

M.L. 2018, Chp. 214, Art. 4 and Art 6 - Environment and Natural Resources Trust Fund LCCMR Work Plan Approval

Line #	Subd. #	Title	Program Manager	Organization	FY18 Trust Fund \$ (\$89,000)	FY19 Trust Fund \$ (\$45,739,000)	State Classified Staff	Fee Title Acquisition	Easement	Capital Expenditures over \$5,000	Research: Peer- reviewed	Specific work plan approval, notes and contingencies
2	A. Consent Agenda - work plans with no significant changes from LCCMR recommendation											
3	03b	Providing Critical Water-Quality Information for Lake Management	Jeffrey Peterson	U of MN		\$ 250,000						
4	03c	Minnesota Biodiversity Atlas - Phase 2	George Weiblen	U of MN		\$ 350,000				Yes		-Capital Expenditures over \$5K - Digitization Stations -\$10,000 (2 at \$5,000 each)
5	03d	Peatland Forest Management	Marcella Windmuller-Campione	U of MN		\$ 600,000					Yes	
6	03e	Assessing Natural Resource Benefits Provided by Lichens and Mosses	Daniel Stanton	U of MN		\$ 213,000					Yes	
7	03f	Develop a System to Assess Wildlife Health Threats in Minnesota	Kimberly VanderWaal	U of MN		\$ 280,000					Yes	
8	03g	Conserving Minnesota's Forest Birds of Management Concern	Alexis Grinde	U of MN - Duluth NRRI		\$ 500,000				Yes	Yes	-Capital Expenditures over \$5K - VHF Radio receivers -\$15,000 (3 at \$5,000 each) -Capital Expenditures over \$5K - Drones -\$18,000 (3 at \$6,000 each)
9	03h	Mapping Avian Movement in Minnesota	Gerald Niemi	U of MN - Duluth NRRI		\$ 200,000						
10	03i	Improve Trout-Stream Management by Understanding Variable Winter Thermal Conditions	Leonard Ferrington	U of MN		\$ 400,000					Yes	
11	03j	Develop Sonar Data Mapping on Three Rivers to Assess Suitability for Native Mussel Habitat	Nancy Duncan	National Park Service		\$ 200,000						
12	03k	Conserving Minnesota's Nine Species of Freshwater Turtles	Seth Stapleton	Minnesota Zoological Garden		\$ 300,000	Yes				Yes	- Use of classified staff
13	04a	Pilot Program to Optimize Local Mechanical and Pond Wastewater-Treatment Plants	Joel Peck	Minnesota Pollution Control Agency	\$ 89,000	\$ 611,000						
14	04b	Assess and Develop Strategies to Remove Microscopic Plastic-Particle Pollution from Minnesota Water Bodies	Filippo Coletti	U of MN		\$ 300,000				Yes	Yes	-Capital Expenditures over \$5K - Portable camera for particle imaging - \$6,000 -Patent potential
15	04c	Reduce Chlorides in Minnesota Waters by Evaluating Road-Salt Alternatives and Pavement Innovations	John Gulliver	U of MN		\$ 400,000				Yes		-Capital Expenditures over \$5K - British Pendulum Tester for laboratory experiments - \$9,000
16	04d	Protect Water Quality with Efficient Removal of Contaminants in Treatment Ponds for Storm Water	Heiko Schoenfuss	St. Cloud State University		\$ 325,000					Yes	
17	04e	Develop Small and Inexpensive Purification System for Community Drinking Water	Tianhong Cui	U of MN		\$ 425,000					Yes	-Patent potential
18	04f	Evaluate Emerging Pathogens in Lakes, Rivers, and Tap Water to Keep Drinking Water Safe	Timothy LaPara	U of MN		\$ 325,000					Yes	
19	04g	Characterize Unregulated Contaminants in Source Water and Drinking Water	Stephen Robertson	Minnesota Department of Health		\$ 1,000,000						
20	04h	Mapping Antibiotic Resistance in Minnesota to Help Protect Environmental, Animal, and Human Health	Randall Singer	U of MN		\$ 750,000					Yes	
21	04i	Farmer-Led Expansion of Alfalfa Production to Increase Water Protection	Nicholas Jordan	U of MN		\$ 500,000				Yes		-Capital Expenditures over \$5K - process equipment - \$15,000
22	04j	Using Perennial Grain Crops in Wellhead Protection Areas to Protect Groundwater	Margaret Wagner	Minnesota Department of Agriculture		\$ 250,000						
23	04k	Implement a Pilot Credit-Trading System for Storm Water in Shell Rock River Watershed to Improve Water Quality	Courtney Christensen	Shell Rock River Watershed District		\$ 300,000						
24	05a	Prairie Sportsman Statewide Environmental Broadcasts and Videos	Cindy Dorn	Pioneer Public Television		\$ 300,000						
25	05b	YES! Students Take on Minnesota Water-Quality Challenge	Shelli-Kae Foster	Prairie Woods Environmental Learning Center		\$ 213,000						
26	05c	Get Outdoors After-School Training	Sara Holger	Project Get Outdoors Inc		\$ 30,000						
27	05e	Expanding River Watch Program on the Minnesota River With High School Teams	Ted Suss	Friends of the Minnesota Valley		\$ 100,000						

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28	05f	Pollinator Ambassadors Program for Gardens	Elaine Evans	U of MN		\$ 250,000						
29	05g	Morris Prairie Pollinator Demonstration Area and Education	Steven Poppe	U of MN		\$ 550,000				Yes		-Capital Expenditures over \$5K - Watering Tank with Pump - \$5,000
30	05h	Expanding Nature Knowledge and Experience with New Interactive Exhibits at North Mississippi Regional Park	MaryLynn Pulscher	Minneapolis Parks and Recreation Board		\$ 500,000						
31	05i	Update International Wolf Center Exhibits	Rob Schultz	International Wolf Center		\$ 1,000,000						
32	06a	Minnesota Invasive Terrestrial Plants and Pests Center - Phase 4	Rob Venette	U of MN		\$ 3,500,000						- Approve overall work plan contingent on MAISRC staff working with LCCMR staff to break-out individual research efforts into more detailed sub-work plans for submission and staff approval once individual efforts ready to get underway.
33	06b	Palmer Amaranth Detection and Eradication Continuation	Monika Chandler	Minnesota Department of Agriculture		\$ 431,000						
34	06c	Evaluate Control Methods for Invasive Hybrid Cattails	Steve Windels	Voyageurs National Park		\$ 131,000					Yes	
35	06d	Developing RNA Interference to Control Zebra Mussels	Christopher Merkes	US Geological Survey		\$ 500,000					Yes	
36	06f	Determining Risk of a Toxic Alga in Minnesota Lakes	Adam Heathcote	Science Museum of Minnesota		\$ 200,000					Yes	
37	07a	Develop Solar Window Concentrators for Electricity	Uwe Kortshagen	U of MN		\$ 350,000				Yes	Yes	-Capital Expenditures over \$5K - Custom coating die and wider base plate for batch coater for large area samples - \$8,000 -Patent
38	07b	Demonstrations for Community-Scale Storage System for Renewable Energy	Ellen Anderson	U of MN		\$ 550,000				Yes		-Capital Expenditures over \$5K - 3 Energy storage systems-\$206,908
39	07c	Develop Inexpensive Energy from Simple Roll-to-Roll Manufacturing	Tianhong Cui	U of MN		\$ 300,000					Yes	
40	08b	Develop BioMulch to Replace Plastic Soil Covering in Vegetable and Fruit Production to Increase Yield and Reduce Waste	Paulo Pagliari	U of MN		\$ 310,000					Yes	-Patent potential
41	08c	Develop Market-Based Alternatives for Perennial Crops to Benefit Water Quality and Wildlife	Shawn Schottler	Science Museum of Minnesota		\$ 150,000						
42	08e	Restoring Forests in Minnesota State Parks	Edward Quinn	MN DNR		\$ 250,000						-DNR direct and necessary expenses: \$8,438 (3.3% of appropriation)
43	08f	Develop Strategies for Timber Harvest to Minimize Soil Impacts to Maintain Healthy and Diverse Forests	Robert Slesak	U of MN		\$ 200,000					Yes	
44	08g	Restoring Wetland Invertebrates to Revive Wildlife Habitat	Danelle Larson	MN DNR		\$ 400,000					Yes	-DNR direct and necessary expenses: \$9,000 (2.2% of appropriation)
45	08h	Preserving Minnesota's Native Orchids - Phase 2	David Remucal	U of MN - Landscape Arboretum		\$ 259,000					Yes	
46	09a	Grants for Local Parks, Trails, and Natural Areas	Audrey Mularie	MN DNR		\$ 2,000,000	Yes		Yes	Yes		-DNR direct and necessary expenses: \$5,134 (0.2% of appropriation) -Trail Construction \$1,300,000 -Fee Title/Easements \$650,000 - Use of classified staff
47	09b	Develop Mesabi Trail Segment From County Road 88 to Ely	Bob Manzoline	St. Louis & Lake Counties Regional Railroad Authority		\$ 600,000			Yes	Yes		-Capital Expenditures over \$5K - Trail Construction - \$420,000
48	09c	Harmony State Trail Extension Land Acquisition	Jerome Ilg	City of Harmony		\$ 235,000		Yes				-Fee Title/Easements \$200,000
49	09d	Mississippi Blufflands State Trail - Red Wing Barn Bluff to Colvill Park Segment	Jay Owens	City of Red Wing		\$ 550,000				Yes		-Capital Expenditures over \$5K - Trail Construction - \$550,000
50	09e	Swedish Immigrant Regional Trail Segment within Interstate State Park	Laird Mork	Chisago County Environmental Services		\$ 2,254,000				Yes		-Capital Expenditures over \$5K - Trail construction and bridge - \$1,533,615 -Expenditures over \$5K - Trail head parking - \$202,000

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51	09f	Enhancement Plan for Superior Hiking Trail	Denny Caneff	Superior Hiking Trail Association		\$ 100,000						
52	09g	Protecting Mississippi River Headwaters Lands through Local, State, and Federal Partnership	Josh Doty	City of Baxter		\$ 700,000		Yes				-Fee Title \$659,000
53	09h	Protecting North-Central Minnesota Lakes	Sheila Boldt	Crow Wing Soil and Water Conservation District		\$ 750,000			Yes			-Easements \$493,000
54	09i	Easement Program for Native Prairie Bank	Judy Schulte	MN DNR		\$ 2,000,000	Yes		Yes			-DNR direct and necessary expenses: \$60,619 (3% of appropriation) -Easements \$687,500 - Use of classified staff
55	09j	Minnesota State Trail Development	Kent Skaar	MN DNR		\$ 2,500,000				Yes		-DNR direct and necessary expenses: \$36,866 (1.4% of appropriation) -Expenditures over \$5K - Trail construction \$2,463,000
56	09k	Minnesota State Parks and State Trails	Jennifer Christie	MN DNR		\$ 2,500,000		Yes				-Fee Title \$2,435,000
57	09l	Scientific and Natural Areas Program	Ann Pierce	MN DNR		\$ 3,250,000	Yes	Yes				-DNR direct and necessary expenses: \$114,940 (3% of appropriation) -Fee Title \$1,100,000 - Use of classified staff
58	10	Emerging Issues Account	Becca Nash	LCCMR		\$ 439,000						
59	12	Contract Agreement Reimbursement	Katherine Sherman-Hoehn	MN DNR		\$ 135,000	Yes					- Use of classified staff
60	B. Non Consent - work plans needing LCCMR review prior to approval due to various factors											
61	B1. Changes to proposed work plan											
62	05j	Expanding the State's Reuse Economy to Conserve Natural Resources	Steve Thomas	ReUse Minnesota		\$ 275,000						-Proposal included \$201,600 for Personnel and \$150,000 for Professional Service Contract i.e. fiscal agent, financial services, website consultant and consultant to measure impacts -Work Plan includes \$0 for personnel and \$265,000 for Professional Service Contract i.e. association management company -Revenue reinvestment
63	06e	Install and Evaluate an Invasive Carp Deterrent for Mississippi River Locks and Dams	Peter Sorensen	U of MN		\$ 998,000						-Change in location of deterrent
64	B2. Legislative changes from LCCMR recommendation											
65	03a	County Geologic Atlases - Part A	Dale Setterholm	U of MN - MN Geological Survey		\$ 1,240,000						-Decreased by \$1,260,000 from \$2,500,000 to \$1,240,000
66	05l	Increase Diversity in Environmental Careers to Serve Minnesota's Changing Demographics	Denise Legato	MN DNR		\$ 550,000	Yes					-Decreased by \$200,000 from \$750,000 to \$550,000 -DNR direct and necessary expenses: \$23,524 (1.9% of appropriation) - Use of classified staff
67	08a	Nongame Wildlife Program Acceleration	Carrol Henderson	MN DNR		\$ 220,000						-Decreased by \$880,000 from \$1,000,000 to \$220,000 -DNR direct and necessary expenses: \$35,522 (3.5% of appropriation)
68	B3. Legislative additions - defer to later date											
69	04l	Lake Agnes Treatment	TBD	Board of Water and Soil Resources		\$ 600,000						Staff are working with project manager to develop work plan
70	Art. 6, Subd. 4	FY2019 Debt Service on Appropriations Bonds**	TBD	Minnesota Management and Budget		\$ 2,940,000						Staff are looking into requirements
71	B4. Work plan not ready for approval - defer to later date											
72	05d	Connecting Students with Water Stewardship through Hands-on Learning	John Lenczewski	Minnesota Trout Unlimited		\$ 400,000						-Work plan is not ready for approval

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73	05k	Expand Materials Reuse and Recycling Jobs Program	Steve Thomas	The NetWork for Better Futures d/b/a Better Futures Minnesota		\$ 800,000						-Work plan is not ready for approval -Revenue reinvestment
74	08d	Agricultural Weed Control Using Autonomous Mowers	Mike Reese	U of MN - Morris		\$ 750,000				Yes		-Work plan is not ready for approval -Increased by \$200,000 from \$550,000 to \$750,000 -Capital Expenditures over \$5K - Solar PV System - \$12,400 -Capital Expenditures over \$5K - Velodyne E-Puck LiDAR and components - \$10,000 -Patent potential
75					\$ 89,000	\$ 44,989,000						

Subd. 03a – Dale Setterholm

Minnesota Geological Survey 2018 LCCMR Reduction Impact Statement

- Our 2018 grant of \$1,240,000 is only 30% of our proposal, and half of what LCCMR recommended.
- Our 2017 grant of \$2,000,000 was 42% of what LCCMR recommended.
- We have nearly maintained our rate of atlas production and our staff by spending these grants much more quickly than planned.
- The 2017 grant will be depleted by about September of 2018 (16 months).
- The reduced 2018 grant will take us from September of 2018 to about August of 2019 (11 months).
- The cut to DNR has caused them to consider withdrawing from our atlas contract for the year ahead reducing our funding by an additional \$300,000.
- The reduction in funding to MGS reduces our ability to match federal cost-sharing opportunities.
- The geologic mapping staff at MGS has skill sets and experience that are difficult to find or develop in the short term. Any staff reductions will forfeit the investment made in developing these skills, and re-establishing capacity later will be slow and expensive.
- We will consider reducing non-salary elements of our work (drilling, analyses, printing, travel) where possible to preserve staff.
- Funding that only lasts a year or so removes our ability to manage variability in costs from year to year. Some years have more travel or more drilling or other variables.
- The success of our 2019 proposal will determine if we can maintain production or if we need to slow progress and reduce staff.

Our work plan for 2018 has been changed in these ways to accommodate the reduction in funds:

- The funds will be expended much more quickly, probably by August of 2019. If they run out prior to that date we will have to consider staff reductions.
- If our contract with DNR is canceled we will expend the grant even more quickly and staff reductions are more likely.
- Pending these decisions, we may be requesting amendments to reduce funding for non-salary costs (printing, drilling, geochemical analyses, and possibly travel) and increase funding for personnel as needed. The drilling budget is about \$80,000 short of a normal program.
- We plan to advance all current projects as the most efficient and productive use of funds. Suspending projects is generally inefficient.

Subd. 05I – Denise Legato

The following explanation is offered with regard to programmatic changes resulting from the funding reduction. “Increase Diversity in Environmental Careers”:

As a result of the \$200,000 reduction in the requested funding level it is necessary to revise the project in terms of the number of students served. Rather than the previously projected 57 students anticipated to be served through internships, mentorships, and other support services the number will be reduced to 26. While the short-term impact is the number of students who are able to participate in the program, the longer-term effect is a more limited outreach and community building effort. The multiplier effect was envisioned as an outgrowth of student participation which could form the foundation for developing a sustainable pathway for underrepresented students to engage in environmental education and ultimately careers in Minnesota government.

Subd. 08a – Carrol Henderson

**Impact of the Reduction of the Nongame Wildlife Program Proposed LCCMR
Budget Request from \$1,000,000 to \$220,000**

The decrease in funding for the Nongame Wildlife Program's request for acceleration of four major project areas from \$1,000,000 to \$220,000 will severely reduce the scope of work and effectiveness of the Nongame Wildlife Program activities that were planned for the next two years. The negative impacts involve:

1) Conservation Focus Area Planning and Implementation

The remaining funding of \$220,000 would greatly reduce the effort on our priority conservation focus areas, a key action of the State Wildlife Action Plan. (\$400,000 reduced to \$220,000).

THE BUDGET REDUCTION WILL ELIMINATE THE OTHER THREE ACTIVITIES IN THE PROPOSAL, INCLUDING:

- 2) Increase Efficiency of Data Management and Delivery. Accelerate management and delivery of data on nongame wildlife status and management guidelines. 3) Heart of the Bog Birding Trail: Plan and begin implementation of the "Heart of the Bog Birding Trail Corridor" in northern Minnesota which could provide economic benefit to northern communities and provide recognition of rare and unique wildlife and their habitats. 4) Education and Fundraising: We will not be able to do surveys to identify future focus areas for educational efforts and identify how to increase the effectiveness of our publicity that generates donations to the Nongame Wildlife Checkoff.**