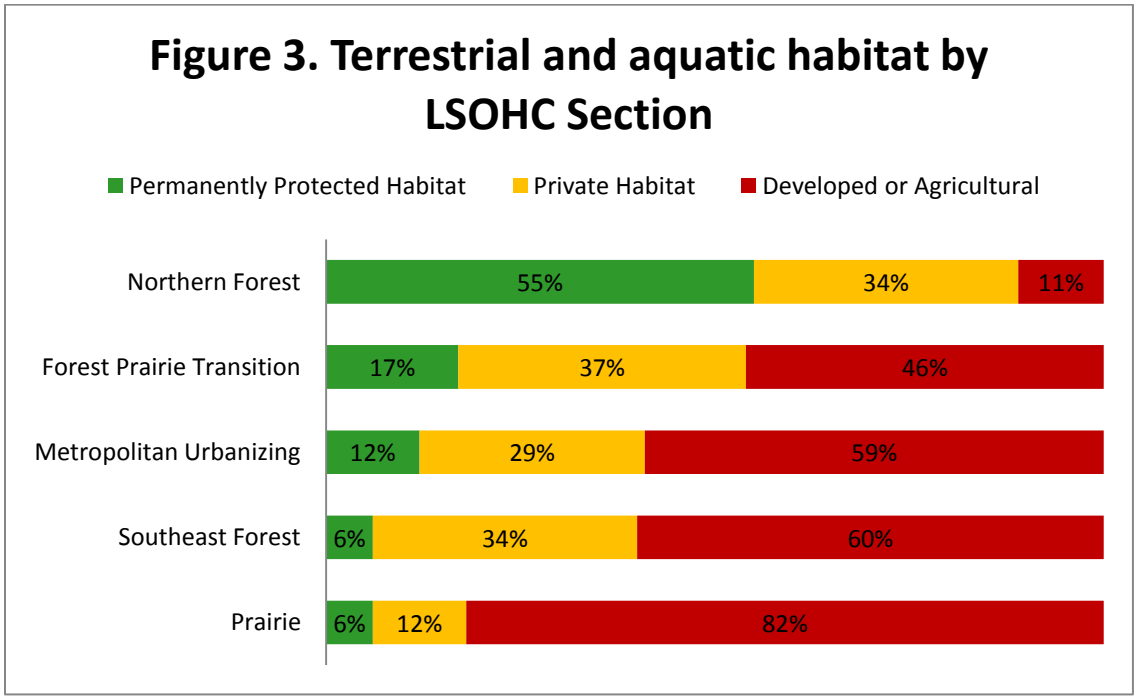
Figure 2. LSOHC sections



[11] The ecological sections on which the LSOHC sections are based are defined by origin of glacial deposits, regional elevation, distribution of plants, and regional climate. For more information see: http://www.dnr.state.mn.us/ecs/index.html.

Overall findings

The Minnesota conservation estate data show some interesting variations in habitat by LSOHC section. Figure 3 summarizes terrestrial and aquatic habitat by LSOHC section.



Northern Forest:

- This section covers 43 percent of the state and has 69 percent of Minnesota's habitat.
- Eighty-nine percent of this section is identified as habitat, but only 55 percent of the section is permanently protected. Almost three-fourths of protected habitat is terrestrial.
- Eighty-two percent of the state's permanently protected acres are in this section.

Forest/Prairie Transition:

- This section covers 12 percent of the state and has 12 percent of Minnesota's habitat.
- Over half of this section is identified as habitat, but only 17 percent of the section is permanently protected. Protected acres are distributed almost equally between aquatic and terrestrial habitats.
- Only 7 percent of the state's permanently protected acres are in this section.

Metropolitan Urbanizing:

- This section covers 6 percent of the state and has 5 percent of Minnesota's habitat.
- Forty-one percent of this section is identified as habitat, but only 12 percent of the section is permanently protected. Roughly two-thirds of protected habitat is aquatic.
- Only 3 percent of the state's permanently protected acres are in this section.

Southeast Forest:

- This section covers 5 percent of the state and has 4 percent of its habitat.
- Forty percent of this section is identified as habitat, but only 6 percent of the section is permanently protected. Over 90 percent of protected habitat is terrestrial.
- Only 1 percent of the state's permanently protected acres are in this section.

Prairie:

- This section covers 34 percent of the state and has 11 percent of Minnesota's habitat.
- Only 18 percent of this section is identified as habitat, and only a third of that is permanently protected. Protected acres are distributed almost equally between aquatic and terrestrial habitats.
- Only 7 percent of the state's permanently protected acres are in this section.

Across the sections:

- Over half of the Forest/Prairie Transition and Northern Forest sections are habitat.
- The Prairie section has lost the most habitat.
- The Northern Forest has a disproportionately high amount of the state's permanently protected habitat; it also has the majority of the private habitat.
- The Metropolitan Urbanizing and Southeast Forest sections have the lowest relative amounts of permanently protected habitat.

Habitat loss

This 25-year framework focuses on contributions to the conservation estate, but losses are also occurring. Precise information on habitat loss is not readily available, and estimates range widely. Additionally, these estimates:

- Mostly use pre-2003 data.
- Include the 1980 and 1990 decades, when Minnesota experienced significant population growth and development.
- Count "non-habitat" lands, primarily agriculture lands, as land converted to development.
- May have used different data sets and methods to measure habitat loss.

Habitat loss estimates:

- "Each day Minnesotans lose an average of 170 acres of land to development. From 1982 to 1997, the amount of urban land in the state increased by 27 percent."[12] This daily rate translates to 62,000 acres converted annually.
- "The state loses approximately 1,500 acres of forest and natural land cover to urban development each year." [13]
- "In recent years forest land has been converted to other uses—primarily residential—at a rate of 3,600 acres per year." [14]

[12] Minnesota Department of Natural Resources, *A Strategic Conservation Agenda 2003-2007*, April 2007 update, page 2. http://files.dnr.state.mn.us/aboutdnr/reports/conservationagenda/fulldoc.pdf
[13] Minnesota Department of Natural Resources, *Minnesota Forest Resource Assessment*, June 2010: Part I, page 56. http://files.dnr.state.mn.us/forestry/subsection/mnForestResourceAssessment.pdf
[14] Minnesota Department of Natural Resources, *A Strategic Conservation Agenda 2003-2007*, April 2007 update, page 75. http://files.dnr.state.mn.us/aboutdnr/reports/conservationagenda/fulldoc.pdf

- The five-county Twin Cities Metro area's developed area increased by 11,000 acres annually from 1986 to 2002, while agriculture lands decreased annually by 8,500 acres. Annual losses in forest and wetland acres were 1,400 and 1,100, respectively.[15]
- "Analysis of reported [Wetland Conservation Act] data shows a net loss of 1,367 (average of 456/year) acres over 2001-2003, when counting acres impacted through reported exemptions, regulated impacts, and required mitigation."[16]
- In Minnesota's Prairie Pothole Region, sub-regional wetland loss ranged from no change to 15 percent loss of total wetland acreage during 1980-2007, when the entire prairie region lost an estimated 4.3 percent. In some areas, almost all wetlands have been drained, such as the Red River valley, where wetland management district's restoration work produced a very slight (0.4 percent) increase in wetland area. Most areas show modest declines in wetland area, almost all of which were converted to agricultural lands.[17]
- "While conservation land retirement programs have retired about 1.8 million acres of land and have shown success for wildlife and water quality, there remain significant long-term challenges. In 2008 farm crop prices increased dramatically and more than 60,000 acres were withdrawn from the federal Conservation Reserve Program (CRP)." [18]

Publicly protected aquatic habitat

The Public Waters Inventory (PWI) was used to create the map of publicly protected Minnesota aquatic habitat, shown at Figure 7. All lakes within the PWI were considered to be publicly protected aquatic habitat. While it is the best available statewide data source for the scope of this framework and the time available to create it, it is important to note some caveats and assumptions regarding the use of the PWI for protected aquatic habitat:

Although the State owns public waters and their associated lake bottoms and vegetation, protection of aquatic habitat is not assured for a couple of significant reasons:

- All public waters exist within a watershed and the condition of *water quality habitat* is greatly influenced by land use practices within that watershed. Regardless of what activities occur within the wetted perimeter of a given lake or stream, legally authorized activities and legacy land uses occurring on adjacent lands or those within the overall watershed may negatively impact water quality habitat of the aquatic conservation estate. Water quality habitat can best be

[15] Manson, Steven and Marvin Bauer, "Changing Landscapes in the Twin Cities Metropolitan Area," CURA Reporter, Fall 2006. Annual changes derived from Table 1, page 5. http://www.cura.umn.edu/reporter/06-Fall/Manson&Bauer.pdf

[16] Minnesota Board of Water and Soil Resources, 2001-2003 Minnesota Wetland Report, page 2. http://www.bwsr.state.mn.us/wetlands/publications/wetlandreport.pdf

[17] Oslund, Fred T., Rex R. Johnson, and Dan R. Hertel, *Assessing Wetland Changes in the Prairie Pothole Region of Minnesota from 1980 to 2007*. Journal of Fish and Wildlife Management, 2010 (forthcoming). http://www.fwspubs.org/doi/pdf/10.3996/122009-JFWM-027

[18] Minnesota Department of Natural Resources, *A Strategic Conservation Agenda 2009-2013 Part II: Performance and Accountability Report*, in press for December 2010 release, page 29, http://www.dnr.state.mn.us/conservationagenda/key_measures.html

thought of as oxygenated water although other parameters, for example turbidity and chemical ions such as chlorine, are important as well.

- Permanent protection of *physical habitat* within the aquatic conservation estate is not necessarily assured by the Public Water designation. The destruction of aquatic habitat is authorized in statute and rule, which is a significant difference from the terrestrial protected lands. Destruction of habitat can occur through directed activities that reduce or remove habitat (e.g., aquatic plant control, sand blankets, dredging, surface water appropriation) or indirect activities that have a similar end result (e.g., boating activities, shading by docks, groundwater withdrawals). Some destruction of habitat is authorized only by permit while other aspects are allowed by rule or statutory exemption.

Figure 4. Minnesota's Habitat Conservation Estate

Some data included in this analysis are of coarse resolution and may not always accurately reflect ground conditions. Acreage numbers reported here are estimates and should not be interpreted as exact figures. These data are meant to be viewed at a statewide scale. Viewing these data at more local scales may lead to misinterpretation.

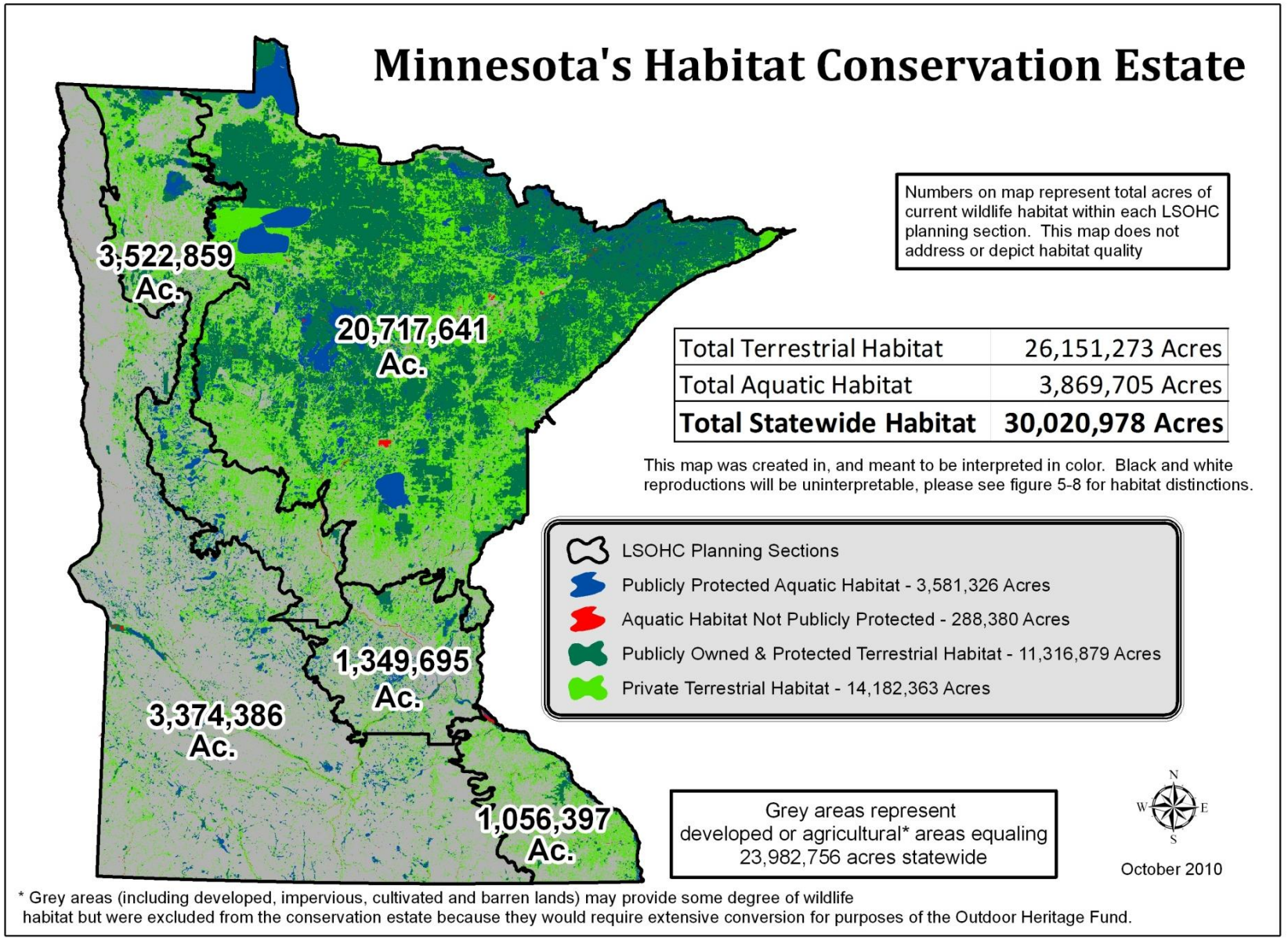
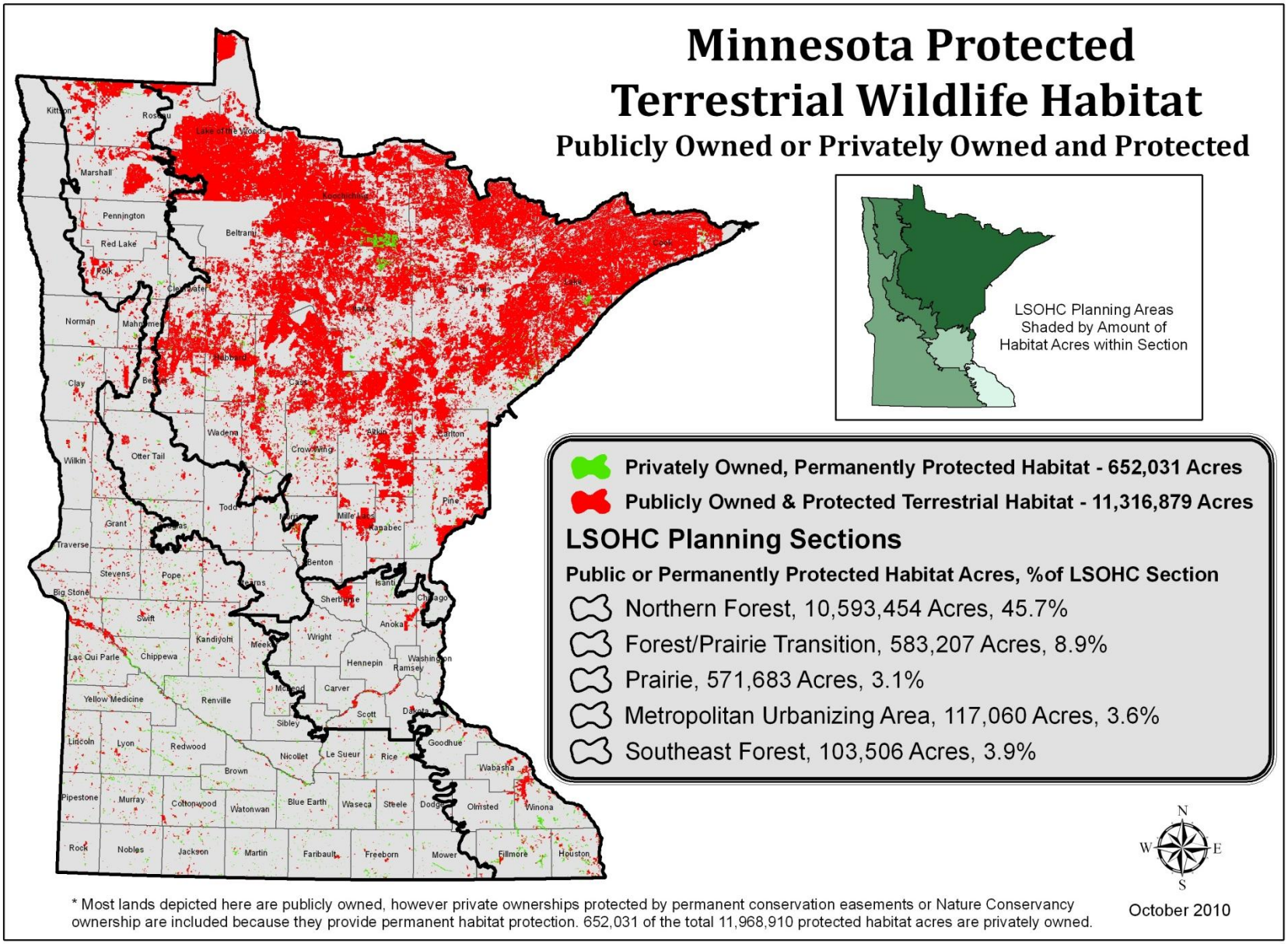


Figure 5. Minnesota Protected Terrestrial Wildlife Habitat

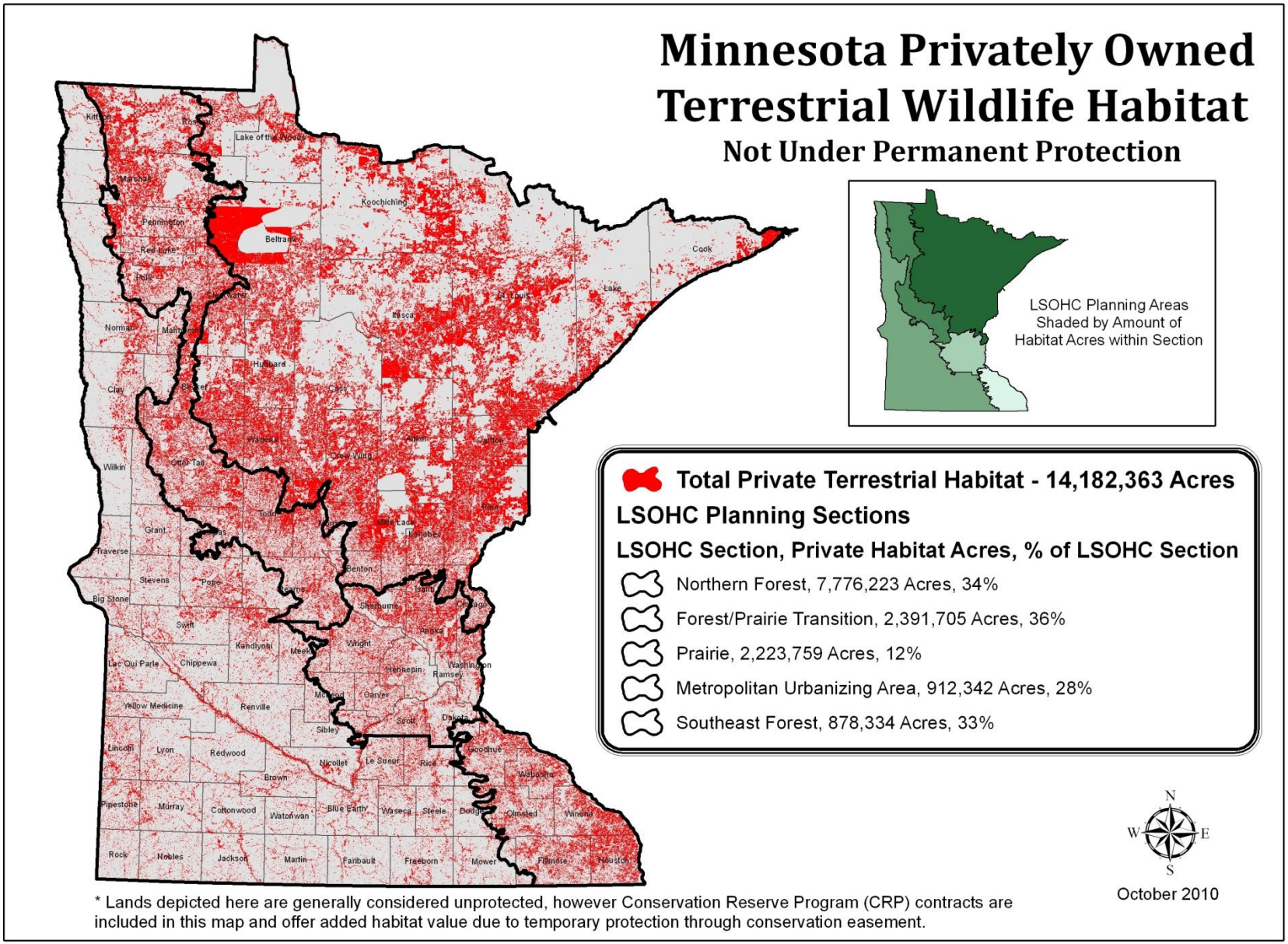
Some data included in this analysis are of coarse resolution and may not always accurately reflect ground conditions. Acreage numbers reported here are estimates and should not be interpreted as exact figures. These data are meant to be viewed at a statewide scale. Viewing these data at more local scales may lead to misinterpretation.



* Most lands depicted here are publicly owned, however private ownerships protected by permanent conservation easements or Nature Conservancy ownership are included because they provide permanent habitat protection. 652,031 of the total 11,968,910 protected habitat acres are privately owned.

Figure 6. Minnesota Privately Owned Terrestrial Wildlife Habitat

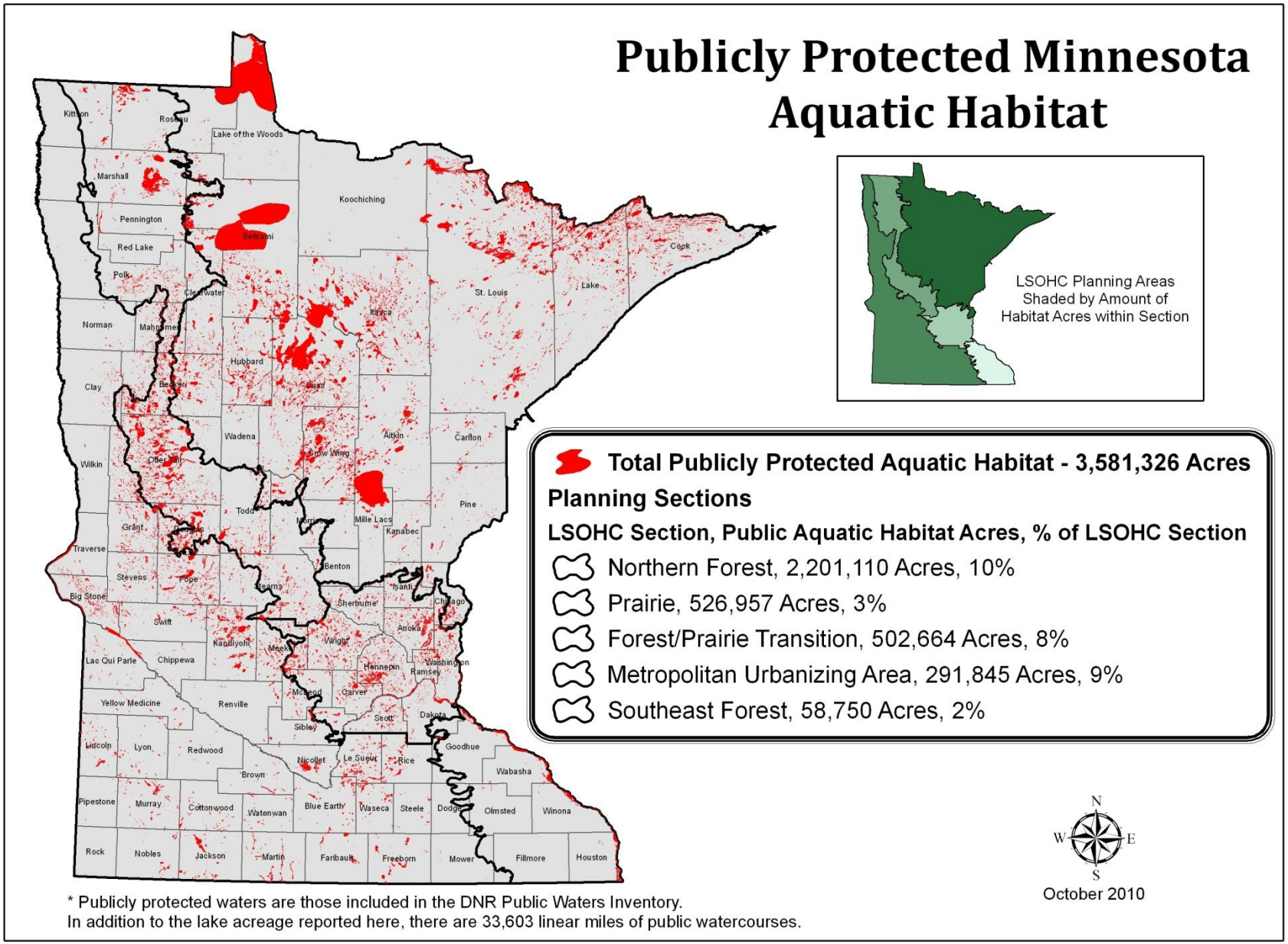
Some data included in this analysis are of coarse resolution and may not always accurately reflect ground conditions. Acreage numbers reported here are estimates and should not be interpreted as exact figures. These data are meant to be viewed at a statewide scale. Viewing these data at more local scales may lead to misinterpretation.



* Lands depicted here are generally considered unprotected, however Conservation Reserve Program (CRP) contracts are included in this map and offer added habitat value due to temporary protection through conservation easement.

Figure 7. Publicly Protected Minnesota Aquatic Habitat

Some data included in this analysis are of coarse resolution and may not always accurately reflect ground conditions. Acreage numbers reported here are estimates and should not be interpreted as exact figures. These data are meant to be viewed at a statewide scale. Viewing these data at more local scales may lead to misinterpretation.



* Publicly protected waters are those included in the DNR Public Waters Inventory.
In addition to the lake acreage reported here, there are 33,603 linear miles of public watercourses.

Figure 8. Minnesota Aquatic Habitat Not Publicly Protected

Some data included in this analysis are of coarse resolution and may not always accurately reflect ground conditions. Acreage numbers reported here are estimates and should not be interpreted as exact figures. These data are meant to be viewed at a statewide scale. Viewing these data at more local scales may lead to misinterpretation.

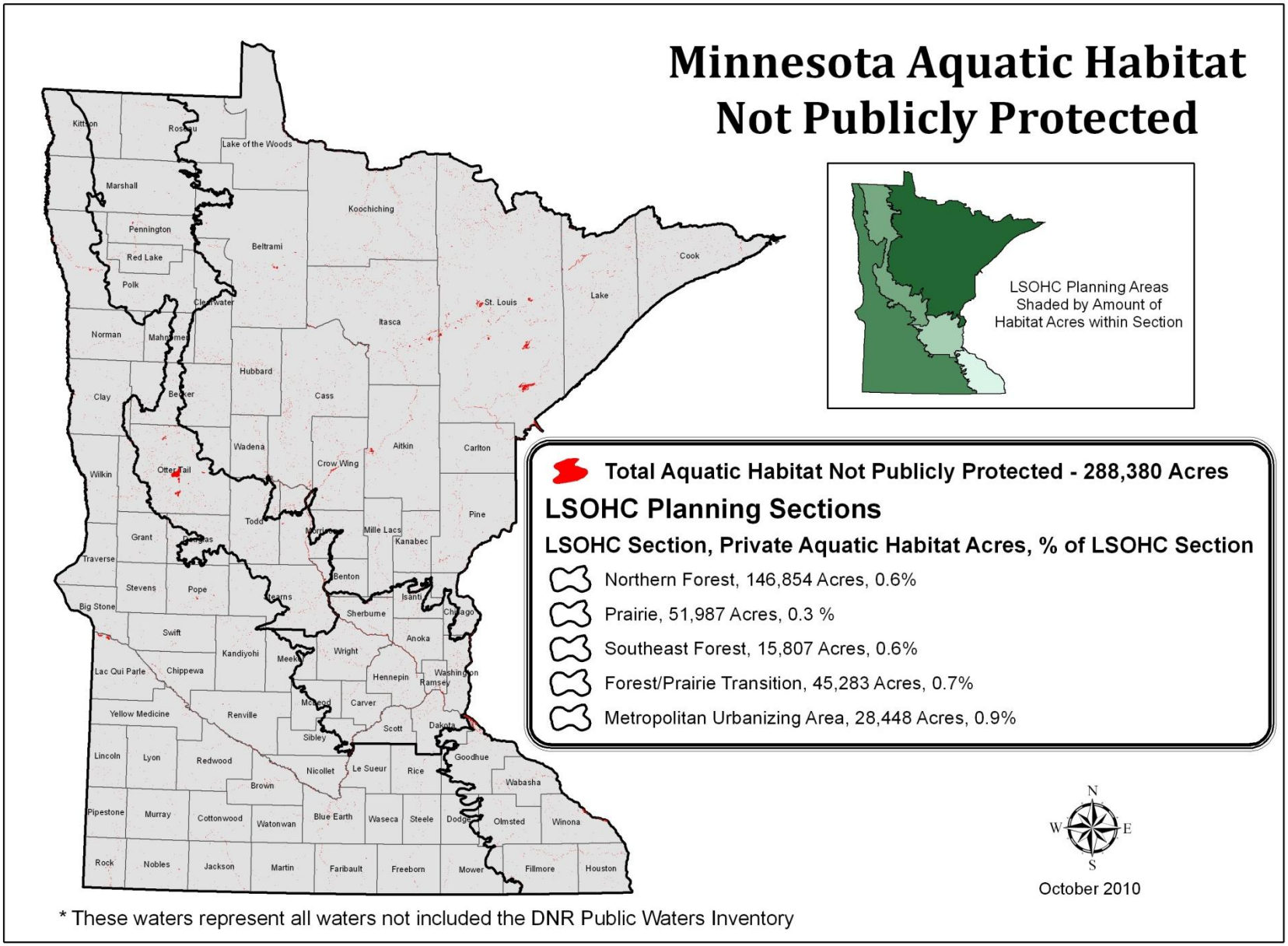


Table 3. Minnesota's habitat estate[19] (public and private).

LSOHC Planning Section	Total # of Acres	% of State	Habitat Acres	% of LSOHC Section	% of Habitat Acres
Forest/Prairie Transition	6,560,182	12	3,522,859	54	12
Metropolitan Urbanizing	3,291,096	6	1,349,695	41	5
Northern Forest	23,163,472	43	20,717,641	89	69
Prairie	18,341,600	34	3,374,386	18	11
Southeast Forest	2,647,384	5	1,056,397	40	4
TOTALS	**54,003,734**	**100**	**30,020,978**	**56**	**100**

Source: LSOHC working group GIS analysis, October 2010. See Appendix E for more information.

Table 4. Minnesota's estate of developed or agricultural areas.

LSOHC Planning Section	# of Acres	% of State	Developed or Agricultural Acres	% of LSOHC Section	% of Developed/ Agricultural Acres
Forest/Prairie Transition	6,560,182	12	3,037,323	46	13
Metropolitan Urbanizing	3,291,096	6	1,941,401	59	8
Northern Forest	23,163,472	43	2,445,831	11	10
Prairie	18,341,600	34	14,967,214,	82	62
Southeast Forest	2,647,384	5	1,590,987	60	7
TOTALS	**54,003,734**	**100**	**23,982,756**	**44**	**100**

Source: LSOHC Working Group GIS analysis, October 2010. See Appendix E for more information.

Table 5. Minnesota's permanently protected habitat estate.[20]

LSOHC Planning Section	# of Acres	% of State	All Permanently Protected Habitat Acres	% of LSOHC Section	% of Protected Acres
Forest/Prairie Transition	6,560,182	12	1,085,871	17	7
Metropolitan Urbanizing	3,291,096	6	408,905	12	3
Northern Forest	23,163,472	43	12,794,564	55	82
Prairie	18,341,600	34	1,098,640	6	7
Southeast Forest	2,647,384	5	162,256	6	1
TOTALS	**54,003,734**	**100**	**15,550,236**	**29**	**100**

Source: L-SOHC Working Group GIS analysis, October 2010. See Appendix E for more information.

[19] Habitat includes all terrestrial lands except those identified as impervious, agricultural, or barren by the National Land Cover Database (NLCD) land cover data and as well as the DNR inventory of all lakes and streams that appear on the U.S. Geological Survey (see Appendix E for further detail).

[20] Permanently protected habitat includes publicly owned and managed conservation lands as well as privately owned lands that are permanently protected and managed for conservation by a conservation easement or in fee title. Lands under temporary protection (such as CRP lands) are not considered permanently protected for the purposes of this assessment.

Table 6. Minnesota's private habitat estate (not permanently protected).

LSOHC Planning Section	# of Acres	% of State	All Private Habitat Acres Not Permanently Protected	% of LSOHC Section	% of Private Habitat Acres
Forest/Prairie Transition	6,560,182	12	2,436,988	37	17
Metropolitan Urbanizing	3,291,096	6	940,790	29	7
Northern Forest	23,163,472	43	7,923,077	34	55
Prairie	18,341,600	34	2,275,746	12	16
Southeast Forest	2,647,384	5	894,141	34	6
TOTALS	**54,003,734**	**100**	**14,470,742**	**27**	**100**

Source: L-SOHC Working Group GIS analysis, October 2010. See Appendix E for more information.

Historic conservation efforts

To better understand historic conservation efforts, the working group asked organizations that spent over $1 million annually[21] on activities for which the primary goal was the acquisition, restoration or enhancement of fish and wildlife habitat to share expenditure and acreage data on those activities for 2000–2009. Outdoor Heritage Fund projects were excluded because the fund did not exist pre-2009. Data were received from the following organizations:[22]

- Association of Minnesota Counties
- Legislative-Citizen Commission on Minnesota Resources (LCCMR)
- Minnesota Board of Water and Soil Resources (BWSR)
- Minnesota DNR
- Minnesota Land Trust
- Pheasants Forever
- The Nature Conservancy
- USDA-Natural Resource Conservation Service
- USDI- Fish and Wildlife Service
- USDA- Forest Service, Chippewa National Forest
- USDA- Forest Service, Superior National Forest

The responses indicate little overlap or duplication in reported outputs for joint projects. For example, one entity wrote, "The protection acres exclude lands that were acquired on behalf of a public agency." Where double counting may have occurred, the affected acres are relatively small.

Additionally:

- The resulting acres and expenditures are conservative because smaller organizations and water quality projects that also benefit wildlife habitat were excluded. Also, the DNR was unable to report restoration and enhancement acreage for the Scientific and Natural Area (SNA) and Native Prairie Bank programs.
- A year's expenditures may not directly relate to all of the reported acres. For example, an appropriation might be made in one year and the restoration and enhancement of land might be done over subsequent years. A 10-year average accounts for time lags between spending and acreage output.
- Per-acre costs may vary widely because of the type of restoration/enhancement activities conducted by different organizations. In some cases low per-acre cost activities are applied to large acreages and result in lower total average costs per acre when totaled across many activities (for instance, manipulating shallow lake

[21] The $1 million threshold was selected for two reasons. First, the working group needed to limit the scope to keep data collection manageable within the approximate month-long data collection period. Second, the working group had to consider the risk of double-counting expenditures and acreages when grantor/grantee relationships existed or when joint projects occurred.

[22] The Conservation Fund and the Trust for Public Land provided qualitative data on constraints and opportunities, but no expenditure or acreage data (primarily due to the significant risk of double counting). Tribal governments were contacted via the Minnesota Indian Affairs Council, but no responses were received. Ducks Unlimited and Great River Greening reported being below the $1 million threshold.

water levels can enhance habitat for a large lake). Unreported private funds may have also helped protect acres, especially under grant programs.

- Reporting organizations may differ in how they categorize activities as restoration/enhancement or maintenance. However, the DNR Division of Fish and Wildlife provided data for three-quarters of the restoration/enhancement and maintenance acres, providing consistency and stability to this measure over time. Restoration and enhancement as measured by the DNR generally involved improvements leading to significant landscape changes. Examples are forest stand improvement, open land and brushland burns, and shallow lake restorations. Maintenance activities, such as noxious weed control, ensure the landscape remains in the desired state. Maintenance also includes assessment activities critical for habitat management but that do not directly improve the landscape. While assessment activities are often reported on an acreage basis, the acres are not included in this summary. However, expenditures supporting assessment were included in the reported cost of maintenance.
- Significant effort was made by working group members and respondents to determine whether the desired outcome of conservation activities should be categorized as restoration/enhancement or maintenance. For example, most of the acres harvested for timber by the DNR and the U.S. Forest Service were excluded, even though timber harvesting creates some habitat co-benefits. However, when timber harvest was used as a management tool for forest stand improvement, it was considered restoration and enhancement.
- DNR data for 2000–2004 are not as precise as those for 2005–2009, especially with respect to expenditures. When data were missing for 2000–2004, the 2005–2009 average was substituted. This mostly affected DNR's restoration and enhancement acres.
- The estimates of expenditures by habitat type are rough estimates. The degree to which organizations tracked this between 2000 and 2009 varies greatly.
- Due to differences in categorical activity definitions, USDA-Forest Service expenditures are based on average costs per acre multiplied by acres restored and enhanced.
- Government agencies and NGOs typically do not classify expenditures or accomplishments by the habitat types that are mandated in LSOHC statutory language (prairie, wetland, forest, and other), so responses must be considered estimates. Nonetheless, the results should provide a relatively accurate estimate at the state and LSOHC section scales.

LCCMR is not directly involved with land and habitat protection or restoration and enhancement, but it does select and oversee projects and provides significant funds to the other conservation organizations. To avoid double counting, only LCCMR expenditure and acreage data not captured by other reporting organizations were included.

The total reported annual acres are similar from year to year (Table 7). However, the distribution of acres fluctuates among activities. For example, DNR Forestry had a large easement project in 2007, while BWSR had large easement projects in 2001 and 2002. In 2009, the DNR Division of Parks and Trails had a large acquisition. The DNR Division of Fish and Wildlife reported three-quarters of the annual restoration and enhancement acres, which explains much of the year-to-year stability.

Table 7. Habitat acres directly protected, restored, enhanced and maintained by reporting organizations, 2000–2009.

Year	Fee Acquisition	Permanent Easement	Restoration/ Enhancement	Maintenance	Protection Grants	Restore/ Enhance Grants
2000	12,577	21,937	347,780	269,255	430	23,816
2001	31,329	52,150	338,974	269,494	430	27,622
2002	13,472	32,075	328,586	269,920	430	22,682
2003	7,156	8,310	338,804	269,999	430	21,738
2004	8,188	11,881	354,856	270,914	430	18,996
2005	13,136	21,439	354,013	331,251	430	18,694
2006	11,638	12,619	344,636	291,837	495	44,762
2007	11,784	65,843	349,830	340,538	1,475	19,331
2008	9,393	21,931	388,951	304,417	968	25,377
2009	14,656	24,852	345,630	283,732	1,555	22,687
Total	**133,327**	**273,035**	**3,492,060**	**2,901,357**	**7,073**	**245,704**
Average	13,333	27,304	349,206	290,136	707	24,570

Source: LSOHC Working Group Data Requests, August and October 2010

Table 8 shows historical expenditures reported for the same organizations. While an individual organization's year-to-year expenditures fluctuate, the group total is quite stable, especially for fee acquisition and restoration and enhancement. On average, the reporting organizations spent approximately $85 million annually on direct conservation activities. The OHF will allocate $86 million in FY2012.

Table 8. Expenditures for direct habitat protection, restoration, enhancement, and maintenance by reporting organizations, 2000–2009.

Year	Fee Acquisition	Permanent Easement	Restoration/ Enhancement	Maintenance	Protection Grants	Restore/ Enhance Grants	Total Spending
2000	$22,185,398	$27,881,136	$16,536,298	$7,983,822	$314,162	$1,448,136	$76,348,952
2001	$32,813,318	$59,429,589	$15,428,003	$9,180,271	$314,162	$1,448,136	$118,613,479
2002	$23,659,613	$13,659,755	$17,596,332	$9,182,303	$314,162	$1,117,817	$65,529,982
2003	$24,824,235	$13,863,498	$17,467,422	$9,222,319	$314,162	$1,699,180	$67,390,816
2004	$23,757,108	$14,887,118	$18,215,223	$9,192,307	$314,162	$1,003,103	$67,369,021
2005	$38,721,800	$37,652,432	$17,209,814	$9,470,817	$314,162	$1,281,871	$104,650,896
2006	$34,087,831	$8,691,262	$16,876,428	$9,297,960	$314,000	$2,171,413	$71,438,894
2007	$25,238,194	$16,240,427	$16,903,896	$9,385,752	$913,487	$3,424,190	$72,105,946
2008	$33,575,152	$42,636,511	$17,000,455	$8,406,503	$846,298	$1,587,691	$104,052,610
2009	$40,018,719	$30,922,442	$21,436,215	$9,429,513	$839,912	$2,138,708	$104,785,509
Total	**$298,881,367**	**$265,864,170**	**$174,670,085**	**$90,751,567**	**$4,798,669**	**$17,320,245**	**$852,286,103**
Average	$29,888,137	$26,586,417	$17,467,009	$9,075,157	$479,867	$1,732,025	$85,228,610

Source: LSOHC Working Group Data Requests, August and October 2010

Scenario 1: Pre-Outdoor Heritage Fund

This scenario describes outputs that could be expected if the OHF were not available to fund conservation work. It assumes that past expenditure levels would continue through the next 23 years. With declining state resources and no additional funds, this may be a generous assumption. This scenario also assumes that:

- The annual average acres protected, restored, enhanced, and maintained from 2010–2034 will be the same as the average protected, restored, enhanced, and maintained in 2000–2009 by the state's largest conservation entities.
- No significant changes occur in pre-OHF conservation funding amounts or allocations among direct protection, restoration, and enhancement activities.

Table 9 summarizes the average 10-year acre outcomes for 2000–2009 for the state's largest conservation entities, as described in more detail in the Historic Conservation Efforts section. On average, 41,300 acres are protected, 373,800 acres are restored and enhanced, and 290,100 acres are maintained annually.[23]

Table 9. 2000–2009 average annual acres by activity.

Activity	Annual acres	Components of activity
Protection	41,300	Sum of: Fee acquisition, permanent easement, and protection grants
Restore/Enhance	373,800	Sum of: Restoration/enhancement and Restore/enhance grants
Maintenance	290,100	Maintenance

Source: Table 7. Annual acres were rounded to nearest 100.

Table 10 shows that, after 25 years, the total acres acquired under Scenario 1 range from 600,000 to 2 million, depending on the purchasing power of the private and public sector funds.

Participating conservation organizations estimated the percent of their 2000–2009 expenditures acres by habitat type. Table 11 shows that nearly 80 percent of fee acquisition and easement expenditures are allocated to prairies and wetlands, while restoration and enhancement dollars are more evenly allocated among prairie, wetlands, and forests.[24]

[23] Maintained acres are likely higher. USDA-Forest Service maintained acreage data were excluded because of the high number of acres inventoried, which does not directly contribute to habitat benefit.
[24] Each organization's reported percentages were weighted by its 10-year total acres to estimate a group percent by habitat.

Table 10. Ten- and 25-year acreage outputs, based on historic averages, at different annual rates of change in purchasing power.

Activity	5% annual decline	No change	5% annual growth
Acreage outputs in the next 10 years (2012–2021)			
Protection	330,000	410,000	520,000
Restore/Enhance	3,000,000	3,740,000	4,700,000
Maintenance	2,330,000	2,900,000	3,650,000
Acreage outputs after 25 years (2010–2034)			
Protection	600,000	1,030,000	1,970,000
Restore/Enhance	5,400,000	9,350,000	17,840,000
Maintenance	4,190,000	7,250,000	13,850,000

Total acres were rounded to nearest 10,000.

Table 11. Estimated 2000–2009 expenditures by habitat type.

Habitat Type	Protection	Restoration/ Enhancement
Prairies/Grasslands	51%	33%
Wetlands	28%	24%
Forests	11%	34%
Aquatic	10%	9%
Total	100%	100%

Each organization's reported percentages were weighted by its 10-year average expenditures to estimate a group percent by habitat. The wetlands percentage is likely underestimated because some organizations do not track wetlands separately from prairies/grasslands and forests.

Figure 9 compares the permanent habitat gains estimated above with an annual estimated loss of 7,500 acres of forests, wetlands and grasslands permanently converted to non-habitat uses annually, with no change in the year-to-year loss rate. This estimate is derived from the sources discussed on pages 13–14 and is not a reliable predictor due to the source data's variations and age (pre-2003 and earlier).[25]

This habitat loss estimate excludes agriculture lands withdrawn from the federal Conservation Reserve Program (CRP) because of the program's year-to-year variability. On average, 28,000 CRP acres per year were withdrawn from 2006-2010. But from 2000-2005, CRP enrollment increased enrollment and the 2000-2010 average is a gain of 42,000 acres annually.[26] The future of the CRP is a major uncertainty that could make it very difficult to result in net positive gains in habitat.

Figure 10 shows acres restored and enhanced over 25 years, at different annual rates of change in purchasing power.

[25] The 7,500 acres is based on 3,500 forest acres loss per year, 1,500 wetland acres loss per year, and a presumed permanent grassland loss of 1,500 acres per year.

[26] http://www.fsa.usda.gov/Internet/FSA_File/cumlativeco8609.xls (2000-2009 data) and http://www.fsa.usda.gov/Internet/FSA_File/signup_39_accept_st_offers.pdf (2010 data).

Figure 9. Acres protected over 25 years at different annual rates of change in purchasing power, compared with potential habitat loss due to land conversion.

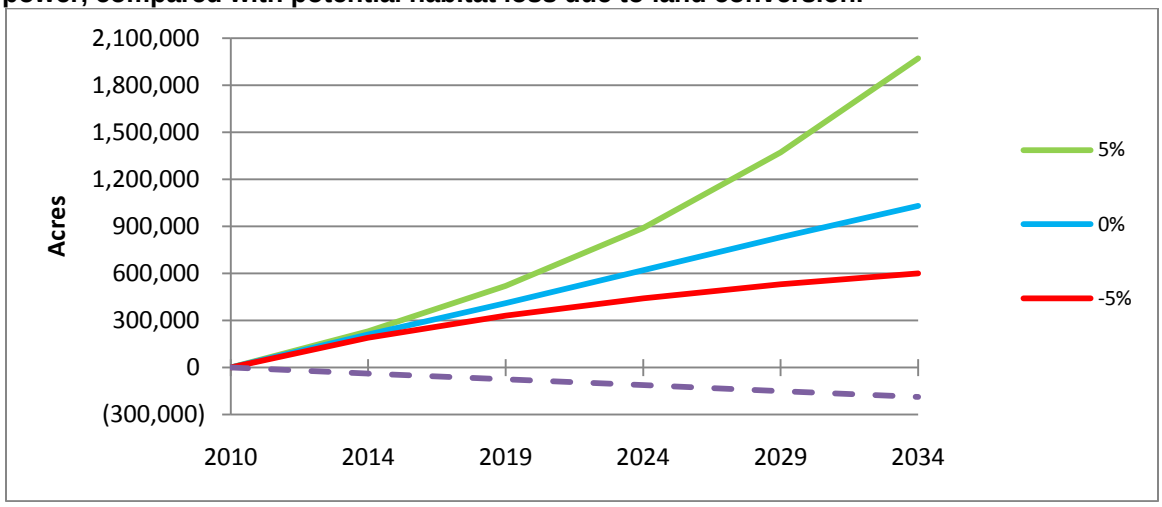
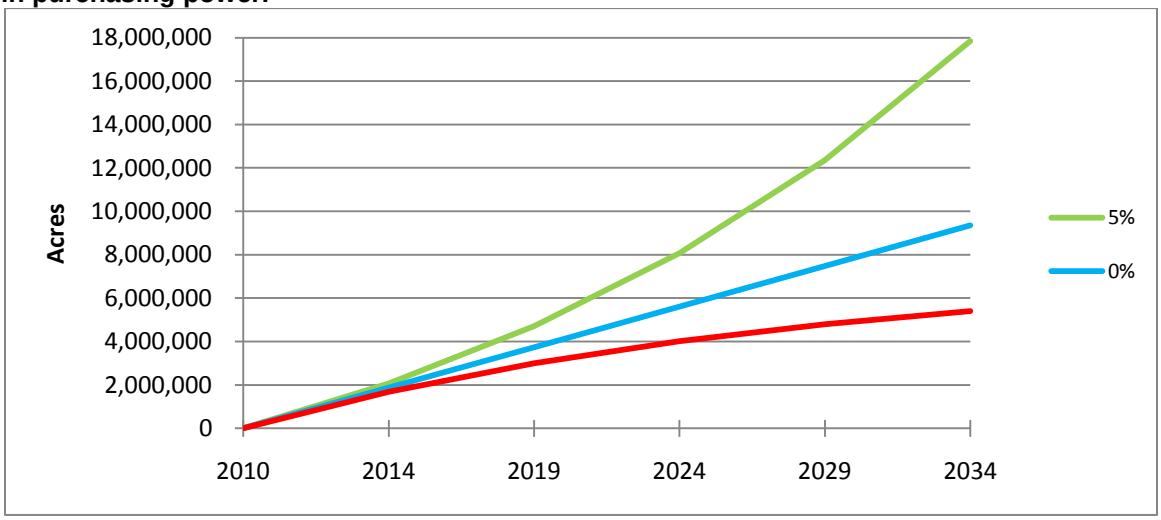


Figure 10. Acres restored and enhanced over 25 years at different annual rates of change in purchasing power.



Summary findings from Scenario 1

- After 25 years, the total acres acquired by the state's largest conservation entities could range from 600,000 to 2 million acres without OHF appropriations, depending directly on the purchasing power of the appropriations as they are influenced by sales tax revenues and inflation (see Table 10 and Figure 9).
- After 25 years, these organizations could restore and enhance between 5.4 million and 17.8 million acres, depending on the purchasing power of their appropriations (see Table 10 and Figure 10).
- As noted earlier, these projections may be generous, considering that they are based on past appropriations and organizations noted they face declining initial and long-term funding.

Scenario 2: Current trajectory

Scenario 2 shows the likely outputs if remaining OHF appropriations conform to a similar type and pattern as the first two years' funded projects. It assumes that the 2010–2011 OHF projects' protected, restored, and enhanced acres, after adjusting for a large forest easement project, will be replicated annually for the next 23 years. Scenario 2 is additive to Scenario 1. In other words, it describes the contribution that the OHF can make in addition to historic efforts.

Table 12 shows the OHF's FY2010 and FY2011 acres by habitat. These two years include the Forest for the Future Program's Upper Mississippi Forest Project allocation, which received $18 million annually in 2010 and 2011 to protect 189,000 acres of northeast Minnesota forest, wetlands, and shoreline.[27] This was seen as a unique and timely opportunity by the LSOHC. However, a single project of this magnitude is unlikely to occur again, so some adjustments were made in creating the scenario to more accurately reflect likely expenditures. Additionally, the OHF's FY2011 revenues were $10 million more than FY2010's due to increased sales tax revenue.

Table 12. OHF FY2010 and FY2011 funded acres.

Habitat type	Acres acquired		Acres restored/enhanced	
	2010	2011	2010	2011
Wetlands	5,038	2,786	6,519	11,731
Prairies/Grasslands	9,815	8,129	7,327	26,867
Forests	95,000	96,813	3,310	4,252
Aquatic	2,618	3,745	1,191	4,494
Total	**112,471**	**111,473**	**18,347**	**47,344**

Source: LSOHC grant recipients' submitted accomplishment plans, as of July 2010. Acres represent both actual accomplishments and plans. Wetlands are likely counted in the prairie and forest numbers.

A two-year average with significant inter-year variation is not a highly reliable starting point for projections and prevented an analysis by LSOHC sections. With additional years of funding decisions, a recalculated average will provide greater confidence.

As noted above, it was necessary to adjust the Forest for the Future Program's Upper Mississippi Forest Project acres because another investment of this magnitude is unlikely to occur again. To calculate the 2010–2011 average for Scenario 2's projections, the key assumptions were:

- 12,010 acres annually completes the Forest for the Future Program's current 530,000 acre goal[28] by 2034
- The LSOHC and Legislature support the Forest for the Future Program's target acreage

[27] According to LSOHC project reporting practices, all the acres are recorded as forest habitat, but include 60,000 wetland acres and 260–280 shoreline miles (about 3,000 acres). http://files.dnr.state.mn.us/assistance/backyard/forestlegacy/dnr_background_upmblandin.pdf

[28] The Forest for the Future Program is refining its total acreage goal, so the 350,000 figure will change.

- $12 million of the $18 million in annual Forest for the Future Program's funds are reallocated proportionately to the other 2010 and 2011 projects, with the remaining $6 million allocated to the 12,010 forest acres.

Table 13 shows the 2010 and 2011 adjusted acres and the resulting two-year average, which is the starting point for these projections. Table 14 shows the resulting 10- and 25-year projections. Note that these tables estimate *scenario 2 only* - scenarios 1 and 2 must be added together in order to obtain an estimate of the change in Minnesota's conservation estate with the infusion of OHF dollars.

Table 13. Adjusted 2010 and 2011 acres.

Habitat type	Acres protected			Acres restored/enhanced		
	2010	2011	Average	2010	2011	Average
Wetlands	6,280	3,360	4,820	8,130	14,150	11,140
Prairies/Grasslands	12,230	9,810	11,020	9,130	32,410	20,770
Forests	12,010	12,010	12,010	4,130	5,130	4,630
Aquatic	3,260	4,520	3,890	1,480	5,420	3,450
Total	**33,780**	**29,700**	**31,740**	**22,870**	**57,110**	**39,990**

Appendix F shows the step-by-step adjustments.

Table 14. Ten- and 25-year acreage outputs under current trajectory (OHF funding).[29]

Habitat type	Protected			Restored and Enhanced		
	5% annual decline	No change	5% annual growth	5% annual decline	No change	5% annual growth
Next 10 years (2012–2021)						
Wetlands	39,000	48,000	61,000	89,000	111,000	140,000
Prairies/Grasslands	88,000	110,000	139,000	167,000	208,000	261,000
Forests	96,000	120,000	151,000	37,000	46,000	58,000
Aquatic	31,000	39,000	49,000	28,000	35,000	43,000
Totals	**254,000**	**317,000**	**400,000**	**321,000**	**400,000**	**502,000**
After 25 years (2010–2034)						
Wetlands	75,000	119,000	208,000	172,000	274,000	480,000
Prairies/Grasslands	171,000	271,000	475,000	322,000	512,000	895,000
Forests	358,000	468,000	690,000	72,000	114,000	200,000
Aquatic	60,000	95,000	167,000	54,000	85,000	149,000
Totals	**664,000**	**953,000**	**1,540,000**	**620,000**	**985,000**	**1,724,000**

Total acres were rounded to nearest 1,000.

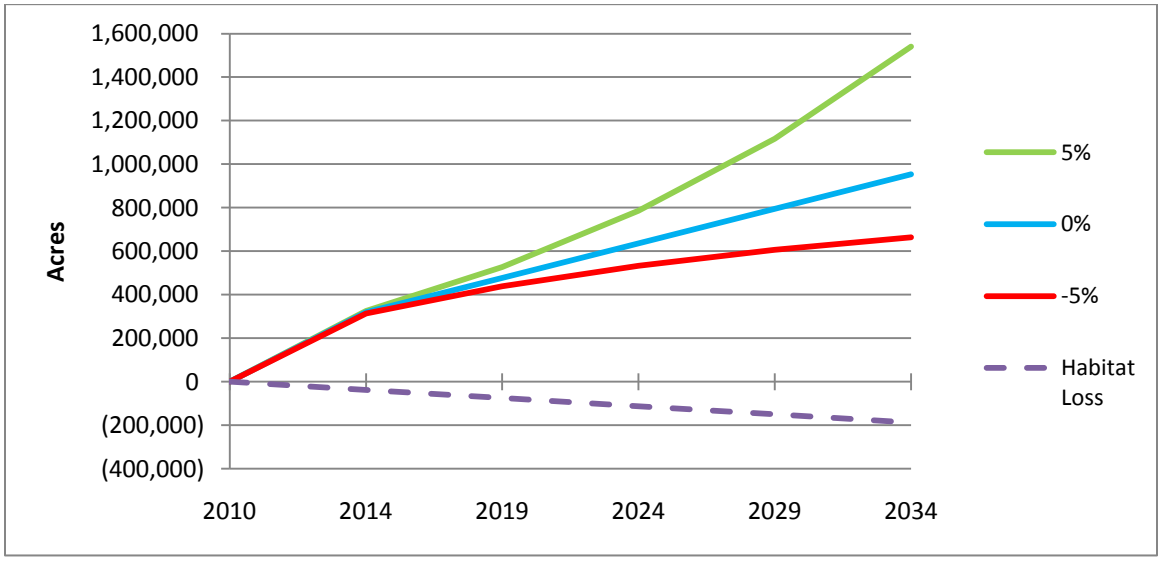
[29] 2010–2011 actual acres and 2010–2011 adjusted average for next 23 years, at different annual growth rates.

Figure 11 compares permanent habitat gains with an annual estimated loss of 7,500 acres of forests, wetlands and grasslands permanently converted to non-habitat uses annually, with no change in the year-to-year loss rate. This estimate is derived from the sources discussed on pages 13–14 and is not a reliable predictor due to the source data's variations and age (pre-2003 and earlier).[30]

This habitat loss estimate excludes agriculture lands withdrawn from the federal Conservation Reserve Program (CRP) because of the program's year-to-year variability. On average, 28,000 CRP acres per year were withdrawn from 2006-2010. But from 2000-2005, CRP enrollment increased enrollment and the 2000-2010 average is a gain of 42,000 acres annually.[31] The future of the CRP is a major uncertainty that could make it very difficult to result in net positive gains in habitat.

Figure 12 shows the resulting restoration and enhancement patterns at different growth rates. Note that the growth lines overlap in the near term (2010–2014) because they include the same 2010 and 2011 acres.

Figure 11. Total acres acquired over 25 years, at different annual rates of change in purchasing power, if OHF expenditures continue based on the first two years' trends, compared with potential habitat loss due to land conversion.

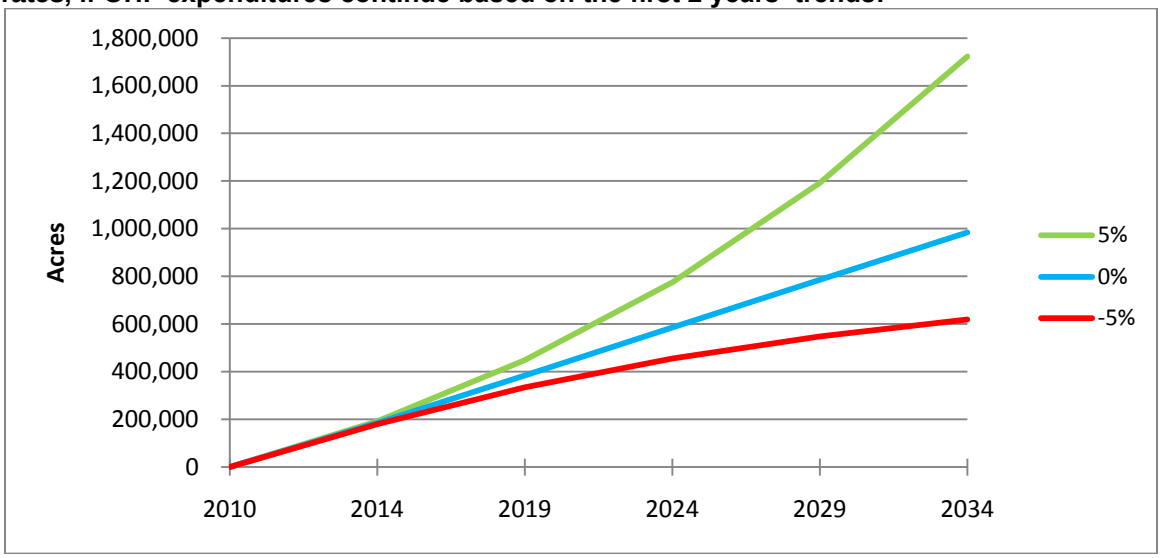


Note: The kink in the above figure at 2014 reflects the large 2010–2011 forest easement project and the adjustment made for subsequent years.

[30] The 7,500 acres is based on 3,500 forest acres loss per year, 1,500 wetland acres loss per year, and a presumed permanent grassland loss of 1,500 acres per year.

[31] http://www.fsa.usda.gov/Internet/FSA_File/cumlativeco8609.xls (2000-2009 data) and http://www.fsa.usda.gov/Internet/FSA_File/signup_39_accept_st_offers.pdf (2010 data).

Figure 12. Total acres restored and enhanced over 25 years, at different annual growth rates, if OHF expenditures continue based on the first 2 years' trends.



Summary findings from Scenario 2

- After 25 years, the total acres acquired through the OHF investment could range from 664,000 to 1.5 million, depending on the purchasing power of the OHF revenues.
- After 25 years, the OHF could restore and enhance between 620,000 and 1.7 million acres, depending on the purchasing power of OHF revenues.

Summary findings from Scenarios 1 and 2 combined

Tables 15 and 16 below combine the first two scenarios' projections to show the potential impact of all major conservation funding efforts – those of the largest conservation organizations as well as the OHF.

Table 15. Total acres acquired over 25 years.

Activity	5% annual decline	No change	5% annual growth
Scenario 1: Historic	600,000	1,030,000	1,970,000
Scenario 2: OHF	664,000	953,000	1,540,000
Total	**1,264,000**	**1,983,000**	**3,510,000**
Percent increase due to OHF	**111%**	**93%**	**78%**

Table 16. Total acres restored and enhanced over 25 years.

Activity	5% annual decline	No change	5% annual growth
Scenario 1: Historic	5,400,000	9,350,000	17,840,000
Scenario 2: OHF	620,000	985,000	1,724,000
Total	**6,020,000**	**10,335,000**	**19,564,000**
Percent increase due to OHF	**11%**	**11%**	**10%**

- Based on the first two years of funding, the OHF would almost double current protection (acquisition and easement) efforts.
- Based on the first two years of funding, the OHF would increase restoration and enhancement activity by approximately 10%. Compared to the percent increase that is possible for protection efforts, this may seem small. Bear in mind that per-acre costs between the two scenarios may vary widely because of the type of restoration/enhancement activities conducted by different organizations.
    - The acreage within the historical base effort (Scenario 1) reported by conservation organizations would include low per-acre cost activities that are applied to large acreages, which results in a large sum of restored and enhanced acreage, as well as a lower average cost per acre when totaled across many activities.
    - The type of work funded in the first two years of the OHF (Scenario 2) has likely been more intensive and expensive restoration and enhancement than was reported by conservation organizations, such as conversion of lands with negligible habitat value to ones with moderate to high value. Furthermore, the OHF and conservation organizations may have counted the number of acres differently (acres affected by a restoration or enhancement project would be greater than the acres actually worked). These cost and measurement differences would result in a higher average cost per acre and a lower sum of restored and enhanced acres when totaled across many activities.

Scenario 3: Maximized allocations by habitat type and activity

This scenario describes the outputs that could be achieved if all OHF funds were allocated to a single habitat type and activity for the next 23 years. Under this scenario, neither the constitutional mission nor the LSOHC's vision and priorities are realized. This scenario shows an upper bound for what might be accomplished for each habitat type if the entire OHF funds were allocated to one activity in one habitat type. It serves as a reality check for calibrating expectations of what the OHF can reasonably accomplish over the next 23 years. Key assumptions are:

- OHF annual funding is $80 million.
- There are no input constraints (human, seed stock, etc.)
- Average cost per acre is based on the 2009 conservation professional planning session estimates.[32]

For example, if $80 million per year is directed to protecting wetlands at $4,000 per acre, 20,000 acres are protected annually and 460,000 acres are protected during the next 23 years.

Table 17 adds the OHF's actual 2010 and 2011 acres to the 23-year maximized allocations. **Table cells should not be summed because options are mutually exclusive in this scenario.**

Table 17. Projected acreage outputs after 25 years for Scenario 3 (2010–2011 actual acres and maximized acres for next 23 years.)

Habitat type	Acquired Acres				Acres Restored/Enhanced		
	5% annual decline	No change	5% annual growth		5% annual decline	No change	5% annual growth
	Next 10 years (2012–2021)				**Next 10 years (2012–2021)**		
Wetlands	160,000	200,000	250,000	**or** ⇨	800,000	1,000,000	1,260,000
Prairies/ Grasslands	180,000	230,000	290,000	**or** ⇨	920,000	1,140,000	1,440,000
Forests	860,000	1,070,000	1,340,000	**or** ⇨	710,000	890,000	1,120,000
Aquatic	130,000	160,000	200,000	**or** ⇨	60,000	80,000	100,000
	After 25 years (2010–2034)				**After 25 years (2010–2034)**		
Wetlands	290,000	470,000	840,000	**or** ⇨	1,410,000	2,320,000	4,160,000
Prairies/ Grasslands	340,000	550,000	970,000	**or** ⇨	1,610,000	2,660,000	4,760,000
Forests	1,670,000	2,640,000	4,610,000	**or** ⇨	1,240,000	2,050,000	3,690,000
Aquatic	230,000	380,000	670,000	**or** ⇨	120,000	190,000	340,000

Total acres were rounded to nearest 10,000.

[32] See Appendix G for the average cost per acre by habitat and activity.

Summary finding from Scenario 3

- **The OHF alone could support about 25% of the 2009 target acres, with a few exceptions.** Even if all OHF monies were allocated to one activity and habitat type (Scenario 3), they do not meet the targets that were set during the LSOHC's 2009 planning process. Specifically, the 2009 wetlands and prairies/grasslands protection targets and the forests and aquatic habitat restoration/enhancement targets are unmet without the financial support of conservation partners. The conclusions on the next two pages provide additional details about the targets.

Conclusions

The working group compared the conservation estate (Table 18) and the three scenarios to the targets that were set during the LSOHC's 2009 planning process (Tables 19 and 20).

Table 18. Minnesota's total conservation estate acres.

Category	Acres	Percent
Publicly owned or permanently protected terrestrial	11,970,000	22%
Publicly owned aquatic	3,580,000	7%
Privately owned not permanently protected terrestrial	14,180,000	26%
Privately owned aquatic	290,000	1%
Nonhabitat lands	23,980,000	44%
State total acreage	54,000,000	100%

Source: See Figures 4–8. Acres are rounded to the nearest 10,000.

Table 19. Publicly owned or permanently protected habitat acres by scenario after 25 years (assuming zero growth).

Habitat Type	2009 targets	Scenario 1*	Scenario 2	Scenario 3
Wetlands	530,000	*288,400*	119,000	470,000
Prairies/Grasslands	2,540,000	*525,300*	271,000	550,000
Forests	2,330,000	*113,300*	468,000	2,640,000
Aquatic	240,000	*103,000*	95,000	380,000
Total	5,640,000	1,030,000	953,000	N/A

Sources: LSOHC *Strategic Planning and Recommendation Development Process – Summary of Input Meetings*, September 2009, and Scenarios 1–3. *estimate based on the weighted percentage of expenditures reported in Table 8 multiplied by the total anticipated protected acres

Table 20. Restored and enhanced acres by scenario (assuming no growth).

Habitat Type	2009 targets	Scenario 1*	Scenario 2	Scenario 3
Wetlands	470,000	*2,244,000*	274,000	2,320,000
Prairies/Grasslands	2,130,000	*3,085,500*	512,000	2,660,000
Forests	4,490,000	*3,179,000*	114,000	2,050,000
Aquatic	400,000	*841,500*	85,000	190,000
Total	7,490,000	9,350,000	985,000	N/A

Sources: LSOHC *Strategic Planning and Recommendation Development Process – Summary of Input Meetings*, September 2009, and Scenarios 1–3.*Estimate based on the weighted percentage of expenditures reported in Table 8 multiplied by the total anticipated restored and enhanced acres

- **Under Scenario 2, the OHF could almost double historic protection efforts, from 1,030,000 acres to 1,983,000 acres. (**Table 19).

- **OHF restoration and enhancement activities would add an additional 10% to current efforts, but the type of work is not necessarily comparable.** As noted during the discussion of Scenario 2, the OHF would likely be funding more intensive

restoration and enhancement, such as conversion of lands with negligible habitat value to ones with moderate to high value, which may contribute to the lower annual acreage reported in Scenario 2 compared to historic outputs. In addition, organizations may be counting the number of acres differently (affected versus worked acres). See Table 20.

- **The LSOHC 2009 planning targets for protection exceed the capacity of the OHF and major conservation efforts added together.** The ability to meet restoration and planning targets is less clear. The 2009 planning targets were informed by a number of conservation plans and the judgment of conservation professionals, but, assuming zero growth, they are unreachable. See Table 19.

- **The OHF alone could support about 25% of the 2009 target acres, with a few exceptions.** Even if all OHF monies were allocated to one activity and habitat type (Scenario 3), the 2009 wetlands and prairies/grasslands protection targets and the forests and aquatic habitat restoration/enhancement targets are unmet without the financial support of conservation partners. See Tables 19 and 20.

- **The OHF and current efforts could increase the number of publicly owned and privately protected terrestrial habitat by 15% over the next 23 years.** Although this may sound encouraging, it also creates a greater maintenance burden for conservation organizations. A recent Office of the Legislative Auditor report[33] and the LSOHC 2009 planning sessions raised concerns about the shortfall in maintaining current wildlife lands and waters. This implies that serious consideration should be given to prioritizing expenditures among activities, and that priorities may justifiably need to shift from protection to restoration/enhancement over the life of the OHF. See Tables 18 and 19.

- **All estimates are highly dependent on growth rates.** The comparisons above used projections with zero growth, but different annual growth rates will significantly affect the total acres protected, restored, and enhanced. A negative 5 percent annual change results in almost two-thirds fewer acres than a 5 percent annual increase over 23 years. Thus there is a great deal of uncertainty inherent in these projections.

- **Key attributes differ markedly among LSOHC sections.** Consider:
  - Almost 55 percent of the Northern Forest Section is publicly owned or protected by permanent private easement. In contrast, only 6 percent of the Prairie and Southeast Forest sections and approximately 15 percent of the Metro Urbanizing and Forest/Prairie Transition sections are publicly owned or permanently protected habitat.
  - Nearly 90 percent of the Northern Forest Section, whether publicly or privately owned, is habitat, while the Prairie Section is 18 percent habitat. The other sections are 40 to 53 percent habitat.

[33]Office of the Legislative Auditor, *Natural Resource Land*, March 2010. Found at: http://www.auditor.leg.state.mn.us/ped/pedrep/nrland.pdf

- The ratio of protected aquatic to protect terrestrial habitat varies, with nearly equal amounts in the Forest/Prairie Transition and Prairie sections, lower amounts of protected terrestrial habitat in the Metropolitan Urbanizing Section, and lower amounts of protected aquatic habitat in the Southeast Forest and Northern Forest sections.

- **Some of the LSOHC's 2009 restoration and enhancement targets exceed the current number of permanently protected acres, especially wetlands and prairies\grasslands.** This discrepancy is in line with the conservation estate assessment, which indicated that only 18 percent of the Prairie Section is "habitat" and that only 6 percent of the area is protected—underscoring the challenges associated with a largely privately owned agricultural landscape. Restoration of these habitats to meet 2009 LSOHC planning targets would first require the protection of hundreds of thousands of acres.

Appendix A: Goals, opportunities, and constraints

The working group asked conservation organizations to identify and evaluate opportunities and constraints (or organizational challenges) over the previous 10 years, over the next 10 years, and over the next 11–25 years. In addition to the organizations listed on page 23, the Trust for Public Land and the Conservation Fund responded.

The questions posed were:

- Please identify major goals (including specific targets/outcomes) of your organization regarding the protection, restoration, and enhancement of prairies, forests, wetlands, and aquatic wildlife habitat for the next 10–25 years.
- What are the top three opportunities that may have a positive influence on these goals?
- Identify the overall top three constraints (based on impact) for your organization and discuss what it would take to overcome them.

The working group also provided a table of 22 constraints (see Table 21) and asked organizations to rate how significant each has been or could be to their organization's ability to meet protection, restoration, and enhancement goals in the previous 10 years, over the next 10 years and in the next 11–25 years. The rating scale was: none (1), low (2), moderate (3) or major (4).

Table 21. List of organizational, conservation, political, and environmental constraints.

Constraints	
Shortage of staffing/human capital	Reductions in current protection (e.g. removal from CRP)
Shortage of technical expertise	Lack of willing sellers
Lack of data or information	Inadequate regulations
Lack of decision support (prioritization) tools	Inadequate enforcement
Declining initial funding	Increasing land values
Declining long-term funding	Competing land uses
Increasing long-term stewardship and/or maintenance costs	Restricted supply of materials (e.g., native seeds)
Capacity for long-term monitoring	Changes in resource-based economies
Lack of coordination amongst various entities/ programs	Invasive species
Local political resistance to new conservation lands	Loss of functioning systems/ fragmentation/ degradation
Uncertainty regarding PILT payments	Climate change

The following themes and conclusions are drawn from the responses received. Because only one response was received from each organization, results are not statistically representative of the statewide conservation community. However, the responses do provide substantial insight regarding past and future opportunities and constraints.

Habitat goals

- Goals reported included goals for long-term health of the land and ecosystems, as well as protection, improvement, and restoration of watershed and riparian areas. Numerous strategies were identified for achieving these goals, including actively managing ecosystems, working to preserve biological diversity, and controlling the spread of nonnative invasive species.
- Four organizations (the National Wildlife Refuge System, the DNR, the Minnesota Land Trust, and The Nature Conservancy) reported that they had established specific acreage or shoreline goals or targets. Four organizations (the U.S. Forest Service, the DNR, the National Wildlife Refuge System, and Pheasants Forever) reported population-related goals for species. Two organizations (the DNR and BWSR) reported that they set program goals relative to landscape characteristics (e.g., targeting specific lands as priorities for the forest, prairie, wetland, and aquatic habitat protection or priority characteristics for the Reinvest in Minnesota-Wetland Reserve Program (RIM-WRP) partnership.

Habitat opportunities

Opportunities that were anticipated to have a positive influence on these goals included:

- Numerous federal funding opportunities, such as USDA Farm Bill programs (including the Wetland Reserve Program, Grassland Reserve Program, the Mississippi River Basin Initiative, and CRP), the Migratory Bird Conservation Fund, Land and Water Conservation Fund, the Partners for Fish and Wildlife program, and the Great Lakes Restoration Initiative.
- New state funding opportunities such as the OHF and the Clean Water Fund.
- Opportunities to coordinate management and responses to challenges that cross ownership and jurisdictional boundaries; coordination opportunities with bodies such as the Minnesota Forest Resources Council, NGOs, and individual landowners via an "all lands management" strategy.
- Increasing private landowner willingness to coordinate land management strategies or to donate all or a portion of their lands for conservation easements.

Constraints

The 22 constraints are listed in Table 22 in ranked order of significance, as measured by a mean average over all three time periods. Constraints that showed the greatest increase in significance over time periods are noted with a check mark. The bar graphs following the table show average ratings.

Table 22. Constraints to increasing Minnesota's conservation estate responses.

Constraints, in ranked order (based on average over the three time periods)	**Greatest increase in significance…**		
	from the past 10 to the next 10 years	from the past 10 to the next 23 years	from next 10 to 23 years[34]
1. Loss of functioning systems, fragmentation/ degradation			
2. Declining initial funding	✓	✓	
3. (tied) Shortage of staffing/human capital	✓	✓	
3. (tied) Declining long-term funding	✓	✓	
4. Changes in resource-based economies			
5. Competing land uses			✓
6. (tied) Invasive species		✓	✓
6. (tied) Capacity for long-term monitoring			
7. (tied) Local political resistance to new conservation lands			
7. (tied) Increasing long-term stewardship and/or maintenance costs			
8. Reductions in current protection (e.g., removal from CRP)	✓	✓	
9. Increasing land values			✓
10. Climate change			
11. Inadequate regulations			
12. Inadequate enforcement			
13. Restricted supply of materials (e.g., native seeds)			
14. Lack of coordination amongst various entities/ programs			
15. Uncertainty regarding PILT payments	✓		
16. Shortage of technical expertise			
17. Lack of data or information			
18. (tied) Lack of decision support (prioritization) tools			
18. (tied) Lack of willing sellers			

Loss of functioning systems and habitat fragmentation/degradation was the top concern among respondents, and its importance remains steady over time. Many challenges persist over time, and many even increasing, such as ecological degradation, competing land uses, land use changes (conversion to development or agriculture), habitat loss, fragmentation, and invasive species. Organizations noted that as a result, a net positive change is difficult to achieve. One stakeholder noted that invasive species are degrading habitat at a faster pace than they can be addressed.[35]

[34] Eight factors were tied for second place in anticipated change in significance from 2020 to 2033.
[35] Estimates of habitat loss are provided in the "Minnesota's conservation estate" section.

Declining initial funding was the second-ranked constraint. Funding was also mentioned as an opportunity, but organizations noted that while new sources such as the OHF are clearly a huge boost, many funding challenges remain. Increasing instability in funds makes it difficult for stakeholders to plan or to hire permanent employees. Indirect costs associated with projects are difficult for organizations to cover without additional support, and other conservation costs continue to increase with the same amount of base funding. **Declining long-term funding** also was ranked near the top, with uncertainty and declining funding increasingly a concern over the longer term (11–25 years).

A shortage of staffing and human capital is a limiting factor for organizations, and is an increasing concern over the longer term. Technical capacity is an increasing concern over time, largely due to a generational shift in the workforce and leadership. A particular skill set mentioned that is of importance to the OHF is real estate expertise in the area of conservation easements – both legal and process expertise. In the short term, stakeholders noted that unstable funding and programs limit their ability to plan their workforce. Furthermore, staff that do indirect-cost work (e.g., administrative, grant management, payroll, legal, human resources, information technology) are necessary but not funded by the OHF, and a relatively stable funding stream is critical to maintain operational capacity in these areas. Decreasing private fund support makes indirect costs particularly challenging for NGOs.

Organizations also noted that long-term stewardship will be increasingly challenging. There is already a backlog of maintenance/enhancement needs, and new land acquisitions will add to this base of necessary long-term funding. Meeting this challenge in the face of continued habitat loss and degradation will require monitoring and adaptive management[36] to effectively determine the approach. While monitoring efforts are expensive, they were identified as being critical for understanding whether projects and activities are achieving their desired results and then adjusting accordingly.

A few constraints are notable because they ranked fairly low:

- Collaboration and coordination was of relatively low concern. Organizations noted that increased partnerships have allowed them to boost efficiency and adopt value-added strategies. The responses show a close knitting together of NGOs and state/federal agencies.
- Organizations noted that private landowners have become an important strategic component in their work, and a lack of willing sellers was one of the lowest-ranked constraints. Conservation entities stated that helping private landowners successfully manage their lands is critical for a comprehensive ecological approach.

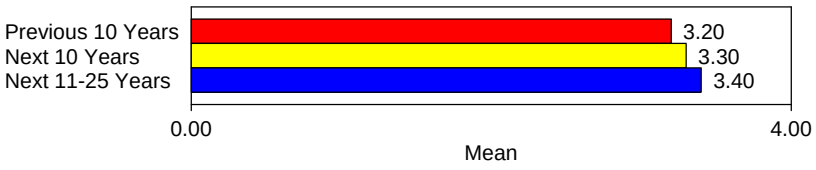
Although "uncertainty regarding PILT payments" was ranked near the bottom for federal and state agencies and NGOs, it was considered a major constraint for counties.

[36] Adaptive management is an iterative process to improve subsequent management policies and practices by deliberately setting and monitoring objectives, learning from outcomes, and adjusting methods. It employs programs that are designed to experimentally compare selected policies or practices.

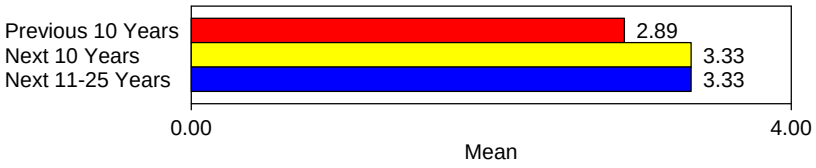
Constraints survey summary

Constraints are listed by topic, in descending order (highest overall constraint is first)
Scale for evaluation: None = 1; Minor = 2; Moderate = 3; Major = 4

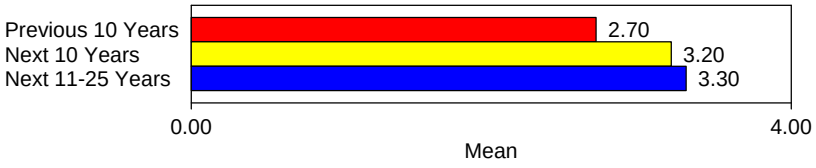
Loss of functioning systems/fragmentation/degradation



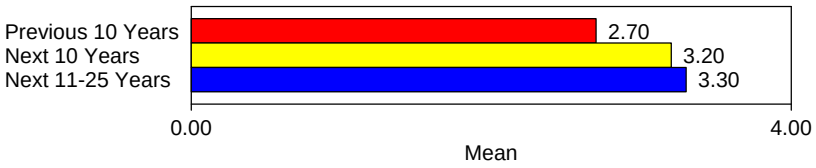
Declining initial funding



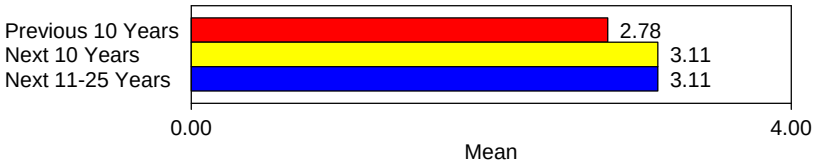
Shortage of staffing/human capital



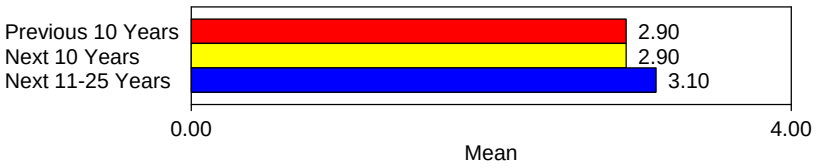
Declining long-term funding



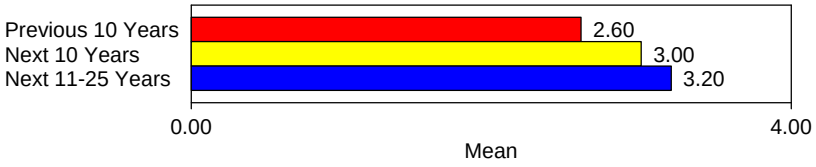
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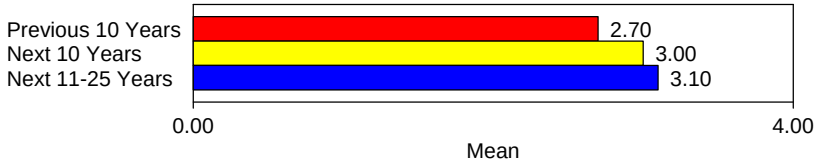
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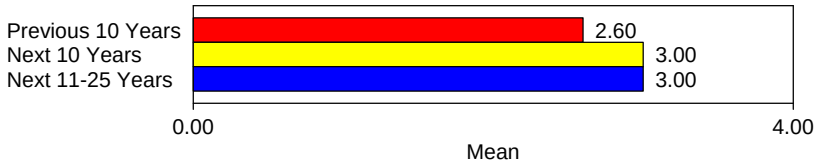
Invasive species



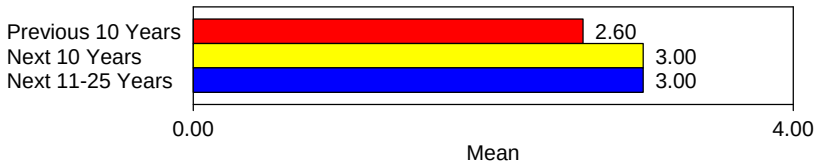
Capacity for long-term monitoring



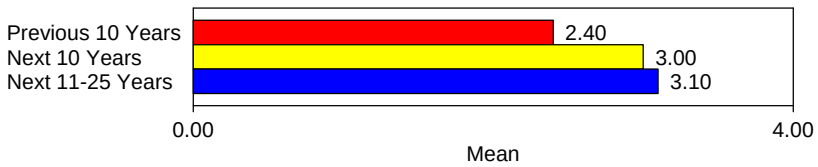
Local political resistance to new conservation lands



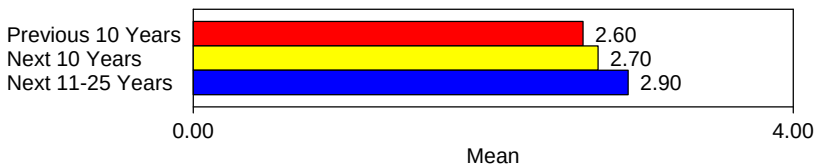
Increasing long-term stewardship and/or maintenance costs



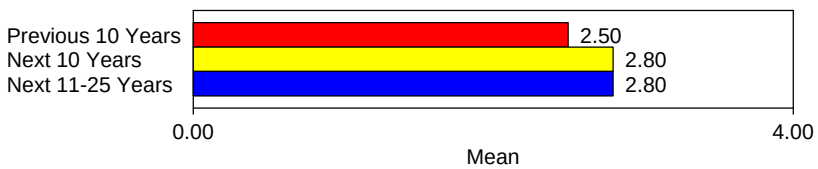
Reductions in current protection (e.g., removal from CRP)



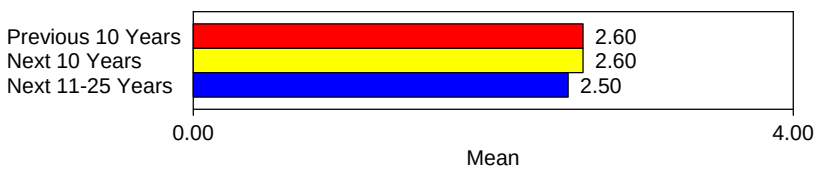
Increasing land values



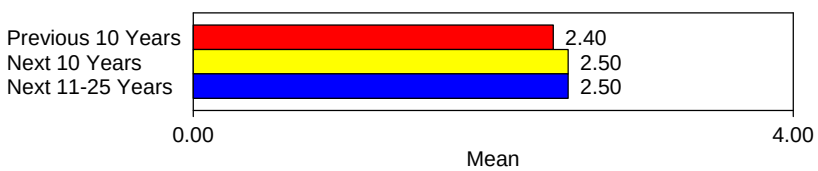
Climate change



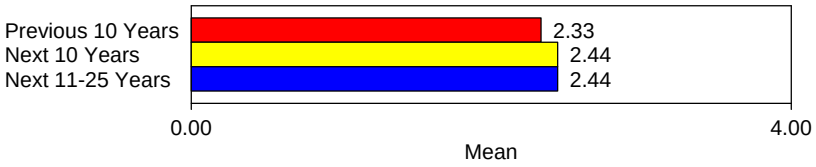
Inadequate regulations



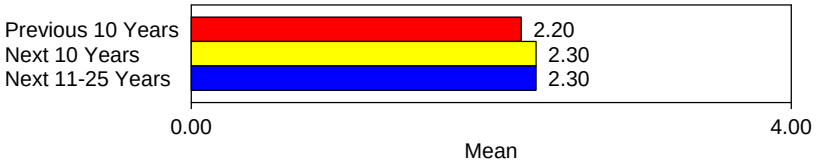
Inadequate enforcement



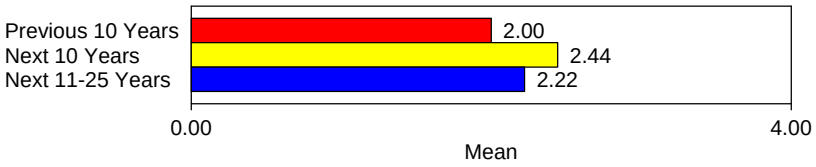
Restricted supply of materials



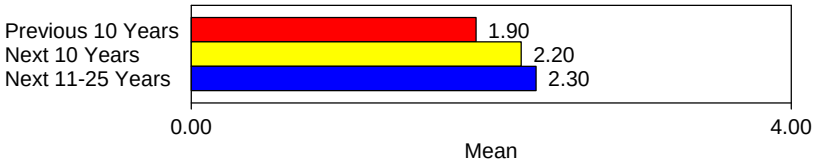
Lack of coordination amongst entities/programs



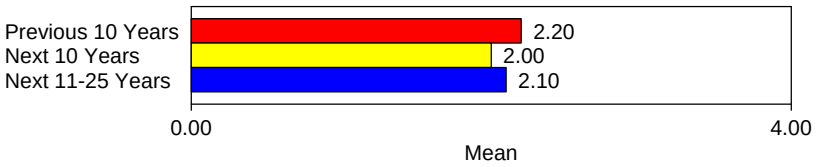
Uncertainty regarding PILT payments



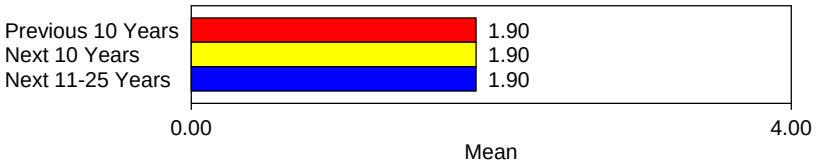
Shortage of technical expertise



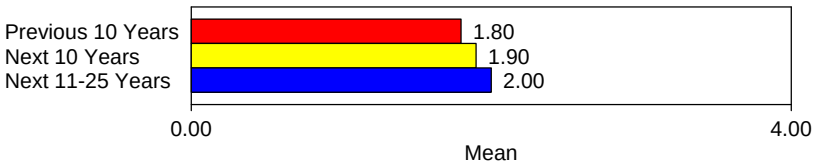
Lack of data or information



Lack of decision support



Lack of willing sellers



Appendix B: Options for consideration

The following options for consideration were developed by the working group. These options have not been discussed by the LSOHC.

Revise the 2009 acreage targets to establish attainable and ecologically beneficial goals. The targets were based on existing plans and professional judgment, but were developed through different approaches and with different assumptions. The TNC-led Minnesota State Prairie Landscape Comprehensive Plan 2010 (in progress) is an excellent example of multiple conservation partners setting specific goals. Once more realistic targets are established, conservation organizations must agree on each of their respective financial roles or contributions because no partner can achieve the goals alone. Setting acreage targets must consider the best available science and professional judgment on key qualitative characteristics to ensure that the acres protected, restored, and enhanced offer the greatest habitat and ecological return on investment. A qualitative and/or quantitative evaluation framework would assist allocation decisions by identifying the conditions that support the best outcomes.

Consider the role of private lands, a significant part of Minnesota's habitat. The amount of privately owned habitat, not permanently protected almost equals Minnesota's publicly owned or permanently protected acres (see Table 18). Restoring and enhancing private lands near public lands can improve habitat quality and the ecosystem functions that support it, and may provide other benefits. Acquisition is one way to prevent habitat fragmentation; promoting good private and public landscape management is another, often more cost-effective method. High land costs in the Metro Urbanizing and Southeast Forest sections make restoration and enhancement an attractive alternative to acquisition. The land use and management activities of private landowners will continue to play a critical role in conservation throughout the state.

Different LSOHC sections require different strategic priorities and coordination with other funds. Once critical parcels are acquired, restoration and enhancement should be the OHF's focus in the Northern Forest section, given the high public ownership, significant private habitat, and concerns regarding payment in lieu of taxes (PILT). In the Southeast Forest section, on other hand, the focus of recent planning efforts on water quality issues offers opportunities to support projects in conjunction with the Clean Water Legacy Fund. Both acquisition and restoration will be important in the Prairie and Forest/Prairie Transition sections; protection of existing native prairie remnants should be a priority, along with protection and restoration of wetlands and grassland complexes.

Consider organizational constraints in accomplishing conservation objectives. Organizations seem to have difficulty ramping up in the first few years of meeting the growing demand for conservation work due to the increase in funding from the OHF. In the near term, operational capacity is a considerable constraint, and in 5–10 years resource issues (physical/technical capacity) will become more important. Over the next 11–25 years, increased uncertainty about funding may be a major constraint. While the major short-term challenge is getting the appropriate programmatic systems in place, there is a need for supplemental funding for indirect costs associated with OHF-funded

projects. As organizations adapt, new capacities will emerge. Furthermore, a strategy to address workforce development is needed. This strategy would ensure adequate human resources for both legal and process work to acquire, restore, enhance, and maintain land.

Develop new and nontraditional programs/strategies. Given the continued degradation and loss of functioning systems and the challenges of achieving a positive net conservation benefit, it may be necessary to adapt existing programs or create entirely new conservation programs. Some examples are the Working Lands Initiative, the Minnesota Prairie Recovery Project, or efforts to recruit farmers as public land stewards or providing incentives for diverse prairie-based biofuels. This would imply increased risks and rewards and an increased need for monitoring and adaptive management.

Appendix C: Planning and managing for results

The purpose of this appendix to the report is to:

- Present the LSOHC's statewide priority actions and section-specific vision and priority actions, and
- Discuss a results management framework that could help the council evaluate its progress.

Council priorities and vision

Below are the LSOHC's current statements of statewide priority criteria for project evaluation and LSOHC section-specific vision and priority actions, excerpted from its 2012 Call for Funding Requests. These were developed in September 2009 and refined by the council at two subsequent meetings.

Statewide priority criteria

1. Are ongoing, successful, transparent, and accountable programs addressing actions and targets of one or more of the ecological sections
2. Produce multiple enduring conservation benefits
3. Are able to leverage effort and/or other funds to supplement any OHF appropriation
4. Allow public access (this comes into play when all other things about the request are approximately equal)
5. Address conservation opportunities that will be lost if not immediately acted on
6. Restore or enhance habitat on state-owned WMAs, AMAs, SNAs, and state forests
7. Use a science-based strategic planning and evaluation model similar to the U.S. Fish and Wildlife Service's Strategic Habitat Conservation model to guide protection, restoration, and enhancement
8. Address wildlife species of greatest conservation need, Minnesota County Biological Survey data, and rare, threatened, and endangered species inventories in land and water decisions
9. Provide Minnesotans with greater public access to outdoor environments with hunting, fishing, and other outdoor recreation opportunities
10. Ensures activities for protecting, restoring, and enhancing are coordinated among agencies, nonprofits, and others while doing this important work
11. Target unique Minnesota landscapes that have historical value to fish and wildlife.

Ecological Section Vision and Priorities

Northern Forest Section Vision

The LSOHC's vision for the Northern Forest Section contains a clear view of the desired future condition for the section's forestlands, lakes and wetlands, and wildlife habitat.

Forestlands should be universally accessible for forest management as well as protected from development and fragmentation. Private inholdings in public forests and key properties for habitat and stand management adjacent to public forests should be acquired with an eye toward ensuring no net loss of forestland. Of special concern is the condition of brushlands within forestlands. These lands, along with early successional forest habitat, are crucial for game and nongame species and need restoration and enhancement so as to ensure ample availability of this habitat type.

Lakes and wetlands supporting healthy fish populations are fundamental to the future of the Northern Forest Section. Lakes and streams with protected shoreland and restored watersheds will produce quality warm- and cold-water aquatic systems. Those resources will provide the aquatic habitat required to support excellent populations of fish and other aquatic organisms.

The Northern Forest Section is home to cherished and unique Minnesota wildlife populations. Wildlife habitat in this section must support those populations. Healthy wild rice wetlands and shallow lakes that provide important habitat for a wide range of game and nongame wildlife are front and center in the LSOHC's vision. These and other key habitats are envisioned to protect habitat for endangered or threatened species and species of special concern.

Priority Actions for the Northern Forest Section

1. Protect shoreland and restore or enhance critical habitat on wild rice lakes, shallow lakes, cold water lakes, streams and rivers, and spawning areas.
2. Protect forestland though acquisition or easement to prevent parcelization and fragmentation and to provide the ability to access and manage landlocked public properties.
3. Restore and enhance habitat on existing protected properties, with preference to habitat for rare, endangered, or threatened species identified by the Minnesota County Biological Survey.
4. Restore forest-based wildlife habitat that has experienced substantial decline in area in recent decades.

Forest/Prairie Transition Section Vision

For the Forest/Prairie Transition Section, the LSOHC envisions diverse and productive remnant tracts of native prairie, forests grasslands, wetlands, lakes and rivers, and associated fish and wildlife habitat.

The council sees a future in which ample grasses and other vegetation on shorelands and higher in the watershed keep water on the land. This will yield clean lakes and streams, steady lake and stream levels, and improved aquatic vegetation and provide plentiful

habitat for fish, game, and wildlife, especially waterfowl and upland birds.

Rivers and streams and their surrounding vegetation will provide corridors of habitat, including intact areas of forest cover in the eastern reaches of the section and large wetland/upland complexes in the more westerly areas. These wetland/upland complexes will consist of native prairies, restored prairies, quality grasslands, and restored shallow lakes and wetlands.

Priority Actions for the Forest/Prairie Transition Section

1. Protect, enhance, and restore wild rice wetlands, shallow lakes, wetland/grassland complexes, aspen parklands, and shoreland that provide critical habitat for game and nongame wildlife.
2. Protect, enhance, and restore rare native remnant prairie.
3. Protect, enhance, and restore migratory habitat for waterfowl and related species, so as to increase migratory and breeding success.

Metro Urbanizing Vision

The LSOHC's vision for the Metropolitan Urbanizing Section is a network of natural lands providing wildlife habitat, quality fisheries (especially cold-water fisheries) and a forestland base that contributes to the habitat picture.

Natural lands in the Metropolitan Urbanizing Section include complexes of restored and perpetually protected wetlands, prairies, and forests providing habitat benefits and access. These will have core areas with protected, highly biologically diverse wetlands and plant communities, including native prairies. Where possible, the habitats will connect, making corridors for wildlife and species in greatest need of conservation, and hold wetlands and shallow lakes open to public recreation and hunting. The section's game lakes will be significant contributors of waterfowl due to efforts to protect uplands adjacent to game lakes. In the corridors, the streams, rivers, and lakes will be protected by vegetative buffers along riparian areas. Remnant oak savanna will be protected and its health restored, as will forests contributing to quality fisheries. As a result, cold-water streams and lakes will provide high-quality fisheries within an hour's drive of most of the state's population. Where possible, invasive species will have been permanently eradicated.

Priority Actions for the Metropolitan Urbanizing Area

1. Protect, enhance, and restore remnant native prairie, Big Woods forests, and oak savanna with an emphasis on areas with high biological diversity.
2. Protect habitat corridors, with emphasis on the Minnesota, Mississippi, and St. Croix rivers (bluff to floodplain).
3. Enhance and restore coldwater fisheries systems.
4. Protect, enhance, and restore riparian and littoral habitats on lakes to benefit game and nongame fish species.

Southeast Forest Section Vision

The LSOHC recognizes the Southeast Forest Section is a unique place, largely untouched by recent glaciers that covered most of Minnesota. The underlying karst geology and overlying remnants of the Big Woods are not found elsewhere in Minnesota. The ages have left a legacy of warm- and cold-water streams and rivers, floodplains, hardwood forests, remnant bluffland prairies, and striking topographic relief that provides diverse habitat worthy of protection.

In the forested parts of the Southeast Forest Section, the council sees a future of restored and protected oak savanna and mixed deciduous forest lands making up large blocks of protected property, accessible for resource management.

The cold- and warm-water streams of the region will be protected and enhanced by work in and along streams to the top of the watershed to slow runoff and keep aquatic habitat clean and productive, with prolific fish, game, and wildlife.

Southeast Forest Section wildlife habitat will be established in large corridors and complexes of restored and protected, biologically diverse habitat typical of the un-glaciated region. As a result, the section's endangered or threatened species will find habitat, such as goat prairies, in which to survive, alongside more common species of interest to Minnesotans. The Mississippi River and associated floodplain and bluffs, as well as feeder streams, will be an important part of this network of corridors and complexes.

Priority Actions for the Southeast Forest Section

1. Protect forest habitat though acquisition in fee or easement to prevent parcelization and fragmentation and to provide the ability to access and manage landlocked public properties.
2. Protect, enhance, and restore habitat for fish, game, and nongame wildlife in rivers, cold-water streams, and associated upland habitat.
3. Protect, enhance, and restore remnant goat prairies.
4. Restore forest-based wildlife habitat that has experienced substantial decline in area in recent decades.

Prairie Section Vision

The LSOHC sees the future of the Prairie Section as vital to the future of waterfowl, grassland birds and other wildlife dependent on native and restored prairies, shallow lakes, wetlands, and grasslands. The prairie region of Minnesota was once home to some of the largest herds of grazing animals the world has ever known. It also contains a portion of the prairie pothole region, the birthplace of 70 percent of North America's waterfowl. Unique components of this section are the prairie rivers, large and small, from the Red and Minnesota rivers to their tributaries in adjacent watersheds. This section also contains some of the largest freshwater marshes in North America.

The Prairie Section is now one of the most altered rural landscapes in the world, with 90 percent of its native prairie and wetlands now under plow. The native prairie and wetlands that remain should be perpetually protected. Where possible these remnant

native prairies should be part of large complexes with a goal of nine-square-mile parcels. These parcels should include restored prairies, grasslands, and large and small wetlands that will create buffers to the native prairie and provide the density of habitat needed by fish, game, and wildlife. Key core parcels should be set aside as areas managed for game species as well as refuges for fish, game, or wildlife and endangered or threatened species. Special emphasis should be put on extremely uncommon Minnesota species with unique or specific habitat requirements.

Prairie Section waters, affected by agricultural practices that increase runoff over natural levels, will have benefited from revitalized and expanded shoreland buffers and work to enhance shallow lake productivity for a variety of shorebirds and waterfowl. As a result of concentrated work of this type, combined with restored and enhanced upland habitat, historically significant resources for migratory waterfowl, such as the Heron Lake and Swan Lake watersheds, will once again be important landscapes for many species of migrating birds. Likewise, the Red River Valley will provide abundant wildlife habitat while simultaneously keeping water on the land to reduce flood potential.

The Prairie Section is home to a critical portion of the state's wildlife-related lands. The council sees these being increasingly productive in the future as the result of restoration and enhancement of native prairie, grassland, and watersheds, including the shallow lakes of this section. Precious remnants of the Big Woods and oak savanna in the southeastern part of the section will also be targeted for protection.

Priority Actions for the Prairie Section

1. Protect, enhance, or restore existing wetland/upland complexes, or convert agricultural lands to new wetland/upland habitat complexes.
2. Protect, enhance, and restore remnant native prairie, Big Woods forests, and oak savanna.
3. Convert agricultural land to wetland/upland to protect, enhance, or restore existing habitat complexes, such as WMAs.
4. Restore or enhance habitat on public lands.
5. Protect, restore, and enhance shallow lakes.
6. Protect expiring CRP lands.
7. Protect, enhance, and restore migratory habitat for waterfowl and related species, so as to increase migratory and breeding success.

Results management framework

Background

Evaluating progress requires an understanding of what success looks like. A results management framework:

- defines success and theories of change.
- clarifies the relationships among investments, actions, and results achieved.
- defines intended outcomes and expected results.

The framework relates investments to outcomes in a tabular format:

Inputs	**Activities/ Outputs**	**Outcomes**	
		Short-term & intermediate results	Long-term & end results
What we invest.	What we do and what is produced.	What results in the shorter term – what changes we expect to see: ➢ Conditions of natural resources ➢ Satisfaction ➢ Awareness ➢ Behavior.	What is the legacy? What do we want to achieve, ultimately? These include meaningful results for people & natural resources (e.g., an informed public, healthy natural resources, high citizen satisfaction, effective and efficient government.)

Some further definitions of these terms are provided below:

Inputs—what we invest. Inputs are resources dedicated to achieving desired results. An organization uses inputs to support its activities. Some examples of inputs are:

- Staff or volunteer time
- Facilities and equipment
- Money allocated

Activities—what we do. Activities are what an organization does to fulfill its mission. An organization's activities result in specific outputs. Some activity examples:

- Acquiring land
- Restoring and enhancing landscapes

Outputs—what is produced. Outputs are specific products resulting from activities. Outputs can be described as the volume of work achieved (e.g., the "amount of service" or "amount of product" provided). Outputs are important because they lead to desired outcomes. Some output examples:

- Acres acquired
- Miles of shoreland protected
- Acres of prescribed burns completed

Outcomes—what results. Outcomes are benefits to people and natural resources resulting, directly or indirectly, from the outputs. They typically relate to changes in people (awareness, knowledge, attitudes, skills, behavior, and satisfaction) and changes in natural resources (conditions and quality). Some outcome examples:

- Healthy lands and waters, habitat, and fish populations.
- Desirable catch rates and fish sizes.
- High angler satisfaction.

Outcomes exist along a continuum—for example, initial or short-term outcomes, intermediate outcomes, and long-term outcomes. Some examples:

- An awareness of game and fish regulations is a shorter-term outcome.
- Voluntary compliance with those regulations is an intermediate outcome.
- Healthy game and fish populations and high hunter/angler satisfaction due to successful operation of the regulations is a long-term outcome.

Long-term outcomes are often the result of efforts of numerous agencies, nonprofit organizations and other entities working together. They are the most susceptible to change due to external social, environmental or political forces. For example, climate change might have an impact on Minnesota's landscape that is beyond the control of any entity.

Method and key to reading framework tables

The working group prepared draft results management framework tables for each of the LSOHC sections using the council's Statewide Priority Criteria and Ecological Section Vision and Priorities, as shown on pages 49-53 of this report. On the following pages,

- **Bold** text shows priority actions articulated by the council.
- Plain (not bolded) text shows the working group's suggestions for filling in gaps in the framework (not recommendations) for the council.
- *(Italicized text in parentheses)* show some suggested measures, based on practices in the conservation field.

Working group observations and recommendations

- The council's vision and priorities present clear outputs and long-term results, but lack short-term and immediate results that could lead to specific outcomes for council projects.
- Many long-term outcomes should be measured in cooperation with other entities working to achieve common or complementary outcomes, and are only achievable with joint effort and planning. These long-term outcomes tend to be the goals that are most desirable for Minnesota citizens.
- A few of the council's outcomes require specific goals, targets, or benchmarks. For example, specifically defining the council's goal of "ample" grasslands and vegetation would better guide allocation decisions. The more explicit the council can be in their goals, both in terms of quantifying outcomes and clarifying the spatial distribution of priorities, the easier it will be to determine success.

RESULTS MANAGEMENT FRAMEWORK – LSOHC Section: Northern Forest

Inputs (what we invest)	**Activities / Outputs** (what we do)	**Northern Forest Outcomes** (what success looks like)	
		Short-term and intermediate results	**Long-term and end results**

Investment for Acquisition
Dollars
$ for fee acquisition (per acre and associated fees)
$ for conservation easements
$ for easement stewardship
Human Capital
Number of employees
FTE personnel expenses devoted to acquisition (including reimbursements such as travel)
$ for other professional services (appraisals, surveys)
Investment for Restoration and Enhancement (R/E)
Dollars
$ spent on R/E contracted services
$ spent on capital equipment
$ spent on equipment/tools
$ spent on materials (seeds, water control structures)
Human Capital
Number of employees
$ spent on R/E personnel (including reimbursements)
$ for other professional services
	(acres of acquisitions, acres easements, projects/acres by habitat)
	
	➢ **Protect forestland through acquisition or easement, to prevent parcelization and fragmentation and to provide the ability to access and manage landlocked public properties**
	(Acres acquired; acres of permanent forest conservation easements)
	
	➢ **Restore and enhance habitat on existing protected properties, with preference to habitat for rare, endangered, or threatened species identified by the Minnesota County Biological Survey (MCBS)**
	(acres of key habitats restored/enhanced; distribution of R/E acres; acres or % of MCBS sites restored/enhanced)
	
	➢ **Restore forest-based wildlife habitat that has experienced substantial decline in aerial extent in recent decades** (e.g., North Shore hardwood restoration, moose habitat improvement, deer thermal cover, wetland complexes of habitat in forests)
	(Extent, distribution, type)
		What do we expect to see?
		
		❖ Forestlands are protected from development and fragmentation
		(acres protected from development and fragmentation; average size protected complex; acres of forestlands with high connectivity to other forestlands protected)
		
		❖ Landlocked public properties are accessible with increased access for land managers
		(# of landlocked properties accessed, % decrease in landlocked properties)
		
		❖ Greater public access for wildlife and outdoors-related recreation
		(# of access points, % population with access within distance)
		
		❖ Healthy populations of endangered, threatened, or special concern species, species in greatest conservation need, and more common species – emphasis on unique species
		(Population levels of focal forest game species, focal species in greatest conservation need; number and acreage of native plant communities with high biodiversity significance)
		
		❖ Increased availability and improved condition of riparian forests and other habitat corridors
		(acres, habitat connectivity)
			What's the legacy? Natural resource conservation…
			
			❖ Forestlands provide multiple enduring conservation benefits in the face of climate change and other major stressors:
			○ healthy terrestrial and aquatic habitat for fish, game, and other wildlife species
			○ abundant access to forestlands for outdoor recreation
			○ healthy watersheds and clean water
			(Extent and distribution of high-quality habitat complexes; evidence for high-quality habitats; Populations/distributions or observations of indicator species; hunter and angler satisfaction, forest recreational user satisfaction, water quality)

Inputs (what we invest)	**Activities / Outputs** (what we do)	**Northern Forest Outcomes** (what success looks like)	
		Short-term and intermediate results	**Long-term and end results**
		❖ Increased availability and improved condition of habitats that have experienced substantial decline *(e.g., acres of pine and brushland)*	
	➢ **Protect shoreland and restore or enhance critical habitat on wild rice lakes, shallow lakes, cold-water lakes, streams and rivers, and spawning areas** *(miles, acres, distribution and type, # lakes, streams, spawning areas…acres, miles)*	❖ **Improved aquatic habitat indicators** *(index of biotic integrity and other aquatic habitat indicators)*	

RESULTS MANAGEMENT FRAMEWORK – LSOHC Section: Forest/Prairie Transition

Inputs (what we invest)	**Activities / Outputs** (what we do)	**Forest/Prairie Transition Outcomes** (what success looks like)	
		Short-term and intermediate results	**Long-term and end results**

Investment for Acquisition
Dollars
$ for fee acquisition (per acre and associated fees)
$ for conservation easements
$ for easement stewardship
Human Capital
Number of employees
FTE personnel expenses devoted to acquisition (including reimbursements such as travel)
$ for other professional services (appraisals, surveys)
Investment for Restoration and Enhancement (R/E)
Dollars
$ spent on R/E contracted services
$ spent on capital equipment
$ spent on equipment/tools
$ spent on materials (seeds, water control structures)
Human Capital
Number of employees
$ spent on R/E personnel (including reimbursements)
$ for other professional services
	(#/acres of acquisitions, # /acres easements # projects/acres by habitat)
	➢ **Protect, enhance and restore wild rice wetlands, shallow lakes, wetland/ grassland complexes, aspen parklands, and shoreland that provide critical habitat for game and nongame wildlife** *(Extent and distribution, # wild rice wetlands and shallow lakes, miles of shoreland)*
	➢ **Protect, enhance and restore rare native remnant prairie.** *(Extent and distribution, % native prairie protected)*
	(see next page)
		What do we expect to see?
		❖ Wetland/upland complexes will consist of native prairies, restored prairies, quality grasslands, and restored shallow lakes and wetlands *(# and type grassland bird conservation areas protected and restored; average size of complex, grassland and wetland acres; ratio grassland:upland; Increased grass cover %; # protected sites connected via corridor)*
		❖ Protected, restored, and enhanced aspen parklands and riparian areas *(evidence of successful projects, connectivity of protected habitats, connectivity of forest habitats via corridors)*
		❖ Water is kept on the land *(due to abundant grasses and other vegetation on shorelands and higher in the watershed); (#/miles protected floodplain, saturated, and fen wetlands; # protected high-gradient stream reaches; evidence of restored natural hydrology)*
		❖ Improved aquatic vegetation *(Evidence of healthy aquatic vegetation, low turbidity)*
			What's the legacy? Natural resource conservation...
			❖ Diverse and productive remnant tracts of native prairie, forests, grasslands, brushlands, wetlands, lakes and rivers, and their associated fish and wildlife habitat exist in the Forest/Prairie Transition Section and are connected by corridors, providing multiple benefits in the face of climate change and other major stressors:
			○ A healthy and plentiful supply of habitat for fish, game, and wildlife, especially for waterfowl and upland birds
			○ Abundant access for outdoor recreation
			○ Healthy watersheds and clean water
			(Extent and distribution of habitats, ecotypes maintained; early succession forest landscapes, populations/ distributions or observations of indicator species; hunter and angler satisfaction, # of access points; % population with access within distance; water quality measures such as # Impaired waters, index of biotic integrity)

Inputs (what we invest)	**Activities / Outputs** (what we do)	**Forest/Prairie Transition Outcomes** (what success looks like)	
		Short-term and intermediate results	**Long-term and end results**
	➢ **Protect, enhance, and restore migratory habitat for waterfowl and related species so as to increase migratory and breeding success.** - Prairie/wetland complexes - Shallow lakes, wild rice lakes - Riparian corridors *(Extent and distribution)*	❖ Rivers and streams (and surrounding vegetation) provide corridors of habitat (including intact areas of forest cover in the east and large wetland/upland complexes in the west) *(Evidence of use in migration, connectivity of protected lands, # and extent of complexes; acres restored riparian vegetation)* ❖ Increased waterfowl and upland bird migratory and breeding success *(Population levels of focal game species and species in greatest conservation need, # small basins and permanent wetlands, wetlands in high density nesting areas, wetlands with adjacent grassland)* ❖ Protected, restored, and enhanced habitat for waterfowl, upland birds, and species of greatest conservation need *(evidence of successful projects, connectivity of protected habitats, # MCBS sites)*	

RESULTS MANAGEMENT FRAMEWORK – LSOHC Section: Metropolitan/Urbanizing Area

Inputs (what we invest)	**Activities / Outputs** (what we do)	**Metropolitan Urbanizing Outcomes** (what success looks like)	
		Short-term and intermediate results	**Long-term and end results**

Investment for Acquisition
Dollars
$ for fee acquisition (per acre and associated fees)
$ for conservation easements
$ for easement stewardship
Human Capital
Number of employees
FTE personnel expenses devoted to acquisition (including reimbursements such as travel)
$ for other professional services (appraisals, surveys)
Investment for Restoration and Enhancement (R/E)
Dollars
$ spent on R/E contracted services
$ spent on capital equipment
$ spent on equipment/tools
$ spent on materials (seeds, water control structures)
Human Capital
Number of employees
$ spent on R/E personnel (including reimbursements)
$ for other professional services
	(acres of acquisitions, acres easements, projects/acres by habitat)
	➢ **Protect, enhance and restore remnant native prairie, Big Woods forests and oak savanna with an emphasis on areas with high biological diversity.** *(Acres acquired, acres of permanent conservation easements)*
	➢ **Protect habitat corridors, with emphasis on the Minnesota, Mississippi and St. Croix rivers (bluff to floodplain.)** *(Acres, shoreline miles protected …particularly within priority corridors)*
		What do we expect to see?
		❖ Core areas protected with highly biologically diverse wetlands and plant communities including native prairies. *(% of 2010 remaining prairie and oak savanna protected, % protected sites that are MCBS sites, % adequately buffered/connected, average size of core complexes, evidence of successful R/E projects)*
		❖ A forest land base that contributes to the habitat picture *(High quality forests, including oak savanna and Big Woods complexes are restored/protected, evidence of use by species dependent on these habitats, particularly SGCN, evidence of successful watershed approaches…e.g., reduced erosion)*
		❖ A network of natural land habitats will connect, making corridors for wildlife and species in greatest need of conservation *(Corridors connecting protected areas, evidence of SGCN and other wildlife using corridors, acres of "green infrastructure" corridors protected)*
		❖ Protected habitats will hold wetlands and shallow lakes open to public recreation and hunting. *(# access points, user satisfaction)*
			What's the legacy? Natural resource conservation...
			❖ Large complexes and corridors of biologically diverse habitat provide multiple enduring conservation benefits in the face of climate change, invasive species and other major stressors:
			○ Healthy terrestrial and aquatic habitat for fish, game and other wildlife species
			○ Abundant access for outdoor recreation
			○ Healthy watersheds and clean water
			○ Prolific fish, game and other wildlife populations
			(Extent and distribution of high quality habitats and habitat complexes, evidence for high quality habitats, Populations/distributions or observations of indicator species, hunter and angler satisfaction, recreational user satisfaction, water quality, # impaired waters)

Inputs (what we invest)	**Activities / Outputs** (what we do)	**Metropolitan Urbanizing Outcomes** (what success looks like)	
		Short-term and intermediate results	**Long-term and end results**
	➢ **Enhance and restore coldwater fisheries systems.** *(Acres, miles of coldwater stream shoreland protected, enhanced, and restored; acres reforested in riparian areas); # projects on designated trout streams, # projects in priority lakes)*	❖ High quality aquatic habitat *(streams, rivers and lakes protected by vegetative buffers along riparian areas, aquatic indicators…mussels, fish populations, increased water quality and water on a site)*	
	➢ **Protect, enhance and restore riparian and littoral habitats on lakes to benefit game and non-game fish species.** *(Extent and distribution, shoreline miles protected in watershed)*	➢ Game lakes are significant contributors of waterfowl, due to efforts to protect uplands adjacent to game lakes *(# Impaired lakes, evidence of lake use/success….nesting success, etc.)*	

RESULTS MANAGEMENT FRAMEWORK – LSOHC Section: Southeast Forest

Inputs (what we invest)	**Activities / Outputs** (what we do)	**Southeast Forest Outcomes** (what success looks like)	
		Short-term and intermediate results	**Long-term and end results**

Investment for Acquisition
Dollars
$ for fee acquisition (per acre and associated fees)
$ for conservation easements
$ for easement stewardship
Human Capital
Number of employees
FTE personnel expenses devoted to acquisition (including reimbursements such as travel)
$ for other professional services (appraisals, surveys)
Investment for Restoration and Enhancement (R/E)
Dollars
$ spent on R/E contracted services
$ spent on capital equipment
$ spent on equipment/tools
$ spent on materials (seeds, water control structures)
Human Capital
Number of employees
$ spent on R/E personnel (including reimbursements)
$ for other professional services
	(#/acres of acquisitions, #/acres easements # projects/acres by habitat)
	➢ **Protect forest habitat through acquisition in fee or easement, to prevent parcelization and fragmentation and to provide the ability to access and manage landlocked private properties** *(Acres acquired, acres of permanent conservation easements)*
	➢ **Protect, enhance, and restore habitat for fish, game and nongame wildlife in rivers, cold-water streams and associated upland habitat** *(Miles of cold and warm water streams protected, enhanced, and restored; acres reforested in riparian areas)*
	➢ **Protect, enhance, or restore remnant goat prairies** *(Acres of remnant goat prairie protected, restored, enhanced)*
		What do we expect to see?
		❖ Forestlands and savannas are protected from parcelization and fragmentation and accessible for resource management purposes *(acres protected from development and fragmentation, acres of forestlands with high connectivity to other forestlands protected, # landlocked properties accessed, % decrease in landlocked properties)*
		❖ High priority riparian lands are protected from parcelization and fragmentation (acres protected)
		❖ Stream to bluff habitat restoration and enhancement will keep water on the land to slow runoff and degradation of aquatic habitat *(index of biotic integrity and other aquatic and shoreline habitat indicators, acres of riparian forest, increased water infiltration)*
		❖ Rivers, streams and surrounding vegetation provide corridors of habitat *(Evidence of use in migration, connectivity of protected lands, # and extent of complexes)*
		❖ Remnant goat prairies are perpetually protected *(% of remnant goat prairies protected, evidence of increased goat prairie habitat quality)*
			What's the legacy? Natural resource conservation...
			❖ Large corridors and complexes of biologically diverse habitat provide multiple enduring conservation benefits in the face of climate change, invasive species and other major stressors:
			○ Healthy terrestrial and aquatic habitat for fish, game and other wildlife species
			○ Abundant access for outdoor recreation
			○ Healthy watersheds and clean water
			○ Prolific fish, game, and other wildlife populations
			❖ The suite of southeastern Minnesota habitats is maintained, including:
			○ Big Woods forests
			○ Oak savannas
			○ Goat prairies
			○ Cold- and warm-water streams
			(Extent and distribution of high-quality habitats and habitat complexes, evidence for high quality habitats, populations/ distributions or observations of indicator species, hunter and angler satisfaction, recreational user satisfaction, water quality, # impaired waters)

Inputs (what we invest)	**Activities / Outputs** (what we do)	**Southeast Forest Outcomes** (what success looks like)	
		Short-term and intermediate results	**Long-term and end results**
	➢ **Restore forest-based wildlife habitat that has experienced substantial decline in areal extent in recent decades** *(Acres of and distribution of lost forest-based wildlife habitat restored)*	❖ Large corridors and complexes of biologically diverse wildlife habitat typical of the unglaciated region are restored and protected *(Connectivity of wildlife habitat, average size protected complex, # and acreage of native plant communities with high biodiversity significance, evidence of migratory success)* ❖ Healthy populations of endangered, threatened, and special concern species as well as more common species *(population levels of focal game species, focal species in greatest conservation need)*	

RESULTS MANAGEMENT FRAMEWORK – LSOHC Section: Prairie

Inputs (what we invest)	**Activities / Outputs** (what we do)	**Prairie Outcomes** (what success looks like)	
		Short-term and intermediate results	**Long-term and end results**

Investment for Acquisition
Dollars
$ for fee acquisition (per acre and associated fees)
$ for conservation easements
$ for easement stewardship
Human Capital
Number of employees
FTE personnel expenses devoted to acquisition (including reimbursements such as travel)
$ for other professional services (appraisals, surveys)
Investment for Restoration and Enhancement (R/E)
Dollars
$ spent on R/E contracted services
$ spent on capital equipment
$ spent on equipment/tools
$ spent on materials (seeds, water control structures)
Human Capital
Number of employees
$ spent on R/E personnel (including reimbursements)
$ for other professional services
	(#/acres of acquisitions, # /acres easements # projects/acres by habitat)
	➢ **Protect, enhance, or restore existing wetland/upland complexes, or convert agricultural lands to new wetland/upland habitat complexes** *(Acres of existing wetland/upland complexes protected, restored, enhanced; acres of agricultural lands converted to new wetland/upland habitat complexes)*
	➢ **Protect, enhance and restore remnant native prairie, Big Woods forests and oak savanna** *(Acres of remnant prairie protected, restored, enhanced; acres of Big Woods prairie protected, restored, enhanced; acres of oak savanna prairie protected, restored, enhanced)*
		What do we expect to see?
		❖ Key core parcels are protected for fish, game and other wildlife *(Acres/percent of priority key parcels protected in fee or permanent easement)*
		❖ Increased participation of private landowners in habitat projects *(acres habitat P/R/E in private adjacent/near projects)*
		❖ Improved condition of habitat on public lands *(evidence of successful R/E projects)*
		❖ Restored and enhanced upland habitat *(evidence of successful restoration/enhancement projects)*
		❖ Protected, enhanced and restored remnants of big woods and oak savanna *(% of large remnants (>500 acres) of big woods and oak savanna protected)*
		❖ Remnant native prairie and wetlands are perpetually protected and adequately buffered *(Percent of remnant native prairie and wetlands protected, acres of remnant prairies with adequate buffers)*
		❖ Remnant native prairies are part of large complexes of restored prairies, grasslands, and large and small wetlands *(Acres/percent of priority prairie wetland complexes protected under conservation*
			What's the legacy? Natural resource conservation...
			❖ Diverse and productive complexes of native prairie, grasslands, Big Wood forests, and oak savanna, and shallow lakes in the Prairie Section provide multiple enduring conservation benefits in the face of climate change and other major stressors:
			○ Healthy, resilient ecosystems that provide habitat maintenance for migratory waterfowl and other species. Abundant access for public recreation *(Extent and distribution of high quality prairie-wetland complexes and habitat for waterfowl; hunter satisfaction, # of access points; % population with access within distance; water quality measures such as #impaired waters, index of biotic integrity; # of private acres under conservation; stable or increasing key indicator species; stable or increasing native plant communities on remaining native prairies)*

Inputs (what we invest)	**Activities / Outputs** (what we do)	**Prairie Outcomes** (what success looks like)	
		Short-term and intermediate results	**Long-term and end results**
		management; # and type Grassland bird conservation areas protected and restored; average size of complex, grassland and wetland acre (minimum of 40% grass and 20% water in prairie core areas); % and # protected sites connected via corridor)	
	➢ **Convert agricultural land to wetland/upland to protect, enhance, or restore existing habitat complexes, such as existing WMAs** *(Acres of agricultural land converted to wetland/upland to protect, restore, or enhance existing complexes)* ➢ **Restore or enhance habitat on public lands.** *(Acres of public land restored, enhanced)* ➢ **Protect, restore and enhance shallow lakes.** *(Acres of shallow lakes protected, restored, enhanced)*	❖ Agricultural lands are converted to grasslands to sustain functioning prairie systems. (*Acres/percent of priority key parcels are converted)* ❖ Improved access to public lands*(# access points, acres of protected lands open for public access, % population with access within distance)* ❖ Water is kept on the land to reduce flood potential and degradation of aquatic habitat *(Watershed yield (indic. in dev.); evidence of restored natural hydrology; #/area/miles of protected floodplain, saturated, and fen wetlands)* ❖ Protected, restored and enhanced shallow lakes *(% of priority shallow lakes protected, evidence of successful restoration/ enhancement projects)* ❖ Improved aquatic vegetation *(Evidence healthy aquatic vegetation, low turbidity)* ❖ Enhanced shallow lake productivity *(degree of use by shorebirds and waterfowl)*	

Inputs (what we invest)	**Activities / Outputs** (what we do)	**Prairie Outcomes** (what success looks like)	
		Short-term and intermediate results	**Long-term and end results**
	➢ **Protect expiring CRP lands** *(# projects with matching private land work; # of prairie stewardship plans; # of prairie stewardship management projects, #/acres enrolled CRP and in expiring CRP expiring lands protected)*	❖ Increased wildlife productivity *(evidence of increased productivity on specific lands; populations levels of focal game and Species in Greatest Conservation Need)* ❖ Key core parcels are protected for fish, game and other wildlife *(Acres/percent of priority key parcels protected in fee or permanent easement)*	
	➢ **Protect, enhance and restore migratory habitat for waterfowl and related species, so as to increase migratory and breeding success** - Prairie/wetland complexes - Shallow lakes - Riparian corridors *(Extent and distribution)*	❖ Protected, restored, and enhanced habitat for migratory and unique Minnesota species *(degree of fall use of significant resources by migratory waterfowl; evidence of successful projects, connectivity of protected areas via riparian corridors)*	

Appendix D: Leadership, advisory, and working groups

Leadership group

Julie Blackburn, assistant director, Minnesota Board of Water and Soil Resources (BWSR)
Leann Buck, Minnesota Association of Soil and Water Conservation Districts (MASWCD)
Rebecca Flood, assistant commissioner, Minnesota Pollution Control Agency (MPCA)
Steve Hirsch, director, Division of Ecological Resources, Department of Natural Resources (DNR)
Mark Holsten, commissioner, DNR
John Jaschke, executive director, BWSR
Jim Leach, refuge supervisor, Minnesota/Wisconsin, U.S. Fish and Wildlife Service (USFWS)
Allen Levine, dean, College of Food, Agricultural and Natural Resource Sciences (CFANS), University of Minnesota (U of M)
Joe Martin, assistant commissioner, Minnesota Department of Agriculture (MDA)
Laurie Martinson, deputy commissioner; DNR
Dave Schad, director, Division of Fish and Wildlife, DNR
Dave Zumeta, executive director, Minnesota Forest Resources Council (MFRC)

Advisory group

Brian Buhr, professor and head, Department of Applied Economics, CFANS, U of M
Alan Ek, professor and head, Department of Forest Resources, CFANS, U of M
Tabor Hoek, private lands coordinator, BWSR (Marshall Office)
Paul Flynn, state resource conservationist, Natural Resources Conservation Service (NRCS), U.S. Department of Agriculture (USDA)
Rex Johnson, supervisor, Habitat and Population Evaluation Team (HAPET) and Barb Pardo, chief, Division of Bird Habitat Conservation, USFWS
Darren Newville, district manager, East Otter Tail Soil and Water Conservation District
Jeff Risberg, impaired waters program coordinator, MPCA
Dennis Simon, Wildlife Section chief, Division of Fish and Wildlife, DNR
Rob Sip, environmental policy specialist, MDA
Dave Zumeta, executive director, MFRC

Working group

Bill Becker, executive director, Lessard-Sams Outdoor Heritage Council (LSOHC)
Peter Butler, senior management consultant, Management Analysis & Development (MAD), Minnesota Management & Budget (MMB)
Ryan Drum, wildlife biologist, USFWS-HAPET
Annalee Garletz, environmental and natural resources policy analyst and Joe Mathews, general government policy Analyst, Association of Minnesota Counties (AMC)
Judy Grew, senior management consultant, MAD, MMB
Tabor Hoek, private lands coordinator, BWSR (Marshall Office)
Andy Holdsworth, science policy coordinator, Office of Management and Budget Services, DNR
Heather Koop, project analyst manager, LSOHC
Leslie McInenly, information specialist, MFRC
Jeff Risberg, impaired waters program coordinator, MPCA
Sandy Smith, council assistant, LSOHC
Aaron Spence, GIS Specialist, BWSR

Appendix E: Conservation estate – technical summary

Methodology of GIS analysis

The objective of the analysis was to calculate the acreage of Minnesota's terrestrial and aquatic habitat within each of the LSOHC sections. Four separate acreage calculations were made:

- Protected terrestrial habitat (including publicly owned lands and private lands that are permanently protected)
- Private terrestrial habitat (not permanently protected)
- Public (protected) aquatic habitat
- Private (unprotected) aquatic habitat

Public & permanent fee or easement title terrestrial habitat

Statewide GIS layers that were determined to represent areas of publicly protected wildlife habitat were assembled into one working space. These include lands publicly owned as well as privately owned land under permanent conservation easement or owned in fee title for conservation purposes. Although easement and fee title lands are technically privately owned, if they have permanent status they are considered protected habitat and were therefore included in this portion of the analysis. The layers included were:

State lands

- RIM Conservation Easements (metadata are outdated)
- State-owned Lands - Easement Interests
- State-owned Lands - Fee (and other) Interests
- State Lands – Acquired
- State Lands - Consolidated Conservation
- State Lands - Federal Lease
- State Lands - Trust Fund
- State Lands - Tax Forfeit
- State Lands – Volstead
- State Wildlife Management Area Boundaries
- State Park Statutory Boundaries
- State Forest Boundaries
- Scientific and Natural Area Boundaries
- Prairie Bank Easement Boundaries

Federal lands

- USFWS Wetland Management District Conservation Easements
- Voyageurs National Park
- USFWS Waterfowl Production Areas (Current)
- National Wildlife Refuges
- BWCAW Boundary based on the 1978 legislation
- National Forest Boundaries
- Military Bases (Camp Ripley)

County lands

- State Lands by Administrator – County (tax forfeit land)
- Gap Analysis Program (GAP) Stewardship – County Lands

Other lands

- The Nature Conservancy Preserves and Managed Areas

These layers were merged to form one layer. Since these areas are primarily administrative boundaries and there are sometimes private, and therefore unprotected, holdings within these boundaries (in the permanent sense), private holdings that exist within this assembled layer were removed. This was done using GAP stewardship data

(2008), [37] which classifies the landscape by ownership type (e.g., federal, state, county, private). GAP stewardship data are mapped by 40-acre parcel. All 40-acre parcels classified as private ownership were erased from the merged administrative layer.

To ensure that county-administered lands did not include lands without terrestrial habitat (e.g., baseball parks or public pools) the National Land Cover Database (NLCD) was used (see discussion below in private terrestrial habitat for a more detailed description of the NLCD). NLCD classes representing potentially existing terrestrial habitat were used to extract those areas from the county-administered lands layer before inclusion into the larger public, terrestrial habitat estate.

Since aquatic habitat is being addressed separately for this project, all lakes within the DNR 24k lakes layer were also erased from the merged administrative layer. The resulting layer represents the public terrestrial habitat estate.

This public terrestrial habitat estate layer was then intersected with the LSOHC planning areas boundary layer. This facilitated the summary of public, terrestrial habitat estate acreage by LSOHC planning area.

Private terrestrial habitat

Private terrestrial habitat was determined using the following data sources:

- Minnesota CRP (CRP 2007)
- NLCD 2001 - Land Cover (modified by DNR)
- USDA 2009 Cropland Data Layer (CDL)

To determine lands that may contain some amount of potentially existing terrestrial wildlife habitat, a modified version of the NLCD was used. This layer classes the landscape by land cover type. The original NLCD layer was modified by the DNR in order to update and better reflect lands classified as wetland as well as those classified as partially or fully developed. This product was used in the DNR's Metro Conservation Corridors project.

The NLCD was further refined using current cropland data from the USDA 2009 Cropland Data Layer (CDL). The CDL contains cropped cover classes determined from 2009 satellite imagery. Since the NLCD data are from 2001, this was necessary to update the NLCD with current cropping practices. All cropped classes within the CDL were erased from the NLCD data so as not to be included in this analysis.

The cover type classes that exist in the NLCD data are as follows:

- 5–10% Impervious
- 26–50% Impervious
- 51–75% Impervious
- 76–100% Impervious
- Agricultural Land
- Maintained Tall Grass
- Upland Coniferous Forest *
- Upland Deciduous Forest *
- Upland Mixed Forest *
- Woody Wetlands *
- Upland Shrubs *
- Wetland Shrubs *
- Tall Grasses*
- Wetland Emergent Vegetation*
- Barren Land
- Open Water
- Wetland - Open Water*

[37] The date of source material ranges from 1976 to 2007.

The asterisked classes indicate cover types considered to be potentially existing wildlife habitat; these were extracted from the data to create a layer that represents an approximation of Minnesota's total terrestrial habitat estate.

Even though agricultural classes, including hay and pasture land, were excluded from the habitat layer, these land use types may provide some degree of habitat. Similarly, developed (impervious) areas and barren land provide some degree of habitat but could require extensive restoration to provide an acceptable level of wildlife habitat for OHF purposes and were eliminated from the habitat layer. The working group is continuing to evaluate which of these classes should be included in the habitat layer.[38]

The previously described public terrestrial habitat was then used to erase publicly protected terrestrial habitat from the total terrestrial habitat estate. The resulting layer is all privately held, potentially existing terrestrial habitat that likely meets a minimum threshold for OHF purposes. As with the public, terrestrial habitat, all 24k lakes were erased from the layer since aquatic habitat will be reported separately.

Publicly protected aquatic habitat

The layer used for this part of the analysis was the Public Waters Inventory (PWI). All lakes within the PWI were considered to be publicly protected aquatic habitat. Some important caveats and assumptions regarding the use of the PWI are found on pages 14 and 15.

Aquatic habitat not publicly protected

Layers used for this part of the analysis were:

- DNR 24k lakes
- The above described publicly protected aquatic habitat layer

The publicly protected aquatic habitat layer was used to erase those lakes from the complete DNR 24k lakes. This effectively leaves behind the non-publicly-protected potentially existing aquatic habitat.

[38] The working group is evaluating whether the classification of "maintained tall grass" should be included to better represent grassland wildlife habitat in the conservation estate.

Appendix F: Scenario 2 detail

This appendix shows the step-by-step adjustments to the OHF's 2010 and 2011 acres for the Forest for the Future's Upper Mississippi Forest Project and the resulting two-year average.

1) Actual OHF funding decisions

A. Protect	2010	2011
Wetlands	5,038	2,786
Prairies	9,815	8,129
Forests	95,000	96,813
Habitats	2,618	3,745
Total	112,471	111,473

B. Enhance and Restore	2010	2011
Wetlands	6,519	11,731
Prairies	7,327	26,867
Forests	3,310	4,252
Habitats	1,191	4,494
Total	18,347	47,344

Forest Legacy	$18,000,000	$18,000,000
All other projects	$48,652,000	$58,164,000
Total allocation	$66,652,000	$76,164,000

2) Annualize future Forest Legacy acres

Program goal (acres)	530,000	
Protected FY2000 to 2011	253,740	
Remaining acres to protect	276,260	
Annual goal for next 23 years	12,010	(rounded)
Cost per acre (2010)	$500	
Annual cost (2010)	$6,005,000	

The $500/acre was recommended by the DNR Forest Legacy coordinator.

3) Re-allocate Forest Legacy funds

	2010	2011
Forest Legacy 2010-11	$18,000,000	$18,000,000
Forest Legacy annualized	($6,005,000)	($6,005,000)
Available for other projects	$11,995,000	$11,995,000

Current project funding	$48,652,000	$58,164,000
Percent increase with newly available Forest Legacy funds	25%	21%

4) Increase 2010-11 acres by preceding percentages

2010 acres

A. Protect	Funded acres	Increase by	Adjusted Acres
Wetlands	5,038	25%	6,280
Prairies	9,815	25%	12,230
Forests	95,000	Not appl.	12,010
Habitats	2,618	25%	3,260
Total	112,471		33,780

B. Enhance and Restore			
Wetlands	6,519	25%	8,130
Prairies	7,327	25%	9,130
Forests	3,310	25%	4,130
Habitats	1,191	25%	1,480
Total	18,347		22,870

2011 acres

A. Protect	Funded acres	Increase by	Adjusted Acres
Wetlands	2,786	21%	3,360
Prairies	8,129	21%	9,810
Forests	96,813	Not appl.	12,010
Habitats	3,745	21%	4,520
Total	111,473		29,700

B. Enhance and Restore			
Wetlands	11,731	21%	14,150
Prairies	26,867	21%	32,410
Forests	4,252	21%	5,130
Habitats	4,494	21%	5,420
Total	47,344		57,110

5) Average the 2010-11 adjusted acres

A. Protect	Adjusted 2010	Adjusted 2011	2010-11 average
Wetlands	6,280	3,360	4,820
Prairies	12,230	9,810	11,020
Forests	12,010	12,010	12,010
Habitats	3,260	4,520	3,890
Total	33,780	29,700	31,740

B. Enhance and Restore			
Wetlands	8,130	14,150	11,140
Prairies	9,130	32,410	20,770
Forests	4,130	5,130	4,630
Habitats	1,480	5,420	3,450
Total	22,870	57,110	39,990

Appendix G: Scenario 3 detail

Scenario 3 answers the question, "How much does $80 million per year fund in conservation activity for one type of habitat?" The answer requires assuming a typical or average cost per acre for protection, restoration and enhancement.

In summer 2009, the LSOHC hosted five all-day meetings with conservation professionals representing different organizations and expertise. At these meetings, participants reviewed various conservation plans' spatial goals and discussed 25-year spatial targets (acres or shoreline miles) for each LSOHC section's prairie, wetland, forest, and aquatic habitats. The professionals also provided an average cost per acre or mile so spatial targets could be measured monetarily. The following tables show the average cost per acre derived from the 2009 sessions and used for Scenario 3.

A. Protect	Average cost per acre	Maximum annual acres
Wetlands	$4,000	20,000
Prairies/Grasslands	$3,500	22,857
Forests	$750	106,667
Aquatic	$5,000	16,000

B. Enhance and Restore		
Wetlands	$800	100,000
Prairies/Grasslands	$700	114,286
Forests	$900	88,889
Aquatic	$10,000	8,000

Some averages were weighted to reflect the cost differences between the sections, working easements and fee acquisition prices, and native prairie and restored grasslands (former agriculture lands). For example, the conservation professionals estimated that native prairie costs $2,700 per acre in the Prairie Section and farmland costs $4,000 per acre. But most of the spatial targets are restored grasslands, so the weighted average is closer to $3,500.

Lessard-Sams Outdoor Heritage Council
25-year funding framework
Public comments on draft report (November 23 publication)
Comments received as of noon, December 13, 2010

Name	Are you writing on behalf of a particular organization? If so, please specify below.
Dave Zentner	n/a
Paul Swenson	No
Joseph Walton	Refugia, LLC, and as a citizen of Minnesota
Thomas Castonguay	BIA in general, Red Lake Agency in particular
George R. Finn, Jr.	
Elizabeth Wilkens	
Steve Henry	No, however I am a resource specialist for a non-profit working in out state MN.
Dick Duerre	
Bruce Carlson	
Rex Johnson	Supervisor, Habitat and Population Evaluation Team, USFWS
Richard Hemmingsen	Director, University of Minnesota Initiative for Renewable Energy and the Environment
Neal Feeken	The Nature Conservancy
Kristen Blann	Minnesota Chapter of the American Fisheries Society
Steve Wilds	Upper Great Lakes Woodcock and Young Forest Initiative--Wildlife Management Institute
Brian Nerbonne	No
Anonymous	

Name	Question 5: Are any points in the draft unclear to you - require more explanation? Please note page numbers in the report, if applicable.
Joseph Walton	Most everything is quite clear. I had a couple questions regarding the Metropolitan Urbanizing Area. On page 50 of the report, you state: "Where possible, the habitats will connect, making corridors for wildlife and species in greatest need of conservation, and hold wetlands and shallow lakes open to public recreation and hunting." I was wondering how you will connect the habitats? Wouldn't this require a great deal of effort coordinating and partnering with local governments? I know that the Metropolitan Council just had all of the cities in the area update their Comprehensive Plans in 2008. Too bad this couldn't have been done in the light of the information and recommendations contained within this report. I think this will be the biggest challenge in the Metro Area. Another question I have is: specifically, which SGCN are you talking about? I realize that the scope of this report is not big enough to get into that kind of detail, but you may want to consider this a little more than discussed in the report, since each species requires a distinct set of habitat requirements. This may be challenging to achieve. Lastly, how do you propose to hold areas in the metro open to hunting? This may be difficult because of the high human population density in the metro.
Steve Henry	Where do the historic maintenance costs disappear to when converting to the two build out scenarios? Who will fund the increased maintenance costs associated with the planned acquisitions, restorations, and enhancements?
Dick Duerre	I am interested in getting funding for the Minnesota River Valley Trail so that it can be completed. The trail was first proposed by Floyd B. Olson in 1934 and it still has not been built. Much of the land it would be on in the metro area is already in public ownership but there is no hard surface bike trail in place. If there was, the whole metro area, about 4 million people would be benefactors.
Bruce Carlson	I think most Minnesotans have no idea where their LSOHC tax dollars are being spent, who the recipients are, what projects are being funded, the goals of the projects, and if those goals were achieved or not. I would like to see more transparency and accountability in the entire process.

Name	Question 5: Are any points in the draft unclear to you - require more explanation? Please note page numbers in the report, if applicable.
Kristen Blann	The framework repeatedly refers to all designated public waters as "permanently protected", despite the fact that protected waters are clearly not that. Aquatic habitat is a function of natural dynamic processes that determine water quantity, quality, hydrology, connectivity, and geomorphology, all of which can be significantly altered by off-site activities and land uses. It is widely recognized that significant threats to freshwater are pervasive despite the fact that in most states, surface waters are publicly owned and managed. At least 40% of assessed Minnesota waters are designated impaired, despite being protected . The sources of threats to aquatic habitats are extensive and include invasive species, recreational use impacts, altered hydrology and connectivity, and terrestrial inputs and impacts (i.e. nonpoint source pollution, land use and drainage modifications, atmospheric deposition, groundwater withdrawals, etc). Most recently, the summer 2010 series of articles in the Minneapolis Star Tribune on loving our lakes to death highlighted the threats to lakes that are already designated as protected, largely due to gaps in the regulatory and management framework and the high impact of activities on private land, which represents the majority of lakeshore and nearshore land ownership. The AMA plan recognizes that despite being protected many near-shore inlake habitats have been substantially modified by humans, and recommends developing programs and projects to restore habitat structure within lakes, for example by accelerating the restoration of woody habitat where it has been removed, and restoration of emergent and floating vegetation where it has been eliminated. Granted, the framework acknowledges in a several places that there are threats to aquatic habitat that are not currently adequately addressed by existing protections. One of the more effective ways to protect, enhance, or restore aquatic habitats is through abatement of critical threats, i.e. strategic acquisitions, easements, or restorations of upstream habitats contributing high runoff into target lakes and streams. This is perhaps implicit in the focus on terrestrial habitat acquisition and acreage targets. Nevertheless, the plan is not explicit about identifying which priority acquisition targets achieve multiple benefits and how such upland acquisitions would be identified. With the exception of the opportunities listed in Appendix B, there is very little in the framework to suggest that this will change, and that the framework will guide projects in strategically and effectively addressing these impacts on aquatic habitat. Recent analysis from Michigan supports our contention that terrestrial conservation networks do not automatically protect aquatic resources (Herbert et al. 2010).
Steve Wilds	Page 36, Table 20. Scenario 1 figures seem unlikely given earlier figures that indicated work done by all conservation groups would roughly be equal to what LSOHF could do over 25 years.

Name	Question 5: Are any points in the draft unclear to you - require more explanation? Please note page numbers in the report, if applicable.
Brian Nerbonne	The analysis that focuses on a per-care accounting of protection or restoration status does not serve aquatic systems well. For systems like rivers where habitat quality is a function of a multitude of factors that occur both within and outside of the bounds of the stream itself, a single classification does not incorporate any of this complexity. Instead, an alternative framework that looks at factors such as the existence of barriers to fish migration, channel alteration, riparian buffers, etc. would better capture the true status of these systems. I recognize that such an analysis may be beyond the scope of this report, but it should be explicitly stated in the report that aquatic habitat is not well represented in the analysis that was used.
Anonymous	Purpose of the framework needs to be clearly stated. It is not clear what the purpose of the framework is. It is clear that the legislature has required it be developed, but not clear how it can be used. The purpose should be clearly stated in the executive summary. Page five suggests that the framework will qualitatively and quantitatively describe what can be accomplished with OHF funds, and to identify constraints and boundaries which may be encountered. Since the framework does not deliver a qualitative assessment perhaps the framework definition should be changed or the document clearly state why this assessment is not being done. "Permanently protected" must be defined, and distinguished from actual protection. The framework needs to address the working definition of "permanently protected" habitat at the outset. It should clarify that this definition may differ substantially from how the average citizen might think about it. The average person likely assumes that "permanently protected" in the context of natural resource conservation means that the land or water, and its ability to support fish, game and wildlife, is in fact protected from degradation. Careful reading of the draft reveals that instead of this phrase may mean nothing more than that a parcel is in public ownership, even where that parcel is or could be managed (or not managed) in such a way as to substantially degrade aquatic and terrestrial wildlife habitat. Whatever definition is being used it must be spelled out, and the implications for using it for quantifying habitat discussed. Failure to do so can cause the public to get the mistaken notion that most of Minnesota's lakes and streams are protected in the normal sense that they cannot be harmed or degraded. On page 7, the conservation estate section fails to define "permanently protected". It then brushes over the importance by saying that only the quantity, not quality, of habitat will be looked at. This misses the fact that in order to quantify protected and unprotected habitat there must be some qualitative judgments made. This is especially apparent in the attempt to

Name	Question 5: Are any points in the draft unclear to you - require more explanation? Please note page numbers in the report, if applicable.
	quantify protected aquatic habitat. The consequence of using a definition not tied to enforceable land use restrictions is to greatly overstate the quality of the resource and understate the need for action. This is especially true in the aquatic habitat area.

Name	Question 6: Any comments on the conservation estate analysis or the scenarios?
Dave Zentner	The analysis refers in several places and appropriately so; to the need for coordination of the complex financial and organizational elements- I believe that the four "pots" that represent the MN Legacy dollars should have an overarching strategic plan that requires continuous interface between the "3/8"; and, one that integrates that planning with state, federal, local and NGO PLANS AND GOALS.
Joseph Walton	I think this was done in a very thoughtful and thorough way. Good job.
George R. Finn, Jr.	Congratulations on your choice of spending in the first two years, especially on your refusal to fund CRP with Heritage Money. I urge you to resist proportionate funding geographically, and to instead have great courage, and fund the most critical projects instead. The most critical needs are protection of 1.) water and watersheds; 2.) wetlands and grassland complexes. The most critical needs are clearly in the Prairie and Southeast sections. This is public money and should be spent on Public Property....buy critical habitat...improve publicly owned habitat....do not temporarily rent private land, through programs like RIM, CRP etc., do not spend taxpayer money improving private land, nor gaining access to private land. At the very least fund only permanent easements as you have done already. Do not waste funds on the Metro Urbanizing area...it may be popular, but is certainly not "best use" funding....the metro is Urban, and will only become more developed, and the public lands will be sold, or benefit only the adjacent private landowners. Small local projects like funding outdoor group A's pet project to improve 40 acres in nowhere township is a waste. Think big...think functioning systems. Invasive species are here....not one has ever been stopped...don't waste money on impossibilities. Resist the pressure of current constituencies....protect, preserve and enhance for the future generations. Funding for popular programs will be gained through the normal legislative process. Use the funds for exceptional spending, that the legislature will not do.....do not allow the money merely to replace ordinary funding! This will be the greatest challenge. As you have clearly demonstated...the need is far greater than the funding available. Congratulations on having the courage to identify and then spend the money on the most critical needs. You are in position to achieve results the state legislature dare not. Lead....do not follow. Thank you on behalf of myself, and my fellow Minnesotans.
Elizabeth Wilkens	Conservation estate analysis is weighted heavily toward "protected" aquatic habitat simply because it is public waters. Without adequate, consistent, and enforced state-wide shoreline rules and the help of landowners, these numbers are greatly exaggerated.

Name	Question 6: Any comments on the conservation estate analysis or the scenarios?
Steve Henry	I show a $31 million dollar maintenance backlog at year 25 with the build out scenarios, and this does not factor in the conservation professionals stated advice (pg 41 comment 36) that "invasive species are degrading habitats faster than we are restoring them." If we assume that maintenance in the past has been lacking then the future build out scenarios need to account for an increase in maintenance activities or our public habitats will be further degraded at the end of 25 years of effort than current conditions. Build out scenario #1 includes Zero funding to restore or enhance current holdings and insufficient funds to restore or enhance projected acquisitions. The ratio of restoration to acquisition is shown to fall from a historic 9:1 to projected 2:1. I believe current public sentiment is that the State should do more with the land they have and this framework does not achieve that but instead exacerbates the land management problems currently experienced.
Dick Duerre	I did not see a discussion of trails. Where did I miss it?
Rex Johnson	Comments on the LSOHC 25-Year Funding Framework Rex Johnson, PhD, Executive Advisory Board Member, LSOHC: 1) The document represents an outstanding body of work conducted over a short time span. I congratulate the authors on the working group. 2) I believe these recommendations are profound enough that they warrant a renewed and revised allocation plan based on the working group s recommendations. 3) The report should emphasize the uncertainty associated with continued Federal and State conservation expenditures. I would have liked to see an scenario evaluated that cuts these expenditures to the bone, e.g., 15-20 million annually. 4) The future state of the farming economy (over the next 23 years, and land owner attitudes/resistance as more acres are taken out of production should be highlighted. 5) Decisions about restoration should focus on predicted outcomes relative to costs. For example, forest land may be inexpensive to protect, but prairies and prairie wetlands are by far the most imperiled systems in MN, and investments here will result in a much greater proportional increase in the ecological goods and services they provide.
Richard Hemmingsen	I'm not sure how best to reconcile this thought w/ statutory purpose of the fund "to restore/protect/enhance" (habitats), but where does "utilization" fit in....broadly defined utilization? There is mention towards the end of the document (p. 48, statewide priority criteria #9) about providing greater access for the public w/ hunting/fishing/etc. opportunities) which is encouraging, but will the "restored/protected/enhanced" habitats actually be available for (responsible) use by the public? What could be the nature and impact of "multi-purpose utilization"? Will we/ can we devise strategies to restore/protect/enhance as well as "responsibly utilize" these public resources?

Name	Question 6: Any comments on the conservation estate analysis or the scenarios?
Kristen Blann	Outside of shoreline acquisition, aquatic habitat does not appear to be a priority focus of this fund. A few of our members participated in the input meetings for conservation professionals, and expressed the perception that aquatic professionals were highly underrepresented in the working groups. The details in Appendix C (visions and matrix of outcomes) as they relate to aquatic habitats (particularly lakes) perhaps reflect that lack of aquatic expertise on planning teams. For example, activities and outcomes specified for the Metro area list focus on enhancing and restoring coldwater fisheries systems. In reality, the metro area probably had few coldwater fisheries to begin with, with the exception of small tributaries to the St. Croix, Mississippi, and Minnesota Rivers. We hope the listing of riparian and littoral habitat under priority action 4 indicates that the many warmwater lakes and rivers are at least equivalent, if not higher, priority. It is not clear how the aquatic habitat acreage goals relate to the outcomes, outputs and results table for different regions in Appendix C. Both the Minnesota Statewide Conservation and Preservation Plan (SCPP) and the 2008 Aquatic Management Area Acquisition Plan (AMA Plan) acknowledge the need to go beyond acquisition in addressing aquatic habitat. Major habitat recommendations in the SCPP include keep water on the land, review and analyze drainage policy, improve understanding of groundwater resources, and improve understanding of watersheds response to multiple drivers of change. Likewise, the AMA plan notes that more than just acquisition is needed to successfully sustain the state s aquatic resources, even if all acquisition targets for shoreline established in the plan were achieved. Realizing that this report can t address all of the efforts that are needed to adequately protect critical shoreland habitat and preserve Minnesota s clean water legacy, the AMA plan acknowledged that watershed management in the uplands has significant implications for aquatic habitat. The plan explicitly acknowledged that long-term sustainable protection of aquatic habitats requires not just public acquisition, but effective upland and riparian management, best management practices, public and private easements, zoning and shoreland regulations, and targeted incentives to enhance management on the highest impact private lands. For example, for many impaired lakes, acquisition of the entire watershed and restoration of natural land cover would be insufficient to remediate the lake, at least in the short-term, without active in-lake restoration. Likewise, in riverine systems, recovery of degraded habitats is unlikely in the short-term without actions addressing the historic legacy of drainage, altered hydrology, and resulting changes in channel morphology. The fact that the LSOHC framework provides very little to indicate that such approaches will receive attention or support through amendment funding is, in our view, a major concern.

Name	Question 6: Any comments on the conservation estate analysis or the scenarios?
Brian Nerbonne	The classification of public waters as "protected" areas is very misleading. Buried in the appendix is a mention that threats still face these systems that state ownership and regulatory authority will not address, but the body of the report suggests that the majority of waterbodies in the state do not need additional protection. This ignores the impacts that watershed-level and riparian zone alteration can have on water quality and aquatic habitat. I believe that this sort of analysis is inappropriate and should be removed altogether from the report. Instead, you should look at the percentage or riparian area protected by public ownership or easement as at least a better indication of protection status for aquatic systems.
Anonymous	Quantification of protected aquatic habitat is seriously flawed. I strongly disagree with the assumption that inclusion of a water body on the PWI actually confers real, permanent protection. The PWI is not the best available statewide data, although it could serve as a base layer. The assumptions used in quantifying "permanently protected" aquatic habitat are simply too great and render the results meaningless. The two bullets on page 69 describe the problem and are better placed in the main body of the document on page 8. Even so, their inclusion in the document cannot overcome the fatal flaw in equating listing on the PWI with actual permanent protection of aquatic habitat. While listing on the PWI may sometimes result in some measure of protection, the protections are often inadequate, and inconsistently enforced. What protections there are, are anything but permanent. Also, the logical consequence of designating all lakes, streams, etc. included on the PWI as being "permanently protected" is that there will be close to zero increase in the amount of aquatic habitat protected no matter how much OHF funding very appropriately goes to achieve real protection on aquatic habitat and resources. The best way to correct this major flaw in the aquatic habitat numbers would be to narrow the data to just that small subset of PWI waters which actually are permanently protected from degradation by virtue of their location on and adjacent to public or private lands which contain sufficient legal restrictions on land use practices. An example would be a lake within the boundaries of a state park or SNA. There is no away around the fact that some level of qualitative assessment is needed to make the quantitative calculation. Alternatively, if the working group is not willing to make the basic qualitative assessments of which waters have meaningful protections (from a ecological standpoint) afforded by land use restrictions on adjacent land, then the two aquatic habitat categories should be merged and not designated either way. Citizens are looking for real protection of and improvement to the conditions of our lakes, forests, prairies, etc. They do not care about definitions, but about whether the ecological processes and functions which produce benefits such as fish, game and wildlife are actually protected from

Name	Question 6: Any comments on the conservation estate analysis or the scenarios?
	degradation. Mischaracterizing all public waters as protected threatens to downplay the scope of the problem and perhaps even steer funding away from acquisitions and measures which would protect aquatic systems. Explore how land acquisitions for one purpose can be tweaked to protect aquatic habitat. I am note sure how the following concern can be worked into the framework, but I offer it for your consideration. As you well know, all land in Minnesota lies within a watershed, and how land is used within a watershed determines the productivity and sustainability of the aquatic resources in the "receiving" stream or lake. I am concerned that the public may be missing opportunities to capture protections for aquatic resources when acquisitions intended primarily for other benefits are being made. I suspect that the potential impacts/benefits to aquatic habitats are included in the ranking/scoring process for most land acquisitions programs. However, there may be opportunities being missed to obtain greater protections for aquatic resources when some easements are being written. For example, if OHF is funding a conservation easement intended to prevent forest parcelization and fragmentation, the opportunity exists at that time to include a few additional restrictions which would better protect aquatic resources in the forests. In this way aquatic habitats which are not adequately protected with permanent legal constraints could be protected and/or enhanced at low or no additional cost to the public. The outcomes for aquatic habitat protection or enhancement could be added on top of the terrestrial habitat outcomes. Framework should highlight the role of existing regulations While the draft framework appears primarily to quantify existing habitat and the amount of habitat which could be protected, restored and enhanced with OHF funds, it could do more to identify where actions by state agencies (e.g., enforcement of key law or regulation) could substantially magnify the natural resource impacts of OHF expenditures. Similarly, the framework should do more to identify where the lack of enforcement of existing laws and regulations by agencies can negate the impacts of OHF expenditures. A failure to enforce existing protections afforded by state law can potentially causes greater collective loss of functioning habitat than actual conversion. If habitat is so degraded it no longer support fish, game and wildlife, it is effective lost. Somehow this loss through something less than outright conversion should be captured and worked into the various scenarios. Perhaps a fourth scenario could be added which shows how much more OHF spending could accomplish if several of the most important laws and regulations were uniformly enforced across the state. Other concerns: I am quite concerned that fisheries biologists and aquatic ecologists appear to have been underrepresented on both the advisory group and working group. I suspect that this may have played some role in the flawed approach to quantifying protected aquatic habitat.

Name	Question 6: Any comments on the conservation estate analysis or the scenarios?
	I am also concerned that funding for aquatic habitat protection, restoration and enhancement appears to be substantially smaller than projected spending on terrestrial habitat acquisition. Indeed the overall methodology and focus appears to be the acquisition of land targeted toward terrestrial wildlife. This is certainly important work, but the State may be missing important opportunities to protect and improve aquatic resources if the framework fails to acknowledge the limitations of the quantitative model being proposed.

Name	Question 7: Any comments on the report conclusions?
Joseph Walton	I whole-heartedly agree with your Visions and Priority Actions for each ecological section. Great job! However, I am curious to know how you intend to go forward with restoration of remnant oak savannas in the Metro Urbanizing section, as stated on P. 50 of the report, "Remnant oak savanna will be protected and its health restored, as will forests contributing to quality fisheries." Is there a good database containing all remnant oak savannas in the Metro? Since they are typically grossly overgrown with brush (due to fire suppression for the last 150 years), it may be difficult to identify them from an aerial photo or a satellite image. This may require more ground verification. How do you propose to do this, especially on privately owned lands? Also, since uplands are not protected like wetlands and lakes, it will be more difficult to accomplish this objective. Another comment is regarding allocation of OHW monies. Will there be a budget created for each Ecological Section, that reflects the "Inputs (what we invest)" portion of the recommendations (first column on the table on pp. 59-69 if the report)? Also, how will "outcomes (what success looks like)" be determined, and by whom? Also, since a considerable amount of monitoring and maintenance will need to be done to restored areas, how much will be allocated for that and who will perform that task? Will success criteria be clearly stated before "activities/outputs" occur, so that the standards for success are known going into each project? How will standards be kept somewhat flexible, in accordance with adaptive management?
Thomas Castonguay	Comments on healthy habitat & resources should mention the yet to be determined challenges of climate change & invasive species. The ability to react as the situation changes is a necessity.
Elizabeth Wilkens	Conclusions include lack of skilled help to accomplish goals. Money is projected to be spent on professionals, those who are already committed to "protect, enhance, restore". To truly do the job, Minnesota citizens need to take on part of that responsibility and that can only be done through hands-on education. In other words, a conservation ethic in young and old needs to be developed so that many hands, pocketbooks, and private lands, are devoted to the task. I see great limitations on what can be done using trained professionals; these limitations can be removed by building capacity to serve as active conservationists in youth, families, and retired folks. Only that way will you have a long-term solution to MN environmental problems.

Name	Question 7: Any comments on the report conclusions?
Steve Henry	The conclusion that the restoration and enhancement funded will be more intensive seems to indicate they will encompass even less acres. Hopefully the increased intensity will result in less maintenance cost; this could be asked of the restoration professionals "Given the highly technical restoration and enhancement work planned will maintenance need to increase or decrease". I agree with the shifting in priorities over the 25 years and expected the framework to be an outline of this shifting from protection, to restoration, to a long term sustainable maintenance outline that leaves our habitats in a higher quality then current condition for the long term.
Dick Duerre	How do I submit a request for trail money?
Rex Johnson	1) I would like to see the recommendations moved into the body of the report since they are the meat of this document. I hope these recommendations will be evident in the Council s future resource allocation strategy. 2) A 15% increase in the conservation estate is a very significant accomplishment that Council and its supporters can be proud of if achieved.
Richard Hemmingsen	The report points out the challenges associated with acquiring more land and the having the (human and financial) resources to maintain/manage the new/enhanced resources. As I read through the framework, I was struck with a "missing link" - perhaps. It would be interesting to set aside an appropriate portion of the funds and "habitat" in some/all of the five identified "sections" of Minnesota's conservation estate, devoted to integrated research/demonstration on how to achieve the "best" mix of "protection/restoration/ enhancement" for environmental/ecological benefits, AS WELL AS economic benefits for the state and the citizens. How might these "new and restored/enhanced resources" provide additional economic benefit as well. For example, how might some of these habitats concurrently meet the "restoration/ protection/ enhancement" goals and provide economic benefit...economic benefit from increased tourism/outdoor recreational activities, as well, for example the potential for renewable (sustainable) energy development? In the Northern Forest section, for example, could these lands be managed in such as way to achieve the wildlife/environmental/ecological benefits, as well as providing renewable energy (e.g. biopower/biofuels), perhaps other renewable energy attributes which could spur local economic activity, produce energy locally (enhancing our "balance of payments"), while lowering our collective carbon footprint? In the Forest/Prairie and Prairie sections, one could envision a different mix of sustainable energy solutions on the landscape. What about geothermal installed under the restored prairie ecosystems, or wind turbines, or solar installations on the public lands, or researching and developing protocols for managing biomass for both the desired ecological/environmental/habitat/ recreational benefits as well as economic benefit and energy independence opportunities? Adding such opportunities to the mix might significantly leverage the investments the L-SOHC funds will be making over time. A relatively modest set aside (both in terms of $$ and appropriate

Name	Question 7: Any comments on the report conclusions?
	research/demonstrations sites) could - potentially - achieve significant added/leveraged value.
Neal Feeken	The 25 year framework does not present prescriptions or mechanisms for prioritizing habitats to be protected and enhanced. We encourage the council to continue working with stakeholders to develop and implement habitat based plans consistent with the framework.
Kristen Blann	Given the obvious constraints, we encourage the Council to be more explicit in the framework about how spending can be targeted so as to achieve multiple benefits. The framework acknowledges that even under the most optimistic scenarios or under scenarios where all funds are spent on a particular habitat type, many of the goals articulated in previous conservation plans are not achievable. For this reason, in a fact sheet we developed in 2009 to advise the Council on aquatic habitat (see attachments), we recommended that projects that have both clean water and aquatic habitat benefits should be able to leverage both habitat funds and clean water funds. At that time, we recommended that the Council clarify the interaction and overlap between the habitat and the Clean Water funding processes. While we recognize that this has indeed been the focus of numerous conversations, it is not clear to us that the Council has succeeded in establishing framework criteria for ranking proposals based on their potential for synergistic benefits or in articulating this in the results/outcomes tables. Most recently, the Water Sustainability Framework process led by the University of Minnesota acknowledges that land and water are intimately connected, and recommends that planning for land and water resources should be more fully integrated at all scales. Appendix C does list multiple enduring conservation benefits as item #2 under Statewide Priority Criteria. Proposals that protect, restore, or enhance aquatic habitats and also contribute to clean water or terrestrial habitat goals should be given a high priority for funding. Recognizing that protecting already functioning and undegraded systems is infinitely more cost effective than restoring degraded resources, the Council should also perhaps give some attention to triage.
Steve Wilds	Page 58. Ecological Section Vision and Priorities, Northern Forest Section Vision. The second paragraph is perfect. Thank you for including recognition of the need for active brushland and young forest management. Page 58. Priority Actions for Northern Forest Sections. Given the support indicated in the Section Vision above on this page, I would like to encourage you to add a 5th priority action: 5. Support active forest and brushland management which enhances habitat for important recreational wildlife species.
Brian Nerbonne	I second the conclusion that restoration/enhancement may need additional emphasis going forward. The Council must recognize that land ownership is an ongoing responsibility that has costs. In the climate of shrinking goverment budgets, the workforce and funds to do this work may become more scarce while the land-base for management is growing.

Name	Question 8: How well will this report serve the Council and the Legislature?
Dave Zentner	The work done in this draft are of excellent value; and, will serve numerous "interested parties" very well going forward; if, there is an interest in utilizing this very valuable information. Thank you to all who participated in a v. good effort!
Paul Swenson	How much are we spending to arrive at a method for how to spend these dollars? I am concerned that while the taxpayers have approved the additional tax, they perhaps are not aware of the unintended consequence of raising the pressure on the general fund via payments in lieu of tax and net loss of revenue to other governmental agencies both of which expand the taxes payable by residents. Perhaps the fund should pay all costs of the acquisitions including making up for lost revenue to the local entities.
Joseph Walton	I think it will serve the Council very well. This is an informed and thorough report. I learned a lot from it, that's for sure. I noticed however that the Leadership, Advisory, and Working Groups were heavily represented by government, which is logical, but perhaps under-represented from academia. You may want to consult more professors and researchers at the U. of MN and other academic institutions for their input. You might also consider including someone from The Nature Conservancy, Minnesota Land Trust, Minnesota Waters, etc.
George R. Finn, Jr.	It will serve the Council well.....it will be up to the council to lead the legislature, so lead.
Elizabeth Wilkens	Provide them with a lot of words to argue over . . . .
Steve Henry	This report outlines several intriguing possibilities to achieve higher quality habitats in MN in the discussion areas including active, adaptive management. But as written this framework appears to stress continuation of the Councils current work and does not adequately highlight the actual condition of the public resource likely to result from the expenditures outlined. Obviously the LSOHC is not going to solve MN's conservation problems but please act in a balanced approach that ensures quality habitats do result from these activities.
Dick Duerre	I don't know how well it will serve but I hope they consider allocating money to complete the Minnesota River Valley Trail.

Name	Question 8: How well will this report serve the Council and the Legislature?
Neal Feeken	We applaud the council s efforts to establish a long term vision for the protection and enhancement of Minnesota s landscapes. The 25 year draft framework provides a foundation for completing a multi-stakeholder Prairie Recovery implementation planning process recently convened by The Nature Conservancy. This implementation plan will build on the council s work by identifying specific action and investment strategies for achieving our mutual prairie protection goals. We look forward to continued engagement with the council and to implementing many of the strategies articulated in your draft report.
Kristen Blann	We commend the Council on the excellent job the framework has done in articulating the very significant workforce and base budget challenges facing wise use of constitutional amendment dedicated funds for habitat protection. We also appreciate that aquatic habitat was explicitly included in all of the framework tables. However, we feel that the framework should undergo some adaptive, substantive revisions, in particular to be more explicit about how to prioritize for multiple benefits (terrestrial & aquatic habitat, aquatic habitat and clean water) and about how to go beyond acquisition to evaluate threat abatement and other strategies that have the potential to be more cost effective in protecting, restoring, and enhancing a much larger slice of the state's aquatic habitat.
Steve Wilds	This report may serve the Council, but, regrettably, I am afraid its length and complexity will make it virtually useless to most Legislators due to their limited time to spend on this and the many other issues they have to deal with.
Brian Nerbonne	There needs to be a better way for the Council to assess the status of aquatic habitat protection or restoration. The protected/unprotected framework used in the report should not be used to evaluate project merit; in fact, focusing on the few pieces of aquatic habitat that do not appear in the public waters inventory would likely focus on waterbodies that are not high priorities for quality aquatic habitat. Focus on riparian protection, fish passage, and the benefits that a project can have beyond the physical boundaries of the land parcel. Look for opportunities that include both terrestrial and aquatic habitat benefits. Work with Clean Water Legacy administrators to identify projects that can improve both physical aquatic habitat and water quality.

Minnesota Department of Natural Resources
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Office of the Commissioner
651-259-5555

December 10, 2010

Dear Dr. Kilgore:

The Outdoor Heritage Fund (OHF) is an unprecedented opportunity to reach historic conservation achievements in Minnesota. As we all agree, it is imperative to expend the fund in a strategic, thoughtful, and coordinated manner. The Lessard-Sams Outdoor Heritage Council has, and should continue to, provide visionary leadership toward that end. The Department of Natural Resources (DNR) appreciates the opportunity to review the Outdoor Heritage Fund 25-Year Funding Framework. It is a solid document that provides excellent information on the past, present, and potential futures of habitat conservation in Minnesota, while allowing for flexibility of future Councils. I would like to point out a few issues for the Council to consider as you finalize your funding framework and use it to inform Council decision-making.

One of the most important conclusions of the framework is the need to leverage multiple funding sources and to leverage multiple benefits. This includes other Legacy Funds (such as the Clean Water and Parks and Trails funds) and or other funding sources so that we can make our conservation actions as effective as possible. As much as possible, these funding sources should be complementary instead of competing with each other. There are tremendous efficiencies to be gained in leveraging clean water benefits from habitat protection and habitat benefits from waters and watershed restoration and protection. For instance, flood control projects can have major habitat benefits in addition to water resource benefits. Large-scale working forest conservation easements play an important role in protecting healthy watersheds that support healthy aquatic habitat.

The importance of private lands. The historic conservation efforts section focuses on public lands, yet the conservation estate analysis notes the significant extent of habitat on private lands. Furthermore, the report states the importance of working with private landowners. What happens on private lands will be a major determinant of the degree of conservation success over the next 25 years and beyond. First, it is important to recognize the importance of restoration/enhancement work occurring on private lands owned by both individuals, industries, and other organizations. Second, we encourage the Council to play a leadership role in supporting strategies for private lands conservation that include some public investment (for instance, acquiring easement interests that limit subdivision and provide public access), yet leave restoration, enhancement, and maintenance work to be conducted by the land owner.

The "conservation estate" could be significantly improved for aquatic habitat. The caveats and assumptions regarding the use of the Public Waters Inventory should be corrected to reflect the following. The *beds of public waters are not necessarily owned by the State of Minnesota.* Rather, *the activities occurring within public waters are regulated.* Thus, the reported acreages of effectively protected aquatic habitat are likely very inflated. We recommend that p. 69 be revised to reflect this.

As you probably know, there is excellent work being done by DNR and others to improve aquatic habitat data and approaches for characterizing and prioritizing it to guide conservation decisions. We hope that any updates of this framework include the latest data and approaches. DNR staff with expertise in aquatic habitat would welcome the opportunity to meet with the Council to share the latest work to focus aquatic habitat conservation efforts on the highest priorities.

Despite the significant additional contribution of the OHF to conservation capacity in the state, the major trends contributing to the loss and degradation of habitat and ecosystems - landscape change, invasive species, climate change, etc.- are daunting and will challenge the conservation community and the

Council in achieving its vision. We encourage the Council to help foster innovative, novel conservation initiatives that match the scale of our conservation challenges.

Regards,

Mark Holsten
Commissioner

Great River Greening

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December 9, 2010

The Lessard-Sams Outdoor Heritage Council
G95 State Office Building
100 Reverend Dr. Martin Luther King Jr. Boulevard
St. Paul, MN 55155

Dear Colleagues,

Thank you for the opportunity to provide feedback on the 25-year funding framework. It is a vital tool for the Council in guiding wisely the remarkable investment that the citizens of Minnesota have approved. We congratulate you on a carefully developed document and look forward to the Council's deliberations.

As a state leader for natural resource restoration and enhancement, we read this document with a particular eye to the outcomes and issues related to this specific body of work.

We appreciate that the report recognizes that nonprofits are an important partner in achieving all of the goals of the Outdoor Heritage Fund. Capacity (staffing and human capital) is a significant limiting factor in the long-term implementation of this fund, and it is good that the report acknowledges this point. However, we feel that the need as expressed in this document is over simplified and does not adequately reflect the full need, particularly for organizations that are using or proposing to use these funds for hands-on restoration/enhancement or other human-intensive work.



On page 42, the authors note the challenge associated with indirect costs of staff doing indirect cost work, which is not funded by the Outdoor Heritage Fund:

> *"Furthermore, staff that do indirect-cost work (e.g., administrative, grant management, payroll, legal, human resources, information technology) are necessary but not funded by the OHF, and a relatively stable funding stream is critical to maintain operational capacity in these areas. Decreasing private fund support makes indirect costs particularly challenging for NGOs."*

This reference to a distinct and separate body of indirect cost work, although relevant, is but a small relative challenge for our organization. As staff time associated with the implementation of the grant increases, the impact of indirect-cost work and the failure of OHF in covering that work, also increases. For a restoration and enhancement organization, such as ourselves, our indirect is integrated to the body of conservation work that we accomplish on the ground with our existing staff. Restoration and enhancement is a time-intensive activity and the associated indirect costs (which currently need to be met through fundraising) can be staggering.

Indirect items not covered by the Outdoor Heritage Fund include not only office use for ecologists and field crew, but also many direct costs that are shared across projects, such as equipment maintenance. For every project we do, we have to fundraise for these costs not covered, raising the cost of every project and adding a financial burden to the organization. We would like to see OHF allow for indirect cost reimbursement in line with federal grant allowances, which can range between 12 and 18 percent.

We hope that you will consider this clarification. Again, congratulations on the report and thank you for your leadership.

Sincerely,

Deborah Karasov

Deborah Karasov
Executive Director

restoring the land, renewing communities

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December 10, 2010

Lessard Sams Outdoor Heritage Commission
100 Rev. Dr. Martin Luther King Drive
State Office Building Room 85
St. Paul, MN 55155

RE: Comments on the LSOHC 25-year funding framework

Dear LSOHC:

The funding provided by the 2008 legacy amendment provides a tremendous opportunity to protect, restore and enhance a variety of habitats needed to sustain healthy fish, wildlife, and plant communities. The members and staff of the Lessard-Sams Outdoor Heritage Commission (LSOHC) have done a commendable job establishing a system to set priorities, request and review proposals, and recommending funding packages to the legislature.

Developing a working framework and plans to identify and prioritize actions needed to protect, restore and enhance habitats is critical to ensuring long term success of expenditures made with outdoor heritage and other legacy funds. The current 25-year funding framework will help fulfill this critical need; however, the current version needs substantial revisions.

The current version contains key inconsistencies in how different habitat types are categorized, does not consider or evaluate any alternative scenarios except those based solely on maintaining a narrowly focused set of conservation practices to achieve goals, and falls short in addressing aquatic habitat protection, restoration, and enhancement needs. The following detailed comments on individual sections of the document discuss these primary concerns and others.

Please note that this is a review of the November 22, 2010 version of the framework document which I downloaded after the public call for comments on November 24. I just learned today that there has been another version of the framework document posted on the website.

Introduction
The legislative mandate for a framework is described and so is the difference between a framework and a plan but there is no stated purpose for this framework. At the end of this section on page 6 there is the statement "This report builds on the 2009 results by providing more detail on what could be accomplished with the OHF over the next 23 years." If the purpose of this document is to describe "what could be accomplished in the

next 23 years" then I suggest it be stated clearly in the introduction and it may be good to provide some definition or some idea of what is meant by "build on the 2009 plan".

Methods

Use of four stakeholder groups to develop this framework with the consultants makes good sense. A review of the membership on these groups reveals that only one person, Steve Hirsch, has a fisheries or aquatic science background among the 32 individuals listed. In comparison, wildlife and terrestrial habitat interests are well represented as well as the forestry industry, local governments, and agriculture. The underrepresentation of fisheries and aquatic habitat experts in the process used to develop this framework is unfortunate and likely contributed to some of the issues outlined in the rest of this review.

Framework Components

This section clearly describes the three parts of the framework and the approach used to complete these parts. In review of the plan and the table of contents it appears that the framework also includes two more parts: an "analysis of goals, opportunities, and constraints" and a section with "conclusions and options for consideration". If these latter two sections are also considered parts of the framework they should be mentioned in this section of the report and the relationship among all the parts should be explained.

Minnesota's conservation estate

The efforts to quantify the amount of various habitat types in Minnesota are commendable, but the descriptions of five categories of habitat are incomplete, inconsistent, and do not recognize the critical relationship between aquatic habitats and their surrounding landscape and watershed.

Of most concern is the wording of category 4, "public, permanently protected aquatic habitat." The terms used to describe this habitat category in comparison to the others leaves an impression that virtually all the water habitat resources in the state are "protected" from the perspective of the LSOHC. If the reader does not also read the description of this habitat category provided in Appendix B one could easily jump to the conclusion that this habitat type is protected. The LSOHC has provided considerable funding to shallow lake protection and enhancement programs. These shallow lakes are already considered protected under this current definition. They are on the PWI. I recommend that some key language used in Appendix B be moved up to the description of this category to make it clear what "protection" means for aquatic resources. Also, the description in appendix B only discusses water quality and physical habitat. This list also needs to include "hydrology" and "connectivity" because these factors also influence whether aquatic habitat is "protected". Further, for purposes of quantifying habitat, Appendix B makes it clear that stream and river resources are not substantively factored into this framework since they cannot be counted in acres. The 33,603 miles of watercourses are a footnote on the aquatic habitat map.

Unlike the aquatic habitat category, category 1 "publicly owned terrestrial habit" does not also have the adjective "permanently protected" associated with it. Why? This is

inconsistent with the language used for publicly owned aquatic habitats and should be resolved. Also, should school trust lands be included in this category?

Category 2 is "privately owned permanently protected terrestrial habitat". As described, protection of terrestrial lands, which in this situation includes most wetlands, only includes lands with some type of conservation easement. This is a very narrow definition considering that there are a number of federal, state, and local laws that directly protect these habitats in private ownership just as PWI protects aquatic habitat. For example, the Public Waters Inventory protects wetlands over 10 acres in size and the MN Wetlands Conservation Act (WCA), U.S. Army Corps of Engineers Section 404 regulatory authority, and swamp buster provisions of the farm bill protect many thousands of acres of wetlands throughout the state. Similarly, the shoreland standards protect riparian terrestrial habitats. If aquatic habitats are considered "protected" because of the enforceable laws described in this framework but these same types of laws do not "protect" wetlands there is a clear contradiction in the way the framework and presumably the council views terrestrial and aquatic habitat protection. This contradiction needs to be explained or reconsidered. To clarify how much of this privately owned permanently protected habitat is protected by existing laws, the working group could get reasonable estimates of these protected wetland and riparian habitats and map them just as has been done for protected aquatic habitats.

Historic conservation efforts

This section provides good background on the approach used to describe historic efforts. The statement: "Although many types of conservation work, such as public education, regulation, enforcement, environmental review, conservation status and priority assessments contribute to protection, restoration and enhancement, the working group focused on efforts similar to those the LSOHC funded in its first two years and those that directly conserve habitat so data for historic funding and recent council expenditures would be as comparable as possible." makes it clear that the scenario work presented in subsequent sections of the report was constrained to a very narrow definition of protection activities and that this report does not provide any assessment of the effectiveness of any alternative approaches to habitat restoration, protection, and enhancement besides efforts "similar to those the LSOHC funded in its first two years".

Three Scenarios for the Future

As described, the scenarios presented are "simple projections of recent conservation actions" intended to "help the council and other decision makers understand the potential impact and tradeoffs with different levels of support for habitat protection, restoration, enhancement". Based on these statements and the description of the scenarios there is an inherent presumption in this framework that that the current way of doing business is the best way to protect, conserve, and enhance habitats and that the only factor to evaluate is the "level of support". It is also unclear whether removal of numerous dams to enhance hundreds of mile of stream habitat and the direct restoration and enhancement of numerous miles of rivers and streams in the state are included in "recent conservation actions" and if they were part of the projections for the future.

The framework and scenarios presume an acquisition only approach to habitat protection. No attempt is made to explain why this is the only approach evaluated or to compare the long term effectiveness of this approach to an alternative approach that is not focused solely on acquisition. In the interest of looking at net habitat gains over the next 25 years there should be an assessment and comparison of more than one strategy to protect habitats. For example, this framework leads me to believe that no wetland protection strategies except acquisition will ever be evaluated for their effectiveness in protecting wetlands or even considered for funding. The effect and cost effectiveness of a wetland protection strategy that includes some funding for other activities such as increased enforcement of existing laws should also be evaluated as a scenario. Similarly, a comprehensive strategy to protect shoreland habitat that includes some funding of enforcement of shoreland rules should be evaluated as another scenario. The cost effectiveness and long-term protection benefits of these types of strategies should then be compared to the acquisition only strategy proposed in this framework. This framework should be the place to complete this sort of alternative analysis or at least mention this as an option to consider in the future.

The scenarios also inherently limit the measure of accomplishment to "acres" of habitat protected or restored/enhanced. This approach essentially excludes measurement of any benefits to the 33,603 miles of public watercourses and establishes a system where there is no incentive to protect or restore/enhance watercourses for the next 23 years. While acres is convenient measure and may be appropriate now, it is surprising that there is no mention or consideration of taking an "ecosystem services" based approach to habitat protection and enhancement/restoration in this section or in the "options for consideration" section later. This approach will integrate geospatial information and modeled habitat outcomes to allow for more precise and cost effective application of conservation measures that will achieve multiple benefits not just acres of habitat.

The scenarios also list acres of aquatic habitat "protected". This language is inconsistent with the description and maps presented earlier in the framework that determined 93% of all aquatic habitat in the state measured in acres is already protected (an argument could also be made that 100% of the priority aquatic habitat is already protected because of the types of waters listed on the PWI). This inconsistency between the aquatic habitat described here and the aquatic habitat described earlier needs to be resolved. Since the report estimates that 10% of all protection dollars from 2000-2009 were expended on aquatic habitat protection this distinction between what aquatic habitat protection is here and what it is earlier needs to be explained. Presumably these expenses were for protection of "shoreline miles" reported in other LSOHC documents. Counting shoreline miles as aquatic habitat in some documents and limiting the definition of aquatic habitat to water here creates an inconsistency. The current language could lead one to conclude that 10% of the funds expended to date were used to protect aquatic habitats that were already protected. Under the definitions in this framework, shoreline miles are, in fact, terrestrial habitat since they are not water.

Finally, it should be acknowledged somewhere here that the scenarios look only at one side of the habitat equation. Habitat loss and degradation will also occur over the time

period and the net impact of the protection and enhancement strategies on acres of habitat in the state over 25 was not evaluated. In the future, it would be interesting to develop and analyze a scenario that looks at the expected **net** habitat gains and losses over the next 25 years. For example, in a recent investigation into the net change in wetland area in Minnesota from 1980 to 2007, researchers estimated that 15,707 acres of wetland were drained and just 4,517 acres were restored in the LSOHC Prairie Section for a net loss of 11,278 acres (Assessing Wetland Changes in the Prairie Pothole Region of Minnesota from 1980 to 2007. Fred T. Oslund, Rex R. Johnson, and Dan R. Hertel. 2010.). The scenarios should put their results in context of this reality since this investigation revealed there were net losses in wetland acres in all ecoregions located within the prairie pothole region of the state. This reality is recognized in the next section of the report since it is ranked as the number one constraint but should also be part of the discussion in this section.

Goals, opportunities and constraints

This section of the framework provides a basic overview of goals and opportunities identified by conservation organizations and agencies that have received LSOHC funding and a good identification and review of the constraints identified by these groups. Of particular importance is that the number one constraint is "loss of functioning systems and habitat fragmentation/degradation" and that a "net positive change is difficult to achieve". Listing this as the highest priority constraint is significant and suggests to me that the current organizations being supplemented by funding by LSOHC are concerned about net habitat gains over the next 25 years. I suggest that the"options for consideration" section later in the report include a discussion of this net habitat issue.

The public has clear expectation that spending 60 to 80 million dollars a year for 25 years on habitat protection, restoration, and enhancement will result in widespread and significant benefits. The impacts of other factors on net habitat gains needs to be assessed further to develop a more comprehensive approach to habitat work that includes other strategies and funding resources to mitigate these factors. The last bullet item in the "options for consideration" section of the report does vaguely suggest that this type of approach is needed but more specifics are needed.

It is also good to see that at least one respondent mentioned the impacts of invasive species on habitat. From an aquatic habitat perspective, invasive species are a serious threat to habitat and the sustainability of healthy aquatic communities. Unfortunately, protection of these habitats from the effects of invasive species is not possible through an acquisition only approach to protection. Similar to the net habitat loss concerns, protection and enhancement of habitats could be negated by impacts of invasive species yet there is no substantive discussion of this issue.

Conclusions and options for consideration

The conclusion statements and tables are difficult to evaluate since they are based on habitat category definitions that are inconsistent as described above. The conclusions listed are mostly a summary of the results of the scenario exercise. At a minimum, the basic results of the assessment of constraints should also be included in the list of bulleted conclusion statements.

The options for consideration listed are interesting and almost all seem to apply only to terrestrial habitat. In addition to the "ecosystem services approach" suggested earlier, I recommend that an additional option be listed here titled "consider watershed approaches and the watershed context of actions that protect, restore, and enhance aquatic habitat". The successful and sustainable protection, restoration, and enhancement of wetlands and aquatic habitats must consider the watershed context in addition to the ecoregion context. A discussion of watershed approaches could be included in the new and nontraditional programs strategies section and it should be noted that there are numerous examples of watershed-based approaches to effective management of aquatic and wetland habitats in Minnesota.

Part 2: Planning and managing for results
This part of the funding framework is a compilation of previously reported information compiled by and for the LSOHC.

The following statement from the forest/prairie transition section vision provides more evidence that aquatic habitats are being considered differently by the council than other habitat types. "The council sees a future in which ample grasses and other vegetation on shorelands and higher in the watershed keep water on the land. This will yield clean lakes and streams, steady lake and stream levels, and improved aquatic vegetation and provide plentiful habitat for fish, game, and wildlife, especially waterfowl and upland birds." This presents the idea that restoration and enhancement of lakes, rivers and stream will follow directly from actions to restore wetlands and prairies.

This presumed outcome is far from certain especially since the primary consideration for the location of habitat projects on the landscape seems to be the wildlife benefits (e.g. HAPET-based priorities) or the existence of willing sellers. If substantial benefits to aquatic resources are going to be realized in some regions as an indirect effect of protection/restoration/enhancement of terrestrial habitat types as is stated, then the process for selecting terrestrial habitat projects must be revised over time to include factors that directly influence priority aquatic resources. Fisheries and aquatic habitat professionals understand the relationship between a healthy landscape and healthy waters and there is a growing knowledge base. They would welcome discussion of this topic which will add value to the current approaches to site selection being used by the LSOHC and result in multipurpose projects that provide a range of ecosystem services and could leverage multiple funding sources.

It continues to be disappointing that the priorities outlined in the prairie section vision do not even mention aquatic habitat. In August, 2009, I was one of at least 12 fisheries professionals who attended the Detroit Lakes planning meeting for the LSOHC. This group of fisheries professionals provided goals and a detailed quantitative summary of the number of dams that need to be removed and the number of miles of streams that need to be restored and enhanced in the prairie section. This is a very large region of the state with hundred of miles of rivers and streams in need of restoration and enhancement. Based on this framework, section plans, and existing funding history the residents and

resource professionals in the region should not expect these activities to be funded directly through outdoor heritage funds.

Results Management Framework
This section of the report primarily puts the information presented in the LSOHC section plans in a table format that may be useful for some readers.

Thank you for the opportunity to provide comments on the framework document.

Sincerely,

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December 10, 2010

The Lessard-Sams Outdoor Heritage Council
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Dear Council:

Ducks Unlimited sincerely appreciates the opportunity to review and comment on the draft Outdoor Heritage Fund (OHF) 25-year funding framework dated 23 November 2010. Indeed, we are also thankful for the opportunity previously provided to us in 2009 to provide science-based recommendations to help shape the Council's statewide and regional vision and priorities. We are confident that with continued fidelity to the constitutional mission of the Outdoor Heritage Fund through 2034, the Minnesota landscape will be dramatically improved for the benefit of waterfowl, other wildlife and future generations.

Many of our suggestions and ideas are captured within the draft funding framework, which we appreciate. We are very pleased to see multiple references to the importance of enhancing, restoring, and protecting Minnesota's shallow lakes and large wetlands for waterfowl, as these wetlands serve as the cornerstones of waterfowl habitat in this state. We are also gratified to see the importance of partnerships and non-profit conservation partners highlighted in the report, as it will take a very broad-range of dedicated conservation partners working together to implement the goals outlined in the framework. We are encouraged the framework explicitly acknowledges the importance of human resources and staff capacity to delivering this challenging work. It will take significant and sustained investments in new staff to successfully implement this framework in the years to come.

Given the huge loss of wetlands and prairies in southern, central, and western Minnesota, and the significant negative impact those losses have had on our remaining wetlands, shallow lakes, and related waterfowl habitats, our concerns and perspectives relate primarily to addressing those issues. This is especially relevant in the prairie and transition zones. With that context, we encourage the final report to clarify how management activities relate or differ from restoration and enhancement projects and programs. Our perspective is that restoration of previously converted habitats and enhancement of existing, but degraded habitats are one-time investments that result in significant, measurable improvements of habitat condition whereas management is the ongoing and frequent action necessary to maintain those improvements over time (such as periodic burning needed to maintain native prairie). It would be beneficial if the final report clarified this issue, especially in the context of projected increased management expenses resulting from new protection accomplishments and the potential for traditional sources of funding to decline as is referenced in the draft report.

Regarding traditional sources and to ensure scenario 2 is additive to scenario 1, we believe the general fund, the Environment & Natural Resources Trust Fund, and bonding are all sources of traditional conservation funds in Minnesota. These sources will be critical to continuing the same level of historic accomplishments that existed prior to the creation of the Outdoor Heritage Fund. We also believe it is important for the report to acknowledge the important role that the Legislative-Citizen Commission on Minnesota Resources has played over the years in providing Trust Fund grants directly for wildlife habitat conservation projects, most recently through grants to both the Habitat Conservation Partnership and to the Metro Conservation Corridors.

Related to Minnesota's conservation estate, we agree there are limitations to some of the data that only capture the quantity, not quality of terrestrial and aquatic habitats. For example, many of the permanently protected aquatic habitats referenced on pages 8 and 69 may be degraded despite being legally protected. In the case of shallow lakes, which are protected by state statute, many are currently in a turbid state due to invasive fish, abnormally high inflows of nutrient laden water and stabilized water regimes. Thus, it is important to explicitly mention the need to enhance these degraded habitats, despite their protected status that implies they are providing quality habitat. We also recommend that "in-basin nutrient loading" be added to the first bullet on page 69 after watershed as another influencing factor of water quality and habitat conditions.

Regarding Appendix B: Options for consideration, we believe it is imperative the framework explicitly include a reference to the goals and objectives of the Minnesota DNR Duck Recovery Plan and the Shallow Lakes Program Plan. These plans form the basis for many of the wetland, shallow lake, and upland habitat goals in the framework, and include many partners that are working together to restore and enhance waterfowl habitats throughout the state.

Further, it may be important to link the habitat conservation objectives of this plan to some wildlife population goals listed in other habitat-based conservation plans. This would elevate the framework in the context of state, national, and continental wildlife species conservation plans and programs. This is especially true for migratory waterfowl, the goals and objectives for which are captured under the North American Waterfowl Management Plan and implemented in regional, landscape based joint ventures.

Finally, we appreciate and thank the Council for the transparency, accountability and science-based process related to the first three years of recommendations from the Outdoor Heritage Fund. Ducks Unlimited strongly believes the Council has done a tremendous job delivering outcomes Minnesota voters desired and envisioned in 2008 with they passed the Legacy amendment.

Sincerely,

Ryan Heiniger

Ryan Heiniger
Director of Conservation Programs, Minnesota & Iowa

Cc: Jon Schneider, DU Manager of Conservation Programs

Minnesota Farm Bureau® Federation
Farmers • Families • Food

December 10, 2010

Lessard-Sams Outdoor Heritage Council
100 Rev. Dr. Martin Luther King Jr. Blvd.
State Office Building, Room 85
St. Paul, MN 55155

Re: 25-year Funding Framework

On behalf of nearly 30,000 member families, the Minnesota Farm Bureau Federation (MFBF) appreciates the opportunity to comment on the Lessard-Sams Outdoor Heritage Council's (LSOHC) 25-year funding framework.

After reviewing the conclusions on pages 36 – 38, it appears to us the LSOHC faces some significant challenges if it continues down the scenarios laid out in the framework. Specifically the conclusions state; "the LSOHC 2009 planning targets for protection exceed the capacity of the Outdoor Heritage Fund (OHF) and major conservation efforts added together. The ability to meet restoration and planning targets is less clear."

In addition; "The OHF and current efforts could increase the number of publicly owned and privately protected terrestrial habitat by 15% over the next 23 years. Although this may sound encouraging, it also creates a greater maintenance burden for conservation organizations. A recent Office of the Legislative Auditor report and the LSOHC 2009 planning sessions raised concerns about the shortfall in maintaining current wildlife lands and waters. This implies that serious consideration should be given to prioritizing expenditures among activities, and that priorities may justifiably need to shift from protection to restoration/enhancement over the life of the OHF."

The Legislative Auditor's report also stated; "while its long-range plans propose significant future acquisitions of land, the Department of Natural Resources (DNR) appears to lack adequate resources to manage and maintain its current land holdings."

Paying for the ongoing management and maintenance of state owned land and the impact of removing that land from local property taxes is a major concern of Farm Bureau members. Farm Bureau voting delegates adopted the following public policy position at our 2010 annual meeting. "We support requiring the development of a management plan for all state land purchases, which at a minimum, includes a budget, funding source and the fiscal impact on local government tax revenues."

The 3 scenarios laid out in the 25-year funding framework focus on total acres protected, resorted or enhanced with protection meaning fee title acquisition or permanent easements. Is this the best way to measure success of the LSOHC? While this may be a cost-effective way to measure success, does it give Minnesota taxpayers the "best bang for the buck" in restoring, protecting and enhancing wetlands, prairies, forests, and habitat for fish, game and wildlife as required in the constitutional language?

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With the challenges laid out in the conclusions of the 25-year framework we believe come opportunities. The LSOHC should look long and hard at part of the conclusion on page 29; "serious consideration should be given to prioritizing expenditures among activities, and that priorities may justifiably need to shift from protection to restoration/enhancement over the life of the OHF."

Minnesota farmers and landowners have a proven history of participating in conservation programs that are a mix of permanent easements and long term contracts. According to a Conservation Land Summary prepared by the Board of Soil and Water Resources, dated August 16, 2010, a total of over 1.8 million acres are enrolled in various conservation programs. Those programs include; Conservation Reserve Program, Continuous Conservation Reserve Program, Conservation Reserve Enhancement Program, Reinvest In Minnesota, Reinvest In Minnesota Wetland Preserve Program and Wetland Preserve Program. Participants in these programs have invested significant resources, their time and money, to participate in these programs.

We respectfully ask the LSOHC to consider the following opportunities when looking to future uses of the OHF.

- Focus on targeted approaches to restoring, protecting and enhancing habitat such as DNR's Working Lands Initiative.

- Explore and implement options for leveraging OHF dollars with current and possible new conservation programs, some of which may not be permanent.

We also feel strongly that a management plan for all state land purchases or permanent easements should include, at a minimum, a budget, funding source and the fiscal impact on local government tax revenues.

Please contact me at 651-768-2104 or Cradatz@fbmn.org if you have any questions.

Thank you for consideration of MFBF's comments.

Sincerely,

Chris Radatz

Chris Radatz, Director, Public Policy

Cc: MFBF President Kevin Paap