



Management
Analysis
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Cover page will have new OHF logo, once it is completed,
rather than MAD logo

- **Lessard-Sams Outdoor Heritage Council**

23-year funding framework

November 1, 2010

DRAFT for Council Review

[When complete, replace with LSOHC Contact info and LCC's Contact Info and ADA compliance information]

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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]

Executive summary

The Outdoor Heritage Fund was established with the passage of the Clean Water, Land Legacy Amendment in 2008. As directed by Minnesota Statutes 97A.056, the Lessard-Sams Outdoor Heritage Council (LSOHC) was formed to recommend appropriations from the Outdoor Heritage Fund (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, a planned vision and priorities to achieve that vision, and a results management framework to connect the vision and priorities with inputs, outputs and ultimate outcome measures.

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 the plan for intermediate-term recommendations for appropriations. In 2010, a methodology was developed to draft the plan and framework that included input and review from leadership within the conservation community, 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 both internal and external audiences, including the general public, prior to submission to the LCC.

The adopted framework looked at historic and contemporary activity in the conservation estate. This was a significant undertaking as there was no available literature containing the consolidated data required to analyze historic conservation activity as laid out in the Minnesota Constitution, Article XI, Section 15. A data collection effort was developed posing to answer questions regarding the extent of habitat, and the distribution of protection, restoration and enhancement activities throughout in the state. In addition, information was also collected on identified goals, as well as the opportunities and constraints perceived by the conservation community. The information request was targeted to conservation entities that were annually spending \$1 million or more on acquisition, restoration and enhancement activities in Minnesota.

Scenarios were developed anticipating to explore three possible scenarios for investment of the OHF in the next 23 years. The first scenario, the pre-outdoor heritage fund, examines conservation work that has occurred historically, without the benefit of additional OHF investment, and attempts to estimate the future activity that may occur. The second scenario 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. The third scenario, maximized allocations, describes the outputs that could be achieved if all of the OHF were dedicated to a single habitat and activity. While not likely a scenario to be adopted, it does provide a maximum output analysis showing how a specific habitat would garner significant outcomes.

In discussing major goals, opportunities, and constraints, respondents highlighted several goals including 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

different sectors, and increasing private landowner interest in conservation activities and programs.

Among a list of 22 possible constraints that were identified by the working group and posed to respondents, 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 often reported 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.

Results based on the 25-year framework suggest that while the OHF will play a critical funding role in the future, the 2009 planning targets 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 tax revenues and the future buying power of those revenues. Success in conservation will be highly dependent upon leveraging traditional and other sources of conservation funding with funds available from the OHF, and coordinating efforts with conservation partners. Moreover, further refinement is necessary in targeting restoration, enhancement, and protection goals not only on publicly held land, but on private lands as well. Finally, different conservation strategies are necessary for the five ecological sections, given that they each have unique land cover and ownership characteristics.

The 25-year framework concludes with three recommendations. The first recommendation acknowledges that the constraints across the conservation estate differ in the nearer and long term. Organizations are faced with significant ramp-up activities in getting programs started and stretched with workforce concerns over the short term. Funding in the long term will continue to be of considerable importance. The second recommendation specifically addresses the workforce development issue. A strategy that addresses sufficient human resources for sustained enhancement activities is required. The third recommendation encourages new and non-traditional programs and strategies to be developed and implemented to ensure success.

The report concludes with a reiteration of the Council's plan in the form of the Statewide and Sectional Visions and Priorities interpreted into a results management framework for each of the five ecological sections. This goes beyond mere inputs and outputs and moves to evaluation through an outcomes based approach.

PART 1: 23-year Framework

Introduction and background

The Outdoor Heritage Council and its planning process

The Lessard-Sams Outdoor Heritage Council (LSOHC) was established by the Minnesota Legislature with the responsibility of providing 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 Council strives to be consistent with the 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 provided \$138 million in resources to 30 programs.²

In addition to annual recommendations for funding, the legislature also requires the Council to develop and submit a report to the Legislative Coordinating Commission (LCC) on its longer-term plans. Minnesota Statutes 97A.056, Subdivision 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.

The following report summarizes the analysis of a working group of conservation professionals (see Appendix A for membership). This report builds on planning efforts conducted by the Council in 2009. The Council sponsored a series of meetings around the state with approximately 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 the development of its statewide vision and priority actions as it approached its funding recommendations for fiscal year 2011.³

¹Constitutional Amendment – Article XI, found at: <http://www.lsohc.leg.mn/constitution.html>

² A summary of funding to date and accomplishments is available on the Council’s website: <http://www.lsohc.leg.mn/accomplishments.html>

³ A summary of the 2009 input meetings is available on the Council’s website: http://www.lsohc.leg.mn/materials/09_Mtg/LSOHC-planning-meetings-summary.pdf

A 23-year funding framework

The following table describes the working definitions of a plan versus a framework, as they were understood.

<i>A plan...</i>	<i>A framework...</i>
<ul style="list-style-type: none"> ➤ Defines the organization’s mission (this is often articulated in statute) ➤ Articulates a vision for the future ➤ Defines the 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 	<ul style="list-style-type: none"> ➤ 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

The work of a *plan*, as described in the first column, has already been accomplished and is incorporated into Part 2 of this document. The language of the constitution and state statutes establishes the Council’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 42-46 of this document. The Council reviewed these priorities and affirmed that these statements express its plan for the near term years of the 25-year funding period, with the proviso that the Council would review its vision and funding priorities each year.

The Council has noted that the vision and core strategies will likely change over time, to reflect public input and to take into account future environmental and economic changes that cannot be forecasted at this moment. The Council reviews its vision and priorities, along with statewide priorities, annually prior to the release of its Call for Funding Requests, and also plans to revisit its longer term funding progress at five year intervals, at a minimum.

The Council’s *framework*, as described in the second column, builds on the accomplishments of the 2009 planning process, which defined both funding and acreage targets. The 2009 process did not attempt to distinguish what the resources of the *OHF* could accomplish over time, *separately* from the work of many public and private conservation partners. Community feedback suggested the targets were also very rough estimates. Furthermore, while conservation partners gave helpful feedback that helped articulate priority characteristics of land that should be selected for acquisition (whether for fee or conservation easement) and priority actions for restoration and enhancement work, partners were not asked what might limit or constrain their actions, although these issues arose during the development of targets.

It is the working group’s intention with this report to provide technical assistance to the Council; taking its current mission, vision and core strategies as givens and analyzing further what could potentially be accomplished with the *OHF* over the next 23 years.

Method

Development of the framework

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

MAD conducted a brief project for the Council in spring 2010 to scope the framework project. This included:

- **Leadership consultation.** One meeting was held March 9, 2010 with a group of state and federal agency and non-governmental organization leaders (attendees are listed in Appendix A), identified by council staff. Their goals were to obtain their feedback on the objectives and plan developed by MAD and council staff up until that point, their organization's commitment to assist with the development of the 25-year framework, and their recommendations for staff with planning and technical expertise to participate on a planning and technical advisory group.
- **Advisory group consultation.** Two meetings were held, April 8 and October 6, 2010, with the recommended advisory group members (attendees are listed in Appendix A). The group approved an outline for the 23-year framework developed by the Council chair that set the specifics of the framework approach and provided guidance on how to keep the project manageable in a short time period (summer and fall of 2010). Advisory group members offered the names of professional staff who were considered well qualified to perform the analyses called for within the framework outline. Two members of the advisory group were also appointed to the working group.
- **Working group.** The working group began meeting in May 2010 and has been meeting bi-monthly to collect and analyze data for the framework. MAD facilitated working group meetings and council staff has attended each meeting to provide advice and continuity to the project. Meetings have been noticed on the Council's website and have been open to the public.
- **Internal and external review.** The draft document of this report to the Council was reviewed by the Council on November 4, by conservation professionals between [date] and [date], and by the public between [date] and [date]. [Something about the results of that, after it happens.] The Citizens League reviewed the report as a neutral third party.

Framework elements

The framework consists of three elements: the conservation estate in Minnesota, historic conservation efforts, and three scenarios for the future.

Historic trends of 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 work. 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? Who does restoration and enhancement work? How much have they accomplished? Answers to these questions are addressed in the conservation estate and historic conservation efforts elements of the framework.

The conservation estate in Minnesota

To answer the questions, “How much habitat do we currently have in Minnesota?”, “How much of it is permanently protected?”, and “Where is it located?”, 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 (e.g., highly converted landscapes such as urban areas and cropland were excluded from consideration). The analysis assembles data from a variety of sources in five general categories (for a complete technical description of data layers, see Appendix B):

1. **Publicly-owned terrestrial habitat** – are publicly owned and managed lands for conservation, such as state Wildlife Management Areas (WMA) and Scientific and Natural Areas (SNA), state parks, state forests, federal holdings such as Chippewa and Superior National Forests, Voyageurs National Park and the Boundary Waters Canoe Area Wilderness (BWCAW), and county lands such as tax-forfeited lands.
2. **Privately-owned, permanently protected terrestrial habitat** – are 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, also would be in this category, but are not identified due to lack of available spatial data⁴.
3. **Private terrestrial habitat** – this includes lands that are privately owned, and were deemed to provide at least basic wildlife habitat value based upon land cover classification. This includes acres that are enrolled in temporary easement programs, such as the USDA’s Conservation Reserve Program (CRP), that set aside land *temporarily* for conservation.

⁴ A recent assessment of conservation easement activity in Minnesota indicated that privately-owned conservation easements account for approximately seven 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)

4. **Publicly, permanently protected aquatic habitat** – this includes state waters that are within the Public Waters Inventory (PWI). These waters are lakes, wetlands, and watercourses for which there are regulations providing basic protection from alteration of lake beds, stream and river channels, and other watercourses. Regulated development activities include filling, excavation, docks, marinas, water level controls, dredging, and dams.
5. **Not publicly-protected aquatic habitat** – this consists of the DNR inventory of all lakes and streams that appear on the U.S. Geological Survey 7.5 minute topographic quadrangle maps (1:24,000 scale) that outdoor recreationists commonly use for navigation.

The conservation estate is presented by five L-SOHC Sections. The Council is required by statute to use sections of the state based upon the ecological regions and sub-regions developed by the DNR, and to establish objectives for each region and sub-region to achieve the purposes of the fund. The five sections are an aggregation of the state’s ten Ecological sections.

Historic conservation efforts

To answer the questions, “Who does restoration and enhancement work? How much do they accomplish? How much is expended on these activities?” the working group collected 10 years of historic funding and acreage information from public and private organizations who were estimated to spend more than \$1 million per year on land acquisition, enhancement and restoration work⁵. Although there are many types of valuable conservation work that are precursors to protection, restoration and enhancement, such as public education, regulation and enforcement, environmental review, conservation status and priority assessments, the working group focused on historic efforts that are similar to the type of programs the Council funded in its first two years. The efforts that the working group focused on are also those that directly contribute⁶ to habitat conservation. This decision was made with the goal that comparisons between historic funding and recent Council expenditures be as comparable as possible, recognizing definitional limitations described on page [15] and to comply with statutory direction.

⁵ Organizations listed on page [16].

⁶ M.S 97A.056, Subd. 3 instructs the Council 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

To demonstrate frameworks for funding and accomplishments in the future, the working group calculated three scenarios. All three scenarios are simple projections of recent conservation actions⁷ over the next 10 and 25 years. They provide context for Outdoor Heritage Fund allocations by showing the monetary and physical constraints and possibilities of major Minnesota conservation efforts. The scenarios do not predict the future nor set specific goals that bind Council decisions. These projections are intended to help the Council and other decision makers understand the significance of current efforts if replicated into the future. They are intended to help the Council and other decision makers evaluate trade-offs in conservation funding decisions.

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 and serves as a “baseline” for comparison with the other scenarios. With declining state resources and no additional funds, this is may be a generous assumption. It is nevertheless important to understand the amount of work that could continue, without OHF funding.

Scenario 2: Extend the OHF’s first two funding years

This scenario shows the likely outputs if remaining OHF appropriations conform to a similar type and pattern as the first two years’ funded projects. This is a “distributed” investment scenario that shows the future outputs if current annual appropriation patterns hold.

Scenario 3: Maximized allocations

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, the Constitutional mission and the Council’s current vision and priorities are not realized. These estimates simply show how each specific habitat type would garner significant outcomes. These are not intended to be realistic scenarios, but they show an upper bound for each habitat type, or a “what if” calculation that Council members and stakeholders might find useful and informative. They also serve as a “reality check” for calibrating expectations of what the OHF can reasonably accomplish over the next 23 years.

Each scenario’s projections are presented by:

- Three annual rates of change: five percent decline, zero change and five percent growth.⁸ Land price and inflation changes affect conservation project costs and funding can vary annually. Sales tax revenues are the OHF’s income source, and may or may not keep pace with inflation and land costs. Combined, these factors will cause the OHF’s purchasing or buying power to increase or decrease over the years. The annual rates of change illustrate the impact of declining, stable and

⁷ Conservation actions are the number of acres protected through fee acquisitions and permanent easements, and acres restored and enhanced.

⁸ 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.

growing “purchasing power.” For example, a five percent annual decline means five percent less conservation work is accomplished annually than in the preceding year. The particular rates were selected for illustrative purposes, to show that, over 25 years, the different rates significantly affect the conservation outputs.

- The time period of 2010-2034 (25 years). Ten-year time period calculations are also provided in Appendix X and X.
- Unique acres of protection and restoration/enhancement activities, to conform with the Council’s practice of reporting acreage figures separately, rather than double counting between protection and restoration/enhancement for acres that are protected and restored through the same project.
 - For example, a project is funded with the expectation of impacting 430 acres. While all 430 acres may be restored/enhanced, a portion (80 acres) had to first be purchased. The result would be an accomplishment report indicating 80 acres protected and 350 acres (430 minus 80) restored/enhanced.

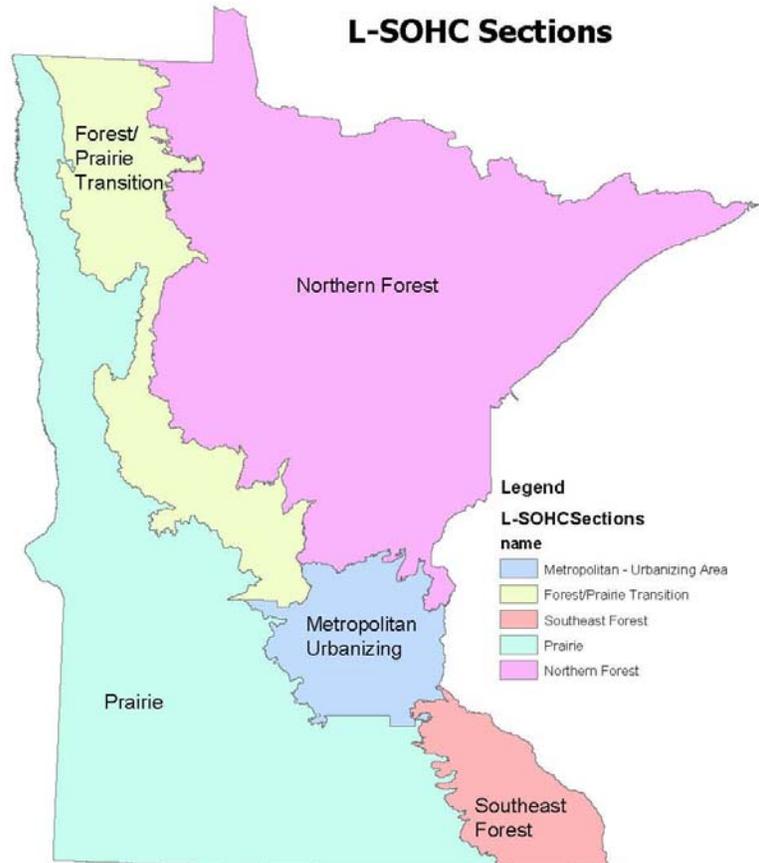
The Minnesota conservation estate

The map on the following page and the tables on pages [12-13] summarize land providing wildlife habitat in Minnesota. This type of land was defined to include:

- All terrestrial land with the exception of highly converted cover types, as identified by land cover or programmatic data; and
- All lakes and streams.

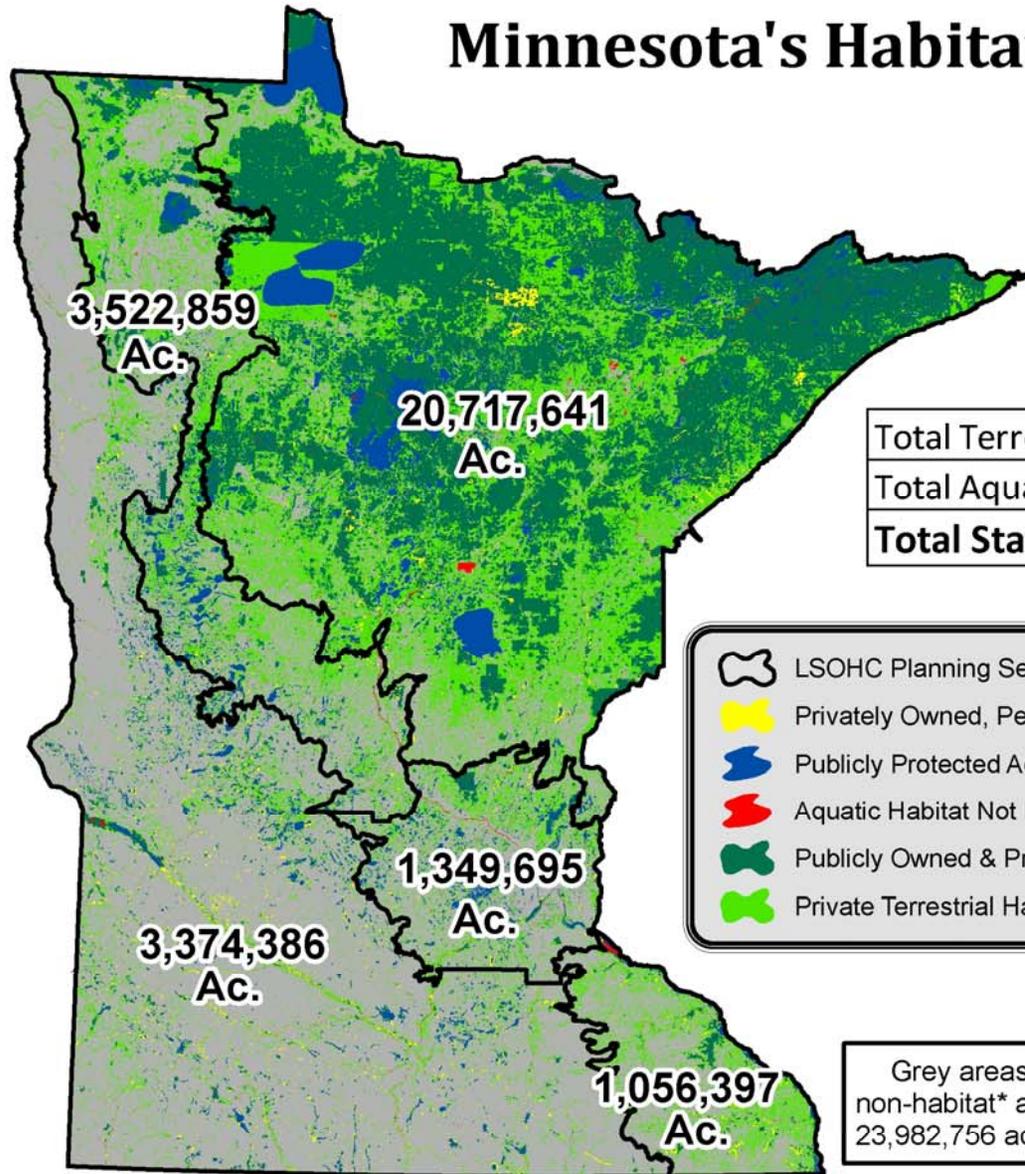
The categories of land included are briefly summarized in the “Introduction and Method” section, and a full methodological description, including all data sources used for the analysis and additional maps are in Appendix B.

The conservation estate is presented by five L-SOHC Sections. The Council is required by statute to use sections of the state based upon the ecological regions and sub-regions developed by the DNR, and to establish objectives for each region and sub-region to achieve the purposes of the fund. The five sections are an aggregation of the state’s ten ecological sections.



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.

Minnesota's Habitat Conservation Estate



Numbers on map represent total acres of current wildlife habitat within each LSOHC planning section. This map does not address or depict habitat quality

Total Terrestrial Habitat	26,151,273 Acres
Total Aquatic Habitat	3,869,705 Acres
Total Statewide Habitat	30,020,978 Acres

- LSOHC Planning Sections
- Privately Owned, Permanently Protected Terrestrial Habitat - 652,031 Acres
- Publicly Protected Aquatic Habitat - 3,581,326 Acres
- Aquatic Habitat Not Publicly Protected - 288,380 Acres
- Publicly Owned & Protected Terrestrial Habitat - 11,316,879 Acres
- Private Terrestrial Habitat - 14,182,363 Acres

Grey areas represent non-habitat* areas equaling 23,982,756 acres statewide



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* "Non-habitat" areas (including developed, impervious areas, cultivated and barren lands) provide some degree of wildlife habitat but were excluded from the conservation estate because they would require extensive conversion for purposes of the Outdoor Heritage Fund.

Table 1. All Minnesota Habitat⁹ (both public and private)

LSOHC Planning Section	LSOHC Planning Area Acres (% of state)	All Current Habitat Acres	% of LSOHC Planning Area	% of Statewide Total Habitat Acres
Forest/Prairie Transition	6,560,182 (12%)	3,522,859	54%	12%
Metropolitan Urbanizing Area	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	30,020,978	56%	100%

Table 2. All Minnesota Non-Habitat

LSOHC Planning Section	LSOHC Planning Area Acres	All Minnesota Non-Habitat Acres	% of LSOHC Planning Area	% of Statewide Total Non-Habitat Acres
Forest/Prairie Transition	6,560,182	3,037,323	46%	13%
Metropolitan Urbanizing Area	3,291,096	1,941,401	59%	8%
Northern Forest	23,163,472	2,445,831	11%	10%
Prairie	18,341,600	14,967,214	82%	62%
Southeast Forest	2,647,384	1,590,987	60%	7%
TOTALS	54,003,734	23,982,756	44%	100%

⁹ Habitat includes all terrestrial lands except those identified as impervious, agricultural, or barren by the NLCD landcover data and as well as the DNR inventory of all lakes and streams that appear on the U.S. Geological Survey (see Appendix B for further detail).

Table 3. All Permanently Protected Habitat¹⁰

LSOHC Planning Section	LSOHC Planning Area Acres (% of state)	All Permanently Protected Habitat Acres	% of LSOHC Planning Area Protected	% of Statewide Protected Habitat Acres
Forest/Prairie Transition	6,560,182 (12%)	1,085,871	17%	7%
Metropolitan Urbanizing Area	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	15,550,236	29%	100%

Table 4. All Remaining Private Habitat

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

¹⁰ 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.

Overall findings

The Minnesota conservation estate maps and data tables show some interesting variations by LSOHC 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 seven percent of the state’s permanently protected acres lie within the Forest/Prairie Transition Section.

Metropolitan Urbanizing Area:

- This section covers six percent of the state and has five 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 three percent of the state’s permanently protected acres lie within the Metropolitan Urbanizing 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 lie within the Northern Forest 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 seven percent of the state’s permanently protected acres lie within this section.

Southeast Forest:

- This section covers five percent of the state and has four percent of its habitat.
- Forty percent of this section is identified as habitat, but only six percent of the section is permanently protected. Over 90 percent of protected habitat is terrestrial.
- Only one percent of the state’s permanently protected acres lie within the Southeast Forest 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.

Historic conservation efforts

The Working Group sent an information request to those organizations which spent over \$1 million annually¹¹ on activities for which the primary goal was the acquisition, restoration or enhancement of wildlife habitat. Ten years of historical data was requested (2000-2009). Outdoor Heritage Fund projects were excluded because the fund did not exist pre-2009. Expenditure and acreage data were received from the following organizations:¹²

- Association of Minnesota Counties
- Legislative-Citizen Commission for Minnesota Resources
- Minnesota Board of Water and Soil Resources
- Minnesota Department of Natural Resources
- Minnesota Land Trust
- Pheasants Forever
- The Nature Conservancy
- U.S. Department of Agriculture/Natural Resource Conservation Service
- U.S. Fish and Wildlife Service
- U.S. Forest Service-Chippewa National Forest
- U.S. Forest Service-Superior National Forest

The completed responses indicate little overlap or duplication in reported outputs when joint projects occurred. For example, one entity wrote, “The protection acres exclude lands that were acquired on behalf of a public agency.” In situations where double counting may have occurred, the affected acres are relatively small compared to the total.

Additionally:

- The resulting acres and expenditures are conservative estimates because smaller organizations and water quality projects that also benefit wildlife habitat were excluded. The DNR was unable to report restoration and enhancement acreage outputs for the Scientific Natural Areas and Native Prairie Bank programs, but has created a database in FY2010 to begin recording this data.
- A year’s expenditures may not directly relate to all of the reported acres. For example, a year with significant expenditures may have few acre outputs. 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 removing several boards to

¹¹ The \$1 million threshold was selected for two reasons. First, the working group needed to make the data collection task manageable for an approximate month-long data collection period, and 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.

¹² 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; however, no responses were received. Ducks Unlimited responded that they were below the \$1 million threshold.

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

- Conservation activities can be problematic to distinguish (protect, enhance, restore, and maintenance). The reporting organizations may have categorized activities differently between restoration/enhancement and maintenance¹³. However, the DNR's Fish and Wildlife Division's data represents three-quarters of the restoration/enhancement acres and the maintenance acres.
- The DNR data reported for the first five years (2000-2004) are not as precise as the second five years (2005-2009), especially with respect to the expenditure data. When data was missing, the 2005-2009 average was assumed for 2000-2004. This estimation 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, the U. S. Forest Service expenditures are based on average costs per acre multiplied by the reported acre outputs.
- Common accounting practices by both government agencies and NGOs do not classify expenditures or accomplishments by the habitat types that are mandated in the statutory language (prairie, wetland, forest, and other). There is often overlap between these habitat types. Therefore, these responses must be considered estimates based on the best judgments possible by respondents. Nonetheless, the results should provide a relatively accurate estimate at the statewide and sectional scale.

As noted in its response, the Legislative-Citizen Commission on Minnesota Resources (LCCMR) engages in project selection and oversight, but is not directly involved with land and habitat protection or restoration/enhancement activities. Additionally, the LCCMR provides significant funds to the other responding conservation organizations. To avoid double-counting, only the LCCMR's expenditure and acreage data not captured by the reporting organizations was included.

The total reported annual acres are similar from year to year (Table 1). However, the distribution of acres fluctuates among activities. For example, DNR Forestry had a large easement project in 2007, while BSWR had large easement projects in 2001 and 2002. In 2009, the DNR Parks and Trails Division had a large acquisition. The DNR Fish and

¹³ Restoration and enhancement activities generally involve improvements leading to significant landscape changes. Examples are forest stand improvement, open land and brushland burns, and shallow lake restorations. Maintenance activities ensure the landscape remains in the desired state, such as noxious weed control. 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. 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.

Wildlife Division reported three-quarters of the annual restoration and enhancement acres, which explains much of the year-to-year stability.

Table 1. Total acres of reporting organizations

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: L-SOHC Working Group Data Requests, August and October 2010

Table 2 on the next page 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 (Table 2). On average, the reporting organizations spend approximately \$85 million annually on direct conservation activities. The Outdoor Heritage Fund will allocate \$86 million in FY2012.

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Table 2. Total expenditures of reporting organizations

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: L-SOHC Working Group Data Requests, August and October 2010

Scenario 1 (Historic): Pre-outdoor heritage fund

This scenario extends 2000-2009 acreage outputs and shows the level of conservation activities projected to occur in the absence of the OHF based directly on trends from the previous 10 years. Table 1 has the average ten-year acre outcomes of the state’s largest conservation entities (see the previous section on historic conservation efforts for more detail about these average calculations). On average, 41,300 acres are protected, 373,800 are restored and enhanced, and 290,100 acres are maintained annually.¹⁴

Table 1. 2000-2009 average annual acres by activity

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

Source: Historic Conservation Efforts section – Table 1. Annual acres were rounded to nearest 100.

After 25 years, the total acres acquired range from 600,000 to 2 million without OHF appropriations, depending directly on the “purchasing power” of the appropriations as they are influenced by sales tax revenues and inflation (see Table 2, and Graphs 1 and 2 on the next page). Participating conservation organizations estimated the percent of 2000-2009 expenditures acres by habitat. 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 (Table 3).¹⁵

Table 2. Ten and 25 year acreage outputs, based on historic averages, at different annual rates of change

Activity	5% decline	Zero change	5% 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.

¹⁴ Maintained acres are likely higher. U.S. Forest Service maintained acreage data were excluded because of the high number of acres inventoried, which does not directly contribute to habitat benefit.

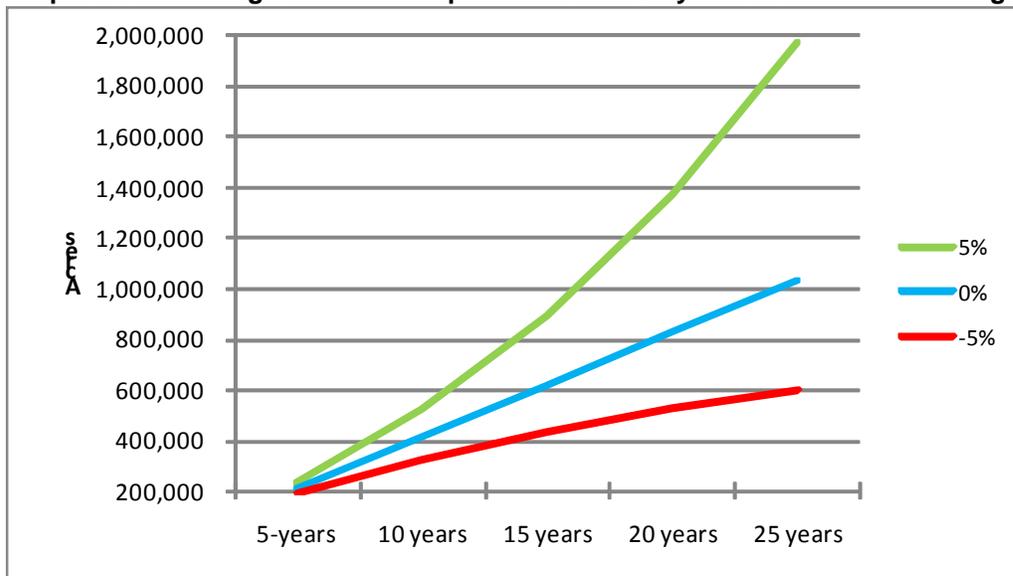
¹⁵ Each organization’s reported percentages were weighted by its ten-year total acres to estimate a group percent by habitat.

Table 3. Estimated 2000-2009 expenditures by habitat type

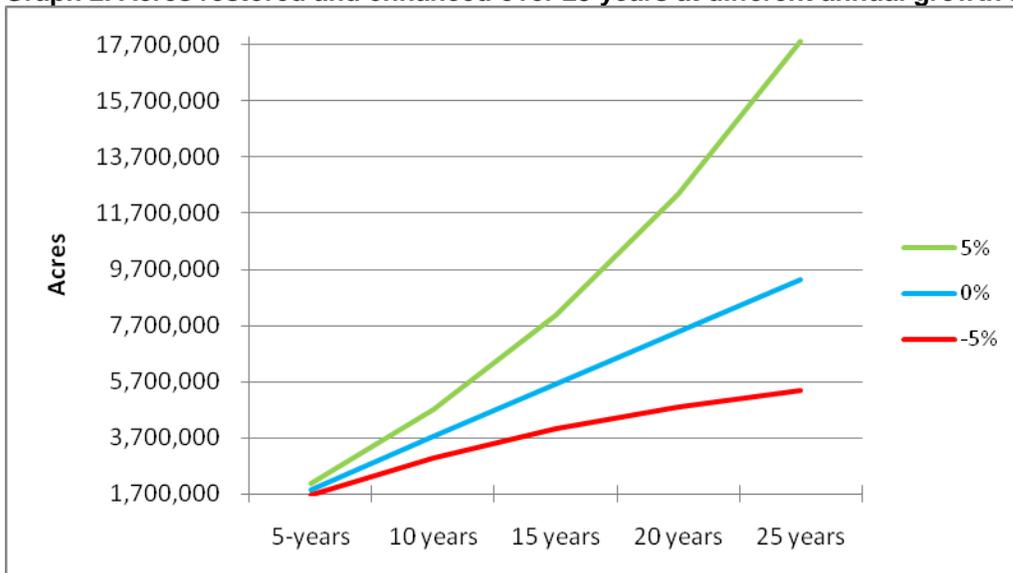
Habitat Type	Protection	Restoration/ Enhancement
Prairies/Grasslands	51%	33%
Wetlands	28%	24%
Forests	11%	34%
Aquatic	10%	9%
Total	100%	100%

Each organization’s reported percentages were weighted by its ten-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.

Graph 1. Purchasing Power: Acres protected over 25 years at different annual growth rates



Graph 2. Acres restored and enhanced over 25 years at different annual growth rates



Scenario 2 (Current trajectory): Extending the OHF’s first two funding years

This scenario shows the likely acreage outputs if remaining OHF appropriations conform to the first two years’ funded projects. Table 1 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.¹⁶ This was seen as a unique and timely opportunity by the Council. However, a single project of this magnitude is unlikely to occur again, and thus some assumptions were made to adjust the following 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 1. 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: Lessard-Sams Outdoor Heritage Council grant recipients’ submitted accomplishment plans, as of July, 2010. Acres represent both actual accomplishments and planned goals.

Wetlands are likely counted in the Prairie and Forest numbers, too.

A two-year average with significant inter-year variation is not a highly reliable starting point for the projections and prevented an analysis by LSOHC Sections. With additional years of funding decisions, a recalculated average will provide greater confidence. The Forest for the Future Program’s Upper Mississippi Forest Project acres were adjusted to calculate the 2010-2011 average for scenario 2’s projections. The key assumptions are:

- 12,010 acres annually completes the Forest for the Future Program’s current 530,000 acre goal¹⁷ by 2034;
- The Council and Legislature support the Forest for the Future Program’s target acreage; and
- \$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.

¹⁶ 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

¹⁷ The Forest for the Future Program is refining its total acreage goal.

Table 2 shows the 2010 and 2011 adjusted acres and the resulting two-year average, which is the starting point for the projections.

Table 2. 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 C shows the step-by-step adjustments.

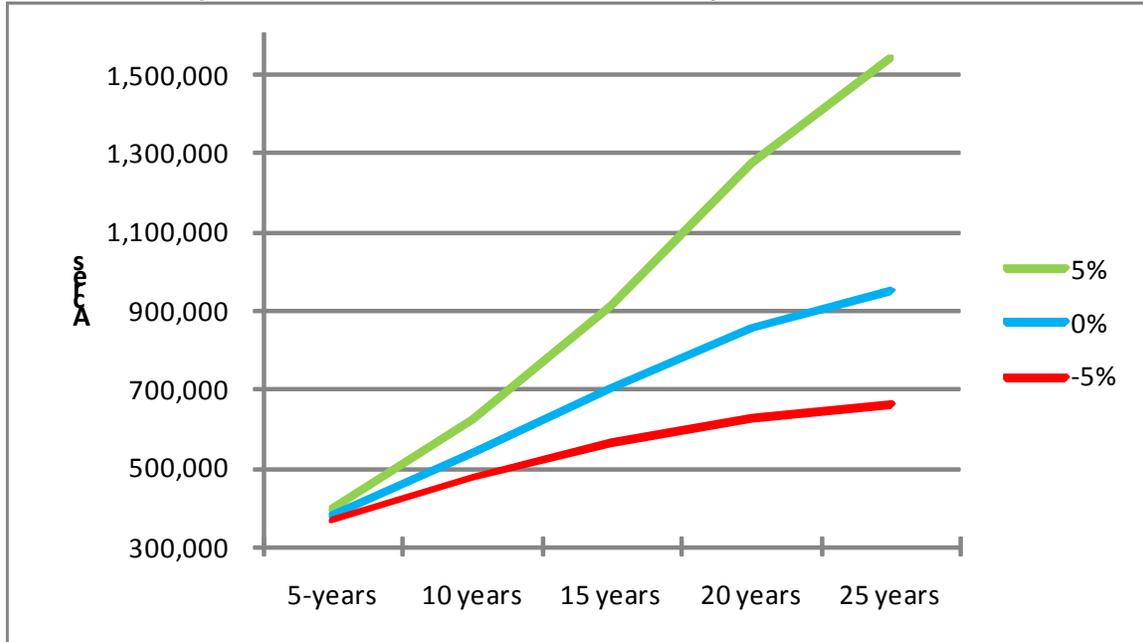
Table 3 shows the resulting 25-year projections. Assuming the 2010-2011 average declines five percent annually, remains stable or grows five percent annually, the total acres protected range from 664,000 to 1,540,000 through OHF appropriations and restored and enhanced acres range from 620,000 to 1,724,000.

Table 3. Ten and 25 year acreage outputs under current trajectory 2010-11 actual acres and 2010-11 adjusted average for next 23 years, at different annual growth rates

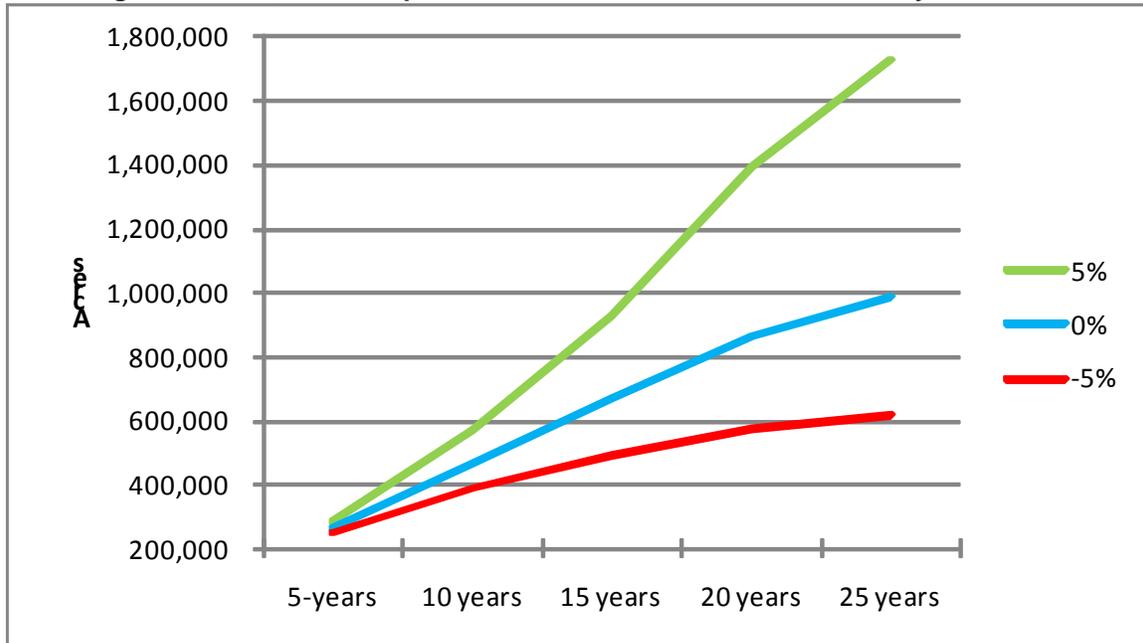
Habitat type	Protected			Restored and Enhanced		
	5% decline	Zero change	5% growth	5% decline	Zero change	5% growth
Next 10 years (2012-2021)						
Wetlands	39,000	48,000	61,000	89,000	111,000	140,000
Prairies/Grasslands	88,000	110,000	139,000	167,000	208,000	261,000
Forests	96,000	120,000	151,000	37,000	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.

Graph 1. Total acres acquired over 25 years, at different annual sales tax revenue growth rates, if OHF expenditures continue based on the first 2 years' trends.



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



Tables 4 and 5 combine the first two scenarios’ projections to show the potential impact of all major conservation funding efforts.

Table 4. Total acres acquired over 25 years

Activity	5% decline	Zero change	5% 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

Table 5. Total acres restored and enhanced over 25 years

Activity	5% decline	Zero change	5% 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

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, the Constitutional mission and the Council’s current vision and priorities are not realized. These estimates simply show how each specific habitat type would garner significant outcomes. Key assumptions are:

- OHF annual funding is \$80 million;
- There are no input constraints (human, seed stock, etc.); and
- Average cost per acre is based on the 2009 conservation professional planning session estimates.¹⁸

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 during the next 23 years.

Table 1 adds the OHF’s actual 2010 and 2011 acres to the 23-year maximized allocations. **None of the table cells should be totaled because each option, such as protected prairie or restored and enhanced wetlands, is mutually exclusive in this scenario.**

Table 1. Projected acreage outputs after 25 years for Maximized Scenario (2010-11 actual acres and maximized acres for next 23 years)

Habitat type	Acquired Acres				Acres Restored and Enhanced		
	5% decline	Zero change	5% growth		5% decline	Zero change	5% 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.

¹⁸ See Appendix D for the average cost per acre by habitat and activity.

Goals, opportunities and constraints

The working group’s information request, as described earlier, asked respondents to identify and evaluate opportunities and constraints over the previous 10 years, over the next 10 years, and over the next 11-25 years. In addition to the organizations listed on pages [x-x], the Trust for Public Land and the Conservation Fund responded to this portion of the information request.

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 other (i.e., 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 requesting that organizations rank how significant the following 22 constraints have been or could be to their organization’s ability to meet protection, restoration and enhancement goals in the previous ten years, over the next 10 years and in the next 11-25 years. The ranking scale was: None (1), Low (2), Moderate (3) or Major (4).

Table 1. List of constraints

<i>Constraints</i>	
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 collection of responses that were received. Only one response was received from each organization, so results are not a statistically rigorous representation of the statewide conservation community. However, the responses do provide substantial insight regarding past and future opportunities and constraints. A number of themes were common amongst all respondents and several conclusions can be drawn based directly upon these responses.

Goals and opportunities

- 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 by which these organizations achieve these goals, including active management of ecosystems, efforts to preserve biological diversity, and controlling the spread of non-native invasive species.
- Four organizations (the National Wildlife Refuge System, the Department of Natural Resources, 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 Department of Natural Resources, the National Wildlife Refuge System and Pheasants Forever) reported population-related goals for species. Two organizations (the Department of Natural Resources and Board of Water and Soil Resources) 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 RIM-WRP Partnership).

Some opportunities identified 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 the Conservation Reserve Program), 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, with nongovernmental organizations, and with 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 on the next page in ranked order of significance, as measured by a mean average over all three time periods. In addition, constraints that showed the greatest increase in significance between time periods are noted. Appendix E shows graphs of the group mean average scores.

Table 2. Constraints responses

Constraints, in ranked order (based on group mean 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 ¹⁹
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 and degradation was the top concern among respondents, and its importance remains steady over time. Many challenges persist over time, and many are even accelerating, 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. With invasive species in particular, a stakeholder noted that invasive species are degrading habitat faster than they can be addressed.

¹⁹ Eight factors were tied for second place in anticipated change in significance from 2020 to 2033.

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 do planning or to hire permanent employees. The 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 areas of conservation easements – both legal and process expertise. In the short-term, stakeholders noted that unstable funding and programmatic instability limit their ability to conduct workforce planning. Furthermore, staff that conduct “indirect cost” work (such as administrative, grant management, payroll, legal, human resources and information technology) for conservation projects are inherently necessary, yet 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 non-governmental organizations (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 management²⁰ to effectively determine the approach. While monitoring efforts are admittedly expensive, they were identified as also 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 in significance:

- Collaboration and coordination was of relatively low concern. Organizations noted that increased partnerships have allowed them to promote efficiency and allow for value-added strategies. The responses show a close knitting together of NGO 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.

The working group should note that, although “uncertainty regarding PILT payments” was ranked near the bottom for federal, state and nongovernmental organizations, it was considered a major constraint for Minnesota counties.

²⁰ 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.

Conclusions and options for consideration

Findings and conclusions from the Conservation Estate and the three scenarios

The working group compared the Conservation Estate (Table 1) and the three scenarios to the planning targets that were set during the LSOHC’s 2009 planning process (Table 2).

Table 1. Minnesota’s total acres

Category	Acres	Percent
Publicly-owned or permanently protected terrestrial	11,970,000	22%
Publicly-owned aquatic	3,580,000	7%
Privately owned terrestrial	14,180,000	26%
Privately owned aquatic	290,000	1%
Non-habitat lands	23,980,000	44%
State total acreage	54,000,000	100%

Source: Appendix C maps. Acres are rounded to the nearest 10,000.

- **Based on the first two years of funding the OHF will almost double current protection (acquisition or easement) efforts.** When you compare scenario 2 to historical acquisition efforts, the OHF makes a significant additional investment. See Table 2.

Table 2. Publicly-owned or permanently protected acres, by scenarios, after 25 years (assuming zero growth)

Habitat Type	2009 targets	Historic*	Two-year trajectory	Maximized
Wetlands	530,000	288,400	119,000	470,000
Prairies/Grasslands	2,540,000	525,300	71,000	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: Lessard-Sams Outdoor Heritage Council, *Strategic Planning and Recommendation Development Process – Summary of Input Meetings*, September 2009 and Scenarios 1-3.

*Historic acreages by habitat type were estimated based on the weighted percentage of expenditures reported in table 3 page [19] multiplied by the total anticipated protected acres

- **OHF restoration and enhancement activities would add an additional one-tenth to current efforts, but the type of work is not necessarily comparable.** The OHF is likely funding more intensive restoration and enhancement efforts such as the 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 3.

Table 3. Restored and enhanced acres by scenarios (assuming zero growth)

Habitat Type	2009 targets	Historic*	Two-year trajectory	Maximized
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: Lessard-Sams Outdoor Heritage Council, *Strategic Planning and Recommendation Development Process – Summary of Input Meetings*, September 2009 and Scenarios 1-3.

*Historic acreages by habitat type were estimated based on the weighted percentage of expenditures reported in table 3 page [19] multiplied by the total anticipated restored and enhanced acres

- The 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 given the various types of restoration and enhancement work. The 2009 planning targets were informed by a number of conservation plans and conservation professionals’ judgment, but, assuming a zero-growth pattern, they exceed the capacity of the OHF and major conservation agencies’ current efforts, if continued over the next 23 years. See Tables 2 and 3.
- The OHF alone would support about one-quarter of the 2009 target acres, with a few exceptions.** Even if all OHF monies were allocated to one activity and habitat type (the maximized scenario), the 2009 wetlands and prairies/grasslands protection targets and the forests and aquatic habitat restoration/enhancement targets are unmet without support of conservation partners. See Tables 2 and 3.
- The OHF and current efforts could potentially increase the number of publicly-owned and privately protected terrestrial habitat by 15 percent 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 report²¹ and the 2009 planning sessions raised concerns about the shortfall in maintaining current wildlife lands and waters. This implies that serious consideration should be given to the prioritization of expenditures amongst activities and that priorities may justifiably need to shift from protection to restoration/enhancement over the life of the OHF. See Tables 1 and 2.
- 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 five percent annual change results in almost two-thirds fewer acres than a five percent annual increase over 23 years. Thus there is a great deal of uncertainty inherent in these projections.

²¹Office of the Legislative Auditor, *Natural Resource Land*, March 2010. Found at: <http://www.auditor.leg.state.mn.us/ped/pedrep/nrland.pdf>

- **The Conservation Estate indicates that key attributes differ markedly between LSOHC Sections.** Consider:
 - Almost 55 percent of the Northern Forest Section is publicly owned or protected by permanent private easement. In contrast, only six percent of the Prairie and Southeast 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.
 - 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 and Northern Forest Sections.
- **Some of the 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 six percent of the area is protected—underscoring the challenges associated with a largely privately owned agricultural landscape. Based on current LSOHC policy, restoration of these habitats to meet 2009 planning targets would first require the protection of hundreds of thousands of acres.

Conclusions drawn from the scenarios and conservation estate:

The 2009 target acres require further revision to establish attainable and ecologically beneficial goals. The section 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, the partners 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 in terms of outcomes. A qualitative and/or quantitative evaluation framework would assist allocation decisions by prioritizing the conditions that best support habitat outcomes.

Private lands are a significant part of Minnesota’s habitat. The amount of privately owned habitat almost equals Minnesota’s publically owned or permanently protected acres (see Table 1). Restoring and enhancing private lands in close proximity to public lands can improve habitat quality and the ecosystem functions that support it, and may provide value-added benefits. Preventing ecosystem habitat fragmentation through acquisition is one method, but promoting good private and public landscape management is another, often more cost-effective method. High land costs in the Metro Urbanizing

and Southeast Sections make restoration and enhancement an attractive alternative. The land use and management activities of private land owners will continue to play a critical role in the effectiveness of conservation activities throughout the state.

Different LSOHC Sections require different strategic priorities. Here are two examples for the Northern Forest Section and Southeast Forest Section. 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). Recent planning efforts in the Southeast Forest Section have centered on water quality issues given the section's sensitive water and geological resources. This focus 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; the protection of existing native prairie remnants should be a priority, along with the protection and restoration of wetlands and grassland complexes.

Conclusions drawn from organization's goals, opportunities and constraints

Constraints differ in the nearer term and long-term. There are indicators that organizations are having difficulty 'ramping up' in their first few years of meeting the growing demand for conservation work. In the near term, operational capacity issues and workforce concerns are a considerable constraint, and in 5-10 years resource issues (physical/technical capacity) will become more important. Over the next 11-25 year period, 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 to find supplemental funding for "indirect costs" associated with OHF-funded projects. As organizations adapt, new capacities within these organizations will result.

A strategy to address work force development issues is needed. While the Council's decision to front-load acquisition may make sense economically, the acquisitions come at a time of generational shift in the conservation workforce, and organizations are concerned about having adequate staffing both for the legal and process work to acquire land, and to conduct restoration, enhancement, and maintenance work. This requires an adequate strategy to ensure adequate human resources for sustained maintenance and enhancement activities over the long term.

New and non-traditional programs/strategies are necessary to be successful. 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 the ideas of recruiting farmers as 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.

Overall conclusions drawn from the entire framework data collection

A strategic approach is necessary to connect output (acres) to outcomes and to balance priorities. The scenarios indicate that the conservation community must prioritize the what/where/when of activities and transition to spatially explicit priorities, with roles defined for organizations within those priorities to obtain maximum leverage from other funds and programs and to ultimately promote the maximum quality of outcomes given a set quantity of outputs (acres). This will entail careful consideration regarding the appropriate short and long-term balance between protection, restoration, and enhancement activities, habitats, and geographic distributions. Meanwhile, there are few measures of success other than acres – measures of quality in addition to quantity are needed to assist with the prioritization and monitoring of results and as a means for accountability. The next part of this report focuses on a framework to develop more refined quantitative and qualitative measures of success; however, outcome-based goals must be more clearly identified and articulated.

There should be increased emphasis on robust strategies that leverage many funds for multiple benefits. Available funds will not go as far on one-time projects or short-term programs, and a broader strategy is needed to incorporate and maximize the benefits associated with the other funds authorized by the amendment, particularly the Clean Water Fund. The Council may wish to consider prioritizing proposals that link water quality, flooding, recreation, etc. with habitat benefits to achieve multiple benefits and to leverage and coordinate funding.

Monitoring and Adaptive Management will be increasingly necessary to assess the effectiveness of conservation actions. The impacts of conservation activities remain difficult to predict and the best restoration/enhancement/maintenance practices are often unclear. Further, the biological outcomes of these activities are often poorly understood. While monitoring tends to be expensive, it remains critical as a means for assessing effectiveness, identifying/predicting outcomes, and as a valuable tool for accountability. The Council may or may not wish to fund these activities in the future—but might consider prioritizing proposals which include some component of monitoring, adaptive management, and outcome-based monitoring or modeling.

PART 2: Planning and managing for results

The purpose of this part of the report is to:

- Present the Council’s current statewide priority actions and section-specific vision and priority actions;
- Discuss a results management framework that could assist the Council in evaluating its progress; and
- Provide recommendations for the Council’s 5-year planning effort, to be conducted in 2013.

Council priorities and vision

Below are the Council’s most 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 document. These were originally developed in September 2009, and were refined by the Council at two subsequent meetings. See page [10] to see a map of the LSOHC Sections.

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 to guide protection, restoration and enhancement, similar to the United States Fish and Wildlife Service’s Strategic Habitat Conservation model.
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, non profits 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 Council’s vision for the Northern Forest Section contains clear view of the desired future condition for the section’s forest lands, lakes and wetlands, and wildlife habitat.

Forestland should be universally accessible for forest management purposes as well as protected from development and fragmentation. Private in-holdings in public forests and key properties for habitat and stand management, adjacent to existing ownership should be acquired, with an eye toward ensuring no net loss of forestland. Of special concern is the condition of brushlands within the forestlands. These lands, along with early successional forest habitat are crucial for game species and non-game species and need restoration and enhancement work 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 fish populations and other aquatic organisms.

The Northern Forest Section is home to both cherished and unique Minnesota wildlife populations. It is imperative that the wildlife habitat of this Section support those populations. Healthy wild rice wetlands and shallow lakes that provide important habitat for a wide range of game and non-game wildlife which are clearly front and center in the Council’s vision. These and other key habitats are envisioned to protect habitat for endangered, threatened and species of special concern and more common.

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 forest land through 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 aerial extent in recent decades.

Forest/Prairie Transition Section Vision

The Council’s future for the Forest/Prairie Transition Section envisions diverse and productive remnant tracts of native prairie, forests grasslands, wetlands, lakes and rivers, and their associated fish and wildlife habitat.

The Council sees a future when ample grasses and other vegetation on shorelands and higher in the watershed keeps water on the land. This will yield clean lakes and streams,

steady lake and stream levels, and improved aquatic vegetation, providing a plentiful supply of habitat for fish, game and wildlife in the Section, especially habitat for waterfowl and upland birds.

These 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 non-game 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 Council’s vision for the Metropolitan Urbanizing Section is a network of natural lands in the Section providing wildlife habitat, quality fisheries, especially cold-water fisheries and a forest land base that contributes to the habitat picture.

These 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 the majority 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 non-game fish species.

Southeast Forest Section Vision

The Council recognizes the Southeast Forest Section of Minnesota 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 purposes.

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

Southeast Forest Section wildlife habitat will be established in large corridors and complexes of restored and protected, biologically diverse habitat typical of the unglaciated 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 the 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 through 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 non-game 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 aerial extent in recent decades.

Prairie Section Vision

The Council sees the future of the Prairie Region 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 within its borders, 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 of Minnesota 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, 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.

The Prairie Section waters, affected by agricultural practices which increase run off over natural levels, will have benefitted 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 the 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 associated watershed, including the shallow lakes of this section. In the southeastern part of the Section there are precious remnants of the Big Woods and oak savanna they 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 existing WMA's.
4. Restore or enhance habitat on public lands.
5. Protect, restore and enhance shallow lakes.
6. Protect expiring Conservations Reserve Program (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 between investments, actions, and results achieved; and
- 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 <ul style="list-style-type: none"> ➤ 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 resource conditions; 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. Common inputs are money and staff time. An organization uses inputs to support its main 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. Simply put, activities are what we do. 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:

- The number of acres acquired
- The number of 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 (natural resource conditions and quality). Simply put, outcomes are meaningful results for people and natural resources. Some examples:

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

Outcomes exist along a “continuum” or “conceptual chain;” for example, initial or short-term outcomes, intermediate outcomes, and long-term outcomes. Some examples:

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

Multiple partners, shared outcomes. Most long-term outcomes cannot be achieved by entities acting alone. Usually, numerous agencies, non-profit organizations and other entities exist to achieve the same outcomes for the Minnesota population, so changes to these outcomes can often be credited to the efforts of many. Finally, long-term outcomes 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 state agencies.

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 [x-x] of this report. On the following pages,

- **Bold** text shows priority actions articulated by the Council;
- Plain (not bolded) text shows some areas where the working group filled in gaps within the framework. The plain text additions are merely suggestions for the Council – they are not Working Group recommendations; and
- *(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 those most desirable for by 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 that the Council can become 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)	
		Initial and Continuing Results	Legacy
<p>Investment for Acquisition Dollars</p> <ul style="list-style-type: none"> \$ for Fee acquisition (per acre and associated fees) \$ for Conservation easements \$ for easement stewardship <p>Human Capital</p> <ul style="list-style-type: none"> Number of employees Personnel expenses devoted to acquisition (FTE) (including reimbursements such as travel) \$ for other professional services (appraisals, surveys) <p>Investment for Restoration and Enhancement (R/E) Dollars</p> <ul style="list-style-type: none"> \$ spent on restoration/enhancement contracted services \$ spent on capital equipment \$ spent on equipment/tools \$ spent on materials (seeds, water control structures) <p>Human Capital</p> <ul style="list-style-type: none"> Number of employees \$ spent on restoration/enhancement personnel (including reimbursements) \$ for other professional services 	<p>(#/acres of acquisitions, # /acres easements # projects/acres by habitat)</p> <ul style="list-style-type: none"> ➤ 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 (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) 	<p>What do we expect to see?</p> <ul style="list-style-type: none"> ❖ Forestlands are protected from development and fragmentation (acres protected from development and fragmentation; average size protected complex; acres of forest lands with high connectivity to other forestlands are protected) ❖ Landlocked public properties are accessible with increased access for land managers (# landlocked properties accessed, % decrease in landlocked properties) ❖ Greater public access for wildlife and outdoors related recreation (# 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 native plant communities with high biodiversity significance) ❖ Increased availability and improved condition of riparian forests and other habitat corridors (acres, habitat connectivity) 	<p>What's the legacy? Natural resource conservation...</p> <ul style="list-style-type: none"> ❖ Forestlands provide multiple enduring conservation benefits in the face of climate change and other major stressors: <ul style="list-style-type: none"> ○ healthy terrestrial and aquatic habitat for fish, game and other wildlife species; ○ abundant access to forestlands for outdoor recreation ○ healthy watersheds and clean water <p>(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)</p>

Inputs (What We Invest)	Activities / Outputs (What We Do)	Northern Forest Outcomes (what success looks like)	
		Initial and Continuing Results	Legacy
	<ul style="list-style-type: none"> ➤ Protect shoreland and restore or enhance critical habitat on wild rice lakes, shallow lakes, cold water lakes, streams and rivers, and spawning areas <i>(miles, acres, distribution and type, # lakes, streams, spawning areas...acres, miles)</i> 	<ul style="list-style-type: none"> ❖ Increased availability and improved condition of habitats that have experienced substantial decline <i>(e.g acres of pine and brushland)</i> ❖ Improved aquatic habitat indicators <i>(index of biotic integrity and other aquatic habitat indicators)</i> <p><i>[NOTE: put related clean water indicators here]</i></p>	

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)	
		Initial and Continuing Results	Legacy
<p>Investment for Acquisition</p> <p><i>(#/acres of acquisitions, # /acres easements # projects/acres by habitat)</i></p> <p>Dollars</p> <p>\$ for Fee acquisition (per acre and associated fees)</p> <p>\$ for Conservation easements</p> <p>\$ for easement stewardship</p> <p>Human Capital</p> <p>Number of employees</p> <p>Personnel expenses devoted to acquisition (FTE) (including reimbursements such as travel)</p> <p>\$ for other professional services (appraisals, surveys)</p> <p>Investment for Restoration and Enhancement (R/E)</p> <p>Dollars</p> <p>\$ spent on restoration/ enhancement contracted services</p> <p>\$ spent on capital equipment</p> <p>\$ spent on equipment/tools</p> <p>\$ spent on materials (seeds, water control structures)</p> <p>Human Capital</p> <p>Number of employees</p> <p>\$ spent on restoration/ enhancement personnel (including reimbursements)</p> <p>\$ for other professional services</p>	<p>➤ Protect, enhance and restore wild rice wetlands, shallow lakes, wetland/ grassland complexes, aspen parklands and shoreland that provide critical habitat for game and non-game wildlife.</p> <p><i>(Extent and distribution, # wild rice wetlands and shallow lakes, miles of shoreland)</i></p> <p>➤ Protect, enhance and restore rare native remnant prairie.</p> <p><i>(Extent and distribution, % native prairie protected)</i></p> <p><i>(see next page)</i></p>	<p><i>What do we expect to see?</i></p> <p>❖ Wetland/upland complexes will consist of native prairies, restored prairies, quality grasslands and restored shallow lakes and wetlands.</p> <p><i>(# and type Grassland bird conservation areas protected and restored; average size of complex, grassland and wetland acres; ratio grassland:upland; Increased grass cover %; and # protected sites connected via corridor)</i></p> <p>❖ Protected, restored and enhanced aspen parklands and riparian areas</p> <p><i>(evidence of successful projects, connectivity of protected habitats, connectivity of forest habitats via corridors)</i></p> <p>❖ Water is kept on the land</p> <p><i>(due to abundant grasses and other vegetation on shorelands and higher in the watershed);</i></p> <p><i>(#/miles protected floodplain, saturated, and fen wetlands; # protected high gradient stream reaches; evidence of restored natural hydrology)</i></p> <p>❖ Improved aquatic vegetation</p> <p><i>(Evidence healthy aquatic vegetation, low turbidity)</i></p>	<p><i>What's the legacy? Natural resource conservation...</i></p> <p>❖ 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:</p> <ul style="list-style-type: none"> ○ 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 <p><i>(Extent and distribution of habitats, ecotypes maintained; early succession forest landscapes, populations/ distributions or observations of indicator species; hunter and angler satisfaction, # access points; % population with access within distance; water quality measures such as # Impaired waters, index of biotic integrity)</i></p>

Inputs (What We Invest)	Activities / Outputs (What We Do)	Forest – Prairie Transition Outcomes (what success looks like)	
		Initial and Continuing Results	Legacy
	<ul style="list-style-type: none"> ➤ Protect, enhance and restore migratory habitat for waterfowl and related species, so as to increase migratory and breeding success. <ul style="list-style-type: none"> - Prairie/wetland complexes - Shallow lakes, wild rice lakes - Riparian corridors <i>(Extent and distribution)</i> 	<ul style="list-style-type: none"> ❖ 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) <i>(Evidence of use in migration, connectivity of protected lands, # and extent of complexes; acres restored riparian vegetation)</i> ❖ Increased waterfowl and upland bird migratory and breeding success <i>(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)</i> ❖ Protected, restored and enhanced habitat for waterfowl, upland birds, and species of greatest conservation need <i>(evidence of successful projects, connectivity of protected habitats, # MCBS sites)</i> 	

RESULTS MANAGEMENT FRAMEWORK/ – LSOHC Section: Metropolitan-Urbanizing Area DRAFT

Inputs (What We Invest)	Activities / Outputs (What We Do)	Metropolitan Urbanizing Outcomes (what success looks like) Initial and Continuing Results	Legacy
<p>Investment for Acquisition</p> <p><i>(#/acres of acquisitions, # /acres easements # projects/acres by habitat)</i></p> <p>Dollars</p> <p>\$ for Fee acquisition (per acre and associated fees)</p> <p>\$ for Conservation easements</p> <p>\$ for easement stewardship</p> <p>Human Capital</p> <p>Number of employees</p> <p>Personnel expenses devoted to acquisition (FTE) (including reimbursements such as travel)</p> <p>\$ for other professional services (appraisals, surveys)</p> <p>Investment for Restoration and Enhancement (R/E)</p> <p>Dollars</p> <p>\$ spent on restoration/ enhancement contracted services</p> <p>\$ spent on capital equipment</p> <p>\$ spent on equipment/tools</p> <p>\$ spent on materials (seeds, water control structures)</p> <p>Human Capital</p> <p>Number of employees</p> <p>\$ spent on restoration/ enhancement personnel (including reimbursements)</p> <p>\$ for other professional services</p>	<p>➤ Protect, enhance and restore wild rice wetlands, shallow lakes, wetland/ grassland complexes, aspen parklands and shoreland that provide critical habitat for game and non-game wildlife. <i>(Extent and distribution, # wild rice wetlands and shallow lakes, miles of shoreland)</i></p> <p>➤ Protect, enhance and restore rare native remnant prairie. <i>(Extent and distribution, % native prairie protected)</i></p> <p><i>(see next page)</i></p>	<p><i>What do we expect to see?</i></p> <ul style="list-style-type: none"> ❖ Wetland/upland complexes will consist of native prairies, restored prairies, quality grasslands and restored shallow lakes and wetlands. <i>(# and type Grassland bird conservation areas protected and restored; average size of complex, grassland and wetland acres; ratio grassland:upland; Increased grass cover %; and # protected sites connected via corridor)</i> ❖ Protected, restored and enhanced aspen parklands and riparian areas <i>(evidence of successful projects, connectivity of protected habitats, connectivity of forest habitats via corridors)</i> ❖ Water is kept on the land <i>(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)</i> ❖ Improved aquatic vegetation <i>(Evidence healthy aquatic vegetation, low turbidity)</i> 	<p><i>What's the legacy? Natural resource conservation...</i></p> <ul style="list-style-type: none"> ❖ 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: <ul style="list-style-type: none"> ○ 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 <p><i>(Extent and distribution of habitats, ecotypes maintained; early succession forest landscapes, populations/ distributions or observations of indicator species; hunter and angler satisfaction, # access points; % population with access within distance; water quality measures such as # Impaired waters, index of biotic integrity)</i></p>

Inputs (What We Invest)	Activities / Outputs (What We Do)	Metropolitan Urbanizing Outcomes (what success looks like)	
		Initial and Continuing Results	Legacy
	<ul style="list-style-type: none"> ➤ Protect, enhance and restore migratory habitat for waterfowl and related species, so as to increase migratory and breeding success. <ul style="list-style-type: none"> - Prairie/wetland complexes - Shallow lakes, wild rice lakes - Riparian corridors <i>(Extent and distribution)</i> 	<ul style="list-style-type: none"> ❖ 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) <i>(Evidence of use in migration, connectivity of protected lands, # and extent of complexes; acres restored riparian vegetation)</i> ❖ Increased waterfowl and upland bird migratory and breeding success <i>(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)</i> ❖ Protected, restored and enhanced habitat for waterfowl, upland birds, and species of greatest conservation need <i>(evidence of successful projects, connectivity of protected habitats, # MCBS sites)</i> 	

RESULTS MANAGEMENT FRAMEWORK/ – LSOHC Section: Southeast Forest DRAFT

Inputs (What We Invest)	Activities / Outputs (What We Do)	Southeast Forest Outcomes (what success looks like)	
		Initial and Continuing Results	Legacy
<p>Investment for Acquisition</p> <p>Dollars</p> <ul style="list-style-type: none"> \$ for Fee acquisition (per acre and associated fees) \$ for Conservation easements \$ for easement stewardship <p>Human Capital</p> <ul style="list-style-type: none"> Number of employees Personnel expenses devoted to acquisition (FTE) (including reimbursements such as travel) \$ for other professional services (appraisals, surveys) <p>Investment for Restoration and Enhancement (R/E)</p> <p>Dollars</p> <ul style="list-style-type: none"> \$ spent on restoration/enhancement contracted services \$ spent on capital equipment \$ spent on equipment/tools \$ spent on materials (seeds, water control structures) <p>Human Capital</p> <ul style="list-style-type: none"> Number of employees \$ spent on restoration/enhancement personnel (including reimbursements) \$ for other professional services 	<p>(#/acres of acquisitions, # /acres easements # projects/acres by habitat)</p> <ul style="list-style-type: none"> ➤ 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 <i>(Acres acquired, acres of permanent conservation easements)</i> ➤ Protect, enhance, and restore habitat for fish, game and non-game wildlife in rivers, cold water streams and associated upland habitat <i>(Miles of cold and warm water streams protected, enhanced, and restored; acres reforested in riparian areas)</i> ➤ Protect, enhance, or restore remnant goat prairies <i>(Acres of remnant goat prairie protected, restored, enhanced)</i> 	<p>What do we expect to see?</p> <ul style="list-style-type: none"> ❖ Forestlands and savannas are protected from parcelization and fragmentation and accessible for resource management purposes <i>(acres protected from development and fragmentation, acres of forestlands with high connectivity to other forestlands protected, # landlocked properties accessed, % decrease in landlocked properties)</i> ❖ 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 <i>(index of biotic integrity and other aquatic and shoreline habitat indicators, acres of riparian forest, increased water infiltration)</i> ❖ Rivers, streams and surrounding vegetation provide corridors of habitat <i>(Evidence of use in migration, connectivity of protected lands, # and extent of complexes)</i> ❖ Remnant goat prairies are perpetually protected <i>(Percent of remnant goat prairies protected, evidence of increased goat prairie habitat quality)</i> 	<p>What's the legacy? Natural resource conservation...</p> <ul style="list-style-type: none"> ❖ 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: <ul style="list-style-type: none"> ○ 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: <ul style="list-style-type: none"> ○ Big Woods forests ○ Oak savannas ○ Goat prairies ○ Cold and warm water streams <p><i>(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)</i></p>

Inputs (What We Invest)	Activities / Outputs (What We Do)	Southeast Forest Outcomes (what success looks like)	
		Initial and Continuing Results	Legacy
	<ul style="list-style-type: none"> ➤ Restore forest-based wildlife habitat that has experienced substantial decline in areal extent in recent decades <i>(Acres of and distribution of lost forest-based wildlife habitat restored)</i> 	<ul style="list-style-type: none"> ❖ Large corridors and complexes of biologically diverse wildlife habitat typical of the un-glaciated region are restored and protected <i>(connectivity of wildlife habitat, average size protected complex, number and acreage of native plant communities with high biodiversity significance, evidence of migratory success)</i> ❖ Healthy populations of endangered, threatened and special concern species as well as more common species <i>(population levels of focal game species, focal Species in Greatest Conservation Need)</i> 	

RESULTS MANAGEMENT FRAMEWORK/ – LSOHC Section: Prairie DRAFT

Inputs (What We Invest)	Activities / Outputs (What We Do)	Prairie Outcomes (what success looks like)	
		Initial and Continuing Results	Legacy
<p>Investment for Acquisition Dollars</p> <ul style="list-style-type: none"> \$ for Fee acquisition (per acre and associated fees) \$ for Conservation easements \$ for easement stewardship <p>Human Capital</p> <ul style="list-style-type: none"> Number of employees Personnel expenses devoted to acquisition (FTE) (including reimbursements such as travel) \$ for other professional services (appraisals, surveys) <p>Investment for Restoration and Enhancement (R/E) Dollars</p> <ul style="list-style-type: none"> \$ spent on restoration/enhancement contracted services \$ spent on capital equipment \$ spent on equipment/tools \$ spent on materials (seeds, water control structures) <p>Human Capital</p> <ul style="list-style-type: none"> Number of employees \$ spent on restoration/enhancement personnel (including reimbursements) \$ for other professional services 	<p>(#/acres of acquisitions, # /acres easements # projects/acres by habitat)</p> <ul style="list-style-type: none"> ➤ Protect, enhance, or restore existing wetland/upland complexes, or convert agricultural lands to new wetland/upland habitat complexes. <i>(Acres of existing wetland/upland complexes protected, restored, enhanced; acres of agricultural lands converted to new wetland/upland habitat complexes)</i> ➤ Protect, enhance and restore remnant native prairie, Big Woods forests and oak savanna. <i>(Acres of remnant prairie protected, restored, enhanced; acres of Big Woods prairie protected, restored, enhanced; acres of oak savanna prairie protected, restored, enhanced)</i> 	<p>What do we expect to see?</p> <ul style="list-style-type: none"> ❖ Key core parcels are protected for fish, game and other wildlife <i>(Acres/percent of priority key parcels protected in fee or permanent easement)</i> ❖ Increased participation of private landowners in habitat projects <i>(acres habitat P/R/E in private adjacent/near projects)</i> ❖ Improved condition of habitat on public lands <i>(evidence of successful R/E projects)</i> ❖ Restored and enhanced upland habitat <i>(evidence of successful restoration/enhancement projects)</i> ❖ Protected, enhanced and restored remnants of big woods and oak savanna <i>(% of large remnants (>500 acres) of big woods and oak savanna protected)</i> ❖ Remnant native prairie and wetlands are perpetually protected and adequately buffered <i>(Percent of remnant native prairie and wetlands protected, acres of remnant prairies with adequate buffers)</i> ❖ Remnant native prairies are part of large complexes of restored prairies, grasslands, and large and small wetlands <i>(Acres/percent of priority prairie wetland complexes protected under conservation management; # and type Grassland bird conservation areas)</i> 	<p>What's the legacy? Natural resource conservation...</p> <ul style="list-style-type: none"> ❖ 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: <ul style="list-style-type: none"> ○ Healthy, resilient ecosystems that provide habitat maintenance for migratory waterfowl and other species. Abundant access for public recreation <p><i>(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)</i></p>

Inputs (What We Invest)	Activities / Outputs (What We Do)	Prairie Outcomes (what success looks like)	
		Initial and Continuing Results	Legacy
	<ul style="list-style-type: none"> ➤ Convert agricultural land to wetland/upland to protect, enhance, or restore existing habitat complexes, such as existing WMA's. <i>(Acres of agricultural land converted to wetland/upland to protect, restore, or enhance existing complexes)</i> ➤ Restore or enhance habitat on public lands. <i>(Acres of public land restored, enhanced)</i> ➤ Protect, restore and enhance shallow lakes. <i>(Acres of shallow lakes protected, restored, enhanced)</i> 	<p><i>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)</i></p> <ul style="list-style-type: none"> ❖ Agricultural lands are converted to grasslands to sustain functioning prairie systems. <i>(Acres/percent of priority key parcels are converted)</i> ❖ 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 <i>(Watershed yield (indic. in dev.); evidence of restored natural hydrology; #/area/miles of protected floodplain, saturated, and fen wetlands)</i> ❖ Protected, restored and enhanced shallow lakes <i>(% of priority shallow lakes protected, evidence of successful restoration/ enhancement projects)</i> ❖ Improved aquatic vegetation <i>(Evidence healthy aquatic vegetation, low turbidity)</i> ❖ Enhanced shallow lake productivity <i>(degree of use by shorebirds and waterfowl)</i> 	

Inputs (What We Invest)	Activities / Outputs (What We Do)	Prairie Outcomes (what success looks like)	
		Initial and Continuing Results	Legacy
	<ul style="list-style-type: none"> ➤ Protect expiring Conservation Reserve Program (CRP) lands. <i>(# projects with matching private land work; # of prairie stewardship plans; # of prairie stewardship management projects, #/acres enrolled CRP an in expiring CRP expiring lands protected)</i> ➤ Protect, enhance and restore migratory habitat for waterfowl and related species, so as to increase migratory and breeding success. <ul style="list-style-type: none"> - Prairie/wetland complexes - Shallow lakes - Riparian corridors <i>(Extent and distribution)</i> 	<ul style="list-style-type: none"> Increased wildlife productivity <i>(evidence of increased productivity on specific lands; populations levels of focal game and Species in Greatest Conservation Need)</i> ❖ Key core parcels are protected for fish, game and other wildlife <i>(Acres/percent of priority key parcels protected in fee or permanent easement)</i> ❖ Protected, restored, and enhanced habitat for migratory and unique Minnesota species <i>(degree of fall use of significant resources by migratory waterfowl; evidence of successful projects, connectivity of protected areas via riparian corridors)</i> 	

Recommendations for the Council's 5-year planning effort

Scenario planning

- The Council should revisit and refine the targets that were set in 2009. Since then, several regional habitat-focused communities have sponsored collaborative planning efforts to become more precise in setting targets. We reference the work done by the Forests for the Future, the Minnesota Forests Resources Council and Minnesota Forest Resources Partnership, and The Nature Conservancy-led Minnesota State Prairie Landscape Comprehensive Plan 2010 (in progress), the Minnesota Wetland Restoration Strategy and the Statewide Conservation and Preservation Plan. In addition to setting realistic targets, emphasis could be placed on defining roles and responsibilities for various partners in contributing to meeting targets.
- Consider other Legacy Fund frameworks and incorporate suggested priority actions that would result in multiplicative benefits.
- It would also be helpful to define the sideboards of target setting – whether it should be bounded by existing budgets, by specific population objectives, or more limited timelines.

Implementation

- Consider organizational capacity in determining and communicating any temporal focus on OHF activities. Address the issues of long-term maintenance and indirect project costs.
- Consider supporting outcome-based monitoring and adaptive management to explore non-traditional strategies.
- Consider means to prioritize proposals that leverage additional funds, address multiple benefits, and incorporate an adaptive management cycle.

Monitoring and evaluation

- Substitution: This effort did not suffice to establish the budgetary baseline upon which the legislative and executive branches of government may measure whether they have met the constitutional burden regarding substitution of funds. “The dedicated money under this section must supplement traditional sources of funding for these purposes and may not be used as a substitute.” The Council, in cooperation with governing bodies from the other three parts of the fund, should begin a process to articulate what funding should be analyzed, and how progress should be tracked.
- Develop and incorporate multi-scale outcome reporting and monitoring. Significant value would be added if this can be developed in cooperation with partners. Refine the Results Management Framework with articulated outcomes and associated metrics. Identify do-able metrics to evaluate outcomes.

Appendix A: 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 and Wildlife Administrator, USFWS
Darren Newville, District Manager, East Otter Tail Soil and Water Conservation District
Jeff Risberg, Impaired Waters Program Coordinator, MPCA
Rob Sip, Environmental Policy Specialist, MDA
Dennis Simon, Wildlife Section Chief, Fish and Wildlife Division, DNR
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 B: Conservation estate – technical summary and maps

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 Lessard-Sams Outdoor Heritage Council (LSOHC) Sections. Four separate acreage calculations were made:

- Protected terrestrial habitat – this included publicly owned and private lands that are permanently protected;
- Private terrestrial habitat (not permanently protected);
- Public (protected) aquatic habitat; and
- 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

- Reinvest in Minnesota (RIM) Conservation Easements (metadata is 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 Stewardship – County Lands

Other lands

- The Nature Conservancy Preserves and Managed Areas

These layers were then merged together 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)²² which classifies the landscape by ownership type (e.g. federal, state, county, private, etc.) GAP

²² The date of source material is variable, ranging from 1976 to 2007.

stewardship data is mapped by 40 acre parcel. All 40 acre parcels classified as private ownership were erased from the merged administrative layer.

To assure 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:

- MN Conservation Reserve Program (CRP 2007)
- National Land Cover Database (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 National Land Cover Database was used. This layer classes the landscape by land cover type. The original NLCD layer was modified by the Department of Natural Resources 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 is 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*

The asterisked classes indicate those cover types that were 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.

It is appropriate to note here that even though agricultural classes, including hay and pasture land were excluded from the habitat layer, these land use types may provide some degree of potential 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 or excluded from the habitat layer.²³

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 Public Waters Inventory were considered to be publicly protected aquatic habitat.

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 within the state.

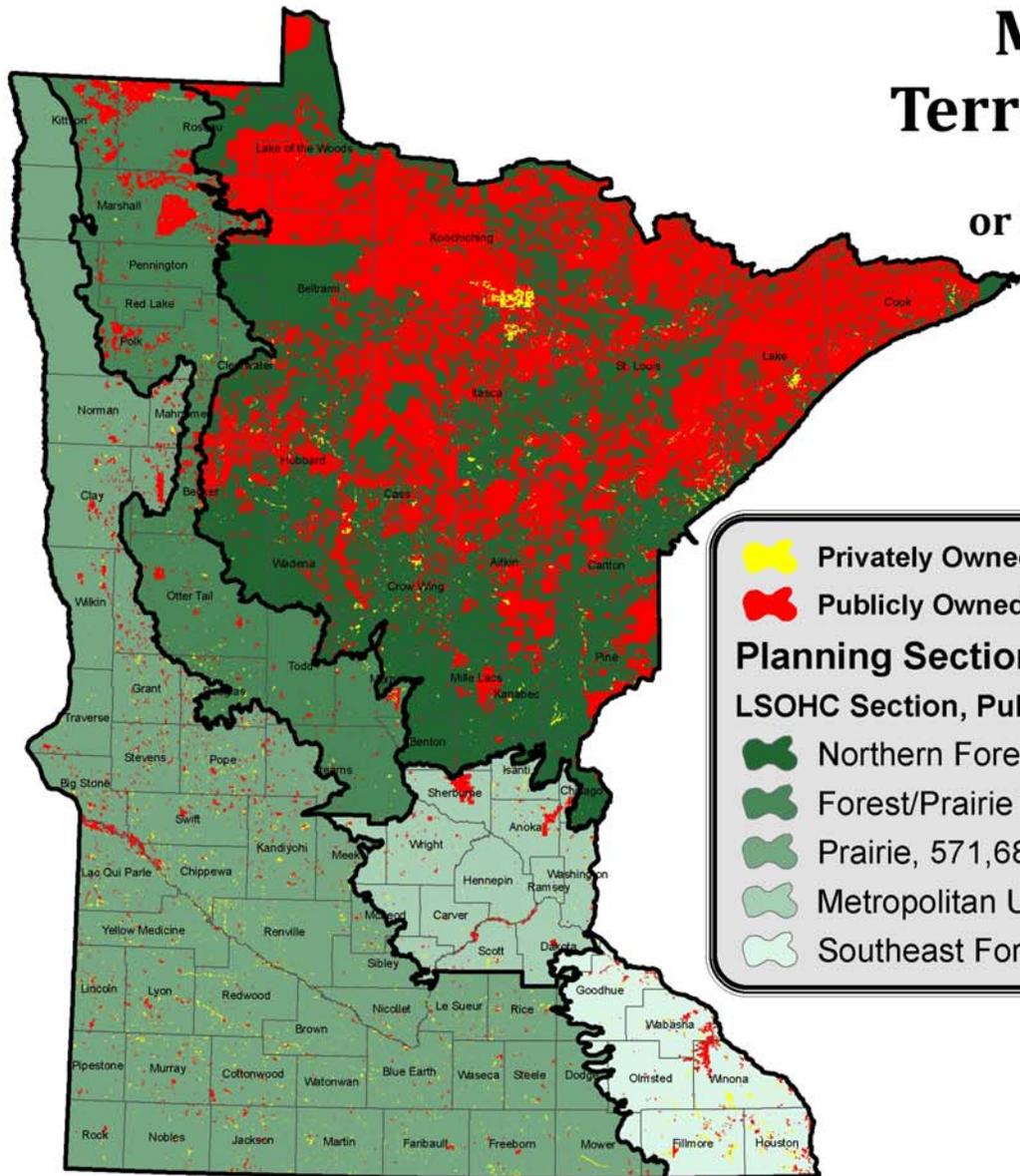
²³ The working group is evaluating whether the classification of “maintained tall grass” should be included to better represent grassland wildlife habitat in the Conservation Estate.

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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.

Minnesota Protected Terrestrial Wildlife Habitat

Publicly Owned or Privately Owned and Protected



Privately Owned, Permanently Protected Habitat - 652,031 Acres

Publicly Owned & Protected Terrestrial Habitat - 11,316,879 Acres

Planning Sections

LSOHC Section, Public Habitat Acres, % of LSOHC Section

- Northern Forest, 10,593,454 Acres, 45.7%
- Forest/Prairie Transition, 583,207 Acres, 8.9%
- Prairie, 571,683 Acres, 3.1%
- Metropolitan Urbanizing Area, 117,060 Acres, 3.6%
- Southeast Forest, 103,506 Acres, 3.9%

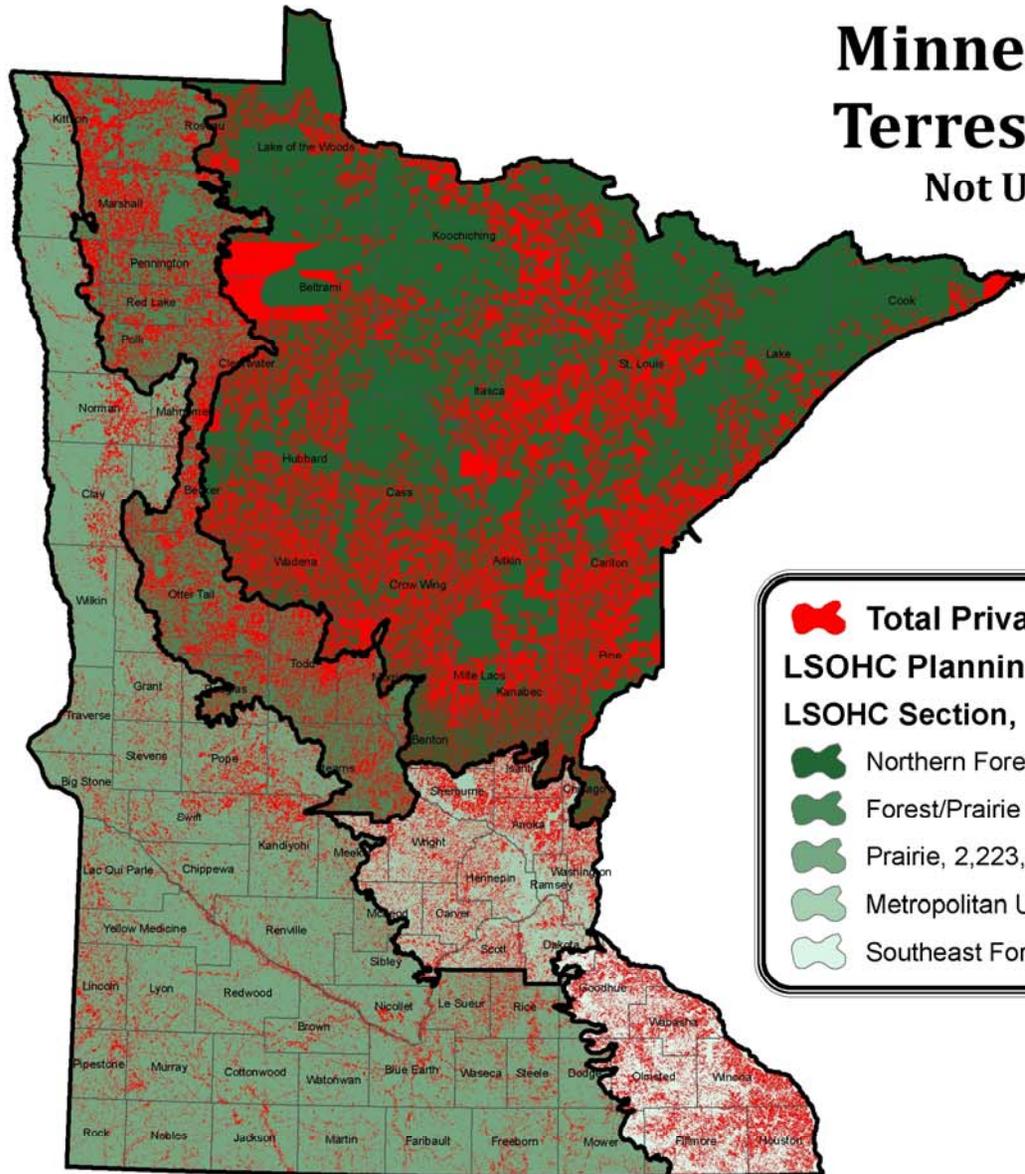


* Most lands depicted here are publicly owned, however private ownerships protected by permanent conservation easements or Nature Conservancy ownership are included because they provide permanent habitat protection. 652,031 of the total 11,968,910 protected habitat acres are privately owned.

October 2010

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Minnesota Privately Owned Terrestrial Wildlife Habitat Not Under Permanent Protection



🔴 Total Private Terrestrial Habitat - 14,182,363 Acres

LSOHC Planning Sections

LSOHC Section, Private Habitat Acres, % of LSOHC Section

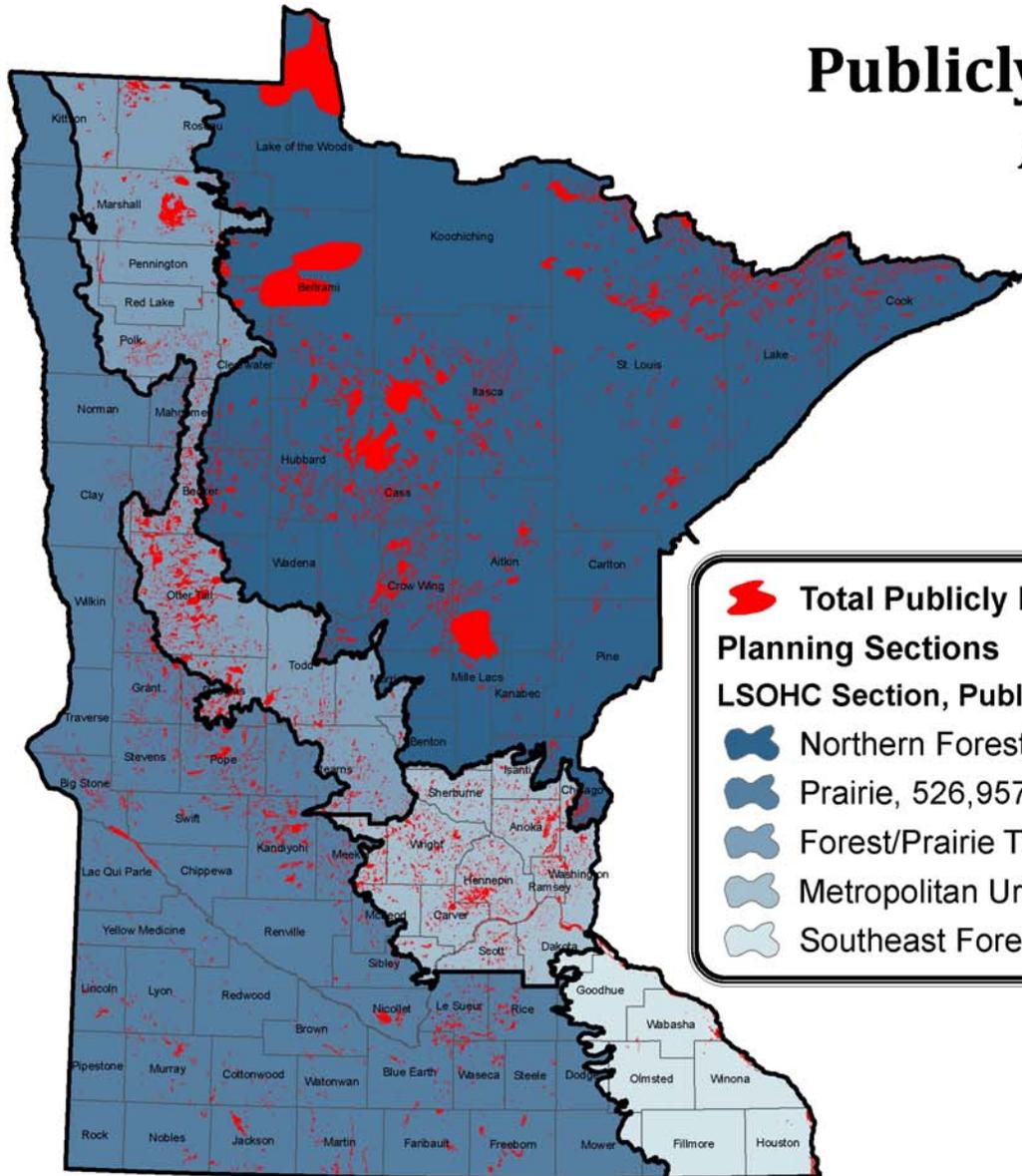
- Northern Forest, 7,776,223 Acres, 34%
- Forest/Prairie Transition, 2,391,705 Acres, 36%
- Prairie, 2,223,759 Acres, 12%
- Metropolitan Urbanizing Area, 912,342 Acres, 28%
- Southeast Forest, 878,334 Acres, 33%



* 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.

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Publicly Protected Minnesota Aquatic Habitat



 **Total Publicly Protected Aquatic Habitat - 3,581,326 Acres**

Planning Sections

LSOHC Section, Public Aquatic Habitat Acres, % of LSOHC Section

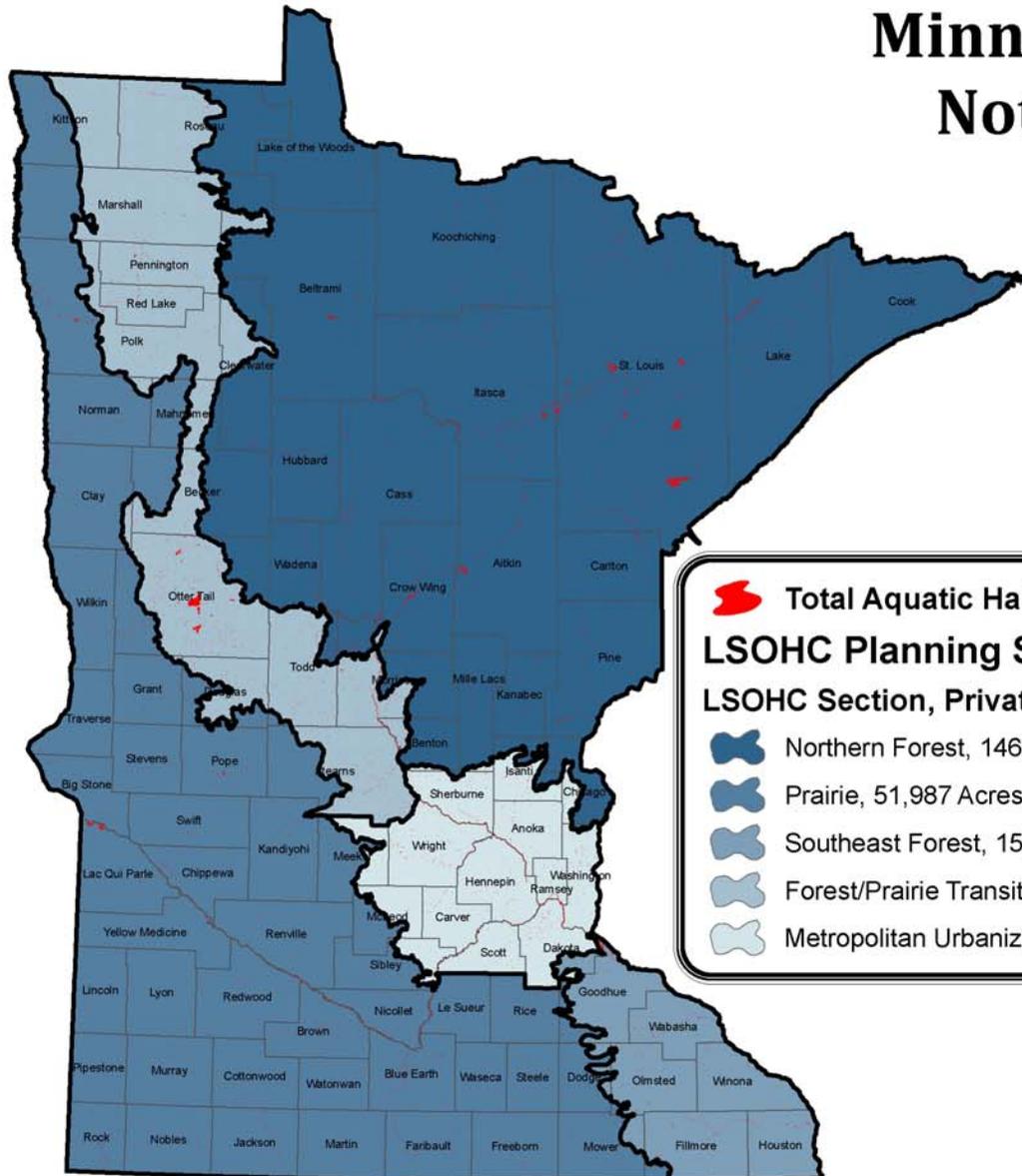
-  Northern Forest, 2,201,110 Acres, 10%
-  Prairie, 526,957 Acres, 3%
-  Forest/Prairie Transition, 502,664 Acres, 8%
-  Metropolitan Urbanizing Area, 291,845 Acres, 9%
-  Southeast Forest, 58,750 Acres, 2%



* 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.

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Minnesota Aquatic Habitat Not Publicly Protected



 **Total Aquatic Habitat Not Publicly Protected - 288,380 Acres**

LSOHC Planning Sections

LSOHC Section, Private Aquatic Habitat Acres, % of LSOHC Section

-  Northern Forest, 146,854 Acres, 0.6%
-  Prairie, 51,987 Acres, 0.3 %
-  Southeast Forest, 15,807 Acres, 0.6%
-  Forest/Prairie Transition, 45,283 Acres, 0.7%
-  Metropolitan Urbanizing Area, 28,448 Acres, 0.9%



* These waters represent all waters not included in the DNR Public Waters Inventory

Appendix C: Scenario two 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	B. Enhance and Restore		2010	2011
Wetlands		5,038	2,786	Wetlands		6,519	11,731
Prairies		9,815	8,129	Prairies		7,327	26,867
Forests		95,000	96,813	Forests		3,310	4,252
Habitats		2,618	3,745	Habitats		1,191	4,494
Total		112,471	111,473	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%

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4) Increase 2010-11 acres by preceding percentages

2010 acres

	Funded acres	Increase by	Adjusted Acres
A. Protect			
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

	Funded acres	Increase by	Adjusted Acres
A. Protect			
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

	Adjusted 2010	Adjusted 2011	2010-11 average
A. Protect			
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 D: Scenario three detail

The Maximized Scenario 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 Council 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 that the spatial targets could be measured monetarily. The following tables show the average cost per acre derived from the 2009 sessions and used for the Maximized Scenario.

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	Average cost per acre	Maximum annual acres
Wetlands	\$800	100,000
Prairies/Grasslands	\$700	114,286
Forests	\$900	88,889
Aquatic	\$10,000	8,000

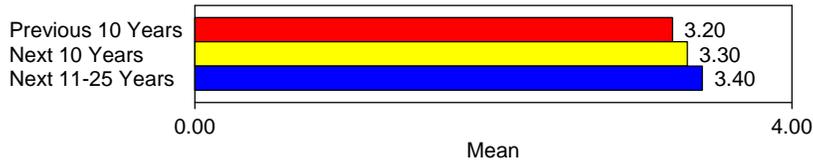
Some averages were weighted to reflect the cost differences between the sections, working easements and fee acquisition prices, and native prairie and restored grasslands (former agriculture lands). For example, the conservation professionals estimated that native prairie costs \$2,700 per acre in the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

Appendix E: Constraints survey summary

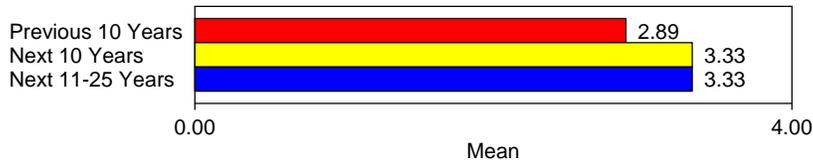
Constraints are listed by topic, in descending order (highest overall constraint is first)

Scale for evaluation: None = 1; Minor = 2; Moderate = 3; Major = 4

Loss of functioning systems/fragmentation/degradation



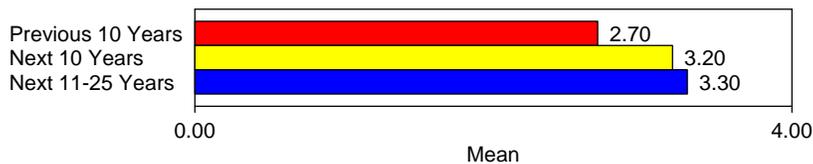
Declining initial funding



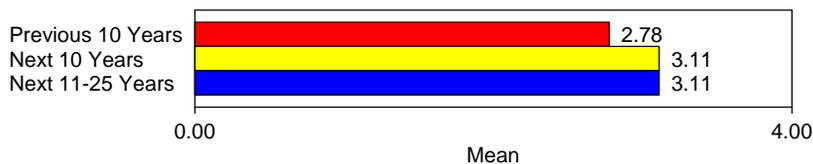
Shortage of staffing/human capital



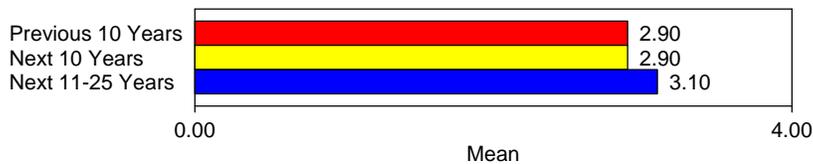
Declining long-term funding



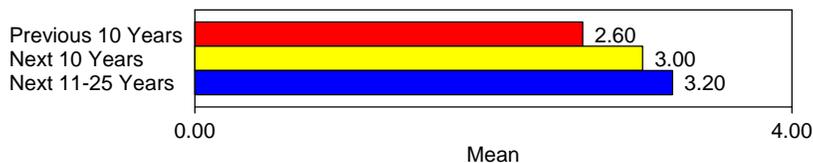
Changes in resource-based economies



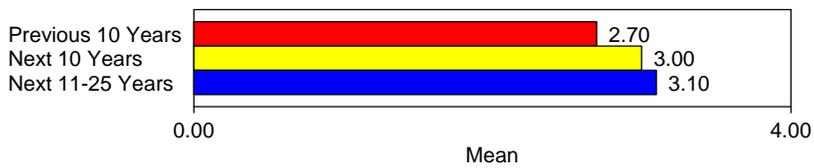
Competing land uses



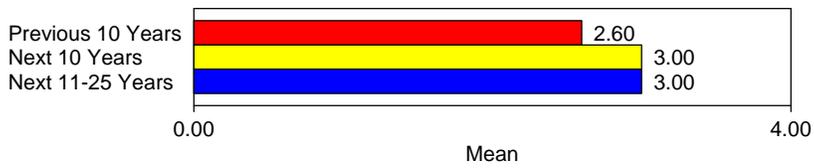
Invasive species



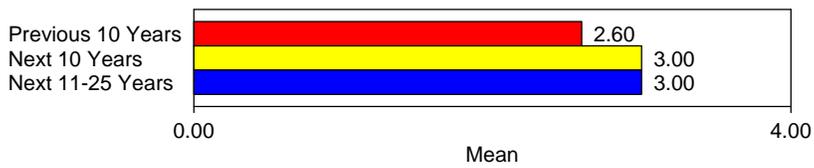
Capacity for long-term monitoring



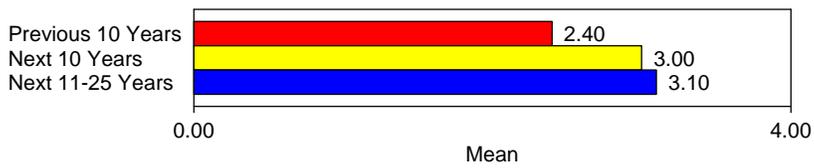
Local political resistance to new conservation lands



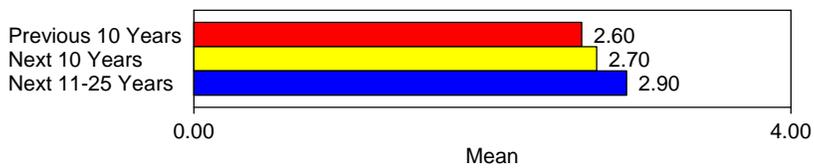
Increasing long-term stewardship and/or maintenance costs



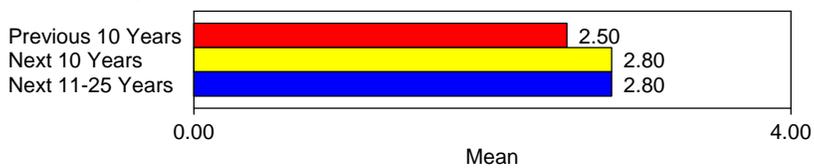
Reductions in current protection (e.g., removal from CRP)



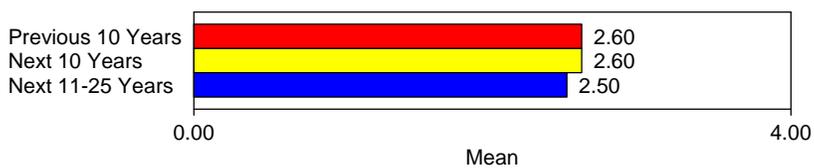
Increasing land values



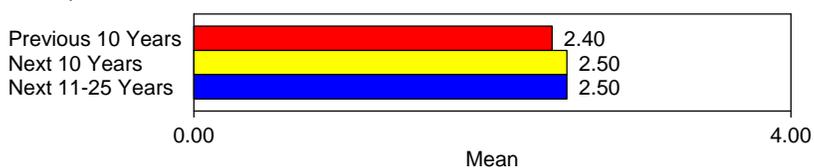
Climate change



Inadequate regulations



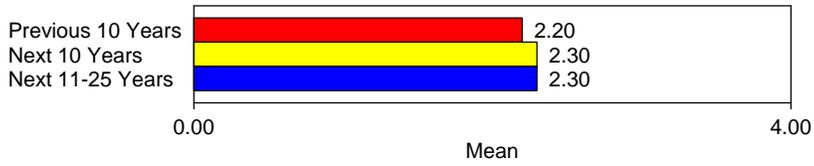
Inadequate enforcement



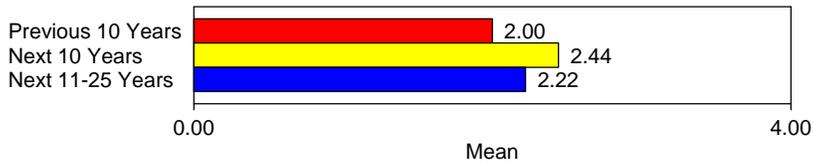
Restricted supply of materials



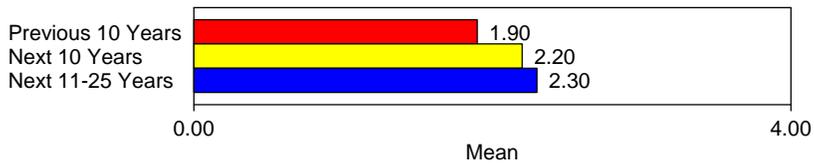
Lack of coordination amongst entities/programs



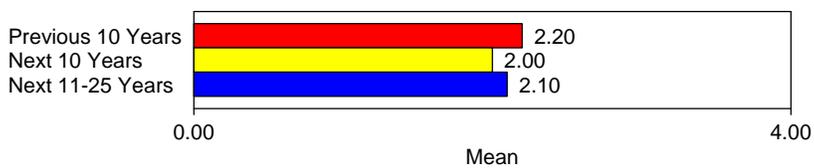
Uncertainty regarding PILT payments



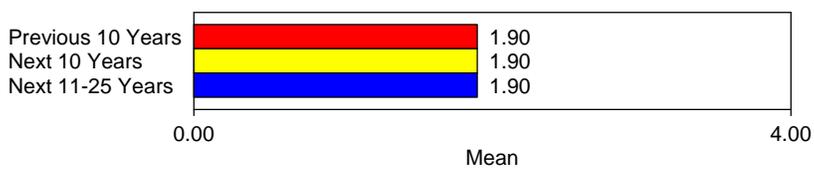
Shortage of technical expertise



Lack of data or information



Lack of decision support



Lack of willing sellers

