## II. Projects Funded Preceding Biennium

"a description of each project receiving money from the trust fund during the preceding biennium;"

- The following documents are short abstracts for projects funded during the 2010-2011 biennium.
- Research projects have been marked as such in the description.
- Full work programs are available at the LCCMR, Room 65, State Office Building. The abstracts are current as of 12/30/10.
- Legal Citations
  - M.L. 2010, Chapter 362, Section 2
  - M.L. 2009, Chapter 143, Section 2

# ENVIRONMENT AND NATURAL RESOURCES TRUST FUND 2010 APPROPRIATIONS – M.L. 2010, Ch. 362

## SUMMARY OF 2010 APPROPRIATIONS BY SUBDIVISION (\$26,144,000\*)

## SUBD. 3. Natural Resource Data and Information: \$4,920,000 (11 appropriations)

- Collection, mapping, interpretation, and delivery of foundational data pertaining to groundwater, wetlands, and bird populations.
- Assessment, planning, and outreach for bird conservation, farmland conservation, watershed protection, and the development of local food and perennial biofuels markets.
- Research, analysis, and outreach pertaining to moose habitat, pollinator decline, groundwater sustainability, carbon sequestration, and the application of unique microorganisms for bioenergy and bioremediation uses.

## SUBD. 4. Land, Habitat, and Recreation: \$10,438,000 (9 appropriations)

- Development and implementation of a habitat restoration training program.
- Protection, restoration, and enhancement of priority land and habitat through fee title acquisition, conservation easements, and related efforts.
- Expansion of state outdoor recreational opportunities through improvement and expansion of parks and other public lands.
- Assessment and planning to reduce fragmentation and reconnect remaining prairie ecosystems.
- Outreach and technical assistance for landowners on conservation easements, shoreline protection, and wetlands protection.

## SUBD. 5. Water Resources: \$3,455,000 (9 appropriations)

- Research and analysis pertaining to protection of water resources against contaminants including dioxins, pharmaceuticals, and compounds that disrupt endocrine system functions in humans, fish, and wildlife.
- Identification and evaluation of existing sources of sulfate released into surface waters from past mining activities and assessment of management and treatment options.
- Demonstration and assessment of innovative water storage and treatment for agricultural and urban runoff.
- Research and analysis pertaining to shallow lakes, shoreline, and trout streams that will result in recommendations for improved protection and management strategies.

## SUBD. 6. Aquatic and Terrestrial Invasive Species: \$1,470,000 (4 appropriations)

- Continued evaluation of biological control methods for European buckthorn and garlic mustard.
- Research and analysis pertaining to the potential impacts of emerald ash borer on Minnesota's black ash forest communities and on strategies for helping forests resist invasive species infestation.
- Evaluation of innovative techniques for management of invasive round goby in Lake Superior.

## SUBD. 7. Renewable Energy: \$3,221,000 (4 appropriations)

- Demonstration of sustainable energy strategies and practices including a pilot renewable energy system utilizing wastewater to produce algae biofuels, implementation of renewable energy systems and conservation practices at residential environmental learning centers visited by students from around the state, and development of habitat restoration harvesting as a biomass source for bioenergy.
- Research and analysis on sustainable practices to optimize perennial biofuel crop yields while maximizing soil carbon storage and resistance to invasive species.

## SUBD. 8. Environmental Education: \$2,640,000 (11 appropriations)

- Training of teachers on integrating environmental and outdoor education into their classrooms and training of future conservation professionals through mentoring opportunities.
- Delivery of environmental education to urban youth and underserved communities through focused outdoors experiences.
- Continued establishment and enhancement of outdoor classrooms throughout the state.
- Development and delivery of environmental education pertaining to climate change, wolves, and the Minnesota River.

<sup>\*</sup>Includes \$247,000 in Subd. 4 that were transferred from unused balances of project appropriations made in 2005 and 2009.

# ENVIRONMENT AND NATURAL RESOURCES TRUST FUND 2010 APPROPRIATIONS – M.L. 2010, Ch. 362

## SUMMARY OF EXPECTED OUTCOMES ACROSS SUBDIVISIONS FOR ~\$26.1 MILLION

- Natural Resource Inventory, Monitoring, Mapping, and Planning: ~\$3.6 million
   Inventory, monitoring, mapping, and planning efforts to obtain critical information and guide relevant decisions and efforts over time. This includes acceleration of the MN County Geologic Atlas program; MN Wetlands Inventory; MN Breeding Bird Atlas; and plans and recommended guidelines for bird conservation, watershed protection and improvement, prairie management, forest management, and farmland preservation.
- Terrestrial and Aquatic Habitat Acquisition: ~\$6.5 million

  Acquisition of an estimated 2,775 acres in a combination of fee title (466 acres) and conservation easements (2,309 acres). Permanently protected areas will include forests, wetlands, shoreline, prairie, and other habitat for both human and animal benefit.
- Terrestrial and Aquatic Habitat and Parkland Restoration and Improvement: ~\$3 million Restoration and improvement activities on an estimated 5,800 acres of habitat and parkland. Activities performed will include soil preparation, native vegetation installation, structural improvements, invasive species removal, and state park capital improvement.
- Natural Resource Research and Analysis: ~\$7.2 million
   Research and analysis projects that will advance our knowledge about and provide recommendations for addressing issues relating to aquatic contaminants, groundwater resources, invasive species, pollinator decline, carbon sequestration, wildlife habitat, unique ecosystems, and energy production.
- Environmental Education, Outreach, Demonstration, and Technical Assistance: ~\$5.8 million

  Environmental education, outreach, demonstration, and technical assistance efforts that will educate Minnesotans on topics including climate change, wildlife, ecosystems, and water resources; demonstrate options for energy efficiency and sustainability; and provide training, experiences, and outdoor spaces to facilitate learning about the natural world.

<sup>\*</sup>Includes \$247,000 in Subd. 4 that were transferred from unused balances of project appropriations made in 2005 and 2009.

## **2010 PROJECTS**

## MN Laws 2010, Chapter 362, Section 2 (beginning July 1, 2010)

#### Summary of appropriations and expected outcomes

NOTE: For all projects, contact us to obtain the most up-to-date work programs for current projects (project updates are required twice each year) or the final reports of completed projects.

The following documents are short abstracts for projects funded during the 2010 Legislative Session. The final date of completion for these projects is listed at the end of the abstract. When available, we have provided links to a project's web site. The sites linked to this page are not created, maintained, or endorsed by the LCCMR office or the Minnesota Legislature.

- Subd. 3 Natural Resource Data and Information
- Subd. 4 Land, Habitat, and Recreation
- Subd. 5 Water Resources
- Subd. 6 Aquatic and Terrestrial Invasive Species
- Subd. 7 Renewable Energy
- Subd. 8 Environmental Education

#### Subd. 3 Natural Resource Data and Information

- 3a County Geologic Atlases and Related Hydrogeologic Research
- 3b Updating the Minnesota Wetlands Inventory: Phase 2
- 3c Minnesota Breeding Bird Atlas
- 3d Integrated, Operational Bird Conservation Plan for Minnesota
- 3e Mitigating Pollinator Decline in Minnesota RESEARCH
- 3f Science and Innovation from Soudan Underground Mine State Park RESEARCH
- 3g Quantifying Carbon Burial in Wetlands RESEARCH
- 3h Strategic Planning for Minnesota's Natural and Artificial Watersheds
- 3i Ecosystem Services in Agricultural Watersheds
- 3j Farmland Conservation in Minnesota
- 3k Identifying Critical Habitats for Moose in Northeastern Minnesota RESEARCH

#### Subd. 4 Land, Habitat, and Recreation

- 4a Ecological Restoration Training Cooperative for Habitat Restoration
- 4b Scientific and Natural Areas and Native Prairie Restoration, Enhancement, and Acquisition
- 4c State Park Improvements
- 4d State Park Land Acquisition
- 4e Protection of Rare Granite Rock Outcrop Ecosystem
- 4f Minnesota's Habitat Conservation Partnership Supplemental
- 4g Metropolitan Conservation Corridors Supplemental
- 4h Conserving Sensitive and Priority Shorelands in Cass County
- 4i Reconnecting Fragmented Prairie Landscapes

#### Subd. 5 Water Resources

- 5a Understanding Sources of Aquatic Contaminants of Emerging Concern RESEARCH
- 5b Managing Mineland Sulfate Release in Saint Louis River Basin RESEARCH
- 5c Ecological Impacts of Effluent in Surface Waters and Fish RESEARCH
- 5d Agricultural and Urban Runoff Water Quality Treatment Analysis
- 5e Assessing Septic System Discharge to Lakes RESEARCH
- 5f Evaluation of Dioxins in Minnesota Lakes RESEARCH
- 5g Assessment of Shallow Lake Management RESEARCH
- 5h Assessing Cumulative Impacts of Shoreline Development RESEARCH
- 5i Trout Stream Assessmentss RESEARCH

### Subd. 6 Aquatic and Terrestrial Invasive Species

- 6a Biological Control of European Buckthorn and Garlic Mustard RESEARCH
- 6b Ecological and Hydrological Impacts of Emerald Ash Borer RESEARCH
- 6c Healthy Forests to Resist Invasion RESEARCH
- 6d Bioacoustic Traps for Management of Round Goby RESEARCH

## Subd. 7 Renewable Energy

- 7a Algae for Fuels Pilot Project
- 7b Sustainable Biofuels RESEARCH
- 7c Linking Habitat Restoration to Bioenergy and Local Economies
- 7d Demonstrating Sustainable Energy Practices at Residential Environmental Learning Centers (RELCs)
- 7e Analysis of Options for Minnesota's Energy Independence GOVERNOR VETO

#### Subd. 8 Environmental Education

- 8a Minnesota Conservation Apprenticeship Academy
- 8b Engaging Students in Environmental Stewardship through Adventure Learning
- 8c Connecting Youth with Nature
- 8d Urban Wilderness Youth Outdoor Education
- 8e Get Outside Urban Woodland for Kids
- 8f Expanding Outdoor Classrooms at Minnesota Schools
- 8g Integrating Environmental and Outdoor Education in Grades 7-12
- 8h Project Get Outdoors
- 8i Fishing: Cross Cultural Gateway to Environmental Education
- 8j Minnesota WolfLink
- 8k Online Field Trip of Minnesota River

Funding Source:

Environment and Natural Resources Trust Fund (TF)

## **Subd. 3** Natural Resource Data and Information

## County Geologic Atlases and Related Hydrogeologic Research

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Subd. 3a \$1,130,000

## Dale Setterholm

MN Geological Survey 2642 University Ave St. Paul, MN 55114

Phone: (612) 627-4780 x223 Email: sette001@umn.edu Fax: (612) 627-4784

Web: http://www.geo.umn.edu/mgs/

\$1,130,000 is from the trust fund to the Board of Regents of the University of Minnesota for the Geologic Survey to initiate and continue the production of county geologic atlases, establish hydrologic properties necessary to water management, and investigate the use of geochemical data in water management. This appropriation represents a continuing effort to complete the county geologic atlases throughout the state. This appropriation is available until June 30, 2013, by which time the project must be completed and final products delivered.

Project due to be completed: 6/30/2013

Work Program

Updating the Minnesota Wetlands Inventory: Phase 2

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Subd. 3b \$1,100,000

#### Steve Kloiber

DNR

500 Lafayette Rd, Box 25 St. Paul, MN 55155

Phone: (651) 259-5164

Email: steve.kloiber@dnr.state.mn.us

Web: http://www.dnr.state.mn.us/eco/wetlands/nwi\_proj.html

\$1,100,000 is from the trust fund to the commissioner of natural resources to continue the update of wetland inventory maps for Minnesota. This appropriation is available until June 30, 2013, by which time the project must be completed and final products delivered.

Project due to be completed: 6/30/2013

Work Program

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## Minnesota Breeding Bird Atlas

Subd. 3c \$372,000

## PART 1 (\$211,000)

#### **Mark Martell**

Audubon Minnesota 2357 Ventura Dr, Ste 106 St. Paul, MN 55125

**Phone:** (651) 739-9332

Email: mmartell@audubon.org

**Fax:** (651) 731-1330 **Web:** http://mnbba.org/

## PART 2 (\$161,000)

Duluth, MN 55811

#### **Gerald Niemi**

Natural Resources Research Institute (NRRI) - University of Minnesota 5013 Miller Trunk Hwy

Phone: (218) 720-4270 Email: gniemi@nrri.umn.edu

Fax: (218) 720-4328

Web: http://www.nrri.umn.edu

\$372,000 is from the trust fund to continue development of a statewide survey of Minnesota breeding bird distribution and create related publications, including a book and online atlas with distribution maps and breeding status. Of this appropriation, \$211,000 is to the commissioner of natural resources for an agreement with Audubon Minnesota and \$161,000 is to the Board of Regents of the University of Minnesota for the Natural Resources Research Institute. The atlas must be available for downloading on the Internet free of charge.

Project due to be completed: 6/30/2012

Work Program - Part 1 Work Program - Part 2

Integrated, Operational Bird Conservation Plan for Minnesota

Subd. 3d \$151,000

#### Lee Pfannmuller

Audubon Minnesota 2357 Ventura Dr, Ste 106 St. Paul, MN 55125

Phone: (612) 810-1173 Email: leepfann@msn.com Fax: (651) 731-1330

Web: http://mn.audubon.org/

\$151,000 is from the trust fund to the commissioner of natural resources for an agreement with Audubon Minnesota to develop an integrated bird conservation plan targeting priority species and providing a framework for implementing coordinated, focused, and effective bird conservation throughout Minnesota.

Project due to be completed: 6/30/2012

Work Program

2010 PROJECTS

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#### Mitigating Pollinator Decline in Minnesota

Subd. 3e \$297,000

#### Vera Krischik

U of MN 1980 Folwell Ave, #219 St. Paul, MN 55108

**Phone:** (612) 625-7044 **Email:** krisc001@umn.edu **Fax:** (612) 625-5299

\$297,000 is from the trust fund to the Board of Regents of the University of Minnesota to assess the role of insecticides in pollinator health in order to help mitigate pollinator decline. This appropriation is available until June 30, 2013, by which time the project must be completed and final products delivered.

Project due to be completed: 6/30/2013

Work Program

## Science and Innovation from Soudan Underground Mine State Park

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Subd. 3f \$545,000

## **Jeffrey Gralnick**

U of MN 1479 Gortner Ave St. Paul, MN 55108

Phone: (612) 626-6496 Email: gralnick@umn.edu

\$545,000 is from the trust fund to the Board of Regents of the University of Minnesota to characterize unique microbes discovered in the Soudan Underground Mine State Park and investigate the potential application in bioenergy and bioremediation. This appropriation is available until June 30, 2013, by which time the project must be completed and final products delivered.

Project due to be completed: 6/30/2013

Work Program

## **Quantifying Carbon Burial in Wetlands**

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Subd. 3g \$144,000

## **James Cotner**

U of MN

100 Ecology, 1987 Upper Buford Cir, Dept. Ecology, Evolution and Behavior

St. Paul, MN 55108

Phone: (612) 625-1706 Email: cotne002@umn.edu Fax: (612) 624-6777

\$144,000 is from the trust fund to the Board of Regents of the University of Minnesota to determine the potential for carbon sequestration in Minnesota's shallow lakes and wetlands. This appropriation is available until June 30, 2013, by which time the project must be completed and final products delivered.

Project due to be completed: 6/30/2013

Work Program

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Strategic Planning for Minnesota's Natural and Artificial Watersheds

Subd. 3h \$327,000

#### **David Mulla**

U of MN

439 Borlaug Hall, 1991 Upper Buford Cir

St. Paul, MN 55108

**Phone:** (612) 625-6721 **Email:** mulla003@umn.edu

Fax: (612) 625-2208

\$327,000 is from the trust fund to the Board of Regents of the University of Minnesota to identify the interrelationship between artificial systems of drain tiles and ditches and natural watersheds to guide placement of buffers and stream bed restoration and modification.

Project due to be completed: 6/30/2012

Work Program

## **Ecosystem Services in Agricultural Watersheds**

Subd. 3i \$247,000

## **Kylene Olson**

Chippewa River Watershed Project 629 North 11th Street, Suite 17 Montevideo, MN 56265

Phone: (320) 269-2139 ext. 116

Email: kylene.olson@charterinternet.com

Fax: (320) 269-6593

\$247,000 is from the trust fund to the commissioner of natural resources for an agreement with the Chippewa River Watershed Project to develop local food and perennial biofuels markets coupled with conservation incentives to encourage farmers to diversify land cover in the Chippewa River Watershed supporting improvement to water quality and habitat. This appropriation is available until June 30, 2013, by which time the project must be completed and final products delivered.

Project due to be completed: 6/30/2013

Work Program

#### **Farmland Conservation in Minnesota**

Subd. 3j \$100,000

## Jennifer Jambor-Delgado

Farmers Legal Action Group, Inc. (FLAG) 360 N Robert St, #500 St. Paul, MN 55101

**Phone:** (651) 223-5400

Email: jjambor-delgado@flaginc.org

Fax: (651) 223-5335

\$100,000 is from the trust fund to the commissioner of natural resources for an agreement with the Farmers Legal Action Group, Inc. to assess the implementation of applicable laws for preserving agricultural land and develop a comprehensive and systematic approach and policy tools to preserve agricultural lands.

Project due to be completed: 6/30/2012

Work Program

Identifying Critical Habitats for Moose in Northeastern Minnesota

Subd. 3k \$507,000

Ron Moen

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UMD, NRRI 5013 Miller Trunk Hwy Duluth, MN 55811

Phone: (218) 720-4279 Email: rmoen@nrri.umn.edu

Fax: (218) 720-4328

Web: http://www.nrri.umn.edu/moose/

\$507,000 is from the trust fund to the Board of Regents of the University of Minnesota for the Natural Resources Research Institute to identify critical habitats for moose, develop best management habitat protection practices, and conduct educational outreach in cooperation with the Minnesota Zoo. This appropriation is available until June 30, 2013, by which time the project must be completed and final products delivered.

Project due to be completed: 6/30/2013

Work Program

## Subd. 4 Land, Habitat, and Recreation

## **Ecological Restoration Training Cooperative for Habitat Restoration**

Subd. 4a \$550,000

Susan Galatowitsch

U of MN

1970 Folwell Ave St. Paul, MN 55108

Phone: (612) 624-3242 Email: galat001@umn.edu Fax: (612) 624-3242

\$550,000 is from the trust fund to the Board of Regents of the University of Minnesota for improving ecological restoration success in Minnesota by developing and offering training programs for habitat restoration professionals. This appropriation is available until June 30, 2013, by which time the project must be completed and final products delivered.

Project due to be completed: 6/30/2013

Work Program

Scientific and Natural Areas and Native Prairie Restoration, Enhancement, and Acquisition

Subd. 4b \$1,750,000

**Peggy Booth** 

DNR

500 Lafayette Rd, Box 25 St. Paul, MN 55155

Phone: (651) 259-5088

Email: peggy.booth@dnr.state.mn.us

**Fax:** (651) 296-1811

Web: http://www.dnr.state.mn.us/snas/index.html

\$1,750,000 is from the trust fund to the commissioner of natural resources to acquire lands with high quality native plant communities and rare features to be established as scientific and natural areas as provided in Minnesota Statutes, section 86A.05, subdivision 5, restore parts of scientific and natural areas, and provide assistance and incentives for native prairie landowners. A list of proposed acquisitions must be provided as part of the required work program. Land acquired with this appropriation must be sufficiently improved to meet at least minimum management standards as determined by the commissioner of natural resources. This appropriation is available until June 30, 2013, by which time the project must be completed and final products delivered.

Project due to be completed: 6/30/2013

Work Program

## State Park Improvements

Subd. 4c \$814,000

## **Larry Peterson**

DNR

500 Lafayette Rd St. Paul, MN 55155

**Phone:** (651) 259-5593

Email: larry.Peterson@dnr.state.mn.us

Fax: (651) 296-6532

\$567,000 is from the trust fund to the commissioner of natural resources for state park capital improvements and natural resource restoration. Of this amount, \$250,000 is for solar energy installations in state parks and the remaining amount shall be used for park and campground restoration and improvements. Priority shall be for projects that address existing threats to public water resources. On July 1, 2010, the unobligated balance, estimated to be \$200,000, of the appropriation for clean energy resource teams and community wind energy rebates in Laws 2005, First Special Session chapter 1, article 2, section 11, subdivision 10, paragraph (a), as amended by Laws 2006, chapter 243, section 15, and extended by Laws 2009, chapter 143, section 2, subdivision 16, is transferred and added to this appropriation. On July 1, 2010, the \$47,000 appropriated in Laws 2009, chapter 143, section 2, subdivision 6, paragraph (f), for native plant biodiversity, invasive plant species, and invertebrates is transferred and added to this appropriation.

Project due to be completed: 6/30/2012

Work Program

## **State Park Land Acquisition**

Subd. 4d \$1,750,000

**Larry Peterson** 

DNR

500 Lafayette Rd St. Paul, MN 55155

Phone: (651) 259-5593

Email: larry.Peterson@dnr.state.mn.us

Fax: (651) 296-6532

\$1,750,000 is from the trust fund to the commissioner of natural resources to acquire and preserve critical parcels within the statutory boundaries of state parks. Land acquired with this appropriation must be sufficiently improved to meet at least minimum management standards as determined by the commissioner of natural resources. A list of proposed acquisitions must be provided as part of the required work program.

Project due to be completed: 6/30/2012

Work Program

## **Protection of Rare Granite Rock Outcrop Ecosystem**

Subd. 4e \$1,800,000

**Thomas Kalahar** 

Renville SWCD 1008 W Lincoln Ave Olivia, MN 56277

Phone: (320) 523-1559 Email: kalahar@yahoo.com

Fax: (320) 523-2389

\$1,800,000 is from the trust fund to the Board of Water and Soil Resources, in cooperation with the Renville Soil and Water Conservation District, to continue to acquire perpetual easements of unique granite rock outcrops, located in the Upper

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Minnesota River Valley. \$418,000 of this appropriation is for fiscal year 2010 and is available the day following final enactment.

Project due to be completed: 6/30/2012

Work Program

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## Minnesota's Habitat Conservation Partnership Supplemental

Subd. 4f \$1,344,000

#### Joe Pavelko

Pheasants Forever (on behalf of all partners) 7975 Acorn Circle Victoria, MN 55386

Phone: (612) 532-3800

Email: jpavelko@pheasantsforever.org

Fax: (320) 354-4377

Web: http://www.mnhabitatcorridors.org

\$1,344,000 is added to Laws 2009, chapter 143, section 2, subdivision 4, paragraph (e), from the trust fund for the acceleration of agency programs and cooperative agreements. Of this appropriation, \$308,000 is to the commissioner of natural resources for agency programs and \$1,036,000 is for agreements as follows: \$425,000 with Ducks Unlimited, Inc.; \$50,000 with National Wild Turkey Federation; \$164,000 with the Nature Conservancy; \$102,000 with Minnesota Land Trust; \$200,000 with the Trust for Public Land; \$45,000 with Friends of Detroit Lakes Wetland Management District; and \$50,000 to the Leech Lake Band of Ojibwe to plan, restore, and acquire fragmented landscape corridors that connect areas of quality habitat to sustain fish, wildlife, and plants. The United States Department of Agriculture Natural Resources Conservation Service is an authorized cooperating partner in the appropriation. Expenditures are limited to the project corridor areas as defined in the work program. Land acquired with this appropriation must be sufficiently improved to meet at least minimum habitat and facility management standards as determined by the commissioner of natural resources. This appropriation may not be used for the purchase of residential structures, unless expressly approved in the work program. All conservation easements must be perpetual and have a natural resource management plan. Any land acquired in fee title by the commissioner of natural resources with money from this appropriation must be designated as an outdoor recreation unit under Minnesota Statutes, section 86A.07. The commissioner may similarly designate any lands acquired in less than fee title. A list of proposed restorations and fee title and easement acquisitions must be provided as part of the required work program. All funding for conservation easements must include a long-term stewardship plan and funding for monitoring and enforcing the agreement.

- 2d Shallow Lake Assessment and Management (DNR)
- 2f Shallow Lake Habitat Enhancement and Wild Rice Enhancement and Monitoring (Leech Lake Band of Ojibwe)
- 2h Fisheries Habitat Restoration (DNR)
- 2k Prairie Management (DNR)
- 2n Campaign for Conservation (The Nature Conservancy)
- 20 Working Lands Partnership (Friends of the Detroit Lakes Wetland Management District)
- 2p Bluffland Restoration (National Wild Turkey Federation)
- 3a Shoreland Protection Project (Minnesota Land Trust)
- 3c Shallow Lake Easements (Ducks Unlimited)
- 3d Wetlands Reserve Program (Ducks Unlimited / USDA NRCS)
- 4b Fisheries Land Acquisition (DNR)
- 4c Critical Lands Protection Program (Trust for Public Land)
- 4f Campaign for Conservation (The Nature Conservancy)

Project due to be completed: 6/30/2012

Overall HCP Work Program (For work programs of individual partner projects, click links directly above)

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## Metropolitan Conservation Corridors Supplemental

Subd. 4g \$1,750,000

## Sarah Strommen

Minnesota Land Trust 2356 University Avenue West, Suite 240 St. Paul, MN 55114 Phone: (651) 647-9590 Email: sstrommen@mnland.org

**Fax:** (651) 647-9769

Web: http://www.dnr.state.mn.us/metroconservationcorridors

\$1,750,000 is added to Laws 2009, chapter 143, section 2, subdivision 4, paragraph (f), from the trust fund to the commissioner of natural resources for acceleration of agency programs and cooperative agreements. Of this appropriation, \$1,750,000 is for agreements as follows: \$890,000 with the Trust for Public Land; \$485,000 with Minnesota Land Trust; \$325,000 with Minnesota Valley National Wildlife Refuge Trust, Inc.; and \$50,000 with Friends of the Minnesota Valley for planning, restoring, and protecting important natural areas in the metropolitan area, as defined under Minnesota Statutes, section 473.121, subdivision 2, and portions of the surrounding counties, through grants, contracted services, technical assistance, conservation easements, and fee title acquisition. Land acquired with this appropriation must be sufficiently improved to meet at least minimum management standards as determined by the commissioner of natural resources. Expenditures are limited to the identified project corridor areas as defined in the work program. This appropriation may not be used for the purchase of residential structures, unless expressly approved in the work program. All conservation easements must be perpetual and have a natural resource management plan. Any land acquired in fee title by the commissioner of natural resources with money from this appropriation must be designated as an outdoor recreation unit under Minnesota Statutes, section 86A.07. The commissioner may similarly designate any lands acquired in less than fee title. A list of proposed restorations and fee title and easement acquisitions must be provided as part of the required work program. All funding for conservation easements must include a long-term stewardship plan and funding for monitoring and enforcing the agreement.

- 2.4 Lower Minnesota River Watershed Restoration & Enhancement Project (Friends of Minnesota Valley)
- 3.1 Critical Land Protection Program (Trust for Public Land)
- 3.2 Protect Significant Habitat by Acquiring Conservation Easements (Minnesota Land Trust)
- 3.3 Minnesota Valley National Wildlife Refuge Fee Title Acquisition (Minnesota Valley National Wildlife Refuge Trust)

Project due to be completed: 6/30/2012

Overall MeCC Work Program (For work programs of individual partner projects, click links directly above)

## Conserving Sensitive and Priority Shorelands in Cass County

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Subd. 4h \$300,000

## John Ringle

Cass County Environmental Services Department 300 Minnesota Ave, Box 3000 Walker, MN 56484

Phone: (218) 547-7241

Email: john.ringle@co.cass.mn.us

Fax: (218) 547-7429

Web: http://www.co.cass.mn.us

\$300,000 is from the trust fund to the commissioner of natural resources for an agreement with Cass County to provide assistance for the donation of perpetual conservation easements to protect sensitive shoreland parcels for long-term protection of recreation, water quality, and critical habitat in north central Minnesota. This appropriation is available until June 30, 2013, by which time the project must be completed and final products delivered.

Project due to be completed: 6/30/2013

Work Program

## **Reconnecting Fragmented Prairie Landscapes**

Subd. 4i \$380,000

### Steve Chaplin

The Nature Conservancy 1101 W River Pkwy, Ste 200 Minneapolis, MN 55415

Phone: (612) 331-0750

Email: schaplin@tnc.org Fax: (612) 331-0770

\$380,000 is from the trust fund to the commissioner of natural resources for an agreement with the Nature Conservancy to develop prairie landscape design plans and monitoring protocol involving local landowners and businesses to guide conservation, restoration, and related economic development. This appropriation is available until June 30, 2013, by which time the project must be completed and final products delivered.

Project due to be completed: 6/30/2013

Work Program

#### Subd. 5 Water Resources

## **Understanding Sources of Aquatic Contaminants of Emerging Concern**

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Subd. 5a \$640,000

#### **Deborah Swackhamer**

U of MN

Water Resources Center, 173 McNeal Hall, 1985 Buford Ave

St. Paul, MN 55108

Phone: (612) 625-0279 Email: dswack@umn.edu

\$640,000 is from the trust fund to the Board of Regents of the University of Minnesota to identify chemical markers to characterize sources of endocrine disruptors and pharmaceuticals entering surface waters in the Zumbro River Watershed. This appropriation is available until June 30, 2013, by which time the project must be completed and final products delivered.

Project due to be completed: 6/30/2013

Work Program

#### Managing Mineland Sulfate Release in Saint Louis River Basin

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Subd. 5b \$270,000

#### Michael Berndt

DNR

500 Lafayette Rd

St. Paul, MN 55155

**Phone:** (651) 259-5378

Email: mike.berndt@dnr.state.mn.us

Fax: (651) 296-5939

\$270,000 is from the trust fund to the commissioner of natural resources to map current sulfate sources and assess treatment options to minimize potential impacts of mercury on fish and wildlife from sulfate releases in the St. Louis River Basin. This appropriation is available until June 30, 2013, by which time the project must be completed and final products delivered.

Project due to be completed: 6/30/2013

Work Program

## **Ecological Impacts of Effluent in Surface Waters and Fish**

Subd. 5c \$340,000

Paige Novak

U of MN

122 Civil Engineering Bldg, 500 Pillsbury Dr SE

Minneapolis, MN 55455

**Phone:** (612) 626-9846 Email: novak010@umn.edu

Fax: (612) 626-7750

\$340,000 is from the trust fund to the Board of Regents of the University of Minnesota in cooperation with St. Cloud State University to determine the chemical and biological fate of phytoestrogens in surface waters and the impacts on fish. This appropriation is available until June 30, 2013, by which time the project must be completed and final products delivered.

Project due to be completed: 6/30/2013

Work Program

Agricultural and Urban Runoff Water Quality Treatment Analysis

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Subd. 5d \$485,000

**Craig Austinson** 

Blue Earth County Drainage Authority 410 Jackson Street Mankato, MN 56001

Phone: (507) 304-4253

Email: Craig.Austinson@co.Blue-Earth.mn.us

\$485,000 is from the trust fund to the Board of Water and Soil Resources for an agreement with the Blue Earth County Drainage Authority to reduce soil erosion, peak water flows, and nutrient loading through a demonstration model evaluating storage and treatment options in drainage systems in order to improve water quality. This appropriation is available until June 30, 2014, by which time the project must be completed and final products delivered.

Project due to be completed: 6/30/2014

Work Program

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Assessing Septic System Discharge to Lakes

Subd. 5e \$594,000

**Richard Kiesling** 

U.S. Geological Survey 2280 Woodale Dr Mounds View, MN 55112

Phone: (763) 783-3131 Email: kiesling@usgs.gov

Fax: (763) 783-3103

\$594,000 is from the trust fund to the commissioner of health for department activities and for an agreement with the United States Geologic Survey in cooperation with St. Cloud State University to develop quantitative data on septic system discharge of estrogenic and pharmaceutical compounds and assess septic and watershed influences on levels of contamination and biological responses in Minnesota lakes. The United States Geologic Survey is not subject to the requirements in Minnesota Statutes, section 116P.10. This appropriation is available until June 30, 2013, by which time the project must be completed and final products delivered.

Project due to be completed: 6/30/2013

Work Program

**Evaluation of Dioxins in Minnesota Lakes** 

Subd. 5f \$1,130,000

William Arnold

U of MN Dept of Civil Engineering, 500 Pillsbury Dr SE Minneapolis, MN 55455

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Phone: (612) 625-8582 Email: arnol032@umn.edu Fax: (612) 626-7750

\$264,000 is from the trust fund to the Board of Regents of the University of Minnesota to examine the concentration of dioxins in lake sediment and options to improve water quality in lakes.

Project due to be completed: 6/30/2012

Work Program

**Assessment of Shallow Lake Management** 

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Subd. 5g \$262,000

**Mark Hanson** 

DNR

Wetland Wildlife Group, 102 23rd Street NE

Bemidji, MN 56601

Phone: (218) 308-2283

Email: mark.hanson@dnr.state.mn.us

Fax: (218) 755-2604

\$262,000 is from the trust fund to the commissioner of natural resources to evaluate the major causes of deterioration of shallow lakes in Minnesota and evaluate results of current management efforts. This appropriation is available until June 30,2013, by which time the project must be completed and final products delivered.

Project due to be completed: 6/30/2013

Work Program

**Assessing Cumulative Impacts of Shoreline Development** 

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Subd. 5h \$300,000

**Bruce Vondracek** 

U of MN 1980 Folwell Ave St. Paul, MN 55108

Phone: (612) 624-8748 Email: bvondrac@umn.edu Fax: (612) 625-5299

\$300,000 is from the trust fund to the Board of Regents of the University of Minnesota to evaluate near-shore, in-water habitat impacts from shoreline development activities to assist in the design and implementation of management practices protecting critical shorelands and aquatic habitat. This appropriation is available until June 30, 2013, by which time the project must be completed and final products delivered.

Project due to be completed: 6/30/2013

Work Program

**Trout Stream Assessments** 

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Subd. 5i \$300,000

**Leonard Ferrington** 

U of MN

219 Hodson Hall, 1980 Folwell Ave

St. Paul, MN 55108

Phone: (612) 624-3265 Email: ferri016@umn.edu Fax: (612) 625-5299 \$300,000 is from the trust fund to the Board of Regents of the University of Minnesota to assess cold water aquatic insect abundance related to warming water temperatures as predictors of trout growth in southeastern Minnesota and assess options to minimize stream temperature changes. This appropriation is available until June 30, 2013, by which time the project must be completed and final products delivered.

Project due to be completed: 6/30/2013

Work Program

## **Subd. 6** Aquatic and Terrestrial Invasive Species

## **Biological Control of European Buckthorn and Garlic Mustard**

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Subd. 6a \$300,000

Luke Skinner

DNR 500 Lafayette Rd, Box 25 St. Paul, MN 55155

Phone: (651) 259-5140

Email: luke.skinner@dnr.state.mn.us

Fax: (651) 296-1811

\$300,000 is from the trust fund to the commissioner of natural resources in cooperation with the commissioner of agriculture to continue the development and implementation of biological control for European buckthorn and garlic mustard. This appropriation 14.2 is available until June 30, 2013, by which time the project must be completed and final products delivered.

Project due to be completed: 6/30/2013

Work Program

### **Ecological and Hydrological Impacts of Emerald Ash Borer**

Subd. 6b \$636,000

**Anthony D'Amato** 

U of MN 1530 Cleveland Avenue N St. Paul, MN 55108

Phone: (612) 625-3733 Email: damato@umn.edu Fax: (612) 625-5212

\$636,000 is from the trust fund to the Board of Regents of the University of Minnesota to assess the potential impacts of emerald ash borer on Minnesota's black ash forests and quantify potential impacts on native forest vegetation, invasive species spread, and hydrology. This appropriation is available until June 30, 2015, by which time the project must be completed and final products delivered.

Project due to be completed: 6/30/2015

Work Program

**Healthy Forests to Resist Invasion** 

Subd. 6c \$359,000

**Peter Reich** 

U of MN 1530 Cleveland Ave N St. Paul, MN 55108

Phone: (612) 624-4270

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Email: preich@umn.edu Fax: (612) 625-5212

\$359,000 is from the trust fund to the Board of Regents of the University of Minnesota to assess the role of forest health management in resisting infestation of invasive species. This appropriation is available until June 30, 2013, by which time the project must be completed and final products delivered.

Project due to be completed: 6/30/2013

Work Program

Bioacoustic Traps for Management of Round Goby

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Subd. 6d \$175,000

Allen Mensinger U of MN - Duluth 1035 Kirby Dr Duluth, MN 55812

Phone: (218) 726-7259 Email: amensing@d.umn.edu

Fax: (218) 726-8142

\$175,000 is from the trust fund to the Board of Regents of the University of Minnesota to evaluate bioacoustic technology specific to invasive round goby in Lake Superior as a method for early detection and population reduction. This appropriation is available until June 30, 2013, by which time the project must be completed and final products delivered.

Project due to be completed: 6/30/2013

Work Program

## Subd. 7 Renewable Energy

## Algae for Fuels Pilot Project

Subd. 7a \$900,000

Roger Ruan U of MN

1390 Eckles Ave St. Paul, MN 55108

**Phone:** (612) 625-1710 **Email:** ruanx001@umn.edu **Fax:** (612) 624-3005

\$900,000 is from the trust fund to the Board of Regents of the University of Minnesota to demonstrate an innovative microalgae production system utilizing and treating sanitary wastewater to produce biofuels from algae. This appropriation is available until June 30, 2013, by which time the project must be completed and final products delivered.

Project due to be completed: 6/30/2013

Work Program

Sustainable Biofuels

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David Tilman

Subd. 7b

Cedar Creek Ecosystem Science Reserve 100 Ecology, 1987 Upper Buford Circle St. Paul, MN 55108

\$221,000

**Phone:** (612) 625-5740 **Email:** tilman@umn.edu

Fax: (612) 624-6777

\$221,000 is from the trust fund to the Board of Regents of the University of Minnesota to determine how fertilization and irrigation impact yields of grass monoculture and high diversity prairie biofuel crops, their storage of soil carbon, and susceptibility to invasion by exotic species. This appropriation is available until June 30, 2013, by which time the project must be completed and final products delivered.

Project due to be completed: 6/30/2013

Work Program

Linking Habitat Restoration to Bioenergy and Local Economies

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Subd. 7c \$600,000

**Barb Spears** 

DNR

1200 Warner Rd St. Paul, MN 55106

Phone: (651) 259-5849

Email: barb.spears@dnr.state.mn.us

Fax: (651) 772-7977

Web: http://mndnr.gov/eco/habitat\_biomass.html

\$600,000 is from the trust fund to the commissioner of natural resources to restore high quality native habitats and expand market opportunities for utilizing postharvest restoration as a bioenergy source. This appropriation is available until June 30, 2013, by which time the project must be completed and final products delivered.

Project due to be completed: 6/30/2013

Work Program

Demonstrating Sustainable Energy Practices at Residential Environmental Learning Centers (RELCs)

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Subd. 7d \$1,500,000

#### **MN COALITION OF RELCs**

## 7d-1 (\$350,000)

Joe Deden

Eagle Bluff Environmental Learning Center 28097 Goodview Dr

Lanesboro, MN 55949 **Phone:** (507) 467-2437

Email: director@eagle-bluff.org

Fax: (507) 467-3583

7d-2 (\$206,000) Bryan Wood

Audubon Center of the North Woods

P.O. Box 530

Sandstone, MN 55072 **Phone:** (320) 245-2648

Email: bwood@audubon-center.org

Fax: (320) 245-5272

7d-3 (\$212,000) Dale Yerger

Deep Portage Learning Center 2197 Nature Center Drive NW Hackensack, MN 564529

Phone: (218) 682-2325 Email: portage@uslink.net

Fax: (218) 682-3121

## 7d-4 (\$258,000) Nick Temali

Laurentian Environmental Learning Center

8950 Peppard Road Britt, MN 55710

Phone: (651) 621-7403

Email: nick.temali@moundsviewschools.org

Fax: (651) 621-7405

## 7d-5 (\$240,000) Todd Roggenkamp

Long Lake Conservation Center

28952 438th Lane Palisade, MN 56469 **Phone:** (218) 768-4653 **Email:** todd@llcc.org **Fax:** (218) 768-2309

## 7d-6 (\$234,000) Kimberly Skyelander

Wolf Ridge Environmental Learning Center

6282 Cranberry Road Finland, MN 55603 **Phone:** (218) 353-7414

Email: director@eagle-bluff.org

Fax: (218) 353-7762

\$1,500,000 is from the trust fund to the commissioner of natural resources for agreements as follows: \$206,000 with Audubon Center of the North Woods; \$212,000 with Deep Portage Learning Center; \$350,000 with Eagle Bluff Environmental Learning Center; \$258,000 with Laurentian Environmental Learning Center; \$240,000 with Long Lake Conservation Center; and \$234,000 with Wolf Ridge Environmental Learning Center to implement renewable energy, energy efficiency, and energy conservation practices at the facilities. Efforts will include dissemination of related energy education.

## Project due to be completed: 6/30/2012

7d1-Work Program: Overall Project Coordination and Eagle Bluff Environmental Learning Center

7d2-Work Program: Audubon Center of the North Woods 7d3-Work Program: Deep Portage Learning Center

7d4-Work Program: Laurentian Environmental Learning Center

7d5-Work Program: Long Lake Conservation Center

7d6-Work Program: Wolf Ridge Environmental Learning Center

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#### **GOVERNOR VETO**

## **Analysis of Options for Minnesota's Energy Independence**

Subd. 7e \$143,000

#### **Melisa Pollak**

U of M

154 Hubert H. Humphrey Center 301 19th Ave. S.

Minneapolis, MN 55455

Phone:
Email:
Fax:

\$143,000 is from the trust fund to the Board of Regents of the University of Minnesota for a life-cycle analysis of low carbon energy technologies available to implement in Minnesota.

Project due to be completed: 6/30/2012

Work Program

#### **Subd. 8** Environmental Education

## Minnesota Conservation Apprenticeship Academy

Subd. 8a \$368,000

**Steve Woods** 

Board of Water and Soil Resources 520 Lafayette Rd N St. Paul, MN 55155

Phone: (651) 297-7748

Email: steve.woods@state.mn.us

Fax: (651) 297-5615

\$368,000 is from the trust fund to the Board of Water and Soil Resources in cooperation with the Minnesota Conservation Corps or its successor to train and mentor future conservation professionals by providing apprenticeship service opportunities to soil and water conservation districts. This appropriation is available until June 30, 2013, by which time the project must be completed and the final products delivered.

Project due to be completed: 6/30/2012

Work Program

## Engaging Students in Environmental Stewardship through Adventure Learning

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Subd. 8b \$250,000

#### **Nicole Rom**

Will Steger Foundation 2801 21st Avenue S, Ste 127 Minneapolis, MN 55407

Phone: (612) 278-7147

Email: nicole@willstegerfoundation.org

Fax: (612) 278-7101

\$250,000 is from the trust fund to the commissioner of natural resources for an agreement with the Will Steger Foundation to provide curriculum, teacher training, online learning, and grants to schools on investigating the connection between Minnesota's changing climate and the impacts on ecosystems and natural resources. This appropriation is available until June 30, 2013, by which time the project must be completed and final products delivered.

Project due to be completed: 6/30/2013

Work Program

## **Connecting Youth with Nature**

Subd. 8c \$160,000

**Carrol Henderson** 

DNR

500 Lafayette Rd, Box 25 St. Paul, MN 55155

**Phone:** (651) 259-5104

Email: carrol.henderson@dnr.state.mn.us

Fax: (651) 296-1811

Web: http://www.dnr.state.mn.us/eco/nongame/projects/digitalbridge.html

\$160,000 is from the trust fund to the commissioner of natural resources to hold teacher training workshops on the use of digital photography as a tool for learning about nature. The equipment must be provided from other funds.

Project due to be completed: 6/30/2012

Work Program

**Urban Wilderness Youth Outdoor Education** 

Subd. 8d \$557,000

**Greg Lais** 

Wilderness Inquiry 808 14th Avenue SE Minneapolis, MN 55414

Phone: (612) 676-9409

Email: greglais@wildernessinquiry.org

Fax: (612) 676-9401

\$557,000 is from the trust fund to the commissioner of natural resources for an agreement with Wilderness Inquiry to provide an outdoor education and recreation program on the Mississippi River. This appropriation is available until June 30, 2013, by which time the project must be completed and final products delivered.

Project due to be completed: 6/30/2013

Work Program

Get Outside - Urban Woodland for Kids

d for Kids Back to top of page

Subd. 8e \$218,000

## Don Ganje

City of Saint Paul, Dept of Parks and Recreation 50 W Kellogg Blvd, Ste 840 St. Paul, MN 55102

Phone: (651) 266-6425

Email: don.ganje@ci.stpaul.mn.us

Fax: (651) 292-7405

\$218,000 is from the trust fund to the commissioner of natural resources for an agreement with the city of St. Paul, Department of Parks and Recreation, to restore and develop an outdoor classroom for ecological education and historical interpretation at Como Regional Park in St. Paul. This appropriation is available until June 30, 2013, by which time the project must be completed and final products delivered.

Project due to be completed: 6/30/2013

Work Program

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Expanding Outdoor Classrooms at Minnesota Schools

Subd. 8f \$300,000

**Amy Kay Kerber** 

DNR

500 Lafayette Rd St. Paul, MN 55155

**Phone:** (651) 259-5263

Email: amykay.kerber@dnr.state.mn.us

Fax: (651) 259-5272

Web: http://www.mndnr.gov/schoolforest

\$300,000 is from the trust fund to the commissioner of natural resources to establish additional and enhance existing outdoor school forest and prairie classroom networks throughout Minnesota.

Project due to be completed: 6/30/2012

Work Program

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## Integrated Environmental and Outdoor Education in Grades 7-12

Subd. 8g \$300,000

#### **Beth Aune**

Minnesota Department of Education 1500 Highway 36 West Roseville, MN 55113-4266

**Phone:** (651) 582-8795

Email: beth.aune@state.mn.us

Fax: (651) 582-8876

\$300,000 is from the trust fund to the commissioner of education in cooperation with the commissioner of natural resources to train and support grade 7-12 teachers to integrate environmental and outdoor education into the instruction of academic standards.

Project due to be completed: 6/30/2012

Work Program

## **Project Get Outdoors**

Subd. 8h \$15,000

#### Sara Grover

Project Get Outdoors, Inc. Whitewater State Park, 19041 Hwy 74 Altura, MN 55910

Phone: (507) 951-5885

Email: sara.grover@yahoo.com

Fax: (507) 932-5938

Web: http://mnprojectgetoutdoors.org/

## **Overall Project Outcomes and Results**

Project GO has developed a toolkit to help local communities design, implement, evaluate, and sustain free after-school and summer programs that introduce children to nearby public lands and outdoor activities and skills they can enjoy at these sites.

Through funds from the Minnesota Environment and Natural Resources Trust Fund, Project GO was able to assemble 50 Activity Backpacks and 32 Equipment Trunks for Project GO program leaders to use in their communities. Each program leader is issued a backpack to keep during their involvement with the Project GO program. The Activity Backpacks provide basic supplies to help leaders implement 100 or more different outdoor games, projects, and activities.

The Equipment Trunks focus on 16 different activities and are available for Project GO leaders to check out for free. These trunks are housed at Whitewater State Park for use in SE Minnesota and we anticipate the other set of 16 trunks will be housed out of Minneopa State Park for use by Project GO clubs in SW Minnesota.

At the time of this report, 14 backpacks have been issued. Equipment trunks are beginning to be checked out. Program leaders are excited to have these resources and so far, feedback has been very positive. The children are happy to have more diverse equipment and supplies to use while learning about the outdoors. We plan to evaluate the usefulness of these resources over the coming year via a program leader survey. One obstacle we are looking at is getting the equipment trunks to and from program sites that are farther from the storage site. We are hoping to develop a network of volunteer "runners" who would be reimbursed mileage for delivering and returning the equipment trunks when a GO site in a community such as Red Wing or Spring Grove desires to check out a trunk.

## **Project Results Use and Dissemination**

The completed Activity Backpacks have already been issued to 14 sites. We will continue to help communities design Project GO programs that are unique as well as work with local staff at community organizations such as youth centers, school age child care programs, and other after school sites to introduce children in those programs to nature through our toolkit resources.

Since completing the assembly of the 50 Activity Backpacks and 32 Equipment Trunks, Project GO has formed a partnership with local public health and child care resource professionals to look at implementing our program into the

larger child care centers that serve school age children during the after school hours. We are currently piloting this at a child care center in Caledonia and looking to work with two child care centers in Rochester. We will train the school age room staff at these centers to use our backpacks at least once a week. As an incentive for them to use the backpacks and journal their experiences, Project GO will provide a person to come out to their site no more than once a month to lead a hands-on nature activity using one of the Equipment Trunks. This new approach with child care centers will allow us to serve many more children. Project GO will be presenting at an upcoming Focus on the Child conference in Rochester, sharing this information with child care providers from across the southern region.

A number of colleges and college professors in SE Minnesota have expressed enthusiasm to connect their students to service learning, internship, and practicum experiences with Project GO. We have found that college students bring great enthusiasm to the program which the children really enjoy and in exchange Project GO is able to provide real world learning experiences for these students.

We are already looking to secure additional funds to purchase more backpacks, as we anticipate the first 50 will be issued within a year. The US Fish & Wildlife Service Winona District is eager to help us acquire another batch of backpacks.

#### **FINAL REPORT**

Project completed: 11/16/2010

Fishing: Cross Cultural Gateway to Environmental Education

Subd. 8i \$155,000

#### Ly Vang

Association for the Advancement of Hmong Women in MN 1101 N Snelling Ave St. Paul, MN 55108

Phone: (651) 398-2917

Email: lyvangaahwm@yahoo.com

Fax: (651) 222-3599

\$155,000 is from the trust fund to the commissioner of natural resources for an agreement with the Association for the Advancement of Hmong Women in Minnesota to provide environmental information and teaching skills to and increase participation of Southeast Asian communities through the gateway of fishing skills. Information on mercury in fish advisories must be included as part of the educational outreach. This appropriation is available until June 30, 2013, by which time the project must be completed and final products delivered.

Project due to be completed: 6/30/2013

Work Program

Minnesota WolfLink

Subd. 8j \$193,000

#### Jerritt Johnston

International Wolf Center 1496 Highway 169 Ely, MN 55731

Phone: (218) 365-4695 x23 Email: jjohnston@wolf.org Fax: (218) 365-3318

\$193,000 is from the trust fund to the commissioner of natural resources for an agreement with the InternationalWolf Center to develop interactive onsite and distance learning about wolves and their habitat. This appropriation is available until June 30, 2013, by which time the project must be completed and final products delivered.

Project due to be completed: 6/30/2012

Work Program

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## Online Field Trip of Minnesota River

Subd. 8k \$124,000

## **Kimberly Musser**

MN State University - Mankato 184 Trafton Science Center S Mankato, MN 56001

Phone: (507) 389-5492

Email: kimberly.musser@mnsu.edu

**Fax:** (507) 389-5493

\$124,000 is from the trust fund to the commissioner of natural resources for an agreement with Minnesota State University - Mankato to develop online educational materials on the Minnesota River for schools and outreach centers.

Project due to be completed: 6/30/2012

Work Program

## LCCMR 2009 ENVIRONMENT AND NATURAL RESOURCES TRUST FUND APPROPRIATIONS

#### SUMMARY OF 2009 APPROPRIATIONS - \$25.6 million - MN Laws 2009, Chapter 143

### SUBD. 3. Natural Resource Data and Information: \$5,995,000

- Collection, delivery, and interpretation of foundational data pertaining to statewide distributions of biodiversity and ecological systems.
- Collection, mapping, and delivery of foundational data pertaining to groundwater, soils, and wetlands.

#### SUBD. 4. Land. Habitat, and Recreation: \$13,227,000

- Expansion of state recreational opportunities through expanded parks, trails, and open space.
- Protection, restoration, and enhancement of priority land and habitat through acquisition, easements, and related efforts
- Identification and ranking of the ecological value of Conservation Reserve Program (CRP) lands and other critical lands throughout the state.
- Outreach and technical assistance for landowners in the implementation of conservation programs for improvement of water quality and habitat.

## **SUBD. 5.** Water Resources: \$1,788,000

- Research pertaining to the vulnerability of fish to compounds that disrupt endocrine system function.
- Assessment of the effects of ecological drivers of change on water quality, habitat quality, and fish populations in deep water lakes.
- Analysis and assessment of artificial drainage practices and policies in relation to erosion, water quality, and the protection of public waters.

## SUBD. 6. Aquatic and Terrestrial Invasive Species: \$1,021,000

- Monitoring and treatment of ballast water to prevent the introduction and spread of aquatic invasive species in Lake Superior.
- Research pertaining to prevention and control of both invasive carp and an emerging fish disease in Minnesota waters.
- Identification and assessment to improve management and protect against the introduction and spread of invasive earthworms destructive to hardwood forests.

## SUBD. 7. Energy: \$2,180,000

- Analysis and modeling to enhance future decision-making and planning for energy production, water resources, and habitat protection.
- Development and piloting of innovative strategies and programs for residential energy conservation.

#### SUBD. 8. Administration and Other: \$1,412,000

LCCMR administration and project contract management.

## SUMMARY OF EXPECTED OUTCOMES FOR \$25.6 MILLION

- Natural Resource Inventory and Planning: Approximately \$7.9 million in inventory and planning efforts to obtain critical
  information and guide relevant decisions and efforts over time. This includes acceleration of MN County Biological Survey, MN
  County Geologic Atlas program, MN Soil Survey, inventorying of restorable wetlands in MN, mapping and measurement of
  springsheds, identification and prioritization of critical lands, and plans for conservation and natural resource management.
- Land and Habitat Acquisition: Approximately \$9 million in land and habitat *acquisition* to protect forests, wetlands, shoreline, prairie, and other habitat for both human and animal benefit. The estimated acreage to be acquired in a combination of fee title and easements is 2,000 acres.
- Land and Habitat Restoration: Approximately \$2.2 million in land and habitat *restoration*. Activities performed will include soil preparation, native vegetation installation, structural improvements, and exotic and invasive species removal. Restoration activities will occur on an estimated 5,100 acres.
- Natural Resource Research and Analysis: Approximately \$2.6 million in *research and analysis* projects that will advance our knowledge about and provide recommendations for addressing problems relating to ballast water treatment, endocrine disruptors, invasive species movement, artificial drainage, energy production, climate change, and resource management.
- Environmental Education and Outreach: Approximately \$2.5 million in *environmental education and outreach* efforts that will assist communities with local conservation efforts and develop and pilot programs to increase residential energy efficiency statewide.
- Administration: Approximately \$1.4 million for FY 2010-2011 LCCMR administration (\$1,254,000) and DNR project contract management (\$158,000).

## 2009 PROJECTS

## MN Laws 2009, Chapter 143, Section 2 (beginning July 1, 2009)

NOTE: For all projects, contact us to obtain the most up-to-date work programs for current projects (project updates are required twice each year) or the final reports of completed projects.

The following documents are short abstracts for projects funded during the 2009 Legislative Session. The final date of completion for these projects is listed at the end of the abstract. When available, we have provided links to a project's web site. The sites linked to this page are not created, maintained, or endorsed by the LCCMR office or the Minnesota Legislature.

- Subd. 3 Natural Resource Data and Information
- Subd. 4 Land, Habitat, and Recreation
- Subd. 5 Water Resources
- Subd. 6 Aquatic and Terrestrial Invasive Species
- Subd. 7 Energy
- Subd. 8 Administration and Other

#### Subd. 3 Natural Resource Data and Information

- 3a Minnesota County Biological Survey
- 3b County Geologic Atlas and South-Central Minnesota Groundwater
- 3c Soil Survey
- 3d Springshed Mapping for Trout Stream Management
- 3e Restorable Wetlands Inventory

#### Subd. 4 Land, Habitat, and Recreation

- 4a State Parks Acquisition
- 4b State Trail Acquisition
- 4c Metropolitan Regional Park System Acquisition
- 4d Statewide Scientific and Natural Area Acquisition and Restoration
- 4e Minnesota's Habitat Conservation Partnership (HCP) Phase VI
- 4f Metro Conservation Corridors (MeCC) Phase V
- 4g Statewide Ecological Ranking of Conservation Reserve Program (CRP) and Other Critical Lands
- 4h Protection of Granite Rock Outcrop Ecosystem
- 4i MN Farm Bill Assistance Project
- 4j Land and Water Conservation Account (LAWCON) Federal Reimbursement

## Subd. 5 Water Resources

- 5a Removal of Endocrine Disruptors: Treatment and Education RESEARCH GOVERNOR VETO
- 5b Vulnerability of Fish Populations in Lakes to Endocrine Disrupting Contaminants RESEARCH
- 5c Cooperative Habitat Research in Deep Lakes RESEARCH
- 5d Intensified Tile Drainage Evaluation RESEARCH
- 5e Citizen-Based Stormwater Management
- 5f Minnesota Drainage Law Analysis and Evaluation

#### Subd. 6 Aquatic and Terrestrial Invasive Species

- 6a Ballast Water Sampling Method Development and Treatment Technology RESEARCH
- 6b Emergency Delivery System Development for Disinfecting Ballast Water RESEARCH
- 6c Improving Emerging Fish Disease Surveillance in Minnesota RESEARCH
- 6d Controlling the Movement of Invasive Fish Species
- 6e Prevention and Early Detection of Invasive Earthworms
- 6f WITHDRAWN Native Plant Biodiversity, Invasive Plant Species, and Invertebrates

#### Subd. 7 Energy

- 7a Options to De-carbonize Minnesota's Electrical Power System GOVERNOR VETO
- 7b Projecting Environmental Trajectories for Energy-Water-Habitat Planning
- 7c Energy Efficient Cities

#### Subd. 8 Administration and Other

8a Contract Management

8h Legislative-Citizen Commission on Minnesota Resources (LCCMR)

Funding Sources: (\*\*note: all projects are TF, unless otherwise noted)

Environment and Natural Resources Trust Fund (TF)

Great Lakes Protection Account (GLPA)

State Land and Water Conservation Account (LAWCON)

#### Subd. 3 **Natural Resource Data and Information**

## **Minnesota County Biological Survey**

Subd. 3a \$2,100,000

**Carmen Converse** 

DNR

500 Lafayette Rd St. Paul, MN 55155

Phone: (651) 259-5083

Email: carmen.converse@dnr.state.mn.us

Fax: (651) 296-1811

Web: http://www.dnr.state.mn.us/eco/mcbs/index.html

\$2,100,000 is from the trust fund to the commissioner of natural resources for continuation of the Minnesota county biological survey to provide a foundation for conserving biological diversity by systematically collecting, interpreting, and delivering data on plant and animal distribution and ecology, native plant communities, and functional landscapes.

Project due to be completed: 6/30/2011

Work Program

County Geologic Atlas and South-Central Minnesota Groundwater

Subd. 3b \$2,695,000

Part 1: County Geologic Atlas and South-Central Minnesota Groundwater (\$820,000) **Dale Setterholm** 

Minnesota Geological Survey 2642 University Ave. W. St. Paul, MN 55114-1057

Phone: (612) 627-4780 x223 Email: sette001@umn.edu **Fax:** (612) 627-4778

Web: http://www.geo.umn.edu/mgs

Part 2: County Geologic Atlas and South-Central Minnesota Groundwater (\$1,875,000)

Jim Berg

DNR

500 Lafavette Road Saint Paul, MN 55155

**Phone:** (651) 259-5680

Email: jim.berg@dnr.state.mn.us

Fax: (651) 296-0445

Web: http://www.dnr.state.mn.us/waters/index.html

\$2,695,000 is from the trust fund for collection and interpretation of subsurface geological information and acceleration of the county geologic atlas program. \$820,000 of this appropriation is to the Board of Regents of the University of Minnesota for the geological survey to continue and to initiate the production of county geologic atlases. \$1,875,000 of this appropriation is to the commissioner of natural resources to investigate the physical and recharge characteristics of the Mt. Simon aquifer.

This appropriation represents a continuing effort to complete the county geologic atlases throughout the state. This

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appropriation is available until June 30, 2012, at which time the project must be completed and final products delivered, unless an earlier date is specified in the work program.

Project due to be completed: 6/30/2012

Work Program - Dale Setterholm

Work Program - Jim Berg

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Soil Survey

Subd. 3c \$400,000

Megan Lennon

**BWSR** 

520 Lafayette Road N Saint Paul, MN 55155

Phone: (651) 296-1285

Email: megan.lennon@state.mn.us

Fax: (651) 297-5615

Web: http://www.bwsr.state.mn.us

\$400,000 is from the trust fund to the Board of Water and Soil Resources to accelerate the county soil survey mapping and Web-based data delivery. This appropriation represents a continuing effort to complete the mapping. The soil surveys must be done on a cost-share basis with local and federal funds.

Project due to be completed: 6/30/2011

Work Program

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## **Springshed Mapping for Trout Stream Management**

Subd. 3d \$500,000

## Part 1: Springshed Mapping for Trout Stream Management (\$250,000)

E. Calvin Alexander, Jr.

U of M

310 Pillsbury Dr. Se Minneapolis, MN 55455

Phone: (612) 624-3517

Email: alexa001@umn.edu

**Fax:** (612) 625-3819

#### Part 2: Springshed Mapping for Trout Stream Management (\$250,000)

Jeff Green

DNR

2300 Silver Creek Rd NE Rochester, MN 55906

Phone: (507) 206-2853

Email: jeff.green@dnr.state.mn.us

Fax: (507) 285-7144

\$500,000 is from the trust fund to continue to identify and delineate supply areas and springsheds for springs serving as coldwater sources for trout streams and to assess the impacts from development and water appropriations. Of this appropriation, \$250,000 is to the Board of Regents of the University of Minnesota and \$250,000 is to the commissioner of natural resources.

Project due to be completed: 6/30/2011 Work Program - E. Calvin Alexander, Jr.

Work Program - Jeff Green

Subd. 3e \$300,000

#### **Darin Blunck**

Ducks Unlimited, Inc. 2525 River Road Bismarck, ND 58503

Phone: (701) 355-3500 Email: dblunck@ducks.org Web: http://www.ducks.org

\$300,000 is from the trust fund to the commissioner of natural resources for an agreement with Ducks Unlimited, Inc., to complete the inventory, mapping, and digitizing of drained restorable wetlands in Minnesota. This appropriation is available until June 30, 2012, at which time the project must be completed and final products delivered, unless an earlier date is specified in the work program.

Project due to be completed: 6/30/2012

Work Program

## Subd. 4 Land, Habitat, and Recreation

State Parks Acquisition

Subd. 4a \$590,000

**Larry Peterson** 

DNR

500 Lafayette Rd St. Paul, MN 55155

Phone: (651) 259-5593

Email: larry.peterson@dnr.state.mn.us

Fax: (651) 296-6532

Web: http://www.dnr.state.mn.us

\$590,000 is from the trust fund to the commissioner of natural resources to acquire in-holdings for state parks. Land acquired with this appropriation must be sufficiently improved to meet at least minimum management standards as determined by the commissioner of natural resources. A list of proposed acquisitions must be provided as part of the required work program.

Project due to be completed: 6/30/2011

Work Program

**State Trail Acquisition** 

Subd. 4b \$1,000,000

Stan Linnell

DNR

500 Lafayette Road, Box 52

St. Paul, MN 55155

Phone: (651) 259-5626

Email: stan.linnell@dnr.state.mn.us

Fax: (651) 297-5475

Web: http://www.dnr.state.mn.us

\$1,000,000 is from the trust fund to the commissioner of natural resources to assist in the acquisition of the Brown's Creek Segment of the Willard Munger Trail in Washington County and Paul Bunyan State Trail in the city of Bemidji.

Project due to be completed: 6/30/2011

Work Program

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## Metropolitan Regional Park System Acquisition

Subd. 4c \$1,290,000

#### Arne Stefferud

Metropolitan Council 390 Robert Street North St. Paul, MN 55101

Phone: (651) 602-1360

Email: arne.stefferud@metc.state.mn.us

**Fax:** (651) 602-1674

Web: http://www.metrocouncil.org/parks/index.htm

\$1,290,000 is from the trust fund to the Metropolitan Council for subgrants for the acquisition of lands within the approved park unit boundaries of the metropolitan regional park system. This appropriation may not be used for the purchase of residential structures. A list of proposed fee title and easement acquisitions must be provided as part of the required work program. All funding for conservation easements must include a long-term stewardship plan and funding for monitoring and enforcing the agreement. This appropriation must be matched by at least 40 percent of nonstate money and must be committed by December 31, 2009, or the appropriation cancels. This appropriation is available until June 30, 2012, at which time the project must be completed and final products delivered, unless an earlier date is specified in the work program.

Project due to be completed: 6/30/2012

Work Program

## Statewide Scientific and Natural Area Acquisition and Restoration

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Subd. 4d \$590,000

## **Peggy Booth**

DNR 500 Lafayette Rd, Box 25 St Paul, MN 55155

Phone: (651) 259-5088

Email: peggy.booth@dnr.state.mn.us

Fax: (651) 296-1811

Web: http://www.dnr.state.mn.us/snas/index.html

\$590,000 is from the trust fund to the commissioner of natural resources to acquire high quality native plant communities and rare features and restore parts of scientific and natural areas as provided in Minnesota Statutes, section 86A.05, subdivision 5. A list of proposed acquisitions must be provided as part of the required work program.

Project due to be completed: 6/30/2011

Work Program

## Minnesota's Habitat Conservation Partnership (HCP) - Phase VI

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Subd. 4e \$3,375,000

## Matt Holland

Pheasants Forever, Inc. 679 West River Drive New London, MN 56273

Phone: (320) 354-4377

Email: mholland@pheasantsforever.org

Fax: (320) 354-4377

Web: http://www.mnhabitatcorridors.org

\$3,375,000 is from the trust fund to the commissioner of natural resources for the sixth appropriation for acceleration of agency programs and cooperative agreements. Of this appropriation, \$770,000 is for the Department of Natural Resources agency programs and \$2,605,000 is for agreements as follows: \$450,000 with Pheasants Forever; \$50,000 with Minnesota Deer Hunters Association; \$895,000 with Ducks Unlimited, Inc.; \$85,000 with National Wild Turkey Federation; \$365,000

with the Nature Conservancy; \$210,000 with Minnesota Land Trust; \$350,000 with the Trust for Public Land; \$100,000 with Minnesota Valley National Wildlife Refuge Trust, Inc.; \$50,000 with the United States Fish and Wildlife Service; and \$50,000 with Friends of Detroit Lakes Watershed Management District to plan, restore, and acquire fragmented landscape corridors that connect areas of quality habitat to sustain fish, wildlife, and plants. The United States Department of Agriculture-Natural Resources Conservation Service is a cooperating partner in the appropriation. Expenditures are limited to the project corridor areas as defined in the work program. Land acquired with this appropriation must be sufficiently improved to meet at least minimum habitat and facility management standards as determined by the commissioner of natural resources. This appropriation may not be used for the purchase of residential structures, unless expressly approved in the work program. All conservation easements must be perpetual and have a natural resource management plan. Any land acquired in fee title by the commissioner of natural resources with money from this appropriation must be designated as an outdoor recreation unit under Minnesota Statutes, section 86A.07. The commissioner may similarly designate any lands acquired in less than fee title. A list of proposed restorations and fee title and easement acquisitions must be provided as part of the required work program. All funding for conservation easements must include a long-term stewardship plan and funding for monitoring and enforcing the agreement. To the maximum extent practical, consistent with contractual easement or fee acquisition obligations, the recipients shall utilize staff resources to identify future projects and shall maximize the implementation of biodiverse, quality restoration projects in the project proposal into the first half of the 2010 fiscal year.

1a Project Coordination, Mapping & Data Management

2a Melvin Slough Landscape Restoration

2b Partners for Fish and Wildlife

2c Shallow Lake Enhancement

2d Shallow Lake Assessment & Management

2g Wildlife Areas Management

2h Fisheries Habitat Restoration

2i Bluffland Restoration/Set Out Seedlings

2j Lakescaping for Wildlife & Water Quality

2k Prairie Management

2n/4f Campaign for Conservation - Acquisition and Restoration

20 Prairie landscape Restoration: Oak Savanna, Grasslands, and Wetlands

3a Shoreland Protection Project - Conservation Easements

3c Shallow Lake Easements

3d Wetlands Reserve Program

4a Critical Lands Conservation Initiative - Acquisition

4b Fisheries Land Acquisition

4c Critical Lands Protection Program - Acquisition

4h Acquisition for Minnesota Valley Wetland Management District

4i Professional Services

Project due to be completed: 6/30/2011

Work Program

#### Metro Conservation Corridors (MeCC) - Phase V

Subd. 4f \$3,375,000

**Wayne Sames** 

DNR

500 Lafayette Rd St. Paul, MN 55155

Phone: (651) 259-5559

Email: wayne.sames@dnr.state.mn.us

Fax: (651) 296-6047

\$3,375,000 is from the trust fund to the commissioner of natural resources for the fifth appropriation for acceleration of agency programs and cooperative agreements. Of this appropriation, \$2,185,000 is for Department of Natural Resources agency programs and \$1,190,000 is for agreements as follows: \$380,000 with the Trust for Public Land; \$90,000 with Friends of the Mississippi River; \$155,000 with Great River Greening; \$250,000 with Minnesota Land Trust; \$225,000 with Minnesota Valley National Wildlife Refuge Trust, Inc.; and \$90,000 with Friends of the Minnesota Valley for the purposes of planning, restoring, and protecting important natural areas in the metropolitan area, as defined under Minnesota Statutes, section 473.121, subdivision 2, and portions of the surrounding counties, through grants, contracted services, technical assistance, conservation easements, and fee title acquisition. Land acquired with this appropriation must be sufficiently improved to meet at least minimum management standards as determined by the commissioner of natural resources. Expenditures are limited to the identified project corridor areas as defined in the work program. This appropriation may not be used for the purchase of residential structures, unless expressly approved in the work program. All conservation

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easements must be perpetual and have a natural resource management plan. Any land acquired in fee title by the commissioner of natural resources with money from this appropriation must be designated as an outdoor recreation unit under Minnesota Statutes, section 86A.07. The commissioner may similarly designate any lands acquired in less than fee title. A list of proposed restorations and fee title and easement acquisitions must be provided as part of the required work program. All funding for conservation easements must include a long-term stewardship plan and funding for monitoring and enforcing the agreement. To the maximum extent practical, consistent with contractual easement or fee acquisition obligations, the recipients shall utilize staff resources to identify future projects and shall maximize the implementation of biodiverse, quality restoration projects in the project proposal into the first half of the 2010 fiscal year.

- 1.1 Mapping and Coordination
- 2.3 Restore & Enhance Significant Watershed Habitat
- 2.4 Lower Minnesota River Watershed Restoration & Enhancement
- 2.5 Restore & Enhance Significant Habitat
- 2.6/3.4/4.1 Grants for Restoration, Acquisition, Easements, and Other Conservation Tools
- 2.7/3.6 Metro SNA Acquisition, Restoration & Enhancement
- 2.9 Stream Habitat Restoration
- 3.1 Critical Land Protection Program
- 3.2 Protect Significant Habitat by Acquiring Conservation Easements
- 3.3 Fee Acquisition for Minnesota Valley NWR
- 3.5 Fish & Wildlife Land Acquisition

Project due to be completed: 6/30/2011

Work Program

## Statewide Ecological Ranking of Conservation Reserve Program (CRP) and Other Critical Lands

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Subd. 4g \$107,000

#### **Greg Larson**

BWSR 520 Lafayette Road N Saint Paul, MN 55155

Phone: (651) 297-7029

Email: greg.a.larson@state.mn.us

Fax: (651) 297-5615

Web: http://www.bwsr.state.mn.us

\$107,000 is from the trust fund to the Board of Water and Soil Resources to continue the efforts funded by the emerging issues account allocation to identify and rank the ecological value of conservation reserve program (CRP) and other critical lands throughout Minnesota using a multiple parameter approach including soil productivity, landscape, water, and wildlife factors

Project due to be completed: 6/30/2011

Work Program

## **Protection of Granite Rock Outcrop Ecosystem**

Subd. 4h \$1,500,000

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#### **Thomas Kalahar**

Renville Soil and Water Conservation District 1008 West Lincoln Olivia, MN 56277

**Phone:** (320) 523-1559 **Email:** kalahar@yahoo.com **Fax:** (320) 523-2389

Web: http://www.renvilleswcd.com

\$1,500,000 is from the trust fund to the Board of Water and Soil Resources, in cooperation with the Renville Soil and Water Conservation District, to acquire perpetual easements of unique granite rock outcrops located in the Upper Minnesota River Valley and to restore their ecological integrity.

Project due to be completed: 6/30/2011

Work Program

**MN Farm Bill Assistance Project** 

Subd. 4i \$1,000,000

**Tabor Hoek** 

Board of Water and Soil Resources (BWSR) 520 Lafayette Rd N

St. Paul, MN 55155

Phone: (507) 537-7260

Email: tabor.hoek@state.mn.us

Fax: (507) 537-6368

Web: http://www.bwsr.state.mn.us

\$1,000,000 is from the trust fund to the Board of Water and Soil Resources to provide funding for technical staff to assist in the implementation provisions of conservation programs including the federal farm bill conservation programs.

Documentation must be provided on the number of landowner contacts, program participation, federal dollars leveraged,

quantifiable criteria, and measurement of the improvements to water quality and habitat.

Project due to be completed: 6/30/2011

Work Program

## Land and Water Conservation Account (LAWCON) Federal Reimbursement

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Subd. 4j \$400,000 (LAWCON)

**Wayne Sames** 

DNR

500 Lafayette Rd St. Paul, MN 55155

Phone: (651) 259-5559

Email: wayne.sames@dnr.state.mn.us

Fax: (651) 296-6047

\$400,000 is from the state land and water conservation account (LAWCON) in the natural resources fund to the commissioner of natural resources for priorities established by the commissioner for eligible state projects and administrative and planning activities consistent with Minnesota Statutes, section 116P.14, and the federal Land and Water Conservation Fund Act.

Project due to be completed: 6/30/2011

Work Program

#### Subd. 5 **Water Resources**

#### **GOVERNOR VETO**

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Removal of Endocrine Disruptors: Treatment and Education

Subd. 5a \$275,000

**Paige Novak** 

U of M

122 Civil Engineering Building, 500 Pillsbury Drive SE

Minneapolis, MN 55455

Phone: (612) 626-9846 Email: novak010@umn.edu

Fax: (612) 626-7750

Web: http://www.ce.umn.edu/people/faculty/novak/

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#### RESEARCH

\$275,000 is from the trust fund to the Board of Regents at the University of Minnesota to continue research on the removal of endocrine disruptors from Minnesota's waters through strategies of enhancing treatment at wastewater treatment plants and decreasing the use of the compounds. This appropriation is available until June 30, 2012, at which time the project must be completed and final products delivered, unless an earlier date is specified in the work program.

Project due to be completed: 6/30/2012

Work Program

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## Vulnerability of Fish Populations in Lakes to Endocrine Disrupting Contaminants

Subd. 5b \$297,000

#### **Richard Kiesling**

**USGS** 2280 Woodale Dr Mounds View, MN 55112

Phone: (763) 783-3131 Email: kiesling@usgs.gov Fax: (763) 783-3103

Web: http://mn.water.usgs.gov/index.html

#### **RESEARCH**

\$297,000 is from the trust fund to the commissioner of natural resources for an agreement with the United States Geologic Survey and St. Cloud State University to develop quantitative data on juvenile and adult fish vulnerability to endocrineactive emerging contaminants found in Minnesota lakes. This appropriation is available until June 30, 2012, at which time the project must be completed and final products delivered, unless an earlier date is specified in the work program.

Project due to be completed: 6/30/2012

Work Program

## Cooperative Habitat Research in Deep Lakes

Subd. 5c \$825,000

#### **Donald Pereira**

DNR

500 Lafayette Rd St. Paul, MN 55155-4040

Phone: (651) 259-5231

Email: don.pereira@dnr.state.mn.us

Fax: (651) 297-4916

#### RESEARCH

\$825,000 is from the trust fund to the commissioner of natural resources to assess the consequences of large ecological drivers of change on water quality and habitat dynamics of deep water lakes with coldwater fish populations. This appropriation is available until June 30, 2012, at which time the project must be completed and final products delivered, unless an earlier date is specified in the work program.

Project due to be completed: 6/30/2012

Work Program

Intensified Tile Drainage Evaluation

Subd. 5d \$300,000

#### Shawn Schottler

Science Museum of Minnesota

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16910 152nd Street N Marine on St. Croix, MN 55047

**Phone:** (651) 433-5953 x18 **Email:** schottler@smm.org **Fax:** (651) 433-5924

#### RESEARCH

\$300,000 is from the trust fund to the Science Museum of Minnesota for the St. Croix watershed research station to conduct a comparative assessment of hydrologic changes in watersheds with and without intensive tile drainage to determine the effects of climate and tile drainage on river erosion. This appropriation is available until June 30, 2012, at which time the project must be completed and final products delivered, unless an earlier date is specified in the work program.

Project due to be completed: 6/30/2012

Work Program

## Citizen-Based Stormwater Management

Subd. 5e \$279,000

**Becky Rice** 

Metro Blooms PO Box 17099 Minneapolis, MN 55417

Phone: (651) 699-2426

**Email:** becky@metroblooms.org **Web:** http://www.metroblooms.org

\$279,000 is from the trust fund to the commissioner of natural resources for an agreement with Metro Blooms, in cooperation with Minnehaha Creek Watershed District and the city of Minneapolis, to install and evaluate the effectiveness of rain gardens on improving the impaired water of Powderhorn Lake in Minneapolis. This appropriation is available until June 30, 2012, at which time the project must be completed and final products delivered, unless an earlier date is specified in the work program.

Project due to be completed: 6/30/2012

Work Program

#### Minnesota Drainage Law Analysis and Evaluation

Subd. 5f \$87,000

**Louis Smith** 

Smith Partners PLLP 400 Second Ave S, Suite 1200 Minneapolis, MN 55401

Phone: (612) 344-1400

Email: smith@smithpartners.com

Fax: (612) 344-1550

Web: http://www.smithpartners.com; http://www.waterlaws.com

\$87,000 is from the trust fund to the commissioner of natural resources for an agreement with Smith Partners PLLP to identify and analyze legal and policy issues where the drainage code conflicts with other laws impacting protection of public waters and wetlands.

Project due to be completed: 6/30/2011

Work Program

## **Subd. 6** Aquatic and Terrestrial Invaasive Species

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## **Ballast Water Sampling Method Development and Treatment Technology**

Subd. 6a \$366,000 (\$300,000 TF / \$66,000 GLPA)

#### Mary Jean Fenske

**MPCA** 

520 Lafayette Rd N St. Paul, MN 55155

**Phone:** (651) 297-5472

Email: maryjean.fenske@state.mn.us

Fax: (651) 296-8717

#### **RESEARCH**

\$300,000 is from the trust fund and \$66,000 is from the Great Lakes protection account to the commissioner of the Pollution Control Agency in cooperation with the Department of Natural Resources to conduct monitoring for aquatic invasive species in ballast water discharges to Minnesota waters of Lake Superior and to test the effectiveness of ballast water treatment systems.

Project due to be completed: 6/30/2011

Work Program

## **Emergency Delivery System Development for Disinfecting Ballast Water**

Subd. 6b \$125,000

#### **Scott Smith**

**USGS** 

6505 - 65th Street NE Seattle, WA 98115

Phone: (206) 427-8374 Email: sssmith@usgs.gov Fax: (206) 526-6654

#### RESEARCH

\$125,000 is from the trust fund to the commissioner of the Pollution Control Agency for an agreement with the United States Geologic Survey to test the viability of treating ballast water through tank access ports or air vents as a means to prevent the spread of invasive species.

Project due to be completed: 6/30/2011

Work Program

## Improving Emerging Fish Disease Surveillance in Minnesota

Subd. 6c \$80,000

#### Katharine Pelican

U of M

1333 Gortner Avenue St. Paul, MN 55108

Phone: (612) 625-8561 Email: pelicank@umn.edu Fax: (612) 624-4906

Web: http://www.vdl.umn.edu

#### **RESEARCH**

\$80,000 is from the trust fund to the Board of Regents of the University of Minnesota to assess mechanisms and control of the transmission of Heterosporosis, an emerging fish disease in Minnesota, to assist in future management decisions and research.

Project due to be completed: 6/30/2011

Work Program

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## **Controlling the Movement of Invasive Fish Species**

Subd. 6d \$300,000

#### Vaughan Voller

U of M 2 Third Ave SE Minneapolis, MN 55414

Phone: (612) 625-0764

Email: volle001@umn.edu

Web: http://www.safl.umn.edu

\$300,000 is from the trust fund to the Board of Regents of the University of Minnesota to develop and test sonic barriers that could be effective in preventing and controlling the movement of invasive carp in Minnesota's waterways. This appropriation is available until June 30, 2012, at which time the project must be completed and final products delivered, unless an earlier date is specified in the work program.

Project due to be completed: 6/30/2012

Work Program

## Prevention and Early Detection of Invasive Earthworms

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Subd. 6e \$150,000

#### Cindy Hale

U of M, NRRI 5013 Miller Trunk Hwy Duluth, MN 55811-1442

Phone: (218) 720-4364 Email: cmhale@d.umn.edu

\$150,000 is from the trust fund to the Board of Regents of the University of Minnesota Natural Resources Research Institute for a risk assessment of the methods of spreading, testing of management recommendations, and identification of key areas for action in the state to reduce the impacts of invasive earthworms on hardwood forest productivity. This appropriation is available until June 30, 2012, at which time the project must be completed and final products delivered, unless an earlier date is specified in the work program.

Project due to be completed: 6/30/2012

Work Program

## WITHDRAWN - Native Plant Biodiversity, Invasive Plant Species, and Invertebrates

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Subd. 6f \$47,000

## **Greg Hoch**

Concordia College 901 8th Street S Moorhead, MN 56562

Phone: (218) 299-3799 Email: hoch@cord.edu Fax: (218) 299-3804

\$47,000 is from the trust fund to the commissioner of natural resources for an agreement with Concordia College to survey plant, pollinator, and invertebrate biodiversity in native and restored prairies to assess impacts on invasive species and food sources for grassland birds and ecosystem services.

#### Project due to be completed: 6/30/2011

Work Program

#### Subd. 7 Energy

GOVERNOR VETO

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## Options to De-carbonize Minnesota's Electrical Power System

Subd. 7a \$143,000

## **Melisa Pollak**

U of M

154 Hubert H. Humphrey Center 301 19th Ave. S.

Minneapolis, MN 55455

**Phone:** (612) 625-3046 **Email:** fryxx035@umn.edu **Fax:** (612) 625-3513

\$143,000 is from the trust fund to the Board of Regents of the University of Minnesota to analyze the Minnesota Climate Change Advisory Group's greenhouse gas reduction recommendations related to electrical power from a life-cycle analysis and a socio-political perspective.

#### Project due to be completed: 6/30/2011

Work Program

## Projecting Environmental Trajectories for Energy-Water-Habitat Planning

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Subd. 7b \$180,000

#### **Peter Reich**

U of M

220f Green Hall, Upper Buford Circle

St. Paul, MN 55108

Phone: (612) 624-4270 Email: preich@umn.edu Fax: (612) 625-5212

Web: http://www.forestry.umn.edu/people/facstaff/reic

\$180,000 is from the trust fund to the Board of Regents of the University of Minnesota to combine detailed climatic records of Minnesota with present and past ecosystem boundaries to forecast future fine-scale flow of climate across the state impacting human activities and natural resources.

Project due to be completed: 6/30/2011

Work Program

## **Energy Efficient Cities**

Subd. 7c \$2,000,000

**Carl Nelson** 

Center for Energy and Environment 212 3rd Avenue N, Suite 560 Minneapolis, MN 55436

Phone: (612) 335-5871 Email: cnelson@mncee.org Fax: (612) 335-5888

Web: http://www.mncee.org

\$2,000,000 is from the trust fund to the commissioner of commerce for an agreement with the Center for Energy and Environment for demonstration of innovative residential energy efficiency delivery and financing strategies, training,

installation, evaluation, and recommendations for a utility residential energy conservation program.

Project due to be completed: 6/30/2011

Work Program

## **Subd. 8** Administration and Other

## **Contract Management**

Subd. 8a \$158,000

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## **Wayne Sames**

DNR 500 Lafayette Rd St. Paul, MN 55155

Phone: (651) 259-5559

Email: wayne.sames@dnr.state.mn.us

Fax: (651) 296-6047

Web: http://www.dnr.state.mn.us

\$158,000 is from the trust fund to the commissioner of natural resources for contract management for duties assigned in Laws 2007, chapter 30, section 2, and Laws 2008, chapter 367, section 2, and for additional duties as assigned in this section.

Project due to be completed: 6/30/2011

Work Program

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## Legislative-Citizen Commission on Minnesota Resources (LCCMR)

Subd. 8b \$1,254,000

#### **Susan Thornton**

Legislative-Citizen Commission on Minnesota Resources 100 Rev Dr Martin Luther King Jr Blvd, Rm 65 St. Paul, MN 55155

Phone: (651) 296-2406 Email: lccmr@lccmr.leg.mn

Fax: (651) 296-1321

Web: http://www.lccmr.leg.mn

\$1,254,000 is from the trust fund for fiscal years 2010 and 2011 and is for administration as provided in Minnesota Statutes, section 116P.09, subdivision 5.

Project due to be completed: 6/30/2011