

**M.L. 2014: Chp. 226, Sec. 2 and Chp. 312, Sec. 8
Environment and Natural Resources Trust Fund Work Plan Approval**

Line #	Subd. #	Title	Program Manager	Affiliation	\$ Appropriated	FY15 Trust Fund \$ (\$28,970,000)	State Classified Staff	Fee Title Acquisition	Capital Expenditures over \$5,000	Expenses Needing LCCMR Approval	Research: Peer-reviewed	Patent or Revenue Potential	Staff Recommend Consent Approval	Date Approved	Staff Notes and Items Needing Specific Work Plan Approval
1	Appropriations With No Changes From LCCMR recommendation - Staff Recommend Consent Approval														
2	03a	Solar Driven Destruction of Pesticides, Pharmaceuticals, Contaminants in Water	William Arnold	U of MN	\$291,000	\$291,000			Yes		Yes		X		- Approve capital expenditures over \$5,000: \$40,000 for Horiba Aqualog
3	03b	Methods to Protect Beneficial Bacteria from Contaminants to Preserve Water Quality	Paige Novak	U of MN	\$279,000	\$279,000					Yes		X		
4	03c	Triclosan Impacts on Wastewater Treatment	Timothy LaPara	U of MN	\$380,000	\$380,000					Yes		X		
5	03d	Evaluation of Wasterwater Nitrogen and Estrogen Treatment Options	Paige Novak	U of MN	\$500,000	\$500,000					Yes		X		
6	03e	Antibiotics and Antibiotic Resistance Genes in Minnesota Lakes	William Arnold	U of MN	\$300,000	\$300,000					Yes		X		
7	03f	Impacts of Estrogen Exposure on Minnesota's Shallow Lake Wildlife	Kurt Illig	University of St. Thomas	\$136,000	\$136,000					Yes		X		
8	03g	Watershed-Scale Monitoring of Long-Term Best Management Practice Effectiveness	Daniel Engstrom	Science Museum of Minnesota	\$900,000	\$900,000					Yes		X		
9	03h	Protection of State's Confined Drinking Water Aquifers	James Stark	US Geological Survey	\$394,000	\$394,000					Yes		X		
10	03i	Watershed Water Budgets foor Managing Minnesota's Groundwater	David Lorenz	US Geological Survey	\$129,000	\$129,000					Yes		X		
11	03j	Identifying Causes of Exceptionally High Mercury in Fish	Bruce Monson	Minnesota Pollution Control Agency	\$743,000	\$743,000					Yes		X		
12	03k	Reducing Lake Quality Impairments through Citizen Action	Alex Gehrig	Freshwater Society	\$59,000	\$59,000							X		
13	03l	Rainwater Reuse and Valuation Investigation	Scott Alexander	U of MN	\$300,000	\$300,000			Yes				X		- Approve capital expenditures over \$5,000: \$108,000 for Pilot cistern and Roto-Evaporator
14	03m	Measuring Hydrologic Benefits from Glacial Ridge habitat Restoration	Myron Jesme & Tim Cowdery	Red Lake Watershed District & U.S. Geological Survey	\$168,000	\$168,000							X		- \$167,505 of appropriation is for contract with USGS.
15	04b	Bioacoustics to Detect, Deter and Eliminate Silver Carp	Allen Mensinger	U of MN - Duluth	\$262,000	\$262,000			Yes	Yes			X		- Approve capital expenditures over \$5,000: \$7,500 buoy - Approve out-of-state travel: \$32,100
16	04c	Northwest Minnesota Regional Aquatic Invasive Species Prevention Pilot	Joe Courneya	Red River Basin Commission	\$219,000	\$219,000							X		
17	04d	Biosurveillance and Biocontrol of Emerald Ash Borer - Phase 2	Monika Chandler	Minnesota Department of Agriculture	\$447,000	\$447,000							X		
18	04e1	Mountain Pine Beetle Invasive Threat to Minnesota's Pines	Brian Aukema	U of MN	\$175,000	\$175,000				Yes			X		- Approve vehicle rental/gas (cheaper) instead of mileage within travel budget.
19	04e2	Mountain Pine Beetle Invasive Threat to Minnesota's Pines	Mark Abrahamson	Minnesota Department of Agriculture	\$75,000	\$75,000	Yes			Yes			X		- Approve out of state travel: \$19,500. - Approve vehicle rental/gas (cheaper) instead of mileage within travel budget. - Approve use of classified staff.

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20	04f1	Brown Marmorated Stink Bug Monitoring and Biocontrol Evaluation	Robert Koch	U of MN	\$167,000	\$167,000				Yes			X		- Approve vehicle rental/gas (cheaper) instead of mileage within travel budget.
21	04f2	Brown Marmorated Stink Bug Monitoring and Biocontrol Evaluation	Mark Abrahamson	Minnesota Department of Agriculture	\$99,000	\$99,000							X		
22	05a	Update Statewide Land Cover Use Map	Joseph Knight	U of MN	\$300,000	\$300,000							X		
23	05c	Drainage Records Modernization and Statewide Geographic Information System Database	Allan Kean	Board of Water and Soil Resources	\$230,000	\$230,000	Yes						X		- Approve use of classified staff.
24	05d	Restoring Forest Inventory Data	Alan Ek	U of MN	\$100,000	\$100,000				Yes			X		- Approve out of state travel: \$2,000
25	05e	Assessing Species Vulnerability to Climate Change Using Phenology	Rebecca Montgomery	U of MN	\$175,000	\$175,000							X		
26	05f	Minnesota Breeding Bird Atlas - Final Phase	Mark Martell	Audubon Minnesota	\$300,000	\$300,000							X		
27	05h	Sandhill Crane Populations and Management in Minnesota	David Andersen	U of MN	\$250,000	\$250,000					Yes		X		
28	05j1	Imperiled Prairie Butterfly Conservation, Research and Breeding Program	Erik Runquist	Minnesota Zoological Garden	\$380,000	\$380,000			Yes	Yes	Yes		X		- Approve out of state travel: \$5,100 - Approve capital expenditures over \$5,000: \$52,000 for indoor chamber for conservation breeding program.
29	05k	Conserving Minnesota's Native Freshwater Mussels	Jessica Kozarek	U of MN	\$350,000	\$350,000					Yes		X		
30	05l	Impacts of Forest Quality on Declining Minnesota Moose	James Forester	U of MN	\$300,000	\$300,000			Yes		Yes		X		- Approve capital expenditure over \$5,000: \$5,845 for high precision GPS.
31	05n	Expansion of Minnesota Wildflowers Online Botanical Reference	Katy Chayka	MN Wildflowers Information	\$150,000	\$150,000							X		
32	06a	Enhancing Pollinator Landscapes	Marla Spivak	U of MN	\$864,000	\$864,000							X		
33	06b	Understanding Systemic Insecticides as Protection Strategy for Bees	Vera Krischik	U of MN	\$326,000	\$326,000					Yes		X		
34	06c	Prairie Sustainability through Seed Storage, Beneficial Microbes, and Adaptation	Ruth Shaw	U of MN	\$600,000	\$600,000					Yes		X		
35	06d	Northeast Minnesota White Cedar Restoration - Phase 2	Dale Krystosek	Board of Water and Soil Resources	\$335,000	\$335,000							X		
36	06e	Southeast Minnesota Watershed Protection Plan	Richard Biske	The Nature Conservancy	\$200,000	\$200,000							X		
37	06f	Upland and Shoreline Restoration in Greater Metropolitan Area	Wiley Buck	Great River Greening	\$300,000	\$300,000							X		- Approve contingent on ML 2013 appropriation expended or a plan to transition to ML 2014 appropriation is approved by LCCMR staff.
38	06g	Prairie, Forest, and Savanna Restoration in Greater Metropolitan Area	Tom Lewanski	Friends of the Mississippi River	\$200,000	\$200,000							X		- Approve contingent on ML 2013 appropriation expended or a plan to transition to ML 2014 appropriation is approved by LCCMR staff.
40	06i	Cattail Management for Wetland Wildlife and Bioenergy Potential	Daniel Svedarsky	U of MN	\$74,000	\$74,000							X		- Approve budget differences between proposal and work plan shifting funds from Personnel to Contracts.

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41	06j	Dredged Sediment for Forest Restoration on Unproductive Minelands	Tom Levar	U of MN - NRRRI	\$300,000	\$300,000							X		
42	06k	Expansion of Greenhouse Production	Lana Fralich	City of Silver Bay	\$176,000	\$176,000							X		
44	07d	Shoreland Acquisition on St. Croix River	June Mathiowetz	Washington County	\$1,250,000	\$1,250,000		Yes					X		- Approve non-state match commitment of \$2.5 million - Non-state acquisition - local (only one acquisition as proposed)
45	07e	Martin County Park and Natural Area Acquisition	Rich Perrine	Martin County Soil and Water Conservation District	\$435,000	\$435,000		Yes					X		- Non-state acquisition - local (only one acquisition as proposed)
46	08a	Solar Cell Materials from Sulfur and Common Metals	Lee Penn	U of MN	\$494,000	\$494,000			Yes		Yes	Yes	X		- Approve capital equipment over \$5,000: \$25,000 for microwave system. - Project has patent potential or potential revenue.
47	08b	Innovative Groundwater-Enhanced Geothermal Heat Pump Study	Martin Saar	U of MN	\$196,000	\$196,000			Yes			Yes	X		- Approve capital equipment over \$5,000: \$42,000 for prototype geothermal pump. - Project has patent potential or potential revenue.
48	08d	Transitioning Minnesota Farms to Local Energy	Mike Reese	U of MN	\$500,000	\$500,000			Yes				X		- Approve capital equipment over \$5,000: \$126,000 for solar PV system and control system.
49	08f	Clean Water and Renewable Energy from Beet Processing Wastewater and Manure	Xiao Wu	U of MN	\$400,000	\$400,000					Yes	Yes	X		- Project has patent potential or potential revenue.
50	08g	Next Generation Large-Scale Septic Tank Systems	Bo Hu	U of MN	\$258,000	\$258,000			Yes		Yes	Yes	X		- Approve capital equipment over \$5,000: \$10,000 for MEC plug-in prototype. - Project has patent potential or potential revenue.
51	08h	Solar Photovoltaic Installation at Residential Environmental Learning Centers	Dale Yerger	Deep Portage Learning Center	\$150,000	\$150,000			Yes				X		- Approve capital equipment over \$5,000: \$150,000 for solar panels. - Appropriation amended by 2014 legislature to require solar panels be "made in Minnesota".
52	08i	Itasca Community College Woody Biomass Utilization Project Design	Bart Johnson	Itasca Community College	\$112,000	\$112,000							X		
53	09a	Minnesota Conservation Apprenticeship Academy	Jenny Gieseke	Board of Water and Soil Resources	\$392,000	\$392,000							X		
54	09b	Youth-led Sustainability Initiatives in 40 Greater Minnesota Communities	Dave Pederson	Prairie Woods Environmental Learning Ctr	\$350,000	\$350,000				Yes			X		- Approve food: \$500 for students attending project events. - Budget includes small grants administered by NGO.
55	09c	Urban Environmental Education Engaging Students in Local Resources	Chad Dayton	Wilderness Inquiry	\$1,093,000	\$1,093,000				Yes			X		- Approve food: \$94,500 for students that qualify for "free and reduced lunch" through the National School Lunch Program.

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56	09d1	Diversifying Involvement in the Natural Resources Community	Gina Bonsignore	MN DNR	\$416,000	\$416,000							X		
57	09d2	Diversifying Involvement in the Natural Resources Community	Sue Galatowitsch	U of MN	\$84,000	\$84,000							X		
58	09e	Educating Minnesotans about Potential Impacts of Changing Climate	Kristen Poppleton	Will Steger Foundation	\$325,000	\$325,000							X		
59	09f	Pollinator Education Center at the Minnesota Landscape Arboretum	Peter Moe	U of MN - MN Landscape Arboretum	\$615,000	\$615,000							X		
60	09g	Minnesota Pollinator Partnership	Drew Larsen	Pheasants Forever, Inc.	\$100,000	\$100,000							X		- 100% of funds going to small grants by NGO.
61	09h	Raptor Lab Integrating Online and Outdoor Learning Environments	Julia Ponder	U of MN	\$186,000	\$186,000							X		
62	09i	Wolf Management Education	Darcy Berus	International Wolf Center	\$120,000	\$120,000							X		
63	10a	Contract Agreement Reimbursement	Amanda Graeber	MN DNR	\$135,000	\$135,000							X		
64	10b	Legislative Coordinating Commission Legacy Web Site	Sally Olson	Legislative Coordinating Commission	\$9,000	\$9,000							X		
65	Appropriations Needing LCCMR Review Prior To Approval Due To Various Factors														
66	04a	Blocking Bighead, Silver, and Other Invasive Carp by Optimizing Lock and Dams	Peter Sorensen	U of MN	\$854,000	\$854,000			Yes		Yes				- Review: LCCMR recommendation increased funds by \$391,000 from what was requested in proposal. - Approve capital expenditures over \$5,000: \$74,800 for underwater transducers.
67	05b	State Spring Inventory for Resource Management and Protection	Jan Falteisek	MN DNR	\$200,000	\$200,000	Yes			Yes					- Review: DNR proposed direct and necessary services - \$15,572 (7.8% of appropriation). Requires approval. - Approve use of classified staff.
68	05g	Assessing Contaminants in Minnesota's Loons and Pelicans - Phase 2	Carrol Henderson	MN DNR	\$260,000	\$260,000				Yes					- Review: DNR proposed direct and necessary services - \$4,707 (1.8% of appropriation). Requires approval.
69	05i	Wild Bee Pollinator Surveys in Prairie-Grassland Habitats	Gerda Nordquist	MN DNR	\$370,000	\$370,000	Yes			Yes					- Review: DNR proposed direct and necessary services - \$26,874 (7.3% of appropriation). Requires approval. - Approve out of state travel: \$9,000 - Approve use of classified staff.
70	05j2	Imperiled Prairie Butterfly Conservation, Research and Breeding Program	Robert Dana	MN DNR	\$245,000	\$245,000				Yes	Yes				- Review: DNR proposed direct and necessary services - \$21,006 (8.6% of appropriation). Requires approval.
71	05m	Moose Decline and Air Temperatures in Northeastern Minnesota	Mike Larson	MN DNR	\$600,000	\$600,000				Yes	Yes				- Review: DNR proposed direct and necessary services - \$21,766 (3.6% of appropriation). Requires approval. - Approve change in budget: Removed helicopter capture of calves and changed to ground capture; re-allocated funds to fleet and personnel.

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39	06h	Nutrient Capture Through Water Management and Biomass Harvesting	Jeff Lewis	Red River Basin Commission	\$300,000	\$300,000									- Review: Significant differences in budget allocations from what was proposed; lower \$ amount of recommendation from what was proposed resulting in modified project plan.
72	07a	Scientific and Natural Area Acquisition, Restoration, Improvement and Citizen Engagement	Peggy Booth	MN DNR	\$2,540,000	\$2,540,000	Yes	Yes		Yes					- Review: DNR proposed direct and necessary services - \$143,310 (5.6% of appropriation). Requires approval. - Approve use of classified staff.
43	07b	Metropolitan Regional Park System Acquisition	Arne Stefferud	Metropolitan Council	\$1,500,000	\$1,500,000		Yes							- Approve match commitment of non-state funds of at least 40% of appropriation (\$1,016,000) by 12/31/14. - Non-state acquisition - local - Review and approve fee title acquisition list - Currently resolving some recent mutually discovered issues on some grants to third party recipient within some past appropriations.
73	07c	Mesabi Trail Development - Soudan to Ely Segment	Bob Manzoline	St. Louis & Lake Counties Regional Railroad Authority	\$1,000,000	\$1,000,000									- Review: Appropriation amended by 2014 legislature due to miscommunication in original project plan. Funds are for 11 miles of trail, not 18 miles as suggested by proposal.
74	07f	Minnesota River Water Trailhead and Landing in Morton	Carl Colwell	City of Morton	\$198,000	\$198,000									- Review: Appropriation amended by 2014 legislature due to change in project plan. Land acquisition is no longer proposed as part of project plan.
75	08c	Demonstrating Innovative Technologies to Fully Utilize Wastewater Resources	Roger Ruan	U of MN	\$1,000,000	\$1,000,000			Yes		Yes	Yes			- Review: Significant budget differences from proposal and appears to be able to achieve exact same outcomes for less than half of requested \$ amount. - Approve capital equipment over \$5,000: \$400,000 for three demo systems. - Project has patent potential or potential revenue.
76	08e	Life Cycle Energy of Renewably Produced Nitrogen Fertilizers	Joel Tallaksen	U of MN	\$250,000	\$250,000				Yes					- Review: Foreign expenditure of ENRTF funds. - Approve \$130,000 to be spent in Sweden.
77	Appropriation With Plan To Be Reviewed at Later Date To Be Determined														
78	10c	Legislative-Citizen Commission on Minnesota Resources (LCCMR)	Susan Thornton	Legislative-Citizen Commission on Minnesota Resources	\$100,000	\$100,000									- Staff will provide LCCMR with a plan to review at a later date.
79	312, Sec.8	Invasive Terrestrial Plants and Pests Center	Brian Buhr	U of MN	\$1,460,000	\$490,000									- Includes \$970,000 transferred from FY 12 appropriation. - Work plan will be provided for review at a later date.