

## V. Recommendations

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*“to the extent known by the commission, descriptions of the projects anticipated to be supported by the trust fund during the next biennium;”*

There is \$33,810,552 available for expenditure in each year of the FY14-15 biennium from the Environment and Natural Resources Trust Fund (ENRTF) –biennial total available \$67,621,104. The amount available for expenditure is determined by the MN Constitution which states: “The amount appropriated each year of a biennium....may be up to 5.5% of the market value of the fund on June 30 one year before the start of the biennium”. The value of the ENRTF on June 30, 2012 was \$614,737,321.58.

The LCCMR is making a funding recommendation to the 2013 Legislature from the ENRTF totaling \$38,160,000 (\$33,810,000 is for FY14 and \$4,350,000 is for FY15). The LCCMR will be making a future additional funding recommendation for FY15 totaling \$29,460,000 to the 2014 Legislature. As stated in M.S. 116P, the LCCMR may make an annual or a biennial funding recommendation.

The list of recommended appropriations totaling \$38,160,000 from the Environment and Natural Resources Trust Fund is provided in “Section V. Recommendations.” The funding levels and the proposed legislative bill were adopted by the LCCMR on November 28, 2012. Both actions were through affirmative votes of at least 12 of the 17 members as required by M.S. 116P.05, Subd. 2.



## LCCMR M.L. 2013 ENVIRONMENT AND NATURAL RESOURCES TRUST FUND RECOMMENDATIONS BY SUBDIVISION - HF xxx & SF xxx

### LCCMR Process for M.L. 2013 Recommendations

For the next biennium (July 1, 2013 - June 30, 2014), approximately \$33.8 million is available each fiscal year (Total = \$67,620,000) for funding from the Environment and Natural Resources Trust Fund. In response to the 2012-2013 Request for Proposal, 169 proposals requesting a total of approximately \$155 million were received. Through a competitive, multi-step process, 66 of these proposals, requesting a total of \$73 million, were chosen to present to the LCCMR and 46 of those proposals were chosen to receive a recommendation for funding. These recommendations are for the FY 2014 funds and part of the FY 2015 funds. Recommendations for the remainder of the FY 2015 funds will be presented to the 2014 Legislature as part of the 2013-2014 RFP process.

December 7, 2011	2012-2013 Funding Priorities Determined and RFP Adopted
December 12, 2011	2012-2013 RFP Issued
April 6, 2012	2012-2013 RFP Proposal Deadline (Received 169 Proposals totaling \$154,628,351)
June 5, 2012	Discussion of 2012-2013 Proposals Received and Selection of Proposals for Presentations
June 19, 20, 27, 28, 2012	2012-2013 Proposal Presentations (4 days) (66 proposals totaling \$73,610,973 selected to present)
July 11, 2012	2013 Allocations Recommendations
August-November 2012	Research Projects Recommended Undergo Peer Review
November 28, 2012	M.L. 2013 Appropriation Language Review & Adoption

### Summary of Recommendations by Subdivision\*

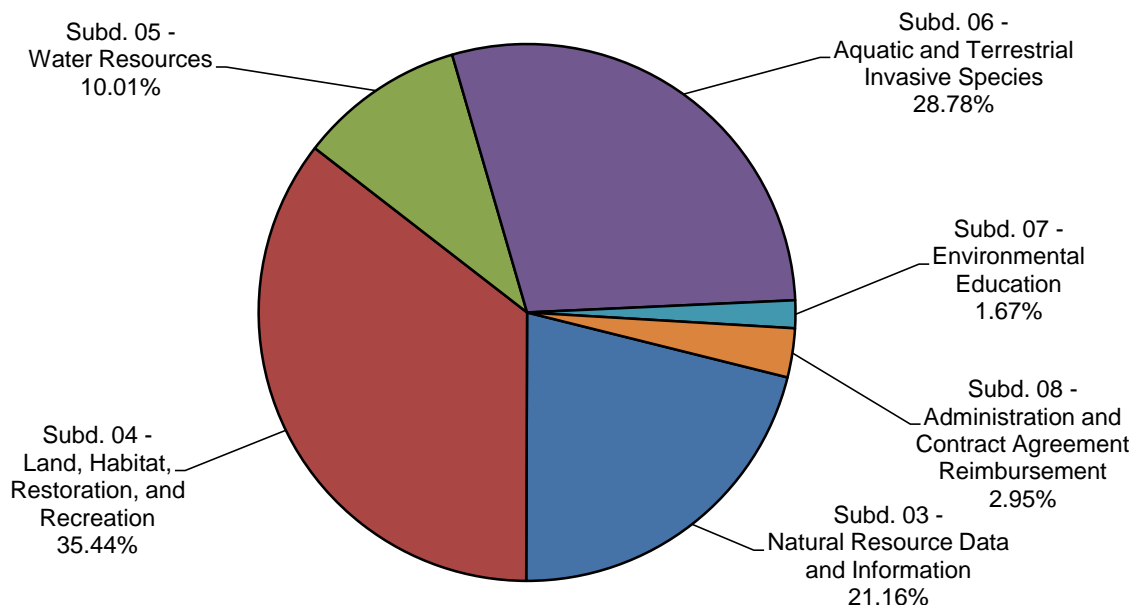
Subdivision	\$ Recommended	# Appropriations**
Subd. 03 - Natural Resource Data and Information	\$8,076,000	10
Subd. 04 - Land, Habitat, Restoration, and Recreation	\$13,522,000	11
Subd. 05 - Water Resources	\$3,819,000	8
Subd. 06 - Aquatic and Terrestrial Invasive Species	\$10,982,000	7
Subd. 07 - Environmental Education	\$636,000	2
Subd. 08 - Administration and Contract Agreement Reimbursement	\$1,125,000	2
<b>TOTAL</b>	<b>\$38,160,000</b>	<b>40</b>

**Notes:**

\*The distribution of dollars is based on the subdivisions in the appropriation language.

\*\*One appropriation includes multiple projects with multiple partners of different affiliations receiving funds. The total number of individual projects within the 40 appropriations is 46.

### % of Total \$ Recommended

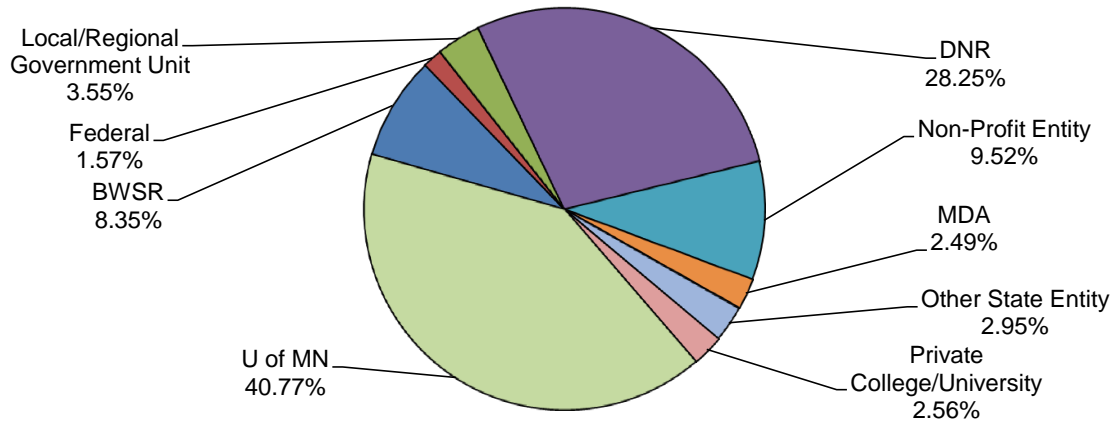


**LCCMR M.L. 2013 ENVIRONMENT AND NATURAL RESOURCES TRUST FUND  
RECOMMENDATIONS BY SUBDIVISION - HF xxx & SF xxx**

Summary of Project Recommendations by Proposer Affiliation*		
Affiliation Type	\$ Recommended	# Projects
MN Board of Water and Soil Resources (BWSR)	\$3,186,000	2
Federal	\$600,000	1
Local/Regional Government Unit	\$1,353,000	4
MN Department of Natural Resources (DNR)	\$10,780,000	11
Non-Profit Entity	\$3,634,000	9
MN Department of Agriculture (MDA)	\$950,000	2
Other State Entity	\$1,125,000	2
Private College/University	\$975,000	2
U of MN	\$15,557,000	13
<b>TOTAL</b>	<b>\$38,160,000</b>	<b>46</b>

\*Some projects have multiple partners with different affiliations receiving funds. The distribution of funds between affiliation types above is based on the best information available at this time.

**% of Total \$ Requests Selected to Present by Proposer Affiliation**

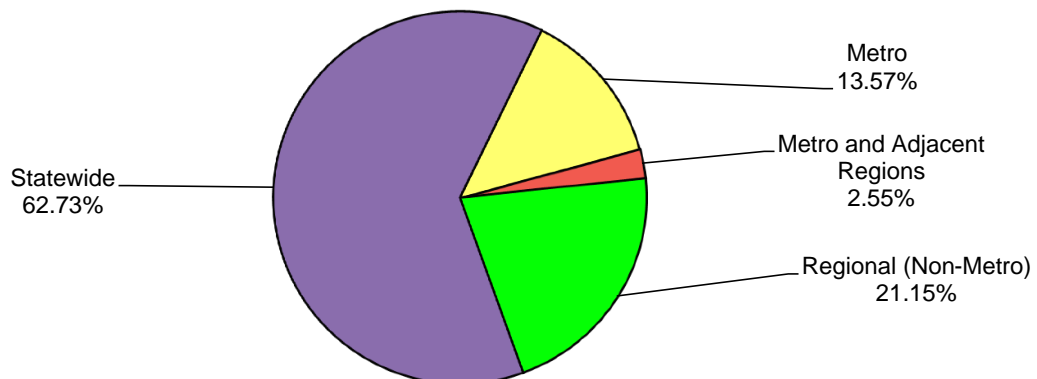


Summary of Proposals Selected to Present by Area of Impact		
Area of Impact	\$ Recommended	# Projects
Metro*	\$5,180,000	7
Metro and Adjacent Regions	\$973,000	4
Regional (Non-Metro)**	\$8,070,000	13
Statewide	\$23,937,000	22
<b>TOTAL</b>	<b>\$38,160,000</b>	<b>46</b>

\* "Metro" region includes the 11 counties of Anoka, Carver, Chisago, Dakota, Hennepin, Isanti, Ramsey, Scott, Sherburne, Washington, and Wright.

\*\* "Regional" means area of impact is less than "Statewide" but includes one or more regions of the state ("Northwest", "Northeast", "Central", "Southwest", or "Southeast") other than the 11-county "Metro" region.

**% of Total \$ Requests Selected to Present by Area of Impact**



# ENVIRONMENT AND NATURAL RESOURCES TRUST FUND M.L. 2013 LCCMR Recommendations – H.F. XXX & S.F. XXX

## SUMMARY OF ML 2013 APPROPRIATIONS BY SUBDIVISION (\$38,160,000)

- SUBD. 3. Natural Resource Data and Information: \$8,076,000 – 10 Appropriations**
- Collection, interpretation, mapping, and dissemination of foundational data and information pertaining to groundwater, wetlands, and distributions of plant and animal species and ecological systems.
  - Planning, inventory, monitoring, and data management pertaining to existing state-held conservation easements.
  - Research and analysis pertaining to Dutch elm disease resistance and to the application of unique microorganisms for bioremediation, bioenergy, and biocontrol uses.
  - Evaluation of alternative methods for improved and expedited forest inventory, more sustainable timber payment methods, and management of woodland grazing.
- SUBD. 4. Land, Habitat, Restoration, and Recreation: \$13,522,000 – 11 Appropriations [17 projects]**
- Protection, restoration, and enhancement of priority, high quality, and unique lands and habitat through fee title acquisition, conservation easements, restoration/enhancement, and related efforts.
  - Expansion of outdoor recreational opportunities through expanded state parks and state trails, an expanded metropolitan landscape arboretum, and the addition of a new city park in Saint Paul.
  - Planning and monitoring to conserve rare and unique habitats with high biodiversity significance.
  - Development and assessment of best practices for restoring moose habitat, enhancing bee pollinator habitat, and utilizing conservation grazing to improve wildlife habitat.
  - Technical assistance and training for landowners on conservation program opportunities, habitat restoration, and land stewardship.
  - Outreach to engage and educate citizens about ecology, outdoor recreation, and land use and protection.
- SUBD. 5. Water Resources: \$3,819,000 – 8 Appropriations**
- Development and implementation of modeling, monitoring, and reporting protocols to track and understand changes in Minnesota lakes and improve water and fisheries management.
  - Assessment of copper-nickel bedrock in northeastern Minnesota and its related impacts to water quality as a result of both natural processes and potential future mining operations.
  - Research and analysis pertaining to understanding significant thermal and biological changes occurring in Lake Superior and related implications; evaluating the impacts of habitat restoration on flood-reduction and water quality to inform future restoration practices; and assessing the presence, sources, and threats posed by antibiotics in the Mississippi River.
  - Develop, test, and optimize a technology designed to utilize wastewater to generate clean water and energy.
  - Installation and monitoring of shoreland and agricultural best management practices to improve water quality of lakes in two regions of southern Minnesota.
- SUBD. 6. Aquatic and Terrestrial Invasive Species: \$10,982,000 – 8 Appropriations**
- Establish, develop, and support a new, first-of-its-kind research center at the University of Minnesota specifically dedicated to developing and implementing new techniques for controlling aquatic invasive species.
  - Development, testing, monitoring, and implementation pertaining to control methods for a variety of established invasive species including garlic mustard, emerald ash borer, and zebra mussels and several emerging invasive species including oriental bittersweet and Grecian foxglove.
  - Establishment of a detection and monitoring program targeting Asian carp species.
- SUBD. 7. Environmental Education: \$636,000 – 2 Appropriations**
- Training of future conservation professionals through mentoring opportunities.
  - Delivery of environmental education and training to youth through focused outdoors experiences along the Mississippi River from Grand Rapids to the Twin Cities and down to Red Wing and through internships in environmental fields.
- SUBD. 8. Administration and Contract Agreement Reimbursement: \$1,125,000 – 2 Appropriations**
- LCCMR administration and project contract agreement reimbursement.

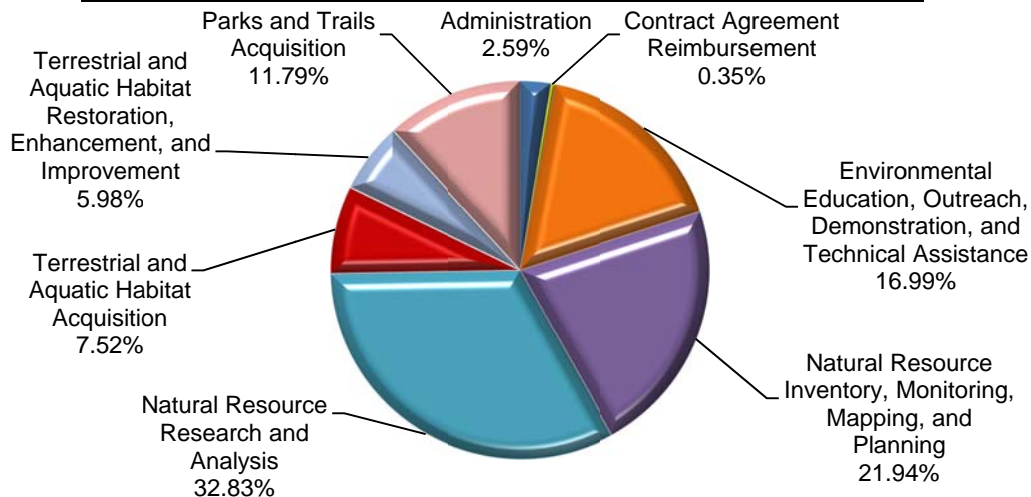
\*Includes approximately \$33.8 million for FY 2014 and \$4.4 million for FY 2015.

# ENVIRONMENT AND NATURAL RESOURCES TRUST FUND M.L. 2013 LCCMR Recommendations – H.F. XXX & S.F. XXX

## SUMMARY OF EXPECTED OUTCOMES ACROSS SUBDIVISIONS FOR ~\$38.2 MILLION\*

- **Natural Resource Inventory, Monitoring, Mapping, and Planning: ~\$8.4 million**  
*Inventory, monitoring, mapping, and planning* efforts to obtain critical information and guide relevant decisions and efforts over time, including acceleration of the MN Biological Survey; MN County Geologic Atlas program; MN Wetlands Inventory; mapping and measurement of springsheds; expanded monitoring and management of state-owned lands; surveying, monitoring, and modeling of Minnesota lakes, including Lake Superior; detection and monitoring of invasive species including Asian carp, emerald ash borer, and others.
- **Terrestrial and Aquatic Habitat Acquisition: ~\$2.9 million**  
*Acquisition* of an estimated 912 acres in a combination of fee title (130 acres and .2 miles of shoreline) and conservation easements (782 acres and .7 miles of shoreline), including donated easements. Permanently protected areas will include forests, prairie, blufflands, wetlands, shorelands, grasslands, and other habitat.
- **Terrestrial and Aquatic Habitat Restoration, Enhancement, and Improvement ~\$2.3 million**  
*Restoration, enhancement, and improvement* activities on an estimated 9,289 acres and 6 miles of shoreline. Activities performed will include seed collection, prescribed burns, soil preparation, native vegetation installation, structural improvements, woody encroachment removal, and invasive species control.
- **Parks and Trails Acquisition: ~\$4.5 million**  
*Acquisition* of an estimated 287 acres, including 1.35 miles of shoreline, in state parks, state trails, a metropolitan park, and the University of Minnesota Landscape Arboretum.
- **Natural Resource Research and Analysis: ~\$12.5 million**  
*Research and analysis* projects that will advance our knowledge about and provide strategies and recommendations for addressing issues relating to invasive species control; water quality and conservation; bioremediation and wastewater treatment; renewable energy options; forestry and forest inventory practices; species protection, decline, and recovery; and conservation grazing practices.
- **Environmental Education, Outreach, Demonstration, and Technical Assistance: ~\$6.5 million**  
*Environmental education, outreach, demonstration, and technical assistance* efforts that will engage and educate Minnesotans on topics including ecology, plants and wildlife, land protection, alternative landscape practices, and outdoor recreation; demonstrate options for alternative landscape practices; and provide training and technical assistance on invasive species prevention, detection, and control and natural resource conservation and management tools, practices, and options.
- **Contract Agreement Reimbursement: ~\$0.1 million**  
Administering of contract agreement reimbursement for projects of non-state entities.
- **Administration: ~\$1 million**  
FY 2014-2015 LCCMR administration

### % OF EXPECTED OUTCOMES ACROSS SUBDIVISIONS



\*Includes approximately \$33.8 million for FY 2014 and \$4.4 million for FY 2015.

## ML 2013 Environment and Natural Resources Trust Fund Recommendations

*In Minnesota's next biennium (July 1, 2013 - June 30, 2014), approximately \$33.8 million is available each fiscal year (Total = \$67,600,000) for funding from the Environment and Natural Resources Trust Fund. In response to the LCCMR's 2012-13 Request for Proposal, 169 proposals requesting a total of approximately \$155 were received. After full consideration of all proposals received through a competitive, multi-step process, on July 11 and November 28, 2012, the LCCMR selected 46 projects to be included in its appropriation recommendations to the 2013 Minnesota Legislature. These recommendations ranged from full funding for the full proposal and dollar amount requested to partial funding for specific proposal elements and partial dollar amounts requested.*

Topic Area	\$ Recommending (\$38,160,000)	Percentage of Total Recommendation
<b>Subd. 03 Natural Resource Data and Information</b> 10 Appropriations	\$8,076,000	21.16%
<b>Subd. 04 Land, Habitat, Restoration, and Recreation</b> 11 Appropriations [17 Projects]	\$13,522,000	35.44%
<b>Subd. 05 Water Resources</b> 8 Appropriations	\$3,819,000	10.01%
<b>Subd. 06 Aquatic and Terrestrial Invasive Species</b> 7 Appropriations	\$10,982,000	28.78%
<b>Subd. 07 Environmental Education</b> 2 Appropriations	\$636,000	1.67%
<b>Subd. 08 Administration and Contract Management</b> 2 Appropriations	\$1,125,000	2.95%
<b>TOTAL \$ RECOMMENDATION</b>	<b>\$38,160,000</b>	<b>100.00%</b>

### Fund Source

FY 2014 - Environment and Natural Resources Trust Fund Recommended	\$33,810,000
FY 2015 - Environment and Natural Resources Trust Fund Recommended	\$4,350,000
<b>TOTAL \$ RECOMMENDATION</b>	<b>\$38,160,000</b>

2013 Environment and Natural Resources Trust Fund Recommendations  
M.L. 2013, Chp. xx, Sec. xx

Subd.	Title	Summary	Affiliation	Program Manager	Total \$ Recommended	FY2014 Trust Fund \$ (\$33,810,000)	FY2015 Trust Fund \$ (\$4,350,000)	Region of Impact
<b>Subd. 03 Natural Resource Data and Information (10 Appropriations - Subtotal = \$8,076,000)</b>								
03a	Minnesota Biological Survey	To provide a foundation for conserving biological diversity by systematically collecting, interpreting, monitoring, and delivering data on plant and animal distribution and ecology, native plant communities, and functional landscapes.	MN DNR	Carmen Converse	\$2,650,000	\$2,650,000	\$0	Statewide
03b	County Geologic Atlases - Part A	Continuing statewide effort to provide comprehensive geologic mapping essential to effective and efficient management of surface and ground water resources. Users include local, state, and federal agencies and private businesses.	U of MN - MN Geological Survey	Dale Setterholm	\$1,200,000	\$1,200,000	\$0	Statewide
03c	County Geologic Atlas - Part B	To continue the analysis and compilation of groundwater data for the production of county geologic atlases, publication of geospatial groundwater data, and continued mapping of springsheds and karst features for Winona and Houston Counties.	MN DNR	Jan Falteisek	\$1,200,000	\$1,200,000	\$0	Central, Metro, NE, SE
03d	Updating the National Wetland Inventory for Minnesota - Phase IV	This is the fourth phase of a multi-phase project to update and enhance the National Wetland Inventory for Minnesota. This phase will update wetland maps for northeastern Minnesota.	MN DNR	Steve Kloiber	\$1,000,000	\$1,000,000	\$0	NE, NW
03e	Conservation Easement Stewardship Program - Phase III	Acceleration of DNR ongoing work to bring existing conservation easements up to minimum standards through monitoring, baseline data collection and baseline report preparation; development of technology to enhance monitoring efficiency.	MN DNR	Susan Damon	\$200,000	\$200,000	\$0	Statewide
03f	Harnessing Soudan Mine Microbes: Bioremediation, Bioenergy and Biocontrol	To continue the characterization of unique microbes discovered in the Soudan Underground Mine State Park that have potential applications for metal remediation in water resources, microbial electrofuels, and inhibition of White-Nose Bat Syndrome.	U of MN	Christine Salomon	\$838,000	\$838,000	\$0	Statewide
03g	Improved Rapid Forest Ecosystem and Habitat Inventory	Evaluate a new approach to forest inventory, based on imputation of statewide Forest Inventory and Analysis (FIA) data, to speed updates, improve usability, and reduce costs.	U of MN	Alan Ek	\$262,000	\$262,000	\$0	Central, NE, NW
03h	Finding Disease Resistant Elm Trees in Minnesota	To evaluate and identify native Minnesota elms resistant to Dutch elm disease to assist with limiting the susceptibility of the state's elms to Dutch elm disease.	U of MN	Robert Blanchette	\$200,000	\$200,000	\$0	Statewide
03i	Enhancing Timber Sale Program Environmental and Economic Sustainability	Evaluate how timber payment methods impact post-harvest forest ecological conditions, net revenue generated from public timber sale programs, and barriers perceived by forest managers and loggers.	U of MN	Charles Blinn	\$336,000	\$336,000	\$0	Central, NE, NW
03j	Enhancing Environmental and Economic Benefits of Woodland Grazing	To evaluate management options of woodlands used for grazing to improve ecological and economic benefits.	U of MN	Diomy Zamora	\$190,000	\$190,000	\$0	Central, NW
<b>Subd. 03 Natural Resource Data and Information Subtotal =</b>					<b>\$8,076,000</b>	<b>\$8,076,000</b>	<b>\$0</b>	
<b>Subd. 04 Land, Habitat, Restoration, and Recreation (12 Appropriations/19 Projects- Subtotal = \$13,522,000)</b>								
04a	State Parks and State Trails Land Acquisition	Acquire approximately 275 acres from willing sellers within the statutory boundaries of State Parks, State Recreation Areas and authorized State Trails. State land acquisitions provide ecological and recreational benefits to the public.	MN DNR	Jennifer Christie	\$1,000,000	\$1,000,000	\$0	Statewide



2013 Environment and Natural Resources Trust Fund Recommendations  
M.L. 2013, Chp. xx, Sec. xx

Subd.	Title	Summary	Affiliation	Program Manager	Total \$ Recommended	FY2014 Trust Fund \$ (\$33,810,000)	FY2015 Trust Fund \$ (\$4,350,000)	Region of Impact
04b	Scientific and Natural Areas Restoration, Enhancement and Citizen Engagement	To conserve sites of biodiversity significance by restoring and enhancing lands established as scientific and natural areas as provided in Minnesota Statutes, section 86A.05, subdivision 5, and providing volunteer engagement and outreach.	MN DNR	Peggy Booth	\$1,500,000	\$1,500,000	\$0	Statewide
04c	Native Prairie Stewardship and Prairie Bank Easement Acquisition	To acquire approximately 195 acres of native prairie bank easements, prepare baseline property assessments, restore and enhance native prairie sites, and provide technical assistance to landowners.	MN DNR	Jason Garms	\$750,000	\$750,000	\$0	Central, Metro, NW, SE, SW
04d	Metropolitan Conservation Corridors (MeCC) - Phase VII	Protect and restore a connected network of critical habitat in the 16 county greater metropolitan area by acquiring fee title and conservation easements on 526 acres and restoring and enhancing 264 acres.	7 partners (8 individual projects)	Kris Larson	\$2,000,000	\$2,000,000	\$0	Metro
04d-1.1/1.2	MeCC VII - 1.1/1.2: Coordination and Mapping	Coordination of Partnership, accomplishment mapping and outreach.	Minnesota Land Trust	Kris Larson	\$20,000	\$20,000	\$0	Metro
04d-2.1/3.4	MeCC VII - 2.1 & 3.4: Protect, Restore and Enhance Significant Watershed Habitat	Restore 10 acres of prairie and enhance 120 acres of prairie/savanna and 108 acres of forest. Six acres within the Fish Creek Natural Area will be acquired in the City of Maplewood.	Friends of the Mississippi River	Tom Lewanski	\$304,000	\$304,000	\$0	Metro
04d-2.3	MeCC VII - 2.3: Restoring Our Lands and Waters	Restore and enhance 90 acres of shoreline, engaging volunteer community members.	Great River Greening	Wiley Buck	\$208,000	\$208,000	\$0	Metro, SE
04d--2.6/3.7	MeCC VII - 2.6 & 3.7: Dakota County Lakeshore and Riparian Protection	Acquire 32 acres of conservation easements along rivers, streams and undeveloped lakeshore; and restore and enhance 40 acres.	Dakota County	Al Singer	\$368,000	\$368,000	\$0	Metro
04d-3.1	MeCC VII - 3.1: 2013 TPLs Critical Land Protection Program	Acquisition of 24 acres of high quality habitat and .2miles of shoreline in scientifically evaluated wildlife corridors within the greater Twin Cities Metro Area.	The Trust for Public Land	Becca Nash	\$400,000	\$400,000	\$0	Metro
04d-3.2	MeCC VII - 3.2: Protect Significant Habitat by Acquiring Conservation Easements	Protect 100 acres of critical habitat in the greater metropolitan area by securing permanent conservation easements and dedicating funds for the perpetual monitoring and enforcement of those easements.	Minnesota Land Trust	Kris Larson	\$300,000	\$300,000	\$0	Metro
04d-3.3	MeCC VII - 3.3: Priority Expansion of Minnesota Valley National Wildlife Refuge	Acquire in fee 100 acres to expand the Minnesota Valley National Wildlife Refuge, improving wildlife habitat and water quality and increasing public access to wildlife-dependent recreation.	Minnesota Valley National Wildlife Refuge Trust Inc	Deborah Loon	\$400,000	\$400,000	\$0	Central, Metro, SE
04e	Landscape Arboretum Acquisition Lake Tamarack	To acquire land surrounding Lake Tamarack in Hennepin County as part of the acquisition of approximately 80 acres for the MN Landscape Arboretum.	U of MN - MN Landscape Arboretum	Peter Moe	\$2,000,000	\$2,000,000	\$0	Metro
04f	Conservation Program Technical Assistance	To continue providing grants to soil and water conservation districts and other units of local and state government for the employment of staff to re-roll expiring lands into new programs for conservation purposes.	Board of Water and Soil Resources	Tabor Hoek	\$3,000,000	\$3,000,000	\$0	Statewide
04g	Moose Habitat Restoration in Northeastern Minnesota	To develop best practices guidelines for creating moose foraging habitat efficiently and cost-effectively.	U of MN - NRRI	Ron Moen	\$200,000	\$200,000	\$0	NE
04h	Bee Pollinator Habitat Enhancement	To assess the potential to supplement traditional turf grass by providing critical floral plant resources to enhance bee pollinator habitat.	U of MN	Marla Spivak	\$200,000	\$200,000	\$0	Statewide
04i	Conservation Grazing to Improve Wildlife Habitat on Wildlife Management Areas	To develop grazing plans and provide infrastructure to support conservation grazing on 5,000 acres of targeted Wildlife Management Areas in partnership with local livestock producers.	MN DNR	Bill Penning	\$600,000	\$600,000	\$0	Central, NW, SE, SW

2013 Environment and Natural Resources Trust Fund Recommendations  
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Subd.	Title	Summary	Affiliation	Program Manager	Total \$ Recommended	FY2014 Trust Fund \$ (\$33,810,000)	FY2015 Trust Fund \$ (\$4,350,000)	Region of Impact
04j	Preserving the Avon Hills Landscape - Phase II	To secure permanent conservation easements on high quality habitat in Stearns County, prepare conservation management plans, and provide public outreach.	Saint Johns Arboretum and University	Thomas Kroll	\$772,000	\$772,000	\$0	Central
04k	Frogtown Farm and Park Acquisition	To acquire a portion of twelve acres for Frogtown Farm and Park to be established as a St. Paul city park.	The Trust for Public Land	Robert McGillivray	\$1,500,000	\$1,500,000	\$0	Metro
<b>Subd. 04 Land, Habitat, Restoration, and Recreation Subtotal =</b>					<b>\$13,522,000</b>	<b>\$13,522,000</b>	<b>\$0</b>	
<b>Subd. 05 Water Resources (8 Appropriations - Subtotal = \$3,819,000)</b>								
05a	Sustaining Lakes in a Changing Environment - Phase II	To continue development and implementation of monitoring, modeling, and reporting protocols for Minnesota lakes to be used in water quality and fisheries management.	MN DNR	Donald Pereira	\$1,200,000	\$1,200,000	\$0	Statewide
05b	Assessment of Natural Copper-Nickel Bedrocks on Water Quality?	To assess impacts of existing mineralization and potential mining on northeastern Minnesota regional water quality from copper, nickel, and other metal concentrations in rocks, streambed sediments, and soils in areas of potential base-metal mining.	U of MN - NRI	Steve Hauck	\$585,000	\$585,000	\$0	NE
05c	Heron Lake Sediment and Phosphorus Reduction Implementation Projects	For public outreach and installation and monitoring of water quality improvement projects.	Heron Lake Watershed District	Jan Voit	\$122,000	\$122,000	\$0	SW
05d	Southern Minnesota Lakes Restoration	To install shoreland and agricultural best management practices to improve water quality for fourteen lakes in a tri-county area in Southern Minnesota.	Le Sueur County	Lauren Klement	\$463,000	\$463,000	\$0	SE
05e	Measuring Hydrologic Benefits from Glacial Ridge Habitat Restoration	To compare the hydrology of habitats before and after restorations to evaluate and quantify the impacts on flood-reduction and water-quality in order to inform improvements to restoration techniques.	Red Lake Watershed District	Tim Cowdery	\$400,000	\$400,000	\$0	Statewide
05f	Evaluation of Lake Superior Water Quality Health	To evaluate impacts to Lake Superior from a changing thermal structure and invasive species in order to implement lake water quality management strategies.	U of MN - Duluth	Erik Brown	\$600,000	\$600,000	\$0	NE
05g	Membranes for Wastewater-Generated Hydrogen and Clean Water	To develop, optimize, and test membranes made of thin film polymers embedded with selected bacteria to generate clean water and energy in the form of hydrogen from wastewater.	U of MN	Paige Novak	\$246,000	\$246,000	\$0	Statewide
05h	Antibiotics in Minnesota Waters - Phase II - Mississippi River	To measure antibiotic concentrations and antibiotic resistance levels and assess the contributions of farm runoff and wastewater treatment in a portion of the Mississippi River.	University of St Thomas	Kristine Wammer	\$203,000	\$203,000	\$0	Central, Metro, SE
<b>Subd. 05 Water Resources Subtotal =</b>					<b>\$3,819,000</b>	<b>\$3,819,000</b>	<b>\$0</b>	
<b>Subd. 06 Aquatic and Terrestrial Invasive Species (7 Appropriations - Subtotal = \$10,982,000)</b>								
06a	An Aquatic Invasive Species Research Center	To develop and support an Aquatic Invasive Species (AIS) research center at the University of Minnesota that will develop new techniques to control aquatic invasive species including Asian carps, zebra mussels, and plant species.	U of MN	Peter Sorensen	\$8,700,000	\$4,350,000	\$4,350,000	Statewide
06b	Detection and Monitoring of Asian Carp Populations	To establish a search and monitoring program directly targeting Asian carp to be used in the development of potential control strategies.	MN DNR	Bradford Parsons	\$540,000	\$540,000	\$0	Statewide

2013 Environment and Natural Resources Trust Fund Recommendations  
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Subd.	Title	Summary	Affiliation	Program Manager	Total \$ Recommended	FY2014 Trust Fund \$ (\$33,810,000)	FY2015 Trust Fund \$ (\$4,350,000)	Region of Impact
06c	Improving Emerald Ash Borer Detection Efficacy for Control	To evaluate and implement options for effective detection of the presence of emerald ash borer.	Minnesota Department of Agriculture	Mark Abrahamson	\$600,000	\$600,000	\$0	Metro, SE, Statewide
06d	Elimination of Target Invasive Plant Species	To train volunteers and professionals to find, control, and monitor targeted newly emergent invasive species.	Minnesota Department of Agriculture	Monika Chandler	\$350,000	\$350,000	\$0	Statewide
06e	Biological Control of Garlic Mustard	To continue the implementation of biological control for invasive garlic mustard plants.	MN DNR	Laura Van Riper	\$140,000	\$140,000	\$0	Statewide
06f	Zebra Mussel Control Research and Evaluation in Minnesota Waters	To assess the ecological impacts of a commercially available molluscicide formulation on the reproduction and development of native fish as well as impacts on larval aquatic insect survival and evaluate the effectiveness of these treatment options for detection and control of zebra mussels.	US Geological Survey, Upper Midwest Environmental Sciences Center	Mark Gaikowski	\$600,000	\$600,000	\$0	Statewide
06g	Controlling Terrestrial Invasive Plants with Grazing Animals	To develop cost effective best management practices to control invasive terrestrial species through planned grazing.	Hiawatha Valley Resource Conservation & Development, Inc.	John Beckwith	\$52,000	\$52,000	\$0	SE
<b>Subd. 06 Aquatic and Terrestrial Invasive Species Subtotal =</b>					<b>\$10,982,000</b>	<b>\$6,632,000</b>	<b>\$4,350,000</b>	
<b>Subd. 07 Environmental Education (2 Appropriations - Subtotal = \$636,000)</b>								
07a	Minnesota Conservation Apprentice Academy	To continue a program to train and mentor future conservation professionals by providing apprenticeship service opportunities with soil and water conservation districts.	Board of Water and Soil Resources	Steve Woods	\$186,000	\$186,000	\$0	Statewide
07b	Youth Outdoors: Mississippi River Education and Employment Opportunities	To provide outdoor education, recreation, and youth employment on the Mississippi River from Grand Rapids to St. Cloud, the Twin Cities, Hastings, and Red Wing.	Wilderness Inquiry	Sarah Milligan-Toffler	\$450,000	\$450,000	\$0	Statewide
<b>Subd. 07 Environmental Education Subtotal =</b>					<b>\$636,000</b>	<b>\$636,000</b>	<b>\$0</b>	
<b>Subd. 08 Administration and Contract Management (2 Appropriations - Subtotal = \$1,125,000)</b>								
08a	Legislative-Citizen Commission on Minnesota Resources Administration	For administration in fiscal years 2014 and 2015 as provided in Minnesota Statutes, section 116P.09, subdivision 5.	Legislative-Citizen Commission on Minnesota Resources	Susan Thornton	\$990,000	\$990,000	\$0	Statewide
08b	Contract Management	For expenses incurred for contract agreement reimbursement for the agreements specified in this section.		N/A	\$135,000	\$135,000	\$0	Statewide
<b>Subd. 08 Administration and Contract Management Subtotal =</b>					<b>\$1,125,000</b>	<b>\$1,125,000</b>	<b>\$0</b>	
<b>Grand Total =</b>					<b>\$38,160,000</b>	<b>\$33,810,000</b>	<b>\$4,350,000</b>	