SENATE STATE OF MINNESOTA EIGHTY-NINTH SESSION

S.F. No. 2963

(SENATE AUTHORS: DZIEDZIC, Tomassoni, Hoffman, Dahms and Westrom)

DATE	D-PG	OFFICIAL STATUS
03/17/2016	5122	Introduction and first reading
		Referred to Finance
04/28/2016	6529a	Comm report: To pass as amended
	6538	Second reading
05/03/2016	6668	Special Order
	6668	Third reading Passed
05/16/2016	7029	Returned from House with amendment
	7029	Senate not concur, conference committee of 3 requested
	7047	Senate conferees Dziedzic; Westrom; Hoffman
05/18/2016	7164	House conferees Hackbarth; Green; Anzelc
05/22/2016	7429c	Conference committee report, delete everything
		Senate adopted CC report and repassed bill
	7469	Third reading
05/23/2016		House adopted SCC report and repassed bill

A bill for an act
relating to natural resources; appropriating money from environment and natural
resources trust fund; adding requirements for use of trust fund money; creating
reimbursement procedures for the University of Minnesota for money from the
environment and natural resources trust fund; amending Minnesota Statutes
2014, section 137.025, by adding a subdivision; proposing coding for new law
in Minnesota Statutes, chapter 116P.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF MINNESOTA:

Section 1. APPROPRIATIONS.

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The sums shown in the columns marked "Appropriations" are appropriated to the agencies and for the purposes specified in this act. The appropriations are from the environment and natural resources trust fund, or another named fund, and are available for the fiscal years indicated for each purpose. The figures "2016" and "2017" used in this act mean that the appropriations listed under them are available for the fiscal year ending June 30, 2016, or June 30, 2017, respectively. "The first year" is fiscal year 2016. "The second year" is fiscal year 2017. "The biennium" is fiscal years 2016 and 2017.

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APPROPRIATIONS

Available for the Year

Ending June 30
2016
2017

Sec. 2. MINNESOTA RESOURCES

1.22 Subdivision 1. **Total Appropriation** \$ -0- \$ 46,337,000

2.1	Appropriations by Fund		
2.2	2016 2017		
2.3	Environment and		
2.4 2.5	natural resources trust fund <u>-0-</u> 46,337,000		
2.6	The amounts that may be spent for each		
2.7	purpose are specified in the following		
2.8	subdivisions. Appropriations are available		
2.9	for two years beginning July 1, 2016, unless		
2.10	otherwise stated in the appropriation. Any		
2.11	unencumbered balance remaining in the		
2.12	first year does not cancel and is available		
2.13	for the second year or until the end of the		
2.14	appropriation.		
2.15	Subd. 2. Definition.		
2.16	"Trust fund" means the Minnesota		
2.17	environment and natural resources trust fund		
2.18	established under Minnesota Constitution,		
2.19	article XI, section 14.		
2.20 2.21	Subd. 3. Foundational Natural Resource Data and Information	<u>-0-</u>	8,328,000
2.22 2.23	(a) Data-Driven Pollinator Conservation <u>Strategies</u>		
2.24	\$520,000 the second year is from the trust		
2.25	fund to the Board of Regents of the University		
2.26	of Minnesota to improve understanding of the		
2.27	relationships and interactions between native		
2.28	bee pollinators and rare and declining plant		
2.29	species and to determine optimal placement		
2.30	and species plantings for pollinator habitat		
2.31	in order to develop guidelines for planning,		
2.32	designing, and planting pollinator habitat.		
2.33	This appropriation is available until June		
2.34	30, 2019, by which time the project must be		
2.35	completed and final products delivered.		

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S2963-1

1st Engrossment

3.2	und 1 of est Hustuns
3.3	\$600,000 the second year is from the trust
3.4	fund to the commissioner of natural resources
3.5	to continue to assess the current status and
3.6	distribution of native bee pollinators in
3.7	Minnesota by expanding surveys into the
3.8	prairie-forest border region and facilitating
3.9	interagency collaboration and public
3.10	outreach on pollinators. This appropriation
3.11	is available until June 30, 2019, by which
3.12	time the project must be completed and final
3.13	products delivered.
3.14 3.15	(c) Prairie Butterfly Conservation, Research, and Breeding - Phase II
3.16	\$750,000 the second year is from the trust
3.17	fund. Of this amount, \$421,000 is to the
3.18	Minnesota Zoological Garden and \$329,000
3.19	is to the commissioner of natural resources in
3.20	collaboration with the United States Fish and
3.21	Wildlife Service to continue efforts to prevent
3.22	the extinction of imperiled native Minnesota
3.23	butterfly species through breeding, research,
3.24	field surveys, and potential reintroduction.
3.25	This appropriation is available until June
3.26	30, 2019, by which time the project must be
3.27	completed and final products delivered.
3.28 3.29	(d) Statewide Monitoring Network for Changing Habitats in Minnesota
3.30	\$500,000 the second year is from the
3.31	trust fund to the commissioner of natural
3.32	resources to develop a consolidated statewide
3.33	network of permanent habitat monitoring
3.34	sites in prairies, forests, and wetlands to
3.35	help guide and prioritize habitat protection
3.36	and management decisions in response to

4.1	environmental change. The design and
4.2	testing methodologies of monitoring plots
4.3	must address the status of pollinators and
4.4	pollination. This appropriation is available
4.5	until June 30, 2019, by which time the
4.6	project must be completed and final products
4.7	delivered.
4.8 4.9	(e) Completing National Wetland Inventory Update for Minnesota
4.10	\$1,500,000 the second year is from the trust
4.11	fund to the commissioner of natural resources
4.12	to complete the update and enhancement
4.13	of wetland inventory maps for counties in
4.14	central and northwestern Minnesota. This
4.15	appropriation is available until June 30,
4.16	2019, by which time the project must be
4.17	completed and final products delivered.
4.18 4.19	(f) Minnesota Vegetative Buffer Assessment and Prioritization to Protect Water Quality
4.20	\$170,000 the second year is from the
4.21	trust fund to the Board of Regents of
4.22	the University of Minnesota to develop
4.23	a geographic information system (GIS)
4.24	assessment of riparian vegetative buffers
4.25	in 67 agricultural counties in Minnesota
4.26	using aerial imagery and light detection and
4.27	ranging (LiDAR) terrain analysis in order to
4.28	protect water quality.
4.29 4.30	(g) Assessment Tool for Understanding Vegetation Growth Impacts on Groundwater Recharge
4.31	Recharge
4.32	\$212,000 the second year is from the
4.33	trust fund to the Board of Regents of the
4.34	University of Minnesota to develop a
4.35	statewide assessment tool to help understand
4.36	the relationship between vegetation growth

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S2963-1

1st Engrossment

5.1	and impacts on groundwater recharge
5.2	under changing land use and climate. This
5.3	appropriation is available until June 30,
5.4	2019, by which time the project must be
5.5	completed and final products delivered.
5.6 5.7	(h) Sentinel Lakes Monitoring and Data <u>Synthesis – Phase III</u>
5.8	\$401,000 the second year is from the trust
5.9	fund to the commissioner of natural resources
5.10	for the third and final phase of a monitoring
5.11	and multidisciplinary research effort on
5.12	25 sentinel lakes in Minnesota, which will
5.13	integrate and synthesize previously collected
5.14	data to enhance understanding of how
5.15	lakes respond to large-scale environmental
5.16	stressors and provide for improved ability
5.17	to predict and respond to lake changes
5.18	for water and fisheries management. This
5.19	appropriation is available until June 30,
5.20	2019, by which time the project must be
5.21	completed and final products delivered.
5.22 5.23	(i) State Spring Inventory for Resource Management and Protection - Phase II
5.24	\$370,000 the second year is from the trust
5.25	fund to the commissioner of natural resources
5.26	to continue a systematic inventory of springs
5.27	statewide to provide fundamental data
5.28	needed to maintain spring flows and protect
5.29	groundwater-dependent resources. Increased
5.30	outreach to the public and other entities must
5.31	be conducted to assist in the identification,
5.32	documentation, and publication of spring
5.33	locations. This appropriation is available
5.34	until June 30, 2019, by which time the
5.35	project must be completed and final products
5.36	delivered.

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S2963-1

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6.1 6.2	(j) Enhancing Understanding of Minnesota River Aquatic Ecosystem
6.3	\$500,000 the second year is from the trust
6.4	fund to the commissioner of natural resources
6.5	to accelerate collection of baseline data to
6.6	enhance understanding of the Minnesota
6.7	River ecosystem, measure future impacts
6.8	of changing climate and landscapes on
6.9	the aquatic ecosystem, and guide future
6.10	management efforts. This appropriation
6.11	is available until June 30, 2019, by which
6.12	time the project must be completed and final
6.13	products delivered.
6.14 6.15	(k) Improving Brook Trout Stream Habitat Through Beaver Management
6.16	\$225,000 the second year is from the
6.17	trust fund to the Board of Trustees of the
6.18	Minnesota State Colleges and Universities
6.19	system for Bemidji State University to
6.20	quantify how beaver activity influences
6.21	habitat quality in streams for brook trout in
6.22	northeastern Minnesota in order to improve
6.23	current and future management practices.
6.24	This appropriation is available until June
6.25	30, 2019, by which time the project must be
6.26	completed and final products delivered.
6.27 6.28	(l) Evaluate Temperature, Streamflow, and Hydrogeology Impact on Brook Trout Habitat
6.29	\$115,000 the second year is from the
6.30	trust fund to the Board of Regents of the
6.31	University of Minnesota for the Minnesota
6.32	Geological Survey to evaluate links between
6.33	southeastern Minnesota stream temperatures,
6.34	trout habitat, and bedrock hydrogeology to
6.35	improve trout stream management. This
6.36	appropriation is available until June 30,

	SF2963	REVISOR	CKM
7.1	2019, by which	time the project m	ust be
7.2	completed and f	inal products delive	ered.
7.3 7.4	(m) Restoration Minnesota	of Elk to Northe	<u>eastern</u>
7.5	\$300,000 the se	cond year is from	<u>the</u>
7.6	trust fund to the	Board of Regents	of the
7.7	University of M	innesota in coopera	tion with
7.8	the Fond du Lac	Band and Rocky N	Mountain
7.9	Elk Foundation	to determine the ha	abitat
7.10	suitability and le	evels of public supp	oort for
7.11	restoring elk to	northeastern Minne	esota.
7.12	This appropriati	on is available unti	1 June
7.13	30, 2019, by wh	ich time the project	t must be
7.14	completed and f	inal products delive	ered.
7.15 7.16	(n) Game and Exposure	Nongame Bird Pe	<u>sticide</u>
7.17	\$349,000 the sec	cond year is from the	he trust
7.18	fund to the Board	d of Regents of the U	Jniversit <u>y</u>
7.19	of Minnesota to	evaluate the potent	tial risk
7.20	to game and nor	ngame birds from ex	xposure
7.21	to neonicotinoid	-treated agricultura	1 seeds.
7.22	This appropriati	on is available unti	1 June
7.23	30, 2019, by wh	ich time the project	t must be
7.24	completed and f	inal products delive	ered.
7.25 7.26		Insecticide Exposu Ilife on Public Lan	
7.27	\$250,000 the sec	cond year is from the	he trust
7.28	fund to the comm	nissioner of natural	resources
7.29	to evaluate expo	osure risks of grass	land
7.30	wildlife to soybo	ean aphid insecticion	les, to
7.31	guide grassland	management in far	mland
7.32	regions of Minn	esota for the protec	ction of
7.33	birds, beneficial	insects, and other g	grassland
7.34	wildlife. This ap	propriation is avail	able until
7.35	June 30, 2019, b	y which time the pro	oject must
7.36	be completed an	d final products del	ivered.

S2963-1

1st Engrossment

8.1 8.2	(p) Development of Innovative Cost-Saving Methodology for Forest Inventory
8.3	\$1,000,000 the second year is from the
8.4	trust fund to the commissioner of natural
8.5	resources to develop and pilot a new and more
8.6	cost-effective methodology for an enhanced
8.7	stand-based forest inventory, with the goal
8.8	of extending the methodology statewide.
8.9	This appropriation is available until June
8.10	30, 2019, by which time the project must be
8.11	completed and final products delivered.
8.12 8.13	(q) Evaluation of Tree Retention Guidelines Pertaining to Wildlife
8.14	\$232,000 the second year is from the
8.15	trust fund to the Board of Regents of the
8.16	University of Minnesota for the Natural
8.17	Resources Research Institute in Duluth to
8.18	assess the effectiveness of the Minnesota
8.19	Forest Resources Council tree retention
8.20	guidelines in sustaining Minnesota's wildlife
8.21	populations, by quantifying and evaluating
8.22	the impacts on birds, small mammals, and
8.23	amphibian diversity. This appropriation
8.24	is available until June 30, 2019, by which
8.25	time the project must be completed and final
8.26	products delivered.
8.27 8.28 8.29	(r) Determine Impacts on Wildlife From Emerald Ash Borer Infection of Black Ash Forests
8.30	\$334,000 the second year is from the
8.31	trust fund to the Board of Regents of the
8.32	University of Minnesota for the Natural
8.33	Resources Research Institute in Duluth
8.34	to assess impacts of emerald ash borer
8.35	and adaptive management on wildlife
8.36	diversity in black ash forests and to develop

9.1	recommendations to mitigate wildlife		
9.2	impacts. This appropriation is available until		
9.3	June 30, 2019, by which time the project must		
9.4	be completed and final products delivered.		
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9.5	Subd. 4. Water Resources	<u>-0-</u>	8,349,000
9.6 9.7	(a) Tracking and Preventing Harmful Algal Blooms		
9.8	\$500,000 the second year is from the trust		
9.9	fund to the Science Museum of Minnesota		
9.10	for the St. Croix Watershed Research Station		
9.11	to identify species composition and timing of		
9.12	harmful algal blooms, understand the causes		
9.13	of bloom development in individual lakes,		
9.14	and determine how nutrients and climate		
9.15	interact to increase harmful algae outbreaks.		
9.16	This work must be done in cooperation		
9.17	with the University of Minnesota and the		
9.18	Minnesota Pollution Control Agency. This		
9.19	appropriation is available until June 30,		
9.20	2019, by which time the project must be		
9.21	completed and final products delivered.		
9.22 9.23	(b) Assessing the Increasing Harmful Algal Blooms in Minnesota Lakes		
9.24	\$270,000 the second year is from the trust		
9.25	fund to the Board of Regents of the University		
9.26	of Minnesota for the Saint Anthony Falls		
9.27	Laboratory to investigate lake processes		
9.28	and meteorological conditions triggering		
9.29	algal blooms and toxin production, develop		
9.30	models for tracking blooms, and provide		
9.31	outreach on the prediction, detection, and		
9.32	impacts of mitigation of algal bloom events.		
9.33	This work must be done in cooperation with		
9.34	the St. Croix Watershed Research Station		
9.35	of the Science Museum of Minnesota and		
9.36	the Minnesota Pollution Control Agency.		

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S2963-1

1st Engrossment

10.1	This appropriation is available until June
10.2	30, 2019, by which time the project must be
10.3	completed and final products delivered.
10.4 10.5	(c) Restoring Native Mussels in Streams and <u>Lakes</u>
10.6	\$600,000 the second year is from the
10.7	trust fund to the commissioner of natural
10.8	resources in cooperation with the Minnesota
10.9	Zoological Garden for a statewide mussel
10.10	program to rear, restore, and re-establish
10.11	native mussel species in streams and rivers.
10.12	This appropriation is available until June
10.13	30, 2019, by which time the project must be
10.14	completed and final products delivered.
10.15 10.16 10.17	(d) Assessing Techniques for Eliminating Contaminants to Protect Native Fish and Mussels
10.18	\$287,000 the second year is from the
10.19	trust fund to the commissioner of natural
10.20	resources for an agreement with the
10.21	University of St. Thomas to evaluate the
10.22	use of ultraviolet treatment of wastewater
10.23	to remove certain commonly detected
10.24	wastewater contaminants, in order to reduce
10.25	the contaminants' toxicity to native fish and
10.26	mussels. This appropriation is available until
10.27	June 30, 2019, by which time the project must
10.28	be completed and final products delivered.
10.29 10.30	(e) Assessing Neonicotinoid Insecticide Effects on Aquatic and Soil Communities
10.31	\$400,000 the second year is from the trust
10.32	fund to the Board of Regents of the University
10.33	of Minnesota to identify neonicotinoid
10.34	insecticide breakdown components produced
10.35	in water and plant leaves and assess their
10.36	toxicity to soil and aquatic species and related

REVISOR

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S2963-1

1st Engrossment

11.1	biotic communities. This appropriation is
11.2	available until June 30, 2019, by which time
11.3	the project must be completed and final
11.4	products delivered.
11.5 11.6	(f) Bacterial Assessment of Groundwater Supplies Used for Drinking Water
11.7	\$299,000 the second year is from the
11.8	trust fund to the Board of Regents of the
11.9	University of Minnesota to characterize and
11.10	analyze bacterial communities in Minnesota
11.11	groundwater used as drinking water supplies
11.12	and link the microbiological data to other
11.13	water quality indicators for drinking water
11.14	supply safety. This appropriation is available
11.15	until June 30, 2019, by which time the
11.16	project must be completed and final products
11.17	delivered.
11.18 11.19	(g) Understanding Bedrock Fracture Flow to Improve Groundwater Quality
11.20	\$183,000 the second year is from the
11.21	trust fund to the Board of Regents of the
11.22	University of Minnesota for the Minnesota
11.23	Geological Survey to use new techniques of
11.24	borehole testing and rock fracture mapping in
11.25	the Twin Cities metropolitan area to achieve
11.26	a better understanding of groundwater
11.27	flow through fractured bedrock, in order to
11.28	improve groundwater management. This
11.29	appropriation is available until June 30,
11.30	2019, by which time the project must be
11.31	completed and final products delivered.
11.32 11.33	(h) Protection of State's Confined Drinking Water Aquifers - Phase II
11.34	\$433,000 the second year is from the
11.35	trust fund to the commissioner of natural
11.36	resources for an agreement with the United
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S2963-1

1st Engrossment

12.1	States Geological Survey to continue to test
12.2	methods of defining properties of confined
12.3	drinking water aquifers, in order to improve
12.4	water management. This appropriation is
12.5	not subject to Minnesota Statutes, section
12.6	116P.10. This appropriation is available until
12.7	June 30, 2019, by which time the project must
12.8	be completed and final products delivered.
12.9 12.10	(i) Techniques for Water Storage Estimates in Central Minnesota
12.11	\$250,000 the second year is from the
12.12	trust fund to the Board of Regents of the
12.13	University of Minnesota to improve water
12.14	storage estimates in groundwater, soil
12.15	moisture, streams, lakes, and wetlands
12.16	through integration of satellite monitoring
12.17	and ground-based measurements in central
12.18	Minnesota. This appropriation is available
12.19	until June 30, 2019, by which time the
12.20	project must be completed and final products
12.21	delivered.
12.22 12.23	(j) Assessment of Surface Water Quality with Satellite Sensors
12.24	\$345,000 the second year is from the trust
12.25	fund to the Board of Regents of the University
12.26	of Minnesota for a statewide assessment of
12.27	water quality using new satellite sensors
12.28	for high frequency measurement of major
12.29	water quality indicators in lakes and rivers.
12.30	This appropriation is available until June
12.31	30, 2019, by which time the project must be
12.32	completed and final products delivered.
12.33	(k) Development of Innovative Sensor
12.34	Technologies for Water Monitoring
12.35	\$509,000 the second year is from the
12.36	trust fund to the Board of Regents of
12.30	trust fund to the Board of Regents of

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S2963-1

1st Engrossment

REVISOR

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S2963-1

1st Engrossment

14.1 14.2	(n) Analyzing Alternatives for Municipal Wastewater Treatment
14.3	\$180,000 the second year is from the trust
14.4	fund to the commissioner of the Minnesota
14.5	Pollution Control Agency to analyze
14.6	alternatives for improved treatment of
14.7	sulfate and salty parameters at municipal
14.8	wastewater plants to inform the development
14.9	and implementation of wild rice, sulfate,
14.10	and other water quality standards. This
14.11	appropriation is available until June 30,
14.12	2019, by which time the project must be
14.13	completed and final products delivered.
14.14 14.15	(o) Understanding Impacts of Salt Usage on Minnesota Lakes, Rivers, and Groundwater
14.16	\$497,000 the second year is from the
14.17	trust fund to the Board of Regents of
14.18	the University of Minnesota to quantify
14.19	the current water-softening salt loads in
14.20	Minnesota lakes, rivers, and groundwater,
14.21	assess alternative water-softening materials
14.22	and methods, and quantify the transport of
14.23	de-icing and water-softening salt through the
14.24	soil. This appropriation is available until
14.25	June 30, 2019, by which time the project must
14.26	be completed and final products delivered.
14.27	(p) Microbes for Salt and Metal Removal
14.28	\$596,000 the second year is from the
14.29	trust fund to the Board of Regents of the
14.30	University of Minnesota to continue to
14.31	research the potential of recently discovered
14.32	microbes from Soudan Iron Mine in
14.33	northern Minnesota for removing salts and
14.34	metals from groundwater and surface water
14.35	resources. This appropriation is subject to

1.5.1	Minnagata Statutas sastian 116D10. This
15.1	Minnesota Statutes, section 116P.10. This
15.2	appropriation is available until June 30,
15.3	2019, by which time the project must be
15.4	completed and final products delivered.
15.5 15.6	(q) Engineered Biofilter for Sulfate and Metal Removal from Mine Waters
15.7	\$440,000 the second year is from the
15.8	trust fund to the Board of Regents of
15.9	the University of Minnesota to develop
15.10	an efficient, low-cost, biomass-derived
15.11	adsorbent material for use in bioactive filters
15.12	able to remove sulfate and metals from
15.13	mining-impacted waters. This appropriation
15.14	is subject to Minnesota Statutes, section
15.15	116P.10. This appropriation is available until
15.16	June 30, 2019, by which time the project must
15.17	be completed and final products delivered.
15.18	(r) Developing Biosponge Technology for
15.19	Removal of Nitrates from Minnesota Waters
15.19 15.20	Removal of Nitrates from Minnesota Waters \$198,000 the second year is from the
15.20	\$198,000 the second year is from the
15.20 15.21	\$198,000 the second year is from the trust fund to the Board of Regents of the
15.20 15.21 15.22	\$198,000 the second year is from the trust fund to the Board of Regents of the University of Minnesota to adapt and test
15.20 15.21 15.22 15.23	\$198,000 the second year is from the trust fund to the Board of Regents of the University of Minnesota to adapt and test an inexpensive biosponge technology for
15.20 15.21 15.22 15.23 15.24	\$198,000 the second year is from the trust fund to the Board of Regents of the University of Minnesota to adapt and test an inexpensive biosponge technology for its effectiveness at removing nitrates from
15.20 15.21 15.22 15.23 15.24 15.25	\$198,000 the second year is from the trust fund to the Board of Regents of the University of Minnesota to adapt and test an inexpensive biosponge technology for its effectiveness at removing nitrates from drinking water. This appropriation is subject
15.20 15.21 15.22 15.23 15.24 15.25 15.26	\$198,000 the second year is from the trust fund to the Board of Regents of the University of Minnesota to adapt and test an inexpensive biosponge technology for its effectiveness at removing nitrates from drinking water. This appropriation is subject to Minnesota Statutes, section 116P.10. This
15.20 15.21 15.22 15.23 15.24 15.25 15.26 15.27	\$198,000 the second year is from the trust fund to the Board of Regents of the University of Minnesota to adapt and test an inexpensive biosponge technology for its effectiveness at removing nitrates from drinking water. This appropriation is subject to Minnesota Statutes, section 116P.10. This appropriation is available until June 30,
15.20 15.21 15.22 15.23 15.24 15.25 15.26 15.27	\$198,000 the second year is from the trust fund to the Board of Regents of the University of Minnesota to adapt and test an inexpensive biosponge technology for its effectiveness at removing nitrates from drinking water. This appropriation is subject to Minnesota Statutes, section 116P.10. This appropriation is available until June 30, 2019, by which time the project must be
15.20 15.21 15.22 15.23 15.24 15.25 15.26 15.27 15.28 15.29	\$198,000 the second year is from the trust fund to the Board of Regents of the University of Minnesota to adapt and test an inexpensive biosponge technology for its effectiveness at removing nitrates from drinking water. This appropriation is subject to Minnesota Statutes, section 116P.10. This appropriation is available until June 30, 2019, by which time the project must be completed and final products delivered.
15.20 15.21 15.22 15.23 15.24 15.25 15.26 15.27 15.28 15.29 15.30	\$198,000 the second year is from the trust fund to the Board of Regents of the University of Minnesota to adapt and test an inexpensive biosponge technology for its effectiveness at removing nitrates from drinking water. This appropriation is subject to Minnesota Statutes, section 116P.10. This appropriation is available until June 30, 2019, by which time the project must be completed and final products delivered. (s) Morrison County Performance Drainage
15.20 15.21 15.22 15.23 15.24 15.25 15.26 15.27 15.28 15.29 15.30 15.31	\$198,000 the second year is from the trust fund to the Board of Regents of the University of Minnesota to adapt and test an inexpensive biosponge technology for its effectiveness at removing nitrates from drinking water. This appropriation is subject to Minnesota Statutes, section 116P.10. This appropriation is available until June 30, 2019, by which time the project must be completed and final products delivered. (s) Morrison County Performance Drainage and Hydrology Management
15.20 15.21 15.22 15.23 15.24 15.25 15.26 15.27 15.28 15.29 15.30 15.31	\$198,000 the second year is from the trust fund to the Board of Regents of the University of Minnesota to adapt and test an inexpensive biosponge technology for its effectiveness at removing nitrates from drinking water. This appropriation is subject to Minnesota Statutes, section 116P.10. This appropriation is available until June 30, 2019, by which time the project must be completed and final products delivered. (s) Morrison County Performance Drainage and Hydrology Management \$209,000 the second year is from the trust
15.20 15.21 15.22 15.23 15.24 15.25 15.26 15.27 15.28 15.29 15.30 15.31 15.32	\$198,000 the second year is from the trust fund to the Board of Regents of the University of Minnesota to adapt and test an inexpensive biosponge technology for its effectiveness at removing nitrates from drinking water. This appropriation is subject to Minnesota Statutes, section 116P.10. This appropriation is available until June 30, 2019, by which time the project must be completed and final products delivered. (s) Morrison County Performance Drainage and Hydrology Management \$209,000 the second year is from the trust fund to the commissioner of natural resources

REVISOR

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S2963-1

1st Engrossment

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CKM

S2963-1

1st Engrossment

	SF2963 REVISOR CKM
17.1	and Geo-Engineering to evaluate the
17.2	effectiveness of the pilot treatment system
17.3	so that it maximizes benefits and can be
17.4	replicated elsewhere. This appropriation
17.5	is available until June 30, 2021, by which
17.6	time the project must be completed and final
17.7	products delivered.
17.8 17.9	(v) Assessing Effectiveness of Wetland Restorations for Improved Water Quality
17.10	\$420,000 the second year is from the trust
17.11	fund to the Board of Regents of the University
17.12	of Minnesota to quantify the environmental
17.13	benefits of sediment removal and native
17.14	plant communities in wetland restorations by
17.15	measuring resulting reductions in nitrogen
17.16	and phosphorus delivery to groundwater and
17.17	surface water. This appropriation is available
17.18	until June 30, 2019, by which time the
17.19	project must be completed and final products
17.20	delivered.
17.21 17.22 17.23	(w) Assessing Climate Change Effects on Release of Mercury and Sulfur into Aquatic Ecosystems
17.24	\$300,000 the second year is from the
17.25	trust fund to the Board of Regents of the
17.26	University of Minnesota to determine the
17.27	effects of increased temperatures on the
17.28	release of mercury and sulfur from Minnesota
17.29	peatlands in order to help predict impacts
17.30	on aquatic ecosystems and fish health. This
17.31	appropriation is available until June 30,
17.32	2019, by which time the project must be
17.33	completed and final products delivered.
17.34 17.35	(x) Integrated Targeted Watershed Planning Tools with Citizen Involvement

S2963-1

1st Engrossment

Sec. 2. 17

18.1	\$169,000 the second year is from the		
18.2	trust fund to the Board of Trustees of the		
18.3	Minnesota State Colleges and Universities		
18.4	system for the Water Resources Center		
18.5	at Minnesota State University, Mankato,		
18.6	to use geographic information system		
18.7	(GIS) prioritization and modeling tools		
18.8	to develop pollution reduction strategies		
18.9	in five priority subwatersheds in the Le		
18.10	Sueur River watershed and to promote		
18.11	implementation of the reduction strategies		
18.12	through citizen involvement and outreach.		
18.13	This appropriation is available until June		
18.14	30, 2019, by which time the project must be		
18.15	completed and final products delivered.		
18.16 18.17	(y) Roseau Lake Watershed Targeted Water Quality Improvement		
18.18	\$65,000 the second year is from the		
18.19	trust fund to the commissioner of natural		
18.20	resources to develop targeted water quality		
18.21	improvements for the Roseau Lake watershed		
18.22	by coordinating with partner agencies to		
18.23	identify the top priority field scale best		
18.24	management and conservation practices to		
18.25	implement in the region.		
18.26	Subd. 5. Environmental Education	<u>-0-</u>	2,562,000
18.27 18.28	(a) Minnesota Conservation Apprentice Academy		
18.29	\$433,000 the second year is from the		
18.30	trust fund to the Board of Water and Soil		
18.31	Resources in cooperation with Conservation		
18.32	Corps Minnesota and Iowa for the final		
18.33	phase of a program to train and mentor future		
18.34	conservation professionals by providing		
18.35	apprenticeship service opportunities with		
18.36	local soil and water conservation districts in		

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S2963-1

1st Engrossment

REVISOR

SF2963

REVISOR

CKM

S2963-1

1st Engrossment

20.1	resource issues, including water quality,
20.2	wildlife habitat, and invasive species,
20.3	through a series of interrelated public
20.4	forums, educational and training videos, and
20.5	statewide broadcast television programs.
20.6	This appropriation is available until June
20.7	30, 2019, by which time the project must be
20.8	completed and final products delivered.
20.9 20.10	(e) Workshops and Outreach for Nontoxic Ammunition Alternatives
20.11	\$133,000 the second year is from the
20.12	trust fund to the Board of Regents of the
20.13	University of Minnesota for the Raptor
20.14	Center, in cooperation with the Department
20.15	of Natural Resources and other conservation
20.16	partners, to provide hunters with outreach
20.17	and workshops on alternatives to lead
20.18	hunting ammunition, including copper
20.19	ammunition as an alternative, and to promote
20.20	voluntary selection of nontoxic ammunition
20.21	in order to protect raptors and other wildlife
20.22	in Minnesota from accidental lead poisoning
20.23	caused by ingestion of ammunition fragments
20.24	<u>left in the field.</u>
20.25 20.26 20.27	(f) Wildlife and Habitat Conservation Education for Southwest Minnesota High Schools
20.28	\$147,000 the second year is from the trust
20.29	fund to the Minnesota Zoological Garden
20.30	to engage high school students in critical
20.31	prairie wildlife and habitat conservation
20.32	projects by using the zoo's unique animal
20.33	collections and state-of-the-art technology to
20.34	deliver hands-on learning in 12 southwestern
20.35	Minnesota high schools.

REVISOR

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S2963-1

1st Engrossment

21.1 21.2	(g) Standards-Based Dakota Indian Land Stewardship Education
21.3	\$197,000 the second year is from the trust
21.4	fund to the commissioner of natural resources
21.5	for an agreement with Dakota Wicohan
21.6	to enhance the capacity of approximately
21.7	1,250 students to be stewards of the land in
21.8	Minnesota by learning about Dakota Indian
21.9	values and environmental principles through
21.10	a standards-based experiential multimedia
21.11	curriculum. This appropriation is available
21.12	until June 30, 2019, by which time the
21.13	project must be completed and final products
21.14	delivered.
21.15 21.16	(h) Wolf Management Education in the Classroom - Phase II
21.17	\$240,000 the second year is from the trust
21.18	fund to the commissioner of natural resources
21.19	for an agreement with the International
21.20	Wolf Center to expand the Wolves at Our
21.21	Door classroom education program to
21.22	assist students in understanding wolves and
21.23	associated management issues.
21.24	(i) Master Water Steward Program Expansion
21.25	\$116,000 the second year is from the trust
21.26	fund to the commissioner of natural resources
21.27	for an agreement with the Freshwater Society
21.28	to train community volunteers as master
21.29	water stewards who will work with
21.30	neighborhoods to install water management
21.31	projects that preserve and restore water
21.32	quality. This appropriation is available until
21.33	June 30, 2019, by which time the project must
21.34	be completed and final products delivered.

(j) Promoting Water Quality Stewardship through Student Mentoring and River Monitoring		
\$39,000 the second year is from the trust		
fund to the commissioner of natural resources		
for an agreement with Southwest Minnesota		
State University to partner with area schools		
to deliver inquiry-based, hands-on learning		
and mentoring on water quality stewardship		
between university agriculture students and		
high school and middle school students.		
(k) Analysis of Thermally Modified Wood Nesting Boxes for Birds		
\$117,000 the second year is from the		
trust fund to the Board of Regents of the		
University of Minnesota for the Natural		
Resources Research Institute in Duluth to		
verify the performance and market readiness		
of bird nest boxes made from thermally		
modified Minnesota ash wood, by placing the		
nest boxes in nature centers, environmental		
learning centers, and school forests statewide		
for testing, collecting pertinent bird		
conservation data, and delivering related		
environmental education.		
Subd. 6. Aquatic and Terrestrial Invasive Species	<u>-0-</u>	5,860,000
(a) Minnesota Invasive Terrestrial Plants and Pests Center - Phase III		
\$3,750,000 the second year is from the		
trust fund to the Board of Regents of the		
University of Minnesota for the Invasive		
Terrestrial Plants and Pests Center to conduct		
research to prevent, minimize, and mitigate		
the threats and impacts posed by terrestrial		
invasive plants, pathogens, and pests to		

CKM

S2963-1

1st Engrossment

REVISOR

SF2963

23.1	the state's prairies, forests, wetlands, and
23.2	agricultural resources. This appropriation
23.3	is available until June 30, 2023, by which
23.4	time the project must be completed and final
23.5	products delivered.
23.6 23.7	(b) Developing Membrane Filtration System to Treat Lake Superior Ballast Water
23.8	\$151,000 the second year is from the trust
23.9	fund to the Board of Regents of the University
23.10	of Minnesota to develop a filtration system
23.11	utilizing bioactive membrane technologies
23.12	for use in treating Lake Superior ballast
23.13	water to remove at least 90 percent of
23.14	suspended pathogens, invasive species, and
23.15	contaminants. This appropriation is subject
23.16	to Minnesota Statutes, section 116P.10. This
23.17	appropriation is available until June 30,
23.18	2019, by which time the project must be
23.19	completed and final products delivered.
23.20 23.21	(c) Advancing Microbial Invasive Species Monitoring from Ballast Discharge
23.22	\$368,000 the second year is from the
23.23	trust fund to the Board of Regents of
23.24	the University of Minnesota to identify
23.25	bacteria in ship ballast water and St. Louis
23.26	River estuary sediments, assess the risks
23.27	posed by invasive bacteria, and evaluate
23.28	treatment techniques for effectiveness at
23.29	removing the bacteria from ballast water.
23.30	This appropriation is available until June
23.31	30, 2019, by which time the project must be
23.32	completed and final products delivered.
23.33 23.34	(d) Biological Control of White Nose Syndrome in Bats - Phase II
23.35	\$452,000 the second year is from the
23.36	trust fund to the Board of Regents of the

REVISOR

CKM

S2963-1

1st Engrossment

University of Minnesota to continue research
to identify, develop, and optimize biocontrol
agents for white nose syndrome in bats by
evaluating the biocontrol effectiveness of
microbes collected at additional hibernacula
throughout the state and conducting baseline
characterization of the total bat microbiomes.
This appropriation is available until June
30, 2019, by which time the project must be
completed and final products delivered.
(e) Elimination of Target Invasive Plant Species - Phase II
\$750,000 the second year is from the trust
fund. Of this amount, \$511,000 is to the
commissioner of agriculture and \$239,000
is to the Board of Regents of the University
of Minnesota to train volunteers and
professionals to find, control, and monitor
targeted newly emergent invasive plant
species. This appropriation is available until
June 30, 2019, by which time the project must
be completed and final products delivered.
(f) Dutch Elm Disease Resistance - Phase II
\$200,000 the second year is from the trust
fund to the Board of Regents of the University
of Minnesota to continue to identify and
evaluate native Minnesota elms that are
resistant to Dutch elm disease and begin
propagating disease-resistant specimens
for field trial testing. This appropriation
is available until June 30, 2019, by which
time the project must be completed and final
products delivered.
(g) Invasive Carp Management Research in

REVISOR

CKM

S2963-1

1st Engrossment

25.1	\$189,000 the second year is from the		
25.2	trust fund to the commissioner of natural		
25.3	resources for an agreement with the		
25.4	Minneapolis Park and Recreation Board to		
25.5	apply current invasive carp management		
25.6	research to the entire Lake Nokomis		
25.7	subwatershed and provide demonstration		
25.8	guidance for large-scale carp management.		
25.9	This appropriation is available until June		
25.10	30, 2020, by which time the project must be		
25.11	completed and final products delivered.		
25.12 25.13	Subd. 7. Air Quality, Climate Change, and Renewable Energy	<u>-0-</u>	3,889,000
25.14	(a) Solar Cells Manufacturing Research		
25.15	\$388,000 the second year is from the		
25.16	trust fund to the Board of Regents of		
25.17	the University of Minnesota to develop		
25.18	inexpensive, high-efficiency solar energy by		
25.19	simple roll-to-roll advanced manufacturing		
25.20	technology, using Perovskite, a new		
25.21	photovoltaic material. This appropriation		
25.22	is subject to Minnesota Statutes, section		
25.23	116P.10. This appropriation is available until		
25.24	June 30, 2019, by which time the project must		
25.25	be completed and final products delivered.		
25.26	(b) Community Solar Garden Installation		
25.27	\$490,000 the second year is from the trust		
25.28	fund to the commissioner of natural resources		
25.29	for an agreement with Rural Renewable		
25.30	Energy Alliance to install a 200-kilowatt		
25.31	community solar garden to provide for		
25.32	electrical distribution in Cass, Beltrami,		
25.33	Hubbard, and Itasca Counties, to assist		
25.34	households in the Minnesota low-income		
25.35	housing energy assistance program in		

REVISOR

CKM

S2963-1

1st Engrossment

26.1	meeting electrical energy needs and serve as
26.2	a model for low-income energy assistance
26.3	elsewhere in the state. This appropriation is
26.4	not subject to Minnesota Statutes, section
26.5	<u>116P.10.</u>
26.6 26.7	(c) High-Resolution Climate Projections to Aid Local Planning and Implementation Efforts
26.8	\$411,000 the second year is from the trust
26.9	fund to the Board of Regents of the University
26.10	of Minnesota to produce statewide localized
26.11	climate model projections to be used for
26.12	long-term planning and implementation of
26.13	adaptation strategies for natural resources,
26.14	infrastructure, and human health at the local
26.15	level. This appropriation is available until
26.16	June 30, 2019, by which time the project must
26.17	be completed and final products delivered.
26.18 26.19	(d) Geotargeted Distributed Clean Energy <u>Initiative</u>
26.20	\$800,000 the second year is from the trust
26.21	fund to the commissioner of natural resources
26.22	for an agreement with the Center for Energy
26.23	and Environment. Of this amount, up to
26.24	\$600,000 is for analysis of community
26.25	distributed clean energy investments as
26.26	alternatives to utility transmission and
26.27	distribution upgrade capital investments
26.28	to meet forecasted electrical loads. Up
26.29	to \$200,000 is to conduct pilot programs
26.30	using energy efficiency and other distributed
26.31	energy resources to achieve forecasted
26.32	electric energy loads in communities and
26.33	is contingent on a \$200,000 match of an
26.34	equal or greater amount of nonstate money.
26.35	This appropriation is available until June

REVISOR

CKM

S2963-1

1st Engrossment

27.1	30, 2019, by which time the project must be
27.2	completed and final products delivered.
27.3 27.4	(e) Waste Heat Recovery with Efficient Thermoelectric Energy Generators
27.5	\$400,000 the second year is from the
27.6	trust fund to the Board of Regents of
27.7	the University of Minnesota to develop
27.8	thermoelectric energy generators using
27.9	advanced, high-performance materials able
27.10	to more efficiently capture waste heat and
27.11	transform the heat into electricity. This
27.12	appropriation is subject to Minnesota
27.13	Statutes, section 116P.10. This appropriation
27.14	is available until June 30, 2019, by which
27.15	time the project must be completed and final
27.16	products delivered.
27.17 27.18	(f) Hydrogen Fuel from Wind-Produced Renewable Ammonia
27.19	\$400,000 the second year is from the trust
27.19 27.20	\$400,000 the second year is from the trust fund to the Board of Regents of the University
27.20	fund to the Board of Regents of the University
27.20 27.21	fund to the Board of Regents of the University of Minnesota to develop a technical solution
27.20 27.21 27.22	fund to the Board of Regents of the University of Minnesota to develop a technical solution for converting wind-produced ammonia to
27.20 27.21 27.22 27.23	fund to the Board of Regents of the University of Minnesota to develop a technical solution for converting wind-produced ammonia to hydrogen through catalytic decomposition,
27.20 27.21 27.22 27.23 27.24	fund to the Board of Regents of the University of Minnesota to develop a technical solution for converting wind-produced ammonia to hydrogen through catalytic decomposition, for use in reducing emissions from diesel
27.20 27.21 27.22 27.23 27.24 27.25	fund to the Board of Regents of the University of Minnesota to develop a technical solution for converting wind-produced ammonia to hydrogen through catalytic decomposition, for use in reducing emissions from diesel engines and powering fuel cell vehicles.
27.20 27.21 27.22 27.23 27.24 27.25 27.26	fund to the Board of Regents of the University of Minnesota to develop a technical solution for converting wind-produced ammonia to hydrogen through catalytic decomposition, for use in reducing emissions from diesel engines and powering fuel cell vehicles. This appropriation is subject to Minnesota
27.20 27.21 27.22 27.23 27.24 27.25 27.26 27.27	fund to the Board of Regents of the University of Minnesota to develop a technical solution for converting wind-produced ammonia to hydrogen through catalytic decomposition, for use in reducing emissions from diesel engines and powering fuel cell vehicles. This appropriation is subject to Minnesota Statutes, section 116P.10. This appropriation
27.20 27.21 27.22 27.23 27.24 27.25 27.26 27.27 27.28	fund to the Board of Regents of the University of Minnesota to develop a technical solution for converting wind-produced ammonia to hydrogen through catalytic decomposition, for use in reducing emissions from diesel engines and powering fuel cell vehicles. This appropriation is subject to Minnesota Statutes, section 116P.10. This appropriation is available until June 30, 2019, by which
27.20 27.21 27.22 27.23 27.24 27.25 27.26 27.27 27.28 27.29	fund to the Board of Regents of the University of Minnesota to develop a technical solution for converting wind-produced ammonia to hydrogen through catalytic decomposition, for use in reducing emissions from diesel engines and powering fuel cell vehicles. This appropriation is subject to Minnesota Statutes, section 116P.10. This appropriation is available until June 30, 2019, by which time the project must be completed and final
27.20 27.21 27.22 27.23 27.24 27.25 27.26 27.27 27.28 27.29 27.30 27.31	fund to the Board of Regents of the University of Minnesota to develop a technical solution for converting wind-produced ammonia to hydrogen through catalytic decomposition, for use in reducing emissions from diesel engines and powering fuel cell vehicles. This appropriation is subject to Minnesota Statutes, section 116P.10. This appropriation is available until June 30, 2019, by which time the project must be completed and final products delivered. (g) Utilization of Dairy Farm Wastewater for
27.20 27.21 27.22 27.23 27.24 27.25 27.26 27.27 27.28 27.29 27.30 27.31 27.32	fund to the Board of Regents of the University of Minnesota to develop a technical solution for converting wind-produced ammonia to hydrogen through catalytic decomposition, for use in reducing emissions from diesel engines and powering fuel cell vehicles. This appropriation is subject to Minnesota Statutes, section 116P.10. This appropriation is available until June 30, 2019, by which time the project must be completed and final products delivered. (g) Utilization of Dairy Farm Wastewater for Sustainable Production
27.20 27.21 27.22 27.23 27.24 27.25 27.26 27.27 27.28 27.29 27.30 27.31 27.32	fund to the Board of Regents of the University of Minnesota to develop a technical solution for converting wind-produced ammonia to hydrogen through catalytic decomposition, for use in reducing emissions from diesel engines and powering fuel cell vehicles. This appropriation is subject to Minnesota Statutes, section 116P.10. This appropriation is available until June 30, 2019, by which time the project must be completed and final products delivered. (g) Utilization of Dairy Farm Wastewater for Sustainable Production \$500,000 the second year is from the trust

REVISOR

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S2963-1

1st Engrossment

28.1	evaluate an integrated system that recycles		
28.2	and uses nutrients in dairy wastewater		
28.3	from feedlots and milk processing, thereby		
28.4	reducing nutrients from agricultural runoff,		
28.5	and to provide outreach on adoption of new		
28.6	technologies. This appropriation is subject		
28.7	to Minnesota Statutes, section 116P.10. This		
28.8	appropriation is available until June 30,		
28.9	2019, by which time the project must be		
28.10	completed and final products delivered.		
28.11 28.12	(h) Solar Energy Utilization for Minnesota Swine Farms - Phase II		
28.13	\$500,000 the second year is from the trust		
28.14	fund to the Board of Regents of the University		
28.15	of Minnesota for the West Central Research		
28.16	and Outreach Center in Morris to continue to		
28.17	develop and evaluate the utilization of solar		
28.18	photovoltaic systems at swine facilities to		
28.19	improve energy and economic performance,		
28.20	reduce fossil fuel usage and emissions, and		
28.21	optimize water usage. This appropriation		
28.22	is available until June 30, 2019, by which		
28.23	time the project must be completed and final		
28.24	products delivered.		
28.25 28.26	Subd. 8. Methods to Protect, Restore, and Enhance Land, Water, and Habitat	<u>-0-</u>	4,515,000
28.27 28.28	(a) Bee Pollinator Habitat Enhancement - Phase II		
28.29	\$387,000 the second year is from the trust		
28.30	fund to the Board of Regents of the University		
28.31	of Minnesota to continue assessment of the		
28.32	potential to supplement traditional turf grass		
28.33	by providing critical floral plant resources		
28.34	to enhance bee pollinator habitat. Plant		
28.35	materials and seeds must follow the Board of		
28.36	Water and Soil Resources' native vegetation		

CKM

S2963-1

1st Engrossment

REVISOR

SF2963

29.1	
27.1	establishment and enhancement guidelines.
29.2	This appropriation is available until June
29.3	30, 2019, by which time the project must be
29.4	completed and final products delivered.
29.5 29.6	(b) Measuring Pollen and Seed Dispersal for Prairie Fragment Connectivity
29.7	\$556,000 the second year is from the
29.8	trust fund to the Board of Regents of the
29.9	University of Minnesota to determine
29.10	habitat connectivity between prairie
29.11	fragments by measuring plant movement
29.12	by dispersal of pollen and seeds to improve
29.13	prairie restoration implementation. This
29.14	appropriation is available until June 30,
29.15	2019, by which time the project must be
29.16	completed and final products delivered.
29.17 29.18	(c) Establishment of Permanent Habitat Strips Within Row Crops
29.19	\$179,000 the second year is from the trust
29.20	fund to the Science Museum of Minnesota
29.21	for the St. Croix Watershed Research Station
29.22	to research the viability of establishing
29.23	prairie forbs and alfalfa as permanent cover
29.24	strips in the bare soil between selected rows
29.25	of corn and soybeans as potential pollinator,
29.26	monarch, and gamebird habitat. Monitoring
29.27	of the native plant strips must evaluate the
29.21	
29.28	effects of pesticides from adjacent crops on
29.28	effects of pesticides from adjacent crops on
29.28 29.29	effects of pesticides from adjacent crops on pollinators, including determining whether
29.28 29.29 29.30	effects of pesticides from adjacent crops on pollinators, including determining whether there is a reduction of pollinators that results
29.28 29.29 29.30 29.31	effects of pesticides from adjacent crops on pollinators, including determining whether there is a reduction of pollinators that results in reduced setting of seeds on the native

REVISOR

CKM

S2963-1

1st Engrossment

30.1 30.2 30.3	(d) Evaluate Prescribed Burning Techniques to Improve Habitat Management for Brushland Species
30.4	\$267,000 the second year is from the trust
30.5	fund to the Board of Regents of the University
30.6	of Minnesota to compare the effects on
30.7	brushland habitat of conducting prescribed
30.8	burning in spring, summer, and fall to
30.9	provide improved management guidelines
30.10	for wildlife habitat. This appropriation is
30.11	available until June 30, 2020, by which time
30.12	the project must be completed and final
30.13	products delivered.
30.14 30.15	(e) Controlling Reed Canary Grass to Regenerate Floodplain Forest
30.16	\$218,000 the second year is from the trust
30.17	fund to the commissioner of natural resources
30.18	for an agreement with the Minnesota state
30.19	office of the National Audubon Society to
30.20	determine the most effective regeneration
30.21	methods for restoration of floodplain forests
30.22	in southeast Minnesota impacted by invasive
30.23	reed canary grass. This appropriation is
30.24	available until June 30, 2019, by which time
30.25	the project must be completed and final
30.26	products delivered.
30.27 30.28	(f) Forest Management for Mississippi River Drinking Water Protection
30.29	\$300,000 the second year is from the trust
30.30	fund to the commissioner of natural resources
30.31	for an agreement with the Crow Wing Soil
30.32	and Water Conservation District to pilot a
30.33	water protection approach for the watershed
30.34	through development of forest stewardship
30.35	plans and targeted riparian forest restoration
30.36	projects. Any expenditures from this

31.1	appropriation spent on forest management
31.2	plans or restoration must be for lands with
31.3	a long-term contract commitment for forest
31.4	conservation, and the restoration must follow
31.5	the Board of Water and Soil Resources' native
31.6	vegetation establishment and enhancement
31.7	guidelines. This appropriation is available
31.8	until June 30, 2019, by which time the
31.9	project must be completed and final products
31.10	delivered.
31.11 31.12	(g) Upland, Wetland, and Shoreline Restoration in Greater Metropolitan Area
31.13	\$509,000 the second year is from the
31.14	trust fund to the commissioner of natural
31.15	resources for an agreement with Great River
31.16	Greening to restore approximately 150 acres
31.17	of forest, prairie, woodland, and wetland
31.18	and 0.15 miles of shoreline throughout
31.19	the greater Twin Cities metropolitan area,
31.20	using volunteers, and to conduct restoration
31.21	evaluation on previously restored parcels. A
31.22	list of proposed restorations and evaluations
31.23	must be provided as part of the required work
31.24	plan. Plant and seed materials must follow
31.25	the Board of Water and Soil Resources' native
31.26	vegetation establishment and enhancement
31.27	guidelines. This appropriation is available
31.28	until June 30, 2019, by which time the
31.29	project must be completed and final products
31.30	delivered.
31.31 31.32	(h) Bluffland Restoration and Monitoring in Winona
31.33	\$99,000 the second year is from the trust fund
31.34	to the Board of Trustees of the Minnesota
31.35	State Colleges and Universities system
31.36	for Winona State University to inventory,

REVISOR

CKM

S2963-1

1st Engrossment

32.1	restore, and monitor the 40-acre Garvin		
32.2	Heights Natural Area in Winona and provide		
32.3	related public outreach and education. Plant		
32.4	and seed materials must follow the Board of		
32.5	Water and Soil Resources' native vegetation		
32.6	establishment and enhancement guidelines.		
32.7	This appropriation is available until June		
32.8	30, 2019, by which time the project must be		
32.9	completed and final products delivered.		
32.10	(i) Champlin Mill Pond Shoreland Restoration		
32.11	\$2,000,000 the second year is from the		
32.12	trust fund to the commissioner of natural		
32.13	resources for an agreement with the city		
32.14	of Champlin to restore the Champlin Mill		
32.15	Pond shoreline and adjacent habitat. Plant		
32.16	and seed materials must follow the Board of		
32.17	Water and Soil Resources' native vegetation		
32.18	establishment and enhancement guidelines.		
32.19	This appropriation is available until June		
32.20	30, 2019, by which time the project must be		
32.21	completed and final products delivered.		
32.22 32.23	Subd. 9. Land Acquisition, Habitat, and Recreation	<u>-0-</u>	12,624,000
32.24	(a) State Parks and Trails Land Acquisition		
32.25	\$2,445,000 the second year is from the		
32.26	trust fund to the commissioner of natural		
32.27	resources to acquire approximately 300 acres		
32.28	from willing sellers for authorized state		
32.29	trails and critical parcels within the statutory		
32.30	boundaries of state parks. Of this amount, at		
32.31	least \$445,000 must be used for state parks		
32.32	and trails along the Minnesota River. State		
32.33	park land acquired with this appropriation		
32.34	must be sufficiently improved to meet at		
32.35	least minimum management standards, as		

REVISOR

CKM

S2963-1

1st Engrossment

33.1	determined by the commissioner of natural
33.2	resources. A list of proposed acquisitions
33.3	must be provided as part of the required work
33.4	plan. This appropriation is available until
33.5	June 30, 2019, by which time the project must
33.6	be completed and final products delivered.
33.7 33.8	(b) Scientific and Natural Area Acquisition and Restoration
33.9	\$4,000,000 the second year is from the
33.10	trust fund to the commissioner of natural
33.11	resources to acquire approximately 400
33.12	acres of land with high-quality native plant
33.13	communities and rare features from willing
33.14	sellers, to be established as scientific and
33.15	natural areas as provided in Minnesota
33.16	Statutes, section 86A.05, subdivision 5,
33.17	and restore and improve approximately
33.18	750 acres of scientific and natural areas.
33.19	Of this appropriation, at least \$1,300,000
33.20	is designated for restoration. A list of
33.21	proposed acquisitions and restorations must
33.22	be provided as part of the required work
33.23	plan. Land acquired with this appropriation
33.24	must be sufficiently improved to meet at
33.25	least minimum management standards, as
33.26	determined by the commissioner of natural
33.27	resources. This appropriation is available
33.28	until June 30, 2019, by which time the
33.29	project must be completed and final products
33.30	<u>delivered.</u>
33.31 33.32	(c) Minnesota Point Pine Forest Scientific and Natural Area Acquisition
33.33	\$500,000 the second year is from the
33.34	trust fund to the commissioner of natural
33.35	resources in cooperation with the Duluth
33.36	Airport Authority to acquire approximately

REVISOR

CKM

S2963-1

1st Engrossment

34.1	ten acres as an addition to the designated
34.2	Minnesota Point Pine Forest Scientific and
34.3	Natural Area located along the shores of
34.4	Lake Superior in Duluth.
34.5 34.6	(d) Conservation Easements in Avon Hills - Phase III
34.7	\$1,300,000 the second year is from the
34.8	trust fund to the commissioner of natural
34.9	resources for an agreement with Saint John's
34.10	University in cooperation with Minnesota
34.11	Land Trust to secure permanent conservation
34.12	easements on approximately 500 acres
34.13	of high-quality habitat in Stearns County,
34.14	prepare conservation management plans, and
34.15	provide public outreach. A list of proposed
34.16	easement acquisitions must be provided as
34.17	part of the required work plan. An entity
34.18	that acquires a conservation easement with
34.19	appropriations from the trust fund must have
34.20	a long-term stewardship plan for the easement
34.21	and a fund established for monitoring and
34.22	enforcing the agreement. Funding for the
34.23	long-term monitoring and enforcement
34.24	fund must come from nonstate sources for
34.25	easements acquired with this appropriation.
34.26	The state may enforce requirements in the
34.27	conservation easements on land acquired
34.28	with this appropriation and the conservation
34.29	easement document must state this authority
34.30	and explicitly include requirements for
34.31	water quality and quantity protection. This
34.32	appropriation is available until June 30,
34.33	2019, by which time the project must be
34.34	completed and final products delivered.
34.35	(e) Wilder Forest Acquisition

REVISOR

CKM

S2963-1

1st Engrossment

S2963-1

1st Engrossment

Sec. 2. 35

required work plan. Plant and seed materials

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REVISOR

CKM

S2963-1

1st Engrossment

37.1	This appropriation is available until June		
37.2	30, 2019, by which time the project must be		
37.3	completed and final products delivered.		
37.4 37.5	(i) Otter Tail River Recreational Trail Acquisition		
37.6	\$500,000 the second year is from the trust		
37.7	fund to the commissioner of natural resources		
37.8	for an agreement with the city of Fergus Falls		
37.9	to acquire approximately 16 acres along the		
37.10	Otter Tail River for a recreational trail and		
37.11	park. This appropriation is contingent on at		
37.12	least an equal match of nonstate money. Prior		
37.13	to the acquisition, a phase 1 environmental		
37.14	assessment must be completed and the city		
37.15	must not accept any liability for previous		
37.16	contamination of lands acquired with this		
37.17	appropriation.		
37.18	Subd. 10. Administration	<u>-0-</u>	210,000
37.19	(a) Contract Agreement Reimbursement		
37.20	\$135,000 the second year is from		
37.21	the trust fund to the commissioner of		
37.22	natural resources, at the direction of		
37.23	the Legislative-Citizen Commission on		
37.24	Minnesota Resources, for expenses incurred		
37.25	for contract agreement reimbursement for		
37.26	the agreements specified in this section. The		
37.27	commissioner shall provide documentation		
37.28	to the Legislative-Citizen Commission on		
37.29	Minnesota Resources on the expenditure of		
37.30	these funds.		
37.31	(b) Grants Management System		
37.32	\$75,000 the second year is from the trust		
37.33	fund to the Legislative-Citizen Commission		
37.34	on Minnesota Resources for upgrading and		

SF2963

REVISOR

CKM

S2963-1

1st Engrossment

including financial services, human

resources, information services, rent, and

utilities, are eligible only if the costs can be

clearly justified and individually documented

specific to the appropriation's purpose and

but for the receipt of the appropriation. No

percentages are allowed. Unless otherwise

available until June 30, 2018, when projects

delivered. For acquisition of real property,

for an additional fiscal year if a binding

the appropriations in this section are available

contract for acquisition of the real property is

entered into before the expiration date of the

appropriation. If a project receives a federal

grant, the time period of the appropriation is

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extended to equal the federal grant period.

provided, the amounts in this section are

must be completed and final products

broad allocations for costs in either dollars or

would not be generated by the recipient

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Sec. 2.

S2963-1

1st Engrossment

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39.1	Subd. 12. Data Availability Requirements
39.2	Data collected by the projects funded under
39.3	this section must conform to guidelines
39.4	and standards adopted by MN.IT Services.
39.5	Spatial data also must conform to additional
39.6	guidelines and standards designed to support
39.7	data coordination and distribution that have
39.8	been published by the Minnesota Geospatial
39.9	Information Office. Descriptions of spatial
39.10	data must be prepared as specified in
39.11	the state's geographic metadata guideline
39.12	and must be submitted to the Minnesota
39.13	Geospatial Information Office. All data must
39.14	be accessible and free to the public unless
39.15	made private under the Data Practices Act,
39.16	Minnesota Statutes, chapter 13. To the extent
39.17	practicable, summary data and results of
39.18	projects funded under this section should
39.19	be readily accessible on the Internet and
39.20	identified as having received funding from
39.21	the environment and natural resources trust
39.22	<u>fund.</u>
39.23	Subd. 13. Project Requirements
39.24	(a) As a condition of accepting an
39.25	appropriation under this section, an agency
39.26	or entity receiving an appropriation or a
39.27	party to an agreement from an appropriation
39.28	must comply with paragraphs (b) to (l)
39.29	and Minnesota Statutes, chapter 116P, and
39.30	must submit a work plan and semiannual
39.31	progress reports in the form determined
39.32	by the Legislative-Citizen Commission on
39.33	Minnesota Resources for any project funded
39.34	in whole or in part with funds from the
39.35	appropriation. Modifications to the approved

+0.1	work plan and budget expenditures must
40.2	be made through the amendment process
40.3	established by the Legislative-Citizen
40.4	Commission on Minnesota Resources.
40.5	(b) A recipient of money appropriated in
40.6	this section that conducts a restoration using
40.7	funds appropriated in this section must use
40.8	native plant species according to the Board of
40.9	Water and Soil Resources' native vegetation
40.10	establishment and enhancement guidelines
40.11	and include an appropriate diversity of
40.12	native species selected to provide habitat for
40.13	pollinators throughout the growing season as
40.14	required under Minnesota Statutes, section
40.15	<u>84.973.</u>
40.16	(c) For all restorations conducted with money
40.17	appropriated under this section, a recipient
40.18	must prepare an ecological restoration
40.19	and management plan that, to the degree
40.20	practicable, is consistent with the highest
40.21	quality conservation and ecological goals for
40.22	the restoration site. Consideration should
40.23	be given to soil, geology, topography, and
40.24	other relevant factors that would provide
40.25	the best chance for long-term success and
40.26	durability of the restoration project. The
40.27	plan must include the proposed timetable
40.28	for implementing the restoration, including
40.29	site preparation, establishment of diverse
40.30	plant species, maintenance, and additional
40.31	enhancement to establish the restoration;
40.32	identify long-term maintenance and
40.33	management needs of the restoration and
40.34	how the maintenance, management, and
40.35	enhancement will be financed; and take
40.36	advantage of the best available science and

S2963-1

1st Engrossment

SF2963

REVISOR

CKM

S2963-1

1st Engrossment

S2963-1

1st Engrossment

Sec. 2. 43

using the appropriation. Acknowledgment

may occur, as appropriate, through use of

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S2963-1

1st Engrossment

Sec. 2. 44

approved work plan are allowed.

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SF2963	REVISOR	CKM	S2963-1	1st Engrossmen

45.1 45.2	Subd. 15. Purchase of Recycled and Recyclable Materials
45.3	A political subdivision, public or private
45.4	corporation, or other entity that receives an
45.5	appropriation under this section must use the
45.6	appropriation in compliance with Minnesota
45.7	Statutes, section 16C.0725, regarding
45.8	purchase of recycled, repairable, and durable
45.9	materials; and Minnesota Statutes, section
45.10	16C.073, regarding purchase and use of
45.11	paper stock and printing.
45.12 45.13	Subd. 16. Energy Conservation and Sustainable Building Guidelines
45.14	A recipient to whom an appropriation is made
45.15	under this section for a capital improvement
45.16	project must ensure that the project complies
45.17	with the applicable energy conservation and
45.18	sustainable building guidelines and standards
45.19	contained in law, including Minnesota
45.20	Statutes, sections 16B.325, 216C.19, and
45.21	216C.20, and rules adopted under those
45.22	sections. The recipient may use the energy
45.23	planning, advocacy, and State Energy Office
45.24	units of the Department of Commerce to
45.25	obtain information and technical assistance
45.26	on energy conservation and alternative
45.27	energy development relating to the planning
45.28	and construction of the capital improvement
45.29	project.
45.30	Subd. 17. Accessibility
45.31	Structural and nonstructural facilities must
45.32	meet the design standards in the Americans
45.33	with Disabilities Act (ADA) accessibility
45.34	guidelines.
45.35	Subd. 18. Carryforward

- 46.1 (a) The availability of the appropriations for
- the following projects are extended to June
- 46.3 30, 2017:
- 46.4 (1) Laws 2013, chapter 52, section 2,
- subdivision 3, paragraph (c), County
- 46.6 Geologic Atlases Part B;
- 46.7 (2) Laws 2013, chapter 52, section 2,
- subdivision 4, paragraph (d), Metropolitan
- 46.9 Conservation Corridors (MeCC) Phase
- VII, \$400,000 for the agreement with the
- 46.11 Minnesota Valley National Wildlife Refuge
- 46.12 Trust, Inc. only;
- 46.13 (3) Laws 2013, chapter 52, section 2,
- subdivision 4, paragraph (i), Conservation
- 46.15 Grazing to Improve Wildlife Habitat on
- 46.16 Wildlife Management Areas;
- 46.17 (4) Laws 2013, chapter 52, section 2,
- subdivision 5, paragraph (b), Assessment of
- 46.19 Natural Copper-Nickel Bedrocks on Water
- 46.20 Quality;
- 46.21 (5) Laws 2013, chapter 52, section 2,
- subdivision 5, paragraph (f), Evaluation of
- 46.23 Lake Superior Water Quality Health;
- 46.24 (6) Laws 2013, chapter 52, section 2,
- subdivision 6, paragraph (c), Improving
- 46.26 Emerald Ash Borer Detection Efficacy for
- 46.27 Control;
- 46.28 (7) Laws 2014, chapter 226, section 2,
- subdivision 3, paragraph (1), Rainwater
- 46.30 Reuse and Valuation Investigation;
- 46.31 (8) Laws 2014, chapter 226, section
- 46.32 2, subdivision 10, paragraph (c),
- 46.33 <u>Legislative-Citizen Commission on</u>
- 46.34 <u>Minnesota Resources (LCCMR) for upgrade</u>

47.1	and modernization of a project records
47.2	management system; and
47.3	(9) Laws 2014, chapter 226, section 2,
47.4	subdivision 8, paragraph (b), Innovative
47.5	Groundwater-Enhanced Geothermal Heat
47.6	Pump Study.
47.7	(b) The availability of the appropriations for
47.8	the following projects are extended to June
47.9	<u>30, 2018:</u>
47.10	(1) Laws 2014, chapter 226, section 2,
47.11	subdivision 7, paragraph (e), Martin County
47.12	Park and Natural Area Acquisition; and
47.13	(2) Laws 2015, chapter 76, section 2,
47.14	subdivision 4, paragraph (d), Preventing
47.15	Phosphorous, Nitrogen and Pesticides from
47.16	Entering Water Resources through Drain
47.17	<u>Tiles.</u>
47.18	Sec. 3. [116P.19] DONATIONS.
47.19	A recipient of money from the trust fund must not accept a monetary donation
47.20	or payment from an owner of land that is acquired in fee in whole or in part with
47.21	an appropriation from the trust fund that exceeds the documented expenses that are
47.22	directly related to and necessary for activities specified in the work plan approved by the
47.23	commission, unless expressly approved by the commission in the work plan. This section
47.24	does not apply to:
47.25	(1) donations that are not connected with the acquisition transaction; or
47.26	(2) bargain sales, as defined by Code of Federal Regulations, title 26, section
47.27	1.1011-2, provided that the purchase price reimbursed by the state does not exceed the
47.28	purchase price paid by the recipient.
47.29	Sec. 4. [116P.20] EASEMENT MONITORING AND ENFORCEMENT
47.30	REQUIREMENTS.
47.31	A recipient of money appropriated from the trust fund for easement monitoring and
47.32	enforcement may spend the money only on activities included in an easement monitoring
47.33	and enforcement plan contained within the work plan. Money received for monitoring

SF2963

REVISOR

CKM

S2963-1

1st Engrossment

Sec. 4. 47

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and enforcement, including earnings on the money received, must be kept in a monitoring and enforcement fund held by the recipient and dedicated to monitoring and enforcing conservation easements in Minnesota. A recipient of an appropriation for easement monitoring and enforcement must, within 120 days after the close of the recipient's fiscal year, provide an annual financial report to the commission or the commission's successor on the easement monitoring and enforcement fund as specified in the work plan. Money appropriated from the trust fund for monitoring and enforcement of easements and earnings on the money appropriated revert to the state if:

- (1) the easement transfers to the state;
- (2) the recipient fails to file an annual financial report and then fails to cure the default within 30 days of notification of the default by the state; or
- (3) the recipient fails to comply with the terms of the monitoring and enforcement plan contained within the work plan and fails to cure the default within 90 days of notification of the default by the state.
- Sec. 5. Minnesota Statutes 2014, section 137.025, is amended by adding a subdivision to read:
 - Subd. 2a. Appropriations from Minnesota environment and natural resources trust fund. (a) The commissioner of management and budget shall pay no money to the University of Minnesota pursuant to a direct appropriation from the Minnesota environment and natural resources trust fund until the University of Minnesota requests reimbursement for expenditures related to the direct appropriation. The reimbursement request shall specify expenditures by appropriation. The commissioner of management and budget shall reimburse the University of Minnesota by the 25th day of the month following the reimbursement request. If the 25th day of the month falls on a Saturday, Sunday, or holiday, the payment must be made by the first business day immediately following the 25th day of the month.
 - (b) For each year the appropriation is available, the University of Minnesota must submit an encumbrance request to the commissioner of management and budget by July 31 for the prior fiscal year. The encumbrance request shall identify the amount the university anticipates it will request for reimbursement for expenses in the prior fiscal year by appropriation. The commissioner of management and budget shall maintain this amount as an encumbrance at the state level until the university submits its final reimbursement request for that fiscal year.
 - (c) Final requests for reimbursement must be made within 90 days from the last day the appropriation is available to reimburse expenditures.

Sec. 5. 48