



**LEGISLATIVE-CITIZEN COMMISSION ON MINNESOTA RESOURCES**

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Susan Thornton, Director

**MINUTES**

**Wednesday, June 7, 2017**

**9:00 a.m. – 4:45 p.m.**

**Room 5 State Office Building**

**St. Paul, MN 55155**

**Members Present:** Jeff Broberg, Sen. Gary Dahms, Sen. Kari Dziedzic, Rep Rob Ecklund, William Faber , Nancy Gibson, Rep. Josh Heintzeman, Rep. Joe Hoppe, Nicole Kessler, Gary Lamma , Norman Moody, Rep. Jim Newberger, Sen. David Tomassoni, Rep. Jean Wagenius, Sen. Torrey Westrom

**Staff Present:** S. Thornton, M. McDonough, M. Varien, D. Griffith

**Members Excused:** Sen. Bill Ingebrigtsen and Della Young

**Chair: Co-Vice Chair, Sen. Tomassoni**

Co-Chair Tomassoni convened the meeting at 9:10 a.m.

**1. Approve the minutes for February 14, 2017**

MOTION: Commissioner Gibson moved to approve the minutes for February 14, 2017 – motion prevailed.

**2. Members report potential conflicts of interest regarding today's business**

**MS 116P.09 Subd 6 Conflict of interest. A commission member, technical advisory committee member, a peer review panelist, or an employee of the commission may not participate in or vote on a decision of the commission, technical advisory committee, or peer review panel relating to an organization in which the member, panelist, or employee has either a direct or indirect personal financial interest. While serving on the commission, technical advisory committee, or peer review panel, or being an employee of the commission, a person shall avoid any potential conflict of interest.**

Commissioner Kessler stated a conflict of interest with Agenda Item 11. Ms. Kessler is employed by the Center of Energy and Environment which received the appropriation M.L. 2017, Chp. 96, Sec. 2, Subd. 07e titled "Geotargeted Distributed Clean Energy Initiative", \$800,000, Carl Nelson, Center for Energy and Environment. However, agenda item #11 will be for the entire set of work plans, not just M.L. 2017, Chp. 96, Sec. 2, Subd. 07e so she will participate in the vote.

**3. LCCMR Business Items**

• **Review Procedures of the Legislative-Citizen Commission on Minnesota Resources (LCCMR)**

Susan Thornton pointed out to members that a copy of the LCCMR Operating Procedures is in the meeting packet.

• **Update on LCCMR Grants Management System**

Susan Thornton explained the LCCMR Grants Management System contract was canceled due to the product received to date was not satisfactory. The remaining dollars in the appropriation for the contract are still available for a future data system if needed.

## LEGISLATIVE-CITIZEN COMMISSION ON MINNESOTA RESOURCES

- **Update on 2017 Final Reports for ENRTF ending June 30, 2017**

Susan Thornton reviewed the spreadsheet titled “Environment and Natural Resources Trust Fund (ENRTF) Appropriations Ending June 30, 2017” and reminded members they may request any final report to give a presentation before the commission. Final reports are due into the office by August 11, 2017.

- **Update 2018 Environment and Natural Resources Trust Fund (ENRTF) Proposals received**

Susan Thornton explained that staff reviewed approximately 185 draft proposals which resulted in receiving 218 proposals for approximately \$183 million by the May 15, 2017 deadline. Staff is in the process of reviewing proposals and applying the commission’s evaluation criteria for ranking. Staff will provide 2018 ENRTF proposal books and accompanying material to commission members in August.

- **Review LCCMR 2017 calendar**

- **2017 Legislative Session Report**

- **S.F. 550 4<sup>th</sup> Engrossment the Environment and Natural Resources Trust Fund (ENRTF) Bill – M.L. 2017, Chp. 96**
- **Discussion of Legislative additions and reductions – a more detailed discussion will follow**
- **Review of other legislative action of interest**

Susan Thornton gave an overview of the Legislative Session Report. Staff handed out a spreadsheet titled “Status of M.L. 2017 Environment and Natural Resources Trust Fund (ENRTF) Recommendations (FY2017 and FY2018)”

MOTION: Commissioner Broberg moved to have the LCCMR write a letter to the project managers of the deleted or reduced 2017 ENRTF recommended proposal appropriations.

Susan Thornton reminded members that staff had already contacted the project managers of the deleted and reduced 2017 ENRTF recommended proposal appropriations to let them know they may resubmit by the July 15 deadline in Subd. 19. It was stated that some of them have already resubmitted 2018 proposals by the May 15 deadline. Ms. Thornton also said staff had contacted the project managers that had received a reduction in their M.L. 2017 work plan and that they could also resubmit by July 15, 2017. Members discussed.

*Subd. 19. Fiscal Year 2019 Recommendations*

*(a) For fiscal year 2019, the commission shall consider recommending loans from the corpus of the trust fund to statutory and home rule charter cities and towns with a population less than 5,000 as provided in the Minnesota Constitution, article XI, section 14. The commission shall work with the Public Facilities Authority in developing its recommendations. The commission shall include in its recommendations an analysis of using trust fund allocations for grants to the same cities and towns, including any necessary statutory changes.*

*(b) Any deadlines established by the Legislative-Citizen Commission on Minnesota Resources for submission of proposals for the commission's fiscal year 2019 funding recommendations are waived until July 15, 2017, for proposals authorized under this subdivision and proposals that the commission recommended for fiscal year 2018 but that did not receive funding.*

RENEWED MOTION: Commissioner Broberg renewed his motion to move to have the Co-Chairs write a letter to the project managers of the deleted or reduced 2017 ENRTF proposals / appropriations – motion withdrawn.

## LEGISLATIVE-CITIZEN COMMISSION ON MINNESOTA RESOURCES

### 4. **Begin overview of Conservation Reserve Enhancement Program (CREP) by Board of Water and Soil Resources (BWSR)**

John Jaschke (Director BWSR) and Angie Becker-Kudelka (Assistant Director) provided an overview of the Conservation Reserve Enhancement Program (CREP). Members discussed.

Members requested BWSR to provide a breakdown of the \$150 million dollar state match for administration, restoration, easement payments and other. Ms. Becker-Kudelka said they would provide a response.

Members asked BWSR to provide information on how the CREP easements will maintain and improve water quality. Mr. Jaschke said they will provide information using models and pollution reduction calculator to estimate benefits of past CREP easements.

### 5. **Begin overview on wastewater system needs by Public Facilities Authority (PFA) and Minnesota Pollution Control Agency (MPCA)**

Jeff Freeman (Executive Director PFA) and Greta Gauthier (MPCA) provided an overview of wastewater and drinking system funding. Members discussed.

Members asked 'What's the average of user charge for waste water treatment per household by community across the state?'. Mr. Freeman said he will provide a response.

Commissioner Westrom asked how LCCMR can help address environmental aspects of water treatment systems in small communities.

Ms. Gauthier and Mr. Freeman indicated that perhaps the LCCMR could consider:

- Help research, assess, train, and work with small operators to utilize existing systems more effectively and efficiently to achieve higher water quality standards and increase longevity of systems without the need for costly construction
- Help small communities with asset management regarding age and condition of infrastructure of water systems to help in planning and rehabilitation.

Ms. Gauthier said there is a current LCCMR project M.L. 2016, Chp. 186, Sec. 2, Subd. 04m "Analyzing Alternative for Muncipal Wastewater Treatment ", MPCA, Scott Kyser, \$180,000 and MPCA has submitted a proposal titled "Wastewater Treatment Plant Optimization Pilot Program", MPCA , Joel Peck, \$236,360.

Commissioner Westrom suggested LCCMR create a sub-committee to continue discussion of M.L. 2017, Chp. 96, Sec. 2, Subd. 19 to work with PFA water treatment systems and to continue to look at LCCMR's role in addressing environmental aspects of water treatment systems in small communities.

Members moved to agenda item 7.

### 6. **Overview of M.S. 84.95 Reinvest in Minnesota Resources Fund**

Susan Thornton explained this is before them due to the legislative change to M.S. 116P.08, Subdivision 1.

### 7. **M.L. 2015, Chp. 76, Sec. 2, Subd. 10 "Emerging Issues Account" (balance remaining is \$622,000) – Requests for funding:**

- **Emerging Issues Account needs a supermajority of 12 members to approve**
  - A. **"Palmer Amaranth Detection and Eradication", MN Dept. of Agriculture, Monika Chandler, \$222,100**

## LEGISLATIVE-CITIZEN COMMISSION ON MINNESOTA RESOURCES

Monika Chandler (MN Dept. of Agriculture) and Geir Friisoe (MN Dept. of Agriculture) provided an overview of Palmer Amaranth Detection and Eradication. Members discussed. Ms. Chandler said they would present at the LCCMR meeting on June 21.

**B. “Deer Movement Related to Potential CWD Prion Transmission”, MN DNR, Chris Janelle, \$350,000**

Members determined that they needed additional information and will consider it at the LCCMR meeting on June 21.

**8. Minnesota Invasive Terrestrial Plants and Pests Center (MITPPC) – U of MN, Dr. Robert Venette, Director M.L. 2014, Chp. 312, Art. 12, Sec. 8 and M.L. 2015, Chp. 76, Sec. 8, Subd. 06a**

- Present recent allocation process and research initiatives - 11 projects totaling \$4,649,420
- LCCMR staff are authorized to approve sub-project work plans of M.L. 2015, Chp. 76, Art. 2, Sec. 6a “Minnesota Invasive Terrestrial Plants and Pests Center”, per conditions of the LCCMR’s approval of the overall work plan for M.L. 2015, Chp. 76, Art. 2, Sec. 6a on 6/25/2015

Rob Venette (Director MITPPC) and Heather Koop (Assistant Director MITPPC) provided an overview of the Minnesota Invasive Terrestrial Plants and Pests Center (MITPPC). Members discussed.

**9. Consider request from Minnesota Invasive Terrestrial Plants and Pests Center (MITPPC) to fund capital equipment (\$35,000) for M.L. 2015, Chp. 76, Sec. 2, Subd. 06a “MITPPC #9: Dispersal Characteristics of Gypsy Moth Larvae to Improve the Effectiveness of Quarantine”, U of MN, Brian Aukema – Dr. Rob Venette, U of MN, MITPPC**

Rob Venette discussed the capital equipment request for \$35,000 for M.L. 2015, Chp. 76, Sec. 2, Subd. 06a “MITPPC #9: Dispersal Characteristics of Gypsy Moth Larvae to Improve the Effectiveness of Quarantine”, U of MN, Brian Aukema. Members discussed.

MOTION: Commissioner Moody moved to approve the capital equipment request for \$35,000 (\$33,500 servosphere and data acquisition and \$1,500 rental for the quarantine facility) for M.L. 2015, Chp. 76, Sec. 2, Subd. 06a “MITPPC #9: Dispersal Characteristics of Gypsy Moth Larvae to Improve the Effectiveness of Quarantine”, U of MN, Brian Aukema – motion prevailed.

**10. Minnesota’s Aquatic and Invasive Species Research Center (MAISRC) – U of MN, Dr. Nick Phelps, Director M.L. 2013, Chp. 52, Sec. 2, Subd. 06a**

- Present recent allocation process and research initiatives - 6 projects totaling \$1,225,000
- LCCMR staff are authorized to approve sub-project work plans of M.L. 2013, Chp. 52, Sec. 2, Subd. 06a – “Aquatic Invasive Species Research Center”, per conditions of the LCCMR’s approval of the overall work plan for M.L. 2013, Chp. 52, Sec. 2, Subd. 06a on 6/25/2013

Nicholas Phelps (Director MAISRC) provided an overview of the Minnesota’s Aquatic and Invasive Species Research Center (MAISRC). Members discussed.

Members asked how soon some of this aquatic invasive species (AIS) research can be used to inform policy and to implement in the field. Mr. Phelps informed members that currently it is being used in field and they are presently working on four white papers.

**11. M.L. 2017, Chp. 96, ENRTF work plan approval**

M.L. 2017 ENRTF work plan approval and action. Proposed work plans, as available, can be viewed at <http://www.lccmr.leg.mn>

## LEGISLATIVE-CITIZEN COMMISSION ON MINNESOTA RESOURCES

- A. Appropriations with no changes from LCCMR recommendation – Staff recommend consent approval. Approval M.L.2017 ENRTF work plans – Consent agenda spreadsheet with consent recommendations and specific project requirements needing LCCMR action with approval. 59 Appropriations - Spreadsheet Lines 1 to 61**

**Criteria for Consent Agenda:** No legislative changes, identified staff issues or proposed changes from the proposal.

- **Any member may designate any work program for hearing, thus removing it from Consent Agenda. Approval will then be scheduled for a later date.**

MOTION: Commissioner Moody moved to approve lines 1 to 61 on the spreadsheet titled “M.L. 2017, Chp. 96, Sec. 2 – Environment and Natural Resources Trust Fund Work Plan Approval” including “Specific work plan approval, notes and contingencies” on the spreadsheet – motion prevailed. (See Attachment #1)

- B. Appropriation needing LCCMR review prior to approval due to various factors – for consideration on 6/7/17. (See spreadsheet notes)  
1 Appropriation - Spreadsheet Lines 62 to 64**

MOTION: Commissioner Gibson moved to approve lines 62 to 64 on the spreadsheet titled “M.L. 2017, Chp. 96, Sec. 2 – Environment and Natural Resources Trust Fund Work Plan Approval” including “Specific work plan approval, notes and contingencies” on the spreadsheet – motion prevailed.

- C. Appropriations needing LCCMR review due to Legislative changes from LCCMR recommendation – Appropriations Reduced by Legislature - Consent criteria not met. Staff recommended LCCMR work plan review (not on consent agenda).  
3 Appropriations - Spreadsheet Lines 66, 68 and 69 – ready for approval  
1 Appropriation - Spreadsheet Line 67 – no work plan received at reduced amount – see DNR letter (pending)**

**Discussion, work plan presentations, and approval of appropriations reduced in the legislative session**

- **M.L. 2017, Chp. 96, Sec. 2, Subd. 03a “County Geologic Atlases – Continuation”, Minnesota Geological Survey”, \$2,000,000**

Dale Setterholm (Minnesota Geological Survey) provided an overview of M.L. 2017, Chp. 96, Sec. 2, Subd. 03a “County Geologic Atlases – Continuation”. Members discussed.

Mr. Setterholm explained the impact of the legislative funding reduction from \$4,729,000 to \$2,000,000 and stated he has submitted a new proposal for FY19 funding to continue the work.

MOTION: Commissioner Broberg moved to approve line 66 on the spreadsheet titled “M.L. 2017, Chp. 96, Sec. 2 – Environment and Natural Resources Trust Fund Work Plan Approval” including “Specific work plan approval, notes and contingencies” on the spreadsheet – motion prevailed.

- **M.L. 2017, Chp. 96, Sec. 2, Subd. 05b “Increasing Diversity in Environmental Careers”, MN DNR, \$487,000**

Denise Legato (DNR) provided a letter from the MN DNR and asked commission members for more time to evaluate whether or not they would have a work plan with the reduction from \$1,487,000 to \$487,000 in funding in M.L. 2017, Chp. 96, Sec. 2, Subd. 05b “Increasing Diversity in Environmental Careers”, MN DNR, \$487,000. Members discussed. Ms. Legato stated that they are reviewing the option to resubmit the proposal by the July 15, 2017 deadline.

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- **M.L. 2017, Chp. 96, Sec. 2, Subd. 09b “Scientific and Natural Areas Acquisition and Restoration, Citizen Science, and Engagement”, MN DNR, \$2,500,000**

Peggy Booth (DNR) provided an overview of M.L. 2017, Chp. 96, Sec. 2, Subd. 09b “Scientific and Natural Areas Acquisition and Restoration, Citizen Science, and Engagement” and the impact of the legislative funding reduction from \$4,500,000 to \$2,500,000. Ms. Booth indicated that a new proposal for FY19 funding has been submitted to continue the work. Members discussed.

MOTION: Commissioner Moody moved to approve line 68 on the spreadsheet titled “M.L. 2017, Chp. 96, Sec. 2 – Environment and Natural Resources Trust Fund Work Plan Approval” including “Specific work plan approval, notes and contingencies” on the spreadsheet – motion prevailed.

- **M.L. 2017, Chp. 96, Sec. 2, Subd. 09e “Native Prairie Stewardship and Prairie Bank Easement Acquisition”, MN DNR, \$2,675,000**

Judy Schulte (DNR) provided an overview of M.L. 2017, Chp. 96, Sec. 2, Subd. 09e “Native Prairie Stewardship and Prairie Bank Easement Acquisition” and the impact of the legislative funding reduction from \$3,500,000 to \$2,675,000. A new native prairie bank proposal has been submitted for FY19 funding. Members discussed.

MOTION: Commissioner Ecklund moved to approve line 69 on the spreadsheet titled “M.L. 2017, Chp. 96, Sec. 2 – Environment and Natural Resources Trust Fund Work Plan Approval” including “Specific work plan approval, notes and contingencies” on the spreadsheet – motion prevailed.

**D. Appropriations needing LCCMR review prior to approval due to being added by Legislature – to be called in for presentations at later date to be determined.**

**2 Appropriations - Spreadsheet Lines 71 to 73**

- **M.L. 2017, Chp. 96, Sec. 2, Subd. 03n “Pollinator Research and Outreach”, U of MN , \$500,000 (FY18 - \$411,000 and FY19 - \$89,000)**
- **M.L. 2017, Chp. 96, Sec. 2, Subd. 08l “Conservation Reserve Enhancement Program (CREP)”, BWSR, \$13,500,000 (FY17 – \$2,729,000; FY18 - \$5,771,000; and FY19 - \$5,000,000)**

Susan Thornton explained staff will work with the U of MN and BWSR on work plans for consideration by the LCCMR in the future.

Members returned to Agenda Item 6.

### 12. Other business

- **Next scheduled LCCMR meeting date or Site Visit – June 21-22, 2017**
- **Update on the Site Visits**

Members agreed to cancel the June 22 meeting and replace it with a business meeting on June 21 and with an afternoon metro area site visit.

### 13. Adjourn

Meeting adjourned at 4:15.

| Line # | Subd. #   | Title   | Program Manager          | Affiliation                        | Total Appropriated Trust Fund \$ | FY17 Trust Fund \$ (\$8,428,000) | FY18 Trust Fund \$ (\$50,728,000) | FY19 Trust Fund \$ (\$5,089,000) | State Classified Staff | Fee Title Acquisition | Easement | Capital Expenditures over \$5,000 | Research: Peer-reviewed | Specific work plan approval, notes and contingencies   |
|--------|---|---|--------------------------|------------------------------------|----------------------------------|----------------------------------|-----------------------------------|----------------------------------|------------------------|-----------------------|----------|-----------------------------------|-------------------------|--|
| 1      | <b>A. Appropriations with no changes from LCCMR recommendation - Appropriations With No Changes</b> |   |                          |                                    |                                  |                                  |                                   |                                  |                        |                       |          |                                   |                         |  |
| 2      | 03b   | Assessment of Public Benefits of Protecting Source Water                        | Bonnie Keeler            | U of MN                            | \$ 320,000                       | \$ -                             | \$ 320,000                        |                                  |                        |                       |          |                                   |                         |  |
| 3      | 03c   | Preserving Minnesota Prairie Plant Diversity – Phase II                         | Ruth Shaw                | U of MN                            | \$ 900,000                       | \$ -                             | \$ 900,000                        |                                  |                        |                       |          |                                   | Yes                     |  |
| 4      | 03d   | Minnesota Biological Survey - Continuation                                      | Bruce Carlson            | MN DNR                             | \$ 2,900,000                     | \$ -                             | \$ 2,900,000                      |                                  | Yes                    |                       |          |                                   |                         | - DNR proposed direct and necessary expenses: \$177,414(6% of appropriation) - Approved<br>- Use of classified staff - Needs Approval  |
| 5      | 03e   | Minnesota Wildflowers Online Botanical Reference – Phase II                     | Katy Chayka              | MN Wildflowers Information         | \$ 270,000                       | \$ -                             | \$ 270,000                        |                                  |                        |                       |          |                                   |                         |  |
| 6      | 03f   | Assessment of Microbes for Improving Wild Rice Restoration                      | Chanlan Chun             | U of MN - NRRI                     | \$ 334,000                       | \$ -                             | \$ 334,000                        |                                  |                        |                       |          |                                   | Yes                     |  |
| 7      | 03g   | Drainage Records Modernization Cost Share - Phase II                            | Tim Gillette             | Board of Water and Soil Resources  | \$ 540,000                       | \$ -                             | \$ 540,000                        |                                  | Yes                    |                       |          |                                   |                         | MnGEO GIS Specialist - Use of classified staff - Needs Approval  |
| 8      | 03h   | Groundwater Contamination Mapping   | Hans Neve                | Minnesota Pollution Control Agency | \$ 400,000                       | \$ -                             | \$ 400,000                        |                                  |                        |                       |          |                                   |                         |  |
| 9      | 03i   | Landslide Susceptibility, Mapping, and Management Tools                         | Karen Gran               | U of MN                            | \$ 500,000                       | \$ -                             | \$ 500,000                        |                                  |                        |                       |          |                                   |                         | \$50,903 North Dakota State university and \$6,674 University of Wisconsin-Superior for Personnel  |
| 10     | 03j   | Moose Calf Surveys and Monitoring   | Mark Ditmer              | U of MN                            | \$ 348,000                       | \$ -                             | \$ 348,000                        |                                  |                        |                       |          | Yes                               |                         | - Capital expenditures over \$5,000: \$13,870 for 1 fixed wing UAV w/flight training; and \$13,892 for computer supplies and ground materials for engineering work   |
| 11     | 03k   | Cedar Creek Natural Area Wolf Recolonization Assessment                         | Forest Isbell            | U of MN                            | \$ 398,000                       | \$ -                             | \$ 398,000                        |                                  |                        |                       |          |                                   | Yes                     |  |
| 12     | 03l   | Effects of Wolf Predation on Beaver, Moose, and Deer                            | Steve Windels            | Voyageurs National Park            | \$ 293,000                       | \$ -                             | \$ 293,000                        |                                  |                        |                       |          |                                   | Yes                     |  |
| 13     | 03m   | Mapping Taxonomy and Environmental Toxicology of Minnesota Freshwater Sponges   | Venugopal Mukku          | U of MN                            | \$ 258,000                       | \$ -                             | \$ 258,000                        |                                  |                        |                       |          | Yes                               | Yes                     | - Capital expenditures over \$5,000: \$10,000 for Lyophilizer (Freeze dryer from Fisher Scientific-Labconco-7752040) needed to remove water from sponges in order to analyze tissue matter                           |
| 14     | 04a   | Assessment of Household Chemicals and Herbicides in Rivers and Lakes            | William Arnold           | U of MN                            | \$ 236,000                       | \$ -                             | \$ 236,000                        |                                  |                        |                       |          |                                   | Yes                     |  |
| 15     | 04b   | Wastewater Nitrogen Removal Technology to Protect Water Quality                 | Paige Novak              | U of MN                            | \$ 450,000                       | \$ -                             | \$ 450,000                        |                                  |                        |                       |          |                                   | Yes                     |  |
| 16     | 04c   | Rearing Native Mussels for Reintroduction and Expanding Water Quality Awareness | Allan Maguire            | Minnesota Zoological Garden        | \$ 591,000                       | \$ -                             | \$ 591,000                        |                                  | Yes                    |                       |          | Yes                               |                         | - Capital expenditures over \$5,000: \$130,000 for Mussel research and rearing facility<br>- Use of classified staff - Needs Approval  |
| 17     | 04d   | Water Quality Monitoring in Southeastern Minnesota Trout Streams                | Neal Mundahl             | Winona State University            | \$ 500,000                       | \$ -                             | \$ 500,000                        |                                  |                        |                       |          | Yes                               |                         | - Capital expenditures over \$5,000: \$120,000 for water quality/weather monitoring/sampling stations (6 stations @ \$20,000 each - competitive bid to select vendor); and \$9,780 for backpack electrofishing combo |
| 18     | 04e   | Reassessing Toxicity of Petroleum Spills on Groundwater and Surface Water       | Dalma Martinovic-Weigelt | St. Thomas University              | \$ 300,000                       | \$ -                             | \$ 300,000                        |                                  |                        |                       |          |                                   | Yes                     |  |
| 19     | 04f   | Assessment of Water Quality for Reuse   | Satoshi Ishii            | U of MN                            | \$ 148,000                       | \$ -                             | \$ 148,000                        |                                  |                        |                       |          |                                   |                         |  |

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|--------|---------|---|------------------|---|----------------------------------|----------------------------------|-----------------------------------|----------------------------------|------------------------|-----------------------|----------|-----------------------------------|-------------------------|--|
| 20     | 04g     | Identification of Chemicals of Emerging Concern in Minnesota Fish           | Seth Moore       | Grand Portage Band of Lake Superior Chippewa                  | \$ 400,000                       | \$ -                             | \$ 400,000                        |                                  |                        |                       |          |                                   | Yes                     |  |
| 21     | 04h     | Techniques for Water Storage Estimates in Central Minnesota                 | John Nieber      | U of MN   | \$ 250,000                       | \$ -                             | \$ 250,000                        |                                  |                        |                       |          |                                   |                         |  |
| 22     | 04i     | Assessing Release of Mercury and Sulfur on Aquatic Communities              | Ed Nater         | U of MN   | \$ 300,000                       | \$ -                             | \$ 300,000                        |                                  |                        |                       |          |                                   |                         | Travel to Synchrotron Beamline in Saskatoon, Saskatchewan to analyze solid samples. 3 trips \$3,000 each totaling \$12,000. There are no synchrotron labs in MN.   |
| 23     | 05a     | Connecting Youth to Minnesota Waterways through Outdoor Classrooms          | Meg Krueger      | Wilderness Inquiry  | \$ 1,200,000                     | \$ -                             | \$ 1,200,000                      |                                  |                        |                       |          |                                   |                         | Liability Insurance \$30,000 per year totaling \$90,000  |
| 24     | 05c     | Interactive Water Resource Programs for Planetariums in Minnesota           | George Weiblen   | U of MN - Bell Museum of Natural History                      | \$ 500,000                       | \$ -                             | \$ 500,000                        |                                  |                        |                       |          |                                   |                         |  |
| 25     | 05d     | Expanding Raptor Center Online Education                                    | Julia Ponder     | U of MN   | \$ 270,000                       | \$ -                             | \$ 270,000                        |                                  |                        |                       |          |                                   |                         |  |
| 26     | 05e     | Local Planning and Implementation Efforts for Bird Habitat                  | Joanna Eckles    | Audubon Minnesota   | \$ 280,000                       | \$ -                             | \$ 280,000                        |                                  |                        |                       |          |                                   |                         |  |
| 27     | 05f     | Developing Youth Watershed Stewardship in Northwest Minnesota               | Susan Joy        | Headwaters Science Center                                     | \$ 121,000                       | \$ -                             | \$ 121,000                        |                                  |                        |                       |          |                                   |                         |  |
| 28     | 05g     | Increasing Residential Environmental Learning Center Opportunities          | Bryan Wood       | Audubon Center of the North Woods                             | \$ 130,000                       | \$ -                             | \$ 130,000                        |                                  |                        |                       |          |                                   |                         |  |
| 29     | 06b     | Emerald Ash Borer Biocontrol - Phase III                                    | Jonathan Osthus  | Minnesota Department of Agriculture                           | \$ 729,000                       | \$ -                             | \$ 729,000                        |                                  |                        |                       |          |                                   |                         |  |
| 30     | 06c     | Invasive Bighead Carp and Silver Carp and Native Fish Evaluation – Phase II | Bradford Parsons | MN DNR  | \$ 500,000                       | \$ -                             | \$ 500,000                        |                                  |                        |                       |          | Yes                               |                         | DNR proposed direct and necessary expenses: \$25,604 (5% of appropriation) - Needs Approval  |
| 31     | 06d     | Adapting Stream Barriers to Remove Common Carp                              | Przemyslaw Bajer | U of MN - AIS Center  | \$ 301,000                       | \$ -                             | \$ 301,000                        |                                  |                        |                       |          |                                   |                         |  |
| 32     | 06e     | Tactical Invasive Plant Management Plan Development                         | Monika Chandler  | Minnesota Department of Agriculture                           | \$ 296,000                       | \$ -                             | \$ 296,000                        |                                  |                        |                       |          |                                   |                         |  |
| 33     | 06f     | Maximize Value of Water Impoundments to Wildlife                            | Kristin Hall     | Audubon Minnesota   | \$ 195,000                       | \$ -                             | \$ 195,000                        |                                  |                        |                       |          |                                   |                         |  |
| 34     |         | Solar Cells Manufacturing Research  | Tianhong Cui     | U of MN   | \$ -                             | \$ -                             | \$ -                              |                                  |                        |                       |          |                                   | Yes                     |  |
| 35     | 07a     | Extraction of Solar Thermal Energy in Minnesota                             | Filippo Coletti  | U of MN   | \$ 250,000                       | \$ -                             | \$ 250,000                        |                                  |                        |                       |          | Yes                               | Yes                     |  |
| 36     | 07b     | Assessment of Urban Air Pollution   | Monika Vadali    | Minnesota Pollution Control Agency                            | \$ 700,000                       | \$ -                             | \$ 700,000                        |                                  |                        |                       |          | Yes                               |                         | - Capital expenditures over \$5,000: \$462,500 for 50x air pollution monitors with rechargeable battery or DC power supply (exact model TBD by competitive bid) (~\$9250 for each monitor)                 |
| 37     | 07c     | Generation, Storage, and Utilization of Solar Energy                        | Bradley Heins    | U of MN - West Central Research and Outreach Center in Morris | \$ 500,000                       | \$ -                             | \$ 500,000                        |                                  |                        |                       |          | Yes                               |                         | - Capital expenditures over \$5,000: \$130,000 for 30 kW solar photovoltaic (electric) system (\$100,000) and 100% Electric ATV (Polaris or equivalent) 48 Volt AC electric drivetrain, 2 units (\$30,000) |



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|--------|---------|--|------------------------|--|----------------------------------|----------------------------------|-----------------------------------|----------------------------------|------------------------|-----------------------|----------|-----------------------------------|-------------------------|---|
| 38     | 07d     | District Heating with Renewable Biomass at Camp Ripley Training Center                           | Josh Pennington        | Department of Military Affairs         | \$ 1,000,000                     | \$ -                             | \$ 1,000,000                      |                                  |                        |                       |          | Yes                               |                         | - Capital expenditures over \$5,000: Biomass Boiler and labor estimated \$506,250 Boiler Room piping and pumps estimated \$60,000<br>-Match Requirement: This appropriation must be matched by at least \$900,000 of nonstate money and must be committed by December 31, 2017.                               |
| 39     | 07e     | Geotargeted Distributed Clean Energy Initiative  | Carl Nelson            | Center for Energy and Environment      | \$ 800,000                       | \$ -                             | \$ 800,000                        |                                  |                        |                       |          |                                   |                         | -Match Requirement: \$200,000 is to conduct pilot programs using energy efficiency and other distributed energy resources to achieve forecasted electric energy loads in communities. The appropriation for pilot programs is contingent on a \$200,000 match of an equal or greater amount of nonstate money |
| 40     | 08a     | Optimizing the Nutrition of Roadside Plants for Pollinators                                      | Emilie Snell-Rood      | U of MN                                | \$ 815,000                       | \$ -                             | \$ 815,000                        |                                  |                        |                       |          |                                   | Yes                     |   |
| 41     | 08b     | Promoting Conservation Biocontrol of Beneficial Insects  | Vera Krischik          | U of MN                                | \$ 400,000                       | \$ -                             | \$ 400,000                        |                                  |                        |                       |          |                                   | Yes                     |   |
| 42     | 08c     | Evaluating the Use of Bison to Restore and Preserve Savanna Habitat                              | David Tilman           | Cedar Creek Ecosystem Science Reserve  | \$ 388,000                       | \$ -                             | \$ 388,000                        |                                  |                        |                       |          | ?                                 | Yes                     | Perimeter and Interior fencing \$86,000   |
| 43     | 08d     | State Park Pollinator Habitat Restoration  | Edward Quinn           | MN DNR                                 | \$ 672,000                       | \$ -                             | \$ 672,000                        |                                  | Yes                    |                       |          |                                   |                         | DNR proposed direct and necessary expenses: \$22,159 (3.2% of appropriation) - Needs Approval   |
| 44     | 08e     | Enhancing Spawning Habitat Restoration in Minnesota Lakes  | William Herb           | U of MN - St. Anthony Falls Laboratory | \$ 294,000                       | \$ -                             | \$ 294,000                        |                                  |                        |                       |          |                                   | Yes                     |   |
| 45     | 08f     | Prescribed Fire Management for Roadside Prairies   | Ken Graeve             | Minnesota Department of Transportation | \$ 345,000                       | \$ -                             | \$ 345,000                        |                                  |                        |                       |          |                                   |                         |   |
| 46     | 08g     | Minnesota Bee and Beneficial Species Habitat Restoration   | Steven Burdick         | Pheasants Forever Inc                  | \$ 732,000                       | \$ -                             | \$ 732,000                        |                                  |                        |                       |          |                                   |                         |   |
| 47     | 08h     | Mississippi and Vermillion River Restoration of Prairie, Savanna, and Forest Habitat - Phase Ten | Tom Lewanski           | Friends of the Mississippi River       | \$ 213,000                       | \$ -                             | \$ 213,000                        |                                  |                        |                       |          |                                   |                         | - Contingent on ML 2015 appropriation expended or a plan to transition to ML 2017 appropriation is approved by LCCMR staff  |
| 48     | 08i     | Community Stewardship to Restore Urban Natural Resources - Phase Ten                             | Wiley Buck             | Great River Greening                   | \$ 524,000                       | \$ -                             | \$ 524,000                        |                                  |                        |                       |          |                                   |                         | - Contingent on ML2015 and ML 2016 appropriation expended or a plan to transition to ML 2017 appropriation is approved by LCCMR staff   |
| 49     | 08j     | Economic Assessment of Precision Conservation and Agriculture                                    | Tanner Bruse           | Pheasants Forever Inc                  | \$ 400,000                       | \$ -                             | \$ 400,000                        |                                  |                        |                       |          |                                   |                         |   |
| 50     | 08k     | Conservation Reserve Enhancement Program (CREP) Outreach and Implementation                      | Tabor Hoek             | Board of Water and Soil Resources      | \$ 6,000,000                     | \$ -                             | \$ 6,000,000                      |                                  |                        |                       |          |                                   |                         |   |
| 51     | 09a     | Metropolitan Regional Parks System Land Acquisition  | Deborah Streets Jensen | Metropolitan Council                   | \$ 1,500,000                     | \$ -                             | \$ 1,500,000                      |                                  |                        | Yes                   |          |                                   |                         | -Match Requirement- Requires minimum 40% match of funds from other sources.   |
| 52     | 09c     | Minnesota State Parks and State Trails Land Acquisition  | Jennifer Christie      | MN DNR                                 | \$ 1,500,000                     | \$ -                             | \$ 1,500,000                      |                                  |                        | Yes                   |          |                                   |                         | - There are no direct and necessary expenses listed in work plan  |

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|--------|--|--|-------------------------|---|----------------------------------|----------------------------------|-----------------------------------|----------------------------------|------------------------|-----------------------|----------|-----------------------------------|-------------------------|---|
| 53     | 09d  | Minnesota State Trails Acquisition, Development and Enhancement              | Kent Skaar              | MN DNR  | \$ 1,038,000                     | \$ 999,000                       | \$ 39,000                         |                                  |                        |                       |          | Yes                               |                         | DNR proposed direct and necessary expenses: \$16,723 (1.6% of appropriation) - Needs Approval   |
| 54     | 09f  | Leech Lake Acquisition   | Levi Brown              | Leech Lake Division of Resource Management            | \$ 1,500,000                     | \$ -                             | \$ 1,500,000                      |                                  |                        | Yes                   |          |                                   |                         | The land must be open to public use including hunting and fishing. The band must provide a commitment that land will not be put in a federal trust through the Bureau of Indian Affairs.  |
| 55     | 09g  | Mesabi Trail Development   | Bob Manzoline           | St. Louis & Lake Counties Regional Railroad Authority | \$ 2,269,000                     | \$ -                             | \$ 2,269,000                      |                                  |                        |                       |          | Yes                               |                         | \$1,929,000 Trail, Bridge, and facility construction  |
| 56     | 09h  | Tower Trailhead Boat Landing and Habitat Improvement – Phase II              | Linda Keith             | City of Tower   | \$ 600,000                       | \$ -                             | \$ 600,000                        |                                  |                        |                       |          |                                   |                         |   |
| 57     | 09i  | Land Acquisition for Voyageurs National Park Crane Lake Visitors Center      | Jim Janssen             | Town of Crane Lake                                    | \$ 950,000                       | \$ -                             | \$ 950,000                        |                                  |                        | Yes                   |          |                                   |                         |   |
| 58     | 10a  | Contract Agreement Reimbursement   | Katherine Sherman-Hoehn | MN DNR  | \$ 135,000                       | \$ -                             | \$ 135,000                        |                                  | Yes                    |                       |          |                                   |                         | - Use of classified staff - Needs Approval  |
| 59     | 10b  | Legislative-Citizen Commission on Minnesota Resources (LCCMR) Administration | Susan Thornton          | Legislative-Citizen Commission on Minnesota Resources | \$ 1,200,000                     | \$ -                             | \$ 1,200,000                      |                                  |                        |                       |          |                                   |                         |   |
| 60     | 10c  | LCC Website  |                         | Legislative Coordinating Commission                   | \$ 5,000                         |                                  | \$ 5,000                          |                                  |                        |                       |          |                                   |                         | No work plan this - statutory requirement   |
| 61     |  |  |                         | <b>Subtotal</b>                                       | <b>\$ 39,888,000</b>             | <b>\$ 999,000</b>                | <b>\$ 38,889,000</b>              | <b>\$ -</b>                      |                        |                       |          |                                   |                         |   |
| 62     | <b>B. Appropriations needing LCCMR review prior to approval due to various factors</b> |  |                         |   |                                  |                                  |                                   |                                  |                        |                       |          |                                   |                         |   |
| 63     | 06a  | Aquatic Invasive Species Research Center - Phase II                          | Nicholas Phelps         | U of MN - AIS Center                                  | \$ 2,700,000                     | \$ 2,700,000                     | \$ -                              |                                  |                        |                       |          | Yes                               |                         | - Capital expenditures over \$5,000: estimated \$7,500 for Electrofishing backpack<br>- 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. |
| 64     |  |  |                         | <b>Subtotal</b>                                       | <b>\$ 2,700,000</b>              | <b>\$ 2,700,000</b>              | <b>\$ -</b>                       | <b>\$ -</b>                      |                        |                       |          |                                   |                         |   |

| Line # | Subd. #  | Title   | Program Manager | Affiliation                       | Total Appropriated Trust Fund \$ | FY17 Trust Fund \$ (\$8,428,000) | FY18 Trust Fund \$ (\$50,728,000) | FY19 Trust Fund \$ (\$5,089,000) | State Classified Staff | Fee Title Acquisition | Easement | Capital Expenditures over \$5,000 | Research: Peer-reviewed | Specific work plan approval, notes and contingencies   |
|--------|--|---|-----------------|-----------------------------------|----------------------------------|----------------------------------|-----------------------------------|----------------------------------|------------------------|-----------------------|----------|-----------------------------------|-------------------------|--|
| 65     | <b>C. Appropriations needing LCCMR review due to Legislative changes from LCCMR recommendation - Appropriations Reduced By Legislature</b> |   |                 |                                   |                                  |                                  |                                   |                                  |                        |                       |          |                                   |                         |  |
| 66     | 03a  | County Geologic Atlases - Continuation  | Dale Setterholm | U of MN - MN Geological Survey    | \$ 2,000,000                     | \$ 2,000,000                     | \$ -                              |                                  |                        |                       |          | Yes                               |                         | Reduced by \$2,729,000 from \$4,729,000<br>Capital Expenditures over \$5,000 -\$34,000 Dedicated transport for geophysical logging   |
| 67     | 05b  | Increasing Diversity in Environmental Careers (NOT READY)                             | Denise Legato   | MN DNR                            | \$ 487,000                       | \$ -                             | \$ 487,000                        |                                  | Yes                    |                       |          |                                   |                         | No work plan received yet<br>Reduced by \$1,000,000 from \$1,487,000<br>DNR proposed direct and necessary expenses: Unknown  |
| 68     | 09b  | Scientific and Natural Areas Acquisition, Restoration, Citizen Science and Engagement | Peggy Booth     | MN DNR                            | \$ 2,500,000                     | \$ -                             | \$ 2,500,000                      |                                  | Yes                    | Yes                   |          |                                   |                         | Reduced by \$2,000,000 from \$4,500,000<br>DNR proposed direct and necessary expenses: \$91,166 (4.5% of appropriation) - Needs Approval<br><br>- Use of classified staff - Needs Approval |
| 69     | 09e  | Native Prairie Stewardship and Prairie Bank Easement Acquisition                      | Judy Schulte    | MN DNR                            | \$ 2,675,000                     | \$ -                             | \$ 2,675,000                      |                                  | Yes                    |                       | Yes      |                                   |                         | Reduced by \$875,000 from \$3,500,000<br>- DNR proposed direct and necessary expenses: \$92,935 (3.4% of appropriation) - Needs Approval<br>- Use of classified staff - Needs Approval     |
| 70     |  |   |                 | <b>Subtotal</b>                   | <b>\$ 7,662,000</b>              | <b>\$ 2,000,000</b>              | <b>\$ 5,662,000</b>               | <b>\$ -</b>                      |                        |                       |          |                                   |                         |  |
| 71     | <b>D. Appropriations needing LCCMR review prior to approval due to being added by Legislature - No Work Plan Received</b>                  |   |                 |                                   |                                  |                                  |                                   |                                  |                        |                       |          |                                   |                         |  |
| 72     | 03n  | Pollinator Research and Outreach  |                 | U of MN                           | \$ 500,000                       |                                  | \$ 411,000                        | \$ 89,000                        |                        |                       |          |                                   |                         | No work plan received yet  |
| 73     | 08l  | CREP Easement and Acquisition   |                 | Board of Water and Soil Resources | \$ 13,500,000                    | \$ 2,729,000                     | \$ 5,771,000                      | \$ 5,000,000                     |                        |                       | Yes      |                                   |                         | No work plan received yet  |
| 74     |  |   |                 | <b>Subtotal</b>                   | <b>\$ 14,000,000</b>             | <b>\$ 2,729,000</b>              | <b>\$ 6,182,000</b>               | <b>\$ 5,089,000</b>              |                        |                       |          |                                   |                         |  |
| 75     |  |   |                 | <b>TOTAL</b>                      | <b>\$ 64,250,000</b>             | <b>\$ 8,428,000</b>              | <b>\$ 50,733,000</b>              | <b>\$ 5,089,000</b>              |                        |                       |          |                                   |                         |  |