COALITION OF UTILITY CITIES

Becker ◆ Cohasset ◆ Granite Falls ◆ Hoyt Lakes ◆ Monticello ◆ Oak Park Heights ◆ Red Wing

April 30, 2023

Re: Community energy transition grant funding for power plant host communities

Conferees to House File 2310, Omnibus Environment, Climate, and Energy bill:

I submit this letter on behalf of the Coalition of Utility Cities (CUC) regarding the funding for Community Energy Transition Grants in the Senate version of HF 2310 (Page R10, Renewable Development Account Finance side-by-side).

CUC wants to ensure that conferees to HF 2310 are aware that both bodies, as well as the Governor, have adopted $10 million in total funding for DEED's Community Energy Transition Grant program, but that funding on the Senate side is split between $5 million from the Renewable Development Account (RDA) in this bill and $5 million from the general fund in SF 3035, the omnibus Jobs and Economic Development bill.

CUC recommendation: While either approach is acceptable, the House's and Governor's approach is slightly preferable because RDA funds to the program are limited to Xcel Energy's service territory, while general funds can reach communities throughout the state.

CUC is grateful all three of the House, Senate, and Governor for recognizing the importance of this program and want to work closely with you across conference committees to ensure that the $10 million funding amount moves forward.

Thank you again for your support for power plant host communities throughout this legislative session. With any questions, please feel free to contact the CUC's legislative representation, Shane Zahrt of Flaherty & Hood, at SAZahrt@flaherty-hood.com or (651) 295-1123.

Sincerely,

Max Peters
City Administrator, City of Cohasset
President, Coalition of Utility Cities

METRO CITIES
Association of Metropolitan Municipalities

April 30, 2023

Dear Members of the Environment, Natural Resources, Climate and Energy Conference Committee:

Metro Cities, representing the shared interests of cities across the metropolitan area, appreciates the opportunity to comment on the omnibus bills being considered by this conference committee.

Metro Cities supports several key provisions including:

- $9 million in Art. 1 § 3 of the House language for grants to local governments responding to emerald ash borer infestations.
- Funding in both bills for the Minnesota ReLeaf program and the Lawns to Legumes program.
- $87.2 million each year (Art. 1 § 2 of the Senate language) and $20 million in each year (Art. 1 § 2 of the House language) for grants to local governments to support local planning and implementation of water infrastructure projects that allow for adaptation as the climate changes.
- Funding in both bills that address Per- and Polyfluoroalkyl Substances (PFAS) including $25 million for grants to support planning, designing, and preparing for solutions for public water treatment systems contaminated with PFAS, and $4 million for PFAS reduction grants.
- Funding for metropolitan regional parks and trails operations and maintenance, modernization, and the mitigation of climate risks.
- $12 million transfer to the metropolitan area landfill contingency action trust (MLCAT) in the Senate bill and the full repayment to MLCAT in the House language. Making this account whole will help ensure its ability to address the environmental needs of MLCAT-eligible landfills in the metropolitan region.
- The Local Climate Action Grant Program in Art. 14 § 4 of the House language. Grant funding will support cities as they work to increase their adaptability and resiliency in the face of extreme weather and climate change.
- Funding for the GreenStep Cities program in both the House and Senate language.
- Art. 12 § 27 of the House language, which would have the state adopt an advanced energy building standard for new commercial buildings within the State Building Code. Metro Cities supports legislation that will increase the efficiency of buildings with the goal of reaching net zero energy consumption.

Thank you for your consideration of this letter. Please contact me if you have any questions.

Sincerely,

Mike Lund
Government Relations Specialist
Metro Cities

April 30, 2023

Via email to: kara.josephson@senate.mn and peter.strohmeier@house.mn.gov

RE: HF 2310/SF 2438 – **OPPOSE**

Dear Senate and House Conferees,

RISE (Responsible Industry for a Sound Environment)® and CropLife America, the national trade associations representing the manufacturers, formulators, and distributors of pesticides applied by consumers, professionals and agricultural producers in Minnesota must respectfully take an OPPOSE position on HF 2310/SF 2438. We ask that state and federally regulated pesticides are expressly exempted from PFAS restrictions, including those focused on "intentionally added" content.

The existing pesticide regulatory framework provides a rigorous scientific basis for exempting Minnesota Department of Agriculture (MDA) and United States Environmental Protection Agency (EPA) regulated pesticide products. The existing pesticide regulatory framework is appropriate for regulating all aspects of pesticide sales and use within the state, including the sale and use of fluorinated pesticides. For registered pesticide products, prohibitions based upon the term "intentionally added" are unnecessary. Pesticides registered by MDA under Chapter 18b, including those containing fluorinated chemistry, are essential to protecting public health and safety, communities, ecosystems, and crops grown in Minnesota. Pesticides are applied in Minnesota by professional applicators, growers, and consumers to manage mosquito and tick populations, create fire breaks, maintain roadway lines of site, keep transportation and utility rights of way clear of vegetation, manage invasive and non-native species on land and in water, and to grow important food crops.

Pesticides are rigorously regulated under long-standing federal law. Pesticides are unique substances, with more scientific data available about them than for any other products available in commerce today. Pesticide products are subject to regulation and oversight from five federal agencies: EPA, Department of Agriculture, Food and Drug Administration, Fish and Wildlife Service, and National Marine Fisheries Service. This multi-agency federal regulatory framework is focused on ensuring products can be used safely. This framework is also the foundation of the federal and state pesticide regulatory partnership.

To approve a new pesticide under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), EPA must determine that, when used in accordance with the label, it will *not* cause unreasonable adverse effects on the environment and *does* provide a reasonable certainty of

no harm to human health (7 U.S.C. §136a(c)(5)). Once registered, EPA must periodically review pesticide products to ensure they continue to meet this robust safety standard.

EPA subjects all new pesticide products to rigorous human health and environmental review and testing requirements to satisfy these standards for registration. These testing requirements include, depending on the type of pesticide, the following:

- Product chemistry
- Physical and chemical properties
- Acute, sub-chronic, and chronic toxicity
- Efficacy testing (for public health uses)
- Ecological effects
- Environmental fate
- Applicator exposure
- Residue chemistry (for food use pesticides)

EPA expends significant resources to review and approve the testing data during a scientifically rigorous process. It can take more than 10 years before a new product is registered for sale due to this stringent registration process. Products are then re-evaluated by EPA on a regular schedule to ensure they meet current scientific standards. Further, EPA may request new data at any time while the product is registered for use.

The federal and state regulation of pesticide distribution, sale, and use, as well as stringent safety standards and oversight, are well established federally under FIFRA and in Minnesota under Chapter 18b. The statutes are designed to evolve as science advances, to support product innovation, and to provide for robust stakeholder and public input into pesticide regulation. The statutes require the review of the most current scientific data on health and environmental impacts for all pesticide products and impose requirements to minimize any risks before they are made available for sale and use.

All pesticides, including those formulated with fluorinated chemistry, must already be registered by EPA prior to applying for and receiving a state registration from MDA. Before pesticides even enter commerce in Minnesota, they must already be deemed safe for use by EPA.

Regulators have broad authority to regulate pesticides. EPA and MDA have broad authority to change the availability and use status of any pesticide product at any time for a range of safety and scientific reasons. These regulatory processes and options should not be superseded by the prohibitions proposed in HF 2310/SF 2438.

The European Union acknowledges the pesticide scientific and regulatory framework as a basis for exemption from PFAS restrictions. The European Union's (EU) European Chemicals Agency (ECHA) published a proposal February 7, 2023, for restrictions on per- and polyfluoroalkyl substances (PFAS). Within the proposal are express exemptions for pesticides. The ECHA states "it is recognized that the use of these substances is specifically regulated in the EU with extensive evaluations and approval processes by designated bodies with specific expertise and experience." This acknowledges the stringent and thorough regulatory evaluation process pesticides currently undergo before they can be sold or used by consumers, professionals, and agricultural producers.

For these reasons, we are respectfully seeking an exemption from the provisions of HF 2310/SF 2438 for MDA and EPA regulated products. Thank you for the opportunity to provide our testimony.

Megan J. Provost
President
RISE
4201 Wilson Blvd.
Arlington, VA 22203
202-872-3860

Chris Novak
President and CEO
CropLife America
4201 Wilson Blvd.
Arlington, VA 22203
202-296-1585

RISE (Responsible Industry for a Sound Environment)® is the national trade association representing manufacturers, formulators, distributors, and other industry leaders engaged with specialty pesticides and fertilizers used by professionals and consumers. Learn more at www.pestfacts.org.

CropLife America (CLA) represents the manufacturers, formulators, and distributors of crop protection products in the United States. CLA member companies produce, sell, and distribute virtually all the crop protection products used by American farmers. Learn more at www.croplifeamerica.org.


RISE
Responsible Industry for
a Sound Environment®


CropLife
AMERICA

Emily Wallace
3005 29th Avenue NE
St Anthony Village, MN
55418

Dear Energy & Climate Conference Committee,

I'm writing to you to urge you and your committee to include the Next Generation Climate Act (HF1973) in the omnibus bill. I think it's really critical that Minnesota work to meet the greenhouse gas emissions reduction goals that the IPCC recommends. We really do not have time to waste, we cannot continue "business as usual", and we cannot wait for the market to solve the climate crisis in which we find ourselves. This matters so much to me because I have a 15 month old daughter, and I'm finding it challenging to look into the future and feel hopeful about it if we don't make some big changes on a collective scale with regards to decarbonizing. This is also an important part of Governor Walz' climate plan, as I'm sure you know. Minnesota could be a leader in this way for the rest of the country. I think a net zero carbon emissions goal by 2050 is absolutely achievable, but we have to be all in to do it and this bill will do exactly that. In reality, we need to achieve that even earlier than 2050, so we need to get started reducing emissions in a meaningful way NOW. I'm not a policy wonk, nor a scientist, but what I see happening on a daily basis with regards to climate change alarms me.

I also want to see as much funding as possible go towards electric school buses (HF2502). Again, we can do that, we CAN afford it. Please do the right thing, think of children who suffer from asthma, and just children in general, who have to ride diesel buses and breathe that EVERY single day. That impacts their health, their future. Electric buses are simply common sense. We have the technology and the ability to do something to lower emissions, what we need is the political will to make collective change and that begins with you.

Thank you.

May 1, 2023

Minnesota State Legislature
Environment, Natural Resources, Climate and Energy Conference Committee

Re: HF2310 – Zero Waste Grant Program

Dear Conference Committee Members,

Minnesota needs to invest in community-generated Zero Waste solutions to better manage our resources and reduce waste. To that end, **we ask that you adopt the Zero Waste Grant program in the final Conference Omnibus bill.**

As mission-based recyclers, we see our state's waste crisis first hand and the clear evidence that our communities cannot continue to thrive in an economy designed for linear consumption. Amid historic supply chain disruptions, the intensifying climate crisis, and rampant plastic pollution, there has never been a more important time to invest in a circular economy for Minnesotans that prioritizes reduction and reuse. Investments in Zero Waste infrastructure are investments in a resilient statewide economy, a healthier environment, and stable supply chains for Minnesota manufacturers.

The Zero Waste Grant program provides funding for small businesses, non-profits, and local governments to overcome start-up barriers and support their efforts to create reuse systems, reduce waste, and contribute to a circular economy. The program will invest in:

- **Source Reduction & Reuse:** Funding will be prioritized to support projects focused on transitioning away from single-use to reuse systems and projects that aim to keep our valuable resources in the ground.
- **Electronic Source Reduction & Recycling:** Funding will support efforts to increase and expand electronics recycling and repair across the state.
- **Recycling & Composting Infrastructure:** Funding will support projects that expand access to recycling and composting and projects that improve the processes.
- **Environmental Justice Areas & Rural Communities:** Grant projects serving environmental justice areas and rural communities are prioritized.

The Zero Waste Grant program prioritizes reuse and reduction. This could look like something as impactful as helping a rural school district purchase dishwashers and reusable dishes to move away from single-use disposables, a central collection and washing station for refillable bottles for cottage industries or breweries in the area, or a community-scale composting program that reduces food waste and creates healthy soils for urban gardens. This grant program will help communities get over startup hurdles and set up sustainable systems specific to their situations.

Finally, since the initial introduction of the bill, we have worked with a diverse constituency to strengthen the bill. This includes incorporating feedback from the counties' Partnership on Waste and Energy and the Minnesota Pollution Control Agency to streamline the grant process, reduce conflicting definitions, and target grant dollars where they are needed most.

This program is a critical step toward a more sustainable economy in Minnesota. We thank Representative Hollins for her leadership on this issue and ask for the Conference Committee's strong support for this program. Please feel free to contact Lucy Mullany (lucym@eurekarecycling.org), Director of Policy and Advocacy at Eureka Recycling, with questions or for further information.

Sincerely,

Lynn Hoffman,
Co-President of Eureka Recycling
(612) 455-9110
lynnh@eurekarecycling.org

Laborers' International Union of North America

LiUNA! MINNESOTA & NORTH DAKOTA
Feel the Power

81 E Little Canada Road
St. Paul, MN 55117
651.653.9776 phone | 651.653.9776 fax
Joel Smith
President & Business Manager

April 30, 2023

Chairs Hansen, Hawj, Acomb, and Frentz, and Environment and Energy Conferees:

On behalf of the 29,000 members and family members of Laborers' International Union of North America (LIUNA) Minnesota and North Dakota, I write to urge you to craft an Omnibus Energy and Environment Bill (HF 2310) which demonstrates through its investments and policies that we can protect our environment while growing our economy and creating family-supporting jobs.

Earlier this year, LIUNA advocated for adoption of 100% Clean Energy legislation, but we argued at the time that the objective would only be met if we provided utilities and others charged with rebuilding our energy infrastructure with the flexibility and tools needed to do the job. The Senate version of HF 2310 meets this standard by providing essential tools to secure our energy future and avoiding costly mandates that could jeopardize progress.

The Senate proposal includes funds for critically-needed transmission and grid reliability projects, grants for Tribal Nations, and support for research into advanced nuclear and battery storage technologies that will be needed when the wind doesn't blow and the sun doesn't shine. The bill also modernizes Minnesota's Community Solar Garden program – lowering bills, raising labor standards, increasing transparency, and addressing current inequities. Finally, we appreciate the Senate's effort to address significant concerns raised by organized labor and clean energy companies in its proposal to expand intervenor compensation.

Beyond supporting progress toward 100% clean energy, both House and Senate versions of HF 2310 include programs that accelerate innovation through the Buy Clean program, the Climate Innovation Finance Authority, and deployment of electric vehicle infrastructure. HF 2310 will also ensure that clean energy jobs support families by attaching prevailing wage requirements to solar on school, electric panel upgrades, and other projects funded by the Renewable Development Account.

We continue to oppose costly proposals to expand the existing Community Solar Garden program and establish a battery storage mandate, along with the House version of intervenor compensation, because we believe each will burden ratepayers and complicate the state's path to 100% clean energy. We ask conferees to adopt the Senate positions or defer these matters for further work in the interim and consideration next year.

We strongly support funding in the environment side of HF 2310 for significant and needed stormwater infrastructure investments through both the Climate Resiliency grants (for which we prefer the Senate funding level) and the House Inflow and Infiltration (I&I) grants provision.

Finally, we continue to work with Representative Lee, the advocates and MPCA on a rightsized approach to the cumulative impacts provision that both addresses concentrations of health impacts carried in overburdened EJ areas while still providing for good, family-supporting jobs for people in these communities.

We appreciate your attention to these important issues.

In Solidarity,

Joel A. Smith

Joel Smith
President and Business Manager

Testimony: Re-creation of the Legislative Water Commission
House File1338; Senate File1918

CHAIR HANSON AND MEMBERS

ATTACHED -WRITTEN TESTIMONY-FOR " SUBCOMMITTEE ON MINNESOTA WATER POLICY-(LCC)-DIRECTOR REVIEW & -DISTRIBUTION-THANK

TO: WHOM IT MAY CONCERN-INVOLVING-SENATE AND HOUSE-LEGISLATIVE "-MAJORITY AND MINORITY LEADERS -(WRITTEN TESTIMONY - AS FOLLOWS

FROM DICK MYERS

PREVIOUSLY - SUBCOMMITTEE ON MINNESOTA WATER POLICY -(LCC) REGONAL VOLUNTEER STAKEHOLDER REP. GREATER MINNESOTA - AREA - CURRENT ONGOING - CONSULTATION- JIM STARK - DIRECTOR SUBCOMMITTEE ON MINNESOTA WATER POLICY
(LCC)

SUBJECT: SF-1918-HF-1338-BILLS- INTRODUCED- SENATE -SENATOR-HAWJ, FOUNG-" ASSISTANT MAJORITY LEADER- THE " HOUSE " - & OTHER LEGISLATIVE-"REPS" AND CO-INTRODUCED-BY REP. PAUL TORKELSON-DEPUTY MINORITY LEADER - REP. PETER FISHER-MEMBER-"ENVIRONMENT AND NATURAL RESOURCES FINANCE AND POLICY-
COMMITTEE"

WE: MEANING (REGIONAL STAKEHOLDERS) - GREATER MINNESOTA - AND WITH " EXPECTED LEGISLATIVE SUPPORT " , HAVE CONCLUDED THE FOLLOWING:

A. THE REPLACEMENT OF THE " SUBCOMMITTEE ON MINNESOTA WATER POLICY -(LCC) WITH THE " LEGISLATIVE WATER COMMISSION " AND IS VIEWED AS LEGISLATIVLY " ACCEPTABLE" BASED THE (2023) LEGISLATIVE SESSION TIME LINES AND OUTCOMES AS PRESENTED.AND WITH POSSIBLE SENATE BI-PARTISAN CO-INTRODUCTION

B. AFTER CAREFUL REVIEW OF THE CONTENT INVOLVING BOTH - THE " LEGISLATIVE WATER COMMISSION AND SUBCOMMITTEE- ON MINNESOTA

WATER POLICY) THAT THERE APPEARS TO BE - BASIC AGREEMENT- OF POLCY & PROCESS-, INVOLVING -SUB-GROUPS- AND STATE AGENCIES-

PLEASE NOTE-" SUBED.-4-POWERS AND DUTIES-PART (A)-BELOW. AND MOVING FORWARD ,MAY REQUIRE ADDITIONAL LEGISLATIVE - REVIEW-BY MEMBERS OF THE- HOUSE & SENATE-ENVIRONMENT , CLIMATE AND LEGACY COMMITTEE AND HOUSE-ENVIRONMENT AND NATURAL RESOURCES FINANCE AND POLICY-COMMITTEE" WITH OVER SITE BY THE " LEGISLATIVE WATER COMMISSION DIRECTOR "

IN CONCLUSION-THERE IS CLEARLY A NEED FOR A CONTINUATION OF AN BI-PARTISAN- BICAMERAL APPROACH THAT MAY UNDER THE CURRENT LEGISLATIVE TIME FRAME, BE POSSIBLE AND ACHIEVEABLE NEXT (SESSION) - AS PESENTED BELOW

WE THANK YOU FOR THE OPPOTUNITY TO CONTRIBUTE.
SINCERELY-DICK MYERS- AND REGIONAL-STAKEHOLDERS CONSTITUENTS-STEARNS-SHERBURNE-BENTON-WADENA-BECKER-HUBBARD-CLEARWATER BELTRAMI-CROW WING-CASS- RENVILLE-COUNTIES-FORWARD AS DEEMED APPROPRIATE-IE.-DISTRICT'S-13A-14A-14-02-05- 5A-15B-16-44A-67-AaRON PERSON " UPPER RED LAKE KEEP IT CLEAN COMMITTEE

Testimony: Re-creation of the Legislative Water Commission
House File1338; Senate File1918

History:
Chair Hanson and Members,

I am writing to you in support of House File 1338, the bill to reconstitute the Legislative Water Commission.

Back in 1989, the original Legislative Water Commission was formed to help the Legislature understand and manage water issues at the Capitol. The Commission members became quite knowledgeable - not only about Minnesota's water resources - but also about how the water agencies worked, their roles in water management and the needs of the regulatory system.

The responsibility for Minnesota's water is spread across many units of government at the city, county, watershed and state levels. All these units do their jobs and coordination happens through a variety of mechanisms. But in a way, our water regulation system is like a growing child, with lots of busy hands and feet but with still developing executive function*. Reconstitution of the Legislative Water Commission will help to provide that executive function to the water regulatory system in Minnesota as well as to build water expertise at the Capitol.

Gretchen Sabel, Andover, Minnesota
Retired, Minnesota Pollution Control Agency (also MN Environmental Quality Board)
Member of the Minnesota Ground Water Association White Paper Team
Co-author of "Minnesota's 1989 Ground Water Protection Act: Legacy and Future Directions, published Nov. 2022"

***Executive function** is the mental processes that enable us to plan, focus attention, remember instructions, and juggle multiple tasks successfully. From Harvard Center for the Developing Child*

April 30th, 2023

Members of the Conference Committee on Environment, Climate and Energy (HF 2310)

Re: Please oppose any prohibition of potential future managed wolf season.

We, the undersigned organizations, respectfully ask you to oppose the House provision in HF 2310 that would prohibit a future wolf season in Minnesota. This provision was a last-minute floor amendment added to the House version on April 17th, without consideration, testimony, or other public input at a legislative committee hearing. We believe a major policy change such as the status of a wolf hunting season in Minnesota should be addressed within traditional policy legislation, not added as an amendment to a major spending or policy bill without public or DNR input.

We also urge you to support active and responsible wolf management within Minnesota. Wolf population estimates are well above target population numbers. The USFWS set a recovery goal of 1,251-1,400 wolves in Minnesota, a number that was expanded by the DNR to 1,600 wolves. Wolves have surpassed both goals with a current population of around 2,700. With an increasing human population and resulting habitat fragmentation, this is not an ecologically sustainable population. Therefore, we believe active wolf management is the responsible thing to do.

Importantly, the wolf was reinstated to full protection as threatened under the Endangered Species Act (ESA) in February 2022 by federal court order. There is not a current season and cannot be one until wolves are removed from ESA protections. In the meantime, wolf predation on Minnesota's wild deer herd is excessive which severely undermines the rich tradition of deer hunting in the State of Minnesota. The same can be said of moose populations in several areas with the potential for similar problems with our elk herd.

A responsible wolf management plan may include scientifically controlled seasons in the future, should the wolf be delisted at the federal level. The wolf population is concerning to Minnesota hunters, trappers, conservationists, farmers, breeders, and others. We recognize this is a culturally sensitive and challenging issue with strong opinions put forward by all stakeholders. The issue deserves proper legislative hearings and consideration through the official legislative process, and we ask that any efforts to have this "prohibition" become law without due process be opposed.

Minnesota Deer Hunters Association

Minnesota Forest Zone Trappers Association

Safari Club International

Ruffed Grouse Society

Congressional Sportsmen's Foundation

MN State Chapter National Deer Association

The Sportsmen's Alliance

Rocky Mountain Elk Foundation

Minnesota State Cattlemen's Association

Minnesota Elk Breeder's Association

Minnesota Backcountry Hunters & Anglers

Minnesota Trapper's Association

Minnesota Crop Production Retailers

601 Carlson Parkway, Suite 450 | Minnetonka, MN 55305 | P: 763.235.6466
www.mcpr-cca.org

Date: April 30, 2023

To: Members of the Omnibus Environment, Natural Resources, Climate and Energy Conference Committee

From: Patrick Murray, Executive Director of the Minnesota Crop Production Retailers

Re: Environment, Natural Resources, Climate and Energy Omnibus Finance and Policy Bill (House File 2310/Senate File 2438)

Chair Hansen, Chair Hawj, Sen. Frentz, Sen. Xiong, Sen. McEwan, Sen. Coleman, Rep. Acomb, Rep. Hollins, Rep. Jordan, and Rep. Kraft

The Minnesota Crop Production Retailers (MCPR) is a nonprofit organization representing agricultural retailers and distributors, crop input suppliers, crop advisors, and registrants who supply Minnesota's farmers with a host of products and services.

We thank you for the opportunity to provide comments in regard to several provisions contained in **House File 2310** that would be extremely harmful to Minnesota's agricultural retail community if enacted into law.

We respectfully ask that you oppose the language contained in **Article 7, Section 3** in **House File 2310** that would regulate the use, storage, disposal, and sale of pesticide treated seed.

- For background, a seed treatment is the application of biological organisms/products and chemical ingredients to a seed with the intent to suppress, control, or repel plant pathogens, insects, or other pests that attack seed, seedlings, or plants.
- Treated seeds provide a sustainable solution to farmers in a highly targeted and precise approach that also means less impact on the surrounding environment.
- Disposing of treated seed is heavily regulated at various levels of government, including the Clean Water Act, Ground Water Protection Act, and the Clean Air Act.
- Minnesota's agricultural sector is fully committed to following all laws, regulations, and guidelines for the safe use of seed and management of surplus seed.
- In April of 2022, the Minnesota Pollution Control Agency published treated-seed disposal guidance that deems this language duplicative and unnecessary.

We also respectfully ask that you oppose the language contained in **Article 7, Sections 4 and 5** in **House File 2310** that would eliminate existing state authority that ensures safe and consistent regulatory standards for pesticide use in the state.

- This language would weaken the state's ability to effectively regulate pesticides that are registered and regulated by the Minnesota Department of Agriculture (MDA).

- These current regulations enforced by MDA ensure safe and proper pesticide use in the state through registration of pesticides, licensing of pesticide applicators, and through research and enforcement activities.
- Uniform state law comprehensively regulates virtually all aspects of labeling, distribution, sale, storage, transportation, use & application, and disposal of pesticides.
- State regulation of pesticides also ensures uniformity with federal regulation, and between states and their municipalities to avoid confusion that may endanger public health or the environment from differing requirements.

We also respectfully ask that you oppose the language contained in **Article 7, Section 6** in **House File 2310** that would require label statements for certain pesticide-treated seed.

- Seed treatment pesticide products are highly regulated and it is absolutely essential that anyone who treats, handles, transports, plants, recycles, re-uses or disposes of treated seeds manage them properly and in accordance with label instructions to minimize the risk of pesticide exposure to humans and the environment.
- This language is redundant and unnecessary as existing cautionary statements are already regulated by the U.S. Environmental Protection Agency (EPA) per the Federal Insecticide Fungicide and Rodenticide Act (FIFRA).
- Treated seeds undergo a thorough evaluation by the EPA, and applicable state agencies, prior to commercialization and periodically thereafter. Only after a product is approved by the relevant federal and state agencies, can the seed treatment product be used in accordance with the EPA-approved label.
- Labels for seed treatment products carry language that must be placed on the seed tags accompanying treated seed packages regarding permitted & prohibited practices.

We also ask that you oppose the language contained in **Article 7, Section 8** in **House File 2310** that consumer guidance regarding the use and disposal of pesticide treated-seed must be developed by the MPCA Commissioner in consultation with the MDA Commissioner, as well as that guidance must then be posted in a conspicuous location by a retailer selling treated seed.

- In April of 2022, the Minnesota Pollution Control Agency published treated-seed disposal guidance that deems this language unnecessary.
- This language would put an additional burden on already short-staffed ag retailers to comply with a provision that is duplicative of seed industry used labels known as “bag tags” that are already affixed to all bags of treated seed.
- This language is duplicative of U.S. EPA rules that already include seed industry documentation on handling, disposal, and general user guidance, that also addresses pollinator production which is extremely important to agriculture production.

For these reasons above, MCPR respectfully opposes the language contained in **Article 7, Sections 3, 4, 5, 6 and 8 of House File 2310**. We appreciate the opportunity to provide this input to you and your fellow conference committee members.

MINNESOTA DEER HUNTERS ASSOCIATION
460 Peterson Road, Grand Rapids, MN 55744
Fax: 218-327-1349 / Phone: 1-800-450-DEER
www.mndeerhunters.com
BUILDING OUR HUNTING AND CONSERVATION LEGACY THROUGH HABITAT, EDUCATION AND ADVOCACY

April 30, 2023

To: Members of the Environment, Natural Resources, Climate and Energy Conference Committee

Re: Minnesota Deer Hunters Association position on certain provisions in Omnibus Bill HF 2310

Dear Senators and Representatives,

Thank you all for serving on this critically important committee. Management of Minnesota's environment and natural resources is an immense responsibility, and we want to ensure you have the position of the MDHA on several issues before you in HF 2310.

1. Supported provisions in HF 2310
    a. Portable stands in NW Minnesota WMA (Environmental Policy Art. 3-8, page R91-92)
        i. MDHA supports the Senate provision.
    b. Study neonicotinoid exposure on MN Game Species (Environmental Appropriations Art. 1, page R38)
        i. MDHA supports the Senate provision with the higher appropriation.
    c. Modify Muzzleloader Provisions (Environmental Policy Art. 3-8, page R101)
        i. MDHA supports - Same/Similar provisions.
    d. Chronic Wasting Disease (Environmental Policy Art. 3-8, page R149)
        i. There remain significant differences between House and Senate positions.
        ii. MDHA legislative priorities include double fencing around cervid farms and stronger enforcement from state agencies.
    e. Big game licenses after felony conviction (Environmental Policy Art. 3-8, page R95)
        i. MDHA supports - Same/Similar provisions.
    f. Shooting Sports Facilities Grants (Environmental Appropriations Art. 1, page R39)
        i. MDHA supports - Same/Similar provisions.
    g. Blaze Orange/Pink markings on ground blinds (Environmental Policy Art. 3-8, page R102)
        i. MDHA supports - Similar provisions.
    h. Eliminating Shotgun Zone in Southern Minnesota (Environmental Policy Art. 3-8, page R1030104)
        i. MDHA supports the Senate provision.
    i. Modifying Crossbow use and Analysis (Environmental Policy Art. 3-8, page R101-102)
        i. MDHA supports the Senate provision.

2. Opposed provisions in HF 2310
    a. Prohibiting any future wolf season (Environmental Policy Art. 3-8, page R104)
        i. MDHA opposes this house only provision.

The Minnesota Deer Hunters Association will continue to be a resource during the conference committee process, and we welcome the opportunity to be a part of continued conversations around policies and appropriations that impact deer hunting and hunters across Minnesota.

May 1, 2023

Chair Rick Hansen
Representative Patty Acomb
Representative Athena Hollins
Representative Sydney Jordan
Representative Larry Kraft

Chair Foung Hawj
Senator Nick Frentz
Senator Jennifer McEwen
Senator Tou Xiong
Senator Julia Coleman

Dear Conference Committee Conferees:

Clean water, healthy soil and fresh air are not only what pollinating insects, birds and mammals need to survive, but all of these make up the foundation that all humankind relies on to exist. There are many “canaries in the coal mine” to which we are wise to pay heed.

For these reasons, the Minnesota Environmental Partnership (MEP) Pollinator and Wildlife Cluster urges your support for the following provisions HF2310:

In HF2310 House version we urge your support for:

Proper Use and Disposal of Treated Seed, Funding 20.27, Language 129.27, 142.30, 171.22, 274.7, 274.12, 275.25, 276.13, 277.3
DNR pesticide restrictions, 195.8
Municipal Option for Local Control of Pesticides, 274.17, 275.1
*Lawns to Legumes, Funding 49.18, Language, 256.7
*Restore the Study of Neonics in Game Species, 40.9, 100.7

and in the HF2310 Senate version we urge your support for:

*Lawns to Legumes, Funding 43.32, Language 86.12
*Restore the Study of Neonics in Game Species, 25.32

*Included in both bills

The House and Senate versions have some funding differences in the Lawns to Legumes and the Study of Neonics in Game Species provisions. We hope the conference committee will resolve those within range of the differences.

We will be available throughout the conference committee process to answer any questions members may have.

Chris Cowen
Contract Lobbyist
Pesticide Action Network
651 402 6869

Minnesota Forestry Association
www.MinnesotaForestry.org
P.O. Box 6060 ● Grand Rapids, MN 55744
E-Mail: Info@MinnesotaForestry.org

Your Woodland, Your Legacy

TO: Conferee Members of the Environment and Natural Resources and Climate and Energy Conference Committee
FROM: Minnesota Forestry Association - MFA
100 Rev Dr Martin Luther King Jr Boulevard.
April 27, 2023

Senator and Chair Hawj	**Representative and Chair Hansen**
Senator and Chair Frentz	**Representative and Chair Acomb**
Senator and Vice-Chair McEwen	**Representative and Vice-Chair Jordan**
Senator Xiong	**Representative and Vice-Chair Kraft**
Senator Coleman	**Representative Hollin**

Founded in 1876 to promote stewardship of Minnesota's forests, the Minnesota Forestry Association (MFA) has become a leading advocate to encourage the retention and sustainable management of family-owned woodlands. Privately-owned forestlands comprise 40% of Minnesota's forests. Well-managed forests, a complex endeavor, protect water quality and provide critical wildlife habitats. Private forests also play a significant role in supplying wood to Minnesota's timber industry. Converting that wood to forest products, which sequesters carbon for long periods of time, also allows the regrowth of younger trees that sequester carbon faster than the trees that were harvested.

It is with that history and current context that we support a number of Senate and House Environment and Natural Resource Omnibus bill provisions. We want to highlight specific provisions that are critical to fostering healthy forests and identify one provision that gives us pause.

MFA strongly supports the following provisions:

- **Addressing EAB Wood Waste by:**
  - Grant funding for a wood dehydrator at the Koda biomass plant in Shakopee to process EAB wood waste (among other materials) and produce heat. MFA supports and encourages adoption of the House amount, at $4 Million (HF2310, Line 13.25), given the size and severity of the issue.
  - $37 million for a comprehensive EAB response program (HF2310, Line 200.19). This is in the House version and MFA strongly encourages the Senate to adopt these provisions. They include:
    - $28 million for District Energy in St. Paul to keep it viable as an EAB wood waste destination, which is the only option many counties currently have for disposal of waste wood.
    - $9 million for grants to local units of government for EAB response, for tree removal and planting.
    - $1 million for grants to schools to plant trees on school grounds.

- **Increasing and improving removal and replanting practices:** Funding for the Minnesota ReLeaf program, at $10 million each year of the 2024-25 biennium in the House version and $8.9 in the Senate (HF2310, Line 30.12 and SF2438, Line 28.4).
- State Parks tree removal and replacement with more climate-adapted tree species at $10 million in the House version (HF2310, Line 34.32).
- $9 million for tree removal and replacement in the Metro Regional Parks System in the House version. (HF2310, Line 53.24)
- $1.5 million for Serve Minnesota to "preserve and increase tree canopy throughout the state by training, supporting, and deploying AmeriCorps members to plant and inventory trees, develop and implement pest management plans." (HF2310, Line 70.20)
- $906,000 for seedlings for reforestation. Funding will go to the Board of Regents of the University of Minnesota and Duluth, to collaborate with The Nature Conservancy and Minnesota Extension. (HF2310, Line 74.29)

MFA has concerns about the following provision:

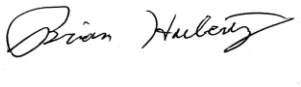
- **Lowland Conifer Carbon Reserve establishment**, which is found in the House Version (HF2310, Line 201.19).
  - While MFA is supportive of using forests for carbon sequestration through afforestation, applying management practices that encourage growth, and storing carbon in forest products, focusing on setting aside older lowland conifers from being harvested could be counterproductive. MFA has concerns about the unintended consequences of these changes. The changes are overly prescriptive and could interfere with healthy forest management practices. As an example, preventing the harvest of trees older than 90 years will result in letting some of them die. They will then emit carbon back into the atmosphere when they could have been utilized in forest products that would store their carbon. Another example includes managing *Mistle Toe*, a common invasive parasite that grows on *Black Spruce* trees. It can spread within a spruce stand, ultimately strangling and killing infected trees, which would emit carbon back to the atmosphere. Harvesting infested stands is a primary means of controlling the pest.
  - The provisions of the Carbon Reserve to only allow natural regeneration is problematic. Natural regeneration of poor unproductive lowland conifers (i.e. often referred to as stagnant) is not a problem since the sites have a more receptive sphagnum moss seed bed and can regenerate by layering (the lower tree branches take root in the moss to become a new tree.) It is the regeneration of black spruce on better growing sites that is concerning. These sites often need treatment by prescribed burning to prepare a seedbed by removing feather mosses because it makes poor seed beds. On large disturbances, such as damage from windstorms, foresters often need to use aerial seeding to regenerate the site. These examples are to highlight that we need to defer to expert forest management practitioners and not codify this into law.
  - Additionally, we have concerns about the compensation proposed for School Trust Fund lands for unproductive lowland conifers, which we will elaborate on, if requested.

Finally, MFA would prefer to see the goals in the 1/15/2023 "A Report to the MN Legislature: "Forest Carbon in Minnesota – Opportunities for Mitigating Climate Change" pursued as a more effective way to sequester carbon. View the goals in the attached summary found on page 5 of the report.

MFA is encouraged by the funding provisions put forth by the House and Senate Environment and Natural Resources Committee members and the Chairs' leadership. We look forward to watching these provisions

continue to move forward. Please see us as a resource should any forestry questions arise. For additional information, contact Sam Richie at srichie@fryberger.com or at (218) 301-9758.

Sincerely,



Brian Huberty

MFA President
Minnesota Forestry Association:
An organization of, by, and for private woodland owners and friends

Date: *April 28, 2023*
To: *Rep. Acomb, Sen. Frentz, Rep. Hansen, Sen. Hawj, Rep. Hollins, Rep. Jordan, Rep. Kraft, Sen. McEwen, Sen. Xiong, and Sen. Coleman.*
From: *The Minnesota Climate and Clean Energy Equity Network*

Support Local Solar to Benefit All Minnesotans

Dear Chair Hansen and Environment, Natural Resources, Climate, and Energy Conference Committee Members,

We commend the progress that the Minnesota Legislature has made this session to advance serious climate legislation. The 100% Carbon-Free Electricity Law lays the groundwork for a clean energy transition in Minnesota. However, more must be done to expand communities' and families' access to affordable local rooftop and community solar, to do right by Minnesotans and to get us to an equitable clean energy future.

We urge you to include the following policies in the final omnibus Environment, Natural Resources, Climate and Energy bill, HF2310:

- **Minnesota Climate Innovation Finance Authority |** Support House version HF2310, increasing appropriations to $45 million if possible.
- **Community Solar Gardens and Community Access Program |** Adopt certain principles in conference committee.
- **HOA Homeowners Right to Go Solar |** Support as written in House version HF2310.
- **Funding for Solar*Rewards |** Support certain provisions from each House version HF2310 and the Senate Companion.
- **Distributed Energy Resources Grid Upgrade Program |** Support as written in House version HF2310.
- **Small Interconnection Cost-Sharing Program |** Support as written in House version HF2310 and the Senate Companion.
- **Energy Storage Incentive Program |** Fund grants for energy storage systems ≤ 50 kW.
- **Intervenor Compensation |** Support as written in House version HF2310.

Our organizations convened after the 2022 election to ensure that the benefits of the clean energy transition accrue to all Minnesotans, not just the big utility corporations. We share a common goal of advancing energy democracy, equity, and justice, including through equitable local solar.

Minnesotans Need Local Solar

Local rooftop and community solar provide many benefits to Minnesotans. Research has found that local solar is a cost-effective way to clean up our power grid and it compares favorably with

utility-scale solar projects, when all costs are counted. Plus, rooftop solar and community solar create direct benefits for families and communities. They save people money on electricity bills, create jobs across the state, and increase the resiliency and reliability of our energy system.

Policies for Equitable Local Solar

As energy costs rise and communities feel the impacts of climate change, legislative action is needed to make sure the benefits of local solar are available to all Minnesotans, no matter their income, color, or location. We urge you to continue to support legislation that will boost equitable access to rooftop and community solar.

Policies that are essential to pass this session via the omnibus Environment, Natural Resources, Climate and Energy bill HF 2310 include:

Minnesota Climate Innovation Finance Authority | Support House version in HF2310, increasing appropriations to $45 million if possible.
HF2310 (Lines 291.28-292.5 and 369.12-382.11) / HF2310 Senate Companion (Lines 54.10-54.15 and 234.5-246.8)

- Boldly fund climate solutions by devoting at least $20 million to the establishment of MNCIFA as per HF2310, which would provide financing for more clean energy projects across the state and increase access to solar and energy efficiency for environmental justice communities, low-income households, and other historically underserved communities. If more funds become available to the conference committee, it should be a priority to increase this appropriation to $45 million, as originally proposed in HF2336/SF2301, to help scale Minnesota's equitable transition to clean energy and address the climate crisis.

Community Solar Gardens and Community Access Program | Adopt certain principles in conference committee.
HF2310 (Lines 389.7-393.19) / HF2310 Senate Companion (Lines 188.15-193.5)

- Create the Community Access Program as described in HF2310 to increase access to community solar for residential and low- and moderate-income (LMI) subscribers.
    - Subscribers should get Applicable Retail Rate or the Average Retail Rate if the garden meets the residential and LMI requirements. This would ensure that residential customers and LMI customers are fairly compensated for the renewable energy they produce to offset the energy they use.
    - The Community Access Program should not have an annual or total cap on the number of MW that are admitted into the program. This would help promote

truly equitable solar and make sure low- and moderate-income households aren't left behind as Minnesota builds out its solar capacity through means like a distributed generation (DG) program and utility-scale solar.

- Maintain the existing Community Solar Garden program, removing contiguous county requirements, increasing permitted project size from 1 MW to 5 MW and expanding the program to all public utilities, as detailed in HF2310.
- Order the Public Utilities Commission to develop a comparable, robust program for non-subscriber distributed solar to complement the subscriber-based programs and leave to the Commission to decide the best format, e.g. standard offer or request for proposals.

HOA Homeowners Right to Go Solar | Support as written in HF2310.
HF2310 (Lines 407.1-409.13) / SF2542 (Lines 24.11-26.24)

- Guarantee homeowners association (HOA) homeowners' right to go solar, while still allowing HOAs to set reasonable rules. Currently, HOAs are a major obstacle to more solar in Minnesota with 34% of Minnesota homeowners belonging to an HOA.

Funding for Solar*Rewards | Support certain provisions from each HF2310 and the Senate Companion.
HF2310 (Lines 385.23-387.6) / HF2310 Senate Companion (Lines 170.1-171.10)

- Use RDA funds to increase the Xcel Solar*Rewards program by at least $15 million over three years, to at least $10 million each year 2023-2025. (The Senate version increases funding by $15 million but allocates funding unevenly over the three years.) Establish a strong carve-out for supporting solar adoption by low-income customers, especially ownership of solar, dedicating half of program funding to low-income solar (HF2310 Senate Companion), to be administered as described in HF2310.

Distributed Energy Resources Grid Upgrade Program | Support as written in House Version HF2310.
HF2310 (Lines 298.14-298.23 and 404.1-406.31) / HF2310 Senate Companion (Lines 54.1-54.9, 63.27-64.16, and 223.4-226.5)

- Appropriate $10 million from the Renewable Development Account as provided in HF2310 to establish a fund for improvements to Xcel's electrical grid to enable more distributed solar. In some communities, such as Northfield, Red Wing and surrounding areas, the grid can accommodate no additional local solar without these upgrades. We call on the Distributed Energy Resource Systems Upgrade Program created in this bill to develop policies that require Xcel to maintain a grid that is distributed energy resources-ready as part of its obligation as a regulated monopoly.

Small Interconnection Cost-Sharing Program | Support as written in HF2310 and Senate Companion.
HF2310 (Lines 298.24-299.3) / HF2310 Senate Companion (Lines 63.27-64.16)

- Provide $250,000 to implement a small interconnection cost-sharing program for Xcel customers as ordered by the Public Utilities Commission. Xcel customers too often face exorbitant costs to connect their solar arrays to the grid. When the utility claims its local distribution grid needs upgrades to connect more solar, the customer has to foot the bill or cancel the project. Xcel customers will be able to tap these funds to cover up to $15,000 in grid upgrade costs. The fund will be replenished by a $200 fee most solar owners will pay to interconnect their project.

Energy Storage Incentive Program | Fund grants for energy storage systems ≤ 50 kW.
HF2310 (Lines 286.12-286.30, 297.28-297.34, and 342.15-343.16) / HF2310 Senate Companion (Lines 56.7-56.23, 63.18-63.26, and 229.20-230.16)

- Provide an upfront grant incentive to electric customers that install energy storage systems up to 50 kW to encourage adoption of energy storage technologies.

Intervenor Compensation | Support as written in House version HF2310.
HF2310 (Lines 358.3-362.32) / HF2310 Senate Companion (Lines 203.1-208.17)

- Update the existing statute that compensates qualifying public-interest intervenors in certain Public Utilities Commission proceedings to enable greater participation by many of the communities who are most impacted by high energy costs, including low-income households, BIPOC communities, and renters. It's essential to adopt this policy as written in the House and Senate omnibus bills with no sunset.

We look forward to enacting this essential legislation to save families money, strengthen our communities, and fight climate change. Please let us know if you would like to discuss any of these policies with you in further detail.

Sincerely,

Minnesota Climate and Clean Energy Equity Network

Institute for Local Self-Reliance	Cooperative Energy Futures	
Solar United Neighbors of Minnesota	Minneapolis Climate Action	*(cont.)*

Sierra Club North Star Chapter

Communities Organizing Power and Action for Latinos-COPAL

Coalition for Community Solar Access (CCSA)

MN Interfaith Power & Light

Oak Grove Presbyterian Green Committee

Minnesota Well Owners Organization

Hastings Environmental Protectors

Friends of Minnesota Scientific and Natural Areas

Vote Solar

Minnesota Solar Energy Industries Association (MnSEIA)

CURE

Minnesota Center for Environmental Advocacy

Community Power

Vote Climate

League of Women Voters Minnesota

BUILDING TRADES
AFL-CIO
MINNESOTA STATE BUILDING & CONSTRUCTION TRADES COUNCIL

Chair Hansen, Chair Hawj, Chair Acomb, Chair Frentz, and Members of the House and Senate Environment Committees:

On behalf of the 70,000 skilled construction workers represented by unions affiliated with the Minnesota Building and Construction Trades Council, I want to thank you for your commitment to working people, and ask for your consideration as you negotiate an omnibus finance and policy bill. Whether union construction workers are repowering wind turbines or removing lead pipes or building geothermal energy systems, our members are on the front lines of efforts to protect Minnesota's environmental resources and accelerate the state's energy transition.

The House and Senate Environment and Energy Omnibus Bills propose investments that create good union jobs and incorporate strong labor protections in key funding programs. We hope that the committee will adopt the Senate's proposal to make substantial investments in improving stormwater infrastructure to prepare for increasingly frequent extreme weather events. We support proposals to invest in critical transmission and distribution infrastructure through Minnesota Power's proposed HVDC upgrade and electric cooperative grid resiliency improvements. And we support House and Senate proposals to help finance electric panel upgrades and solar generation on public facilities, and to direct Minnesota utilities to invest in charging infrastructure.

Strong labor standards are crucial not only to ensure a beneficial energy transition but also to attract the next generation of skilled construction workers, so we appreciate the inclusion of prevailing wage requirements covering a wide range of programs – from electric panel upgrades to solar on schools to other initiatives funded through the Renewable Development Account. One area of long standing concern has been the lack of prevailing wage protection for workers building Community Solar Gardens and other distributed generation, so we appreciate the Senate's proposal to expand coverage and ensure consistent standards for utility and community-scale solar.

While we generally support the direction taken by House and Senate funding and policy proposals, we want to highlight two areas of concern. First, with respect to intervenor compensation, Minnesota Building Trades supports efforts to bring more voices from underrepresented communities into the Public Utilities Commission process, and appreciate the Senate's efforts to do so in a manner that serves customers and the public interest in a fair and efficient process for approving critical energy projects.

At the same time, we oppose the House proposal to vastly expand the existing program without creating meaningful guardrails to protect customers and stakeholders - including union members, local communities, and others that are ineligible or lack expertise and resources needed to secure compensation. We shared these concerns in March, and are disappointed that they were never addressed.

Dan McConnell, President • Don Mullin, Secretary Treasurer • Tom Dicklich, Executive Director
353 W. 7th STREET, ROOM 105, ST. PAUL, MN 55102 • TEL (651) 287-9999 • www.minnesotabuildingtrades.org

While the Senate proposal represents a large increase in the size and scope of intervenor compensation, it focuses on those proceedings where intervention is most likely to be helpful rather than harmful to ratepayers and Minnesotans as a whole. The Senate language minimizes the likelihood that ratepayer funds could be used to delay or block utility investments that are needed to meet the state's energy goals. Further, the proposed five-year sunset represents a reasonable compromise between organizations that seek ratepayer funding for their advocacy and unions whose members will be asked to help fund that advocacy.

Second, the Minnesota Building Trades remains deeply concerned by cumulative impacts proposals included in both House and Senate Environment omnibus bills, but we appreciate the willingness of the bill authors and conference committee members to continue working toward solutions that address environmental justice concerns without jeopardizing family-supporting jobs and vital services.

As indicated in a prior letter to House and Senate Environment Committees, we support action to combat environmental racism, but do not believe that the current proposals are well designed to accomplish this objective. Instead, the proposal could make it impossible to build new facilities or operate existing facilities in areas where loss of union jobs could have a greater negative health impact than the facilities themselves.

We are troubled by the fact that no comprehensive list of facilities whose permits could be terminated has been made available to the public, but our own research suggests that the legislation might endanger existing family-supporting jobs at dozens of facilities across the Twin Cities metro area. At least two-thirds of the facilities that we identified employ union operations workforce, and nearly all rely on Building Trades for occasional or ongoing maintenance and construction.

We believe that these flaws are a result of decisions to exclude the voices of workers and their unions from initial stakeholder discussions, but we appreciate the current willingness of the bill authors and advocates to collaborate on changes that advance mutual goals. Specifically, we recommend altering review criteria to focus on permits with the potential to substantially impact communities of color and immigrant communities facing elevated levels of pollution. We also recommend giving regulators discretion to weigh environmental and socioeconomic impacts of permit decisions. Lastly we suggest clarification of community benefit "off-ramp" criteria and requirements.

We thank the chairs and committee members for your consideration and hope to see our concerns addressed through the current bill or a stakeholder process that allows for robust solutions to be adopted in the coming year.

Sincerely,

Tom Dicklich
Executive Director

ASSOCIATION OF HOME APPLIANCE MANUFACTURERS

1111 19th Street NW ➢ Suite 402 ➢ Washington, DC 20036
t 202.872.5955 f 202.872.9354 www.aham.org

April 30, 2023

RE: Oppose- HF 2310/SF 2438, Omnibus environment, natural resources, climate, and energy finance and policy bill.

Dear Senate and House Conferees,

The Association of Home Appliance Manufacturers (AHAM) strongly urges the committee to oppose the PFAS provisions HF 2310/SF 2438, which would ban products containing PFAS substances, including products with environmentally friendly HFO blowing agents.

AHAM members produce hundreds of millions of products each year. They design and build products at the highest levels of quality and safety. As such, they have demonstrated their commitment to strong internal safety design, monitoring, and evaluation/failure analysis systems. Together with industry design practices, test requirements, and redundant safety mechanisms PFAS chemicals play an important role in the safety profile of household appliances in their great resistance to high temperatures.

Among the problems with this legislation is the broad grouping of PFAS substances. The definition of PFAS in the bill includes possibly 10,000 substances, which should not be treated as a single class. Based on the bill's definition of PFAS chemicals, a hydrofluoroolefin (HFO) foam blowing agent would be banned. HFOs are one of the more climate friendly alternatives for HFCs for use as refrigerator insulation foam blowing agents. These blends also are climate friendly alternatives as refrigerants in room air conditioners, portable air conditioners and dehumidifiers. In fact, the U.S. Environmental Protection Agency (EPA) and many states required a transition to these and other low global warming potential (GWP) foam blowing agents and refrigerants. These chemicals were approved under EPA's Significant New Alternatives Policy (SNAP) program, which included an environmental review.[1] Ultimately, the use of such a broad definition could needlessly impose new requirements on products and technologies deemed safe and environmentally beneficial. We request that the Conference Committee seek to exclude HFO foam blowing agents from this prohibition.

The proposal also prohibits the sale of cookware in 2025 if the product contains intentionally added PFAS. The definition of cookware states that it "includes but is not limited to pots, pans, skillets, grills, baking sheets, baking molds, trays, bowls, and cooking utensils." In 2021, the State

[1] *See* Protection of Stratospheric Ozone: Listing of Substitutes Under the Significant New Alternatives Policy Program, Final Rule at 86 Fed. Reg. 24444.

of California passed a cookware disclosure law[2] and clarified the definition of cookware by removing "but is not limited to" language so that cookware is only the items listed in the bill. We strongly recommend harmonizing with California's law to at least remove one area of uncertainty and conflicting laws around the country.

AHAM has conducted a member survey in a good faith effort to determine the extent to which PFAS is used in home appliances. AHAM members indicated portable and major kitchen appliances contain PFAS chemicals but in trace amounts, ranging from as low as 0.001 to 0.07 lbs. per unit. In almost all cases, the use of PFAS was confined to internal components and parts, such as bolts and washers, plastic brackets, and wire terminals with no direct exposure to consumers during use. This material is added during the manufacturing process, which reduces the potential for any consumer exposure during use or transmission to the environment.

It is also extremely important to consider potential alternatives with any restrictions. In some instances, such as in front load washers, the ball bearings which sustain the stainless steel basket are a very critical structural parts where PFAS is present and there are no other viable solutions at the moment. Another important thing to consider is that appliance manufacturers employ a complex, global supply chain for thousands of models with hundreds of thousands of components, often involving multi-tiered suppliers located on multiple continents. Gathering detailed information on any given chemical, let alone a chemical class as broad as PFAS, is extremely difficult even for one given year.

Presently, the Maine Department of Environmental Protection (DEP) is undertaking the task directed by their legislature for similar reporting structure. Despite having over a year to construct a rule-making, they have yet to formalize it while the first reporting requirement has already passed. Last year, the Governor of California vetoed similar legislation in part because the EPA "is currently undergoing rulemaking to require reporting of PFAS." The EPA has implemented a PFAS Action Plan that has served as a roadmap for the agency's activities addressing PFAS chemicals. Thank you for the opportunity to present this written statement to the hearing record.

Sincerely,

John Keane

John Keane
Manager of Government Relations

AHAM represents more than 150 member companies that manufacture 90% of the major, portable and floor care appliances shipped for sale in the U.S. Home appliances are the heart of the home, and AHAM members provide safe, innovative, sustainable and efficient products that enhance consumers' lives. In Minnesota, the home appliance industry is a significant and critical segment of the economy. The total economic impact of the home appliance industry to

[2] https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=202120220AB1200

Minnesota is $3.6 billion, more than 20,000 direct and indirect jobs, $468.5 million in state tax revenue, and more than $1.2 billion in wages. The home appliance industry, through its products and innovation, is essential to consumer lifestyle, health, safety and convenience. Home appliances also are a success story in terms of energy efficiency and environmental protection.

MINNESOTA afl-cio
A STRONG, UNITED VOICE FOR MINNESOTA'S WORKING PEOPLE

April 28, 2023

Senator Foung Hawj
3231 Senate Office Building
St. Paul, MN 55155

Rep. Rick Hanson
407 State Office Building
St. Paul, MN 55155

Dear House & Senate Conferees,

On behalf of more than 300,000 union members in every corner of our state and all working people, we're writing to help inform your work as you craft the omnibus environment, natural resources, climate, and energy finance and policy bill. There are many provisions in both House and Senate bills that will create new family-sustaining union jobs and help with a just transition to cleaner energy sources.

We thank the House and Senate for including significant investments for energy and environmental improvements that will create high-quality union jobs. We strongly support proposed spending in climate resiliency grants which will help Minnesota communities manage stormwater and other infrastructure challenges that have been exacerbated by climate change. We also support investments in electric buses and charging infrastructure, electric panel upgrades, and installation of solar on schools and other public buildings.

We urge the committee to fund for several critical funding priorities contained in the Senate but not the House bill. These projects include $17.5 million in funding for Minnesota Power's proposed HVDC upgrade, which will help to unlock clean energy opportunities; support decarbonization of mining and other heavy industry that employs hundreds of union members in Northern Minnesota; and create hundreds of new jobs for members in the construction trades. We also support proposals to fund research into advanced nuclear generation and battery storage which could each play a key role in our energy transition and position our state to be a clean energy leader. Finally, we support grants for local climate action proposed by the House, and grants for Tribal energy programs and electric cooperative grid resiliency proposed by the Senate.

Most importantly, we appreciate both chambers' commitment to incorporating strong labor protections in the Energy and Environment sections of both bills. These provisions include prevailing wage requirements for projects funded by the Renewable Development Account (RDA) and other programs authorized by the bill and authorization for the Minnesota Climate Finance Authority to require use of Project Labor Agreements. We encourage the committee to make such labor protections consistent across programs, including Community Solar Gardens and other ratepayer-subsidized distributed generation projects.

Thank you for your consideration and please reach out if you have any questions.

Sincerely,

Bernie Burnham
President

Brad Lehto
Secretary-Treasurer

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St. Paul, MN 55103
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Web Site: www.mnaflcio.org

LOCAL 12

April 30, 2023

Chair Rick Hansen
House Environment and Natural Resources Finance and Policy Committee
407 State Office Building
100 Rev. Dr. Martin Luther King Jr. Blvd.
Saint Paul, MN 55155

Chair Foung Hawj
MN Senate Environment, Climate, and Energy Committee
1150 State Office Building
75 Rev. Dr. Martin Luther King Jr. Blvd.
St. Paul, MN 55155

Chair Nick Frentz
Energy, Utilities, Environment, and Climate Committee
1150 State Office Building
75 Rev. Dr. Martin Luther King Jr. Blvd.
St. Paul, MN 55155

RE: Support for critical Chronic Wasting Disease (CWD) management provisions in Minnesota Environment Omnibus Bills HF 2310/SF2438

Dear Chair Rick Hanson, Chair Foung Hawj, Chair Nick Frentz, and Environment, Natural Resources, Climate and Energy Conference Committee members,

The undersigned hunting and conservation organizations write on behalf of thousands of outdoor enthusiasts across Minnesota who understand the value of protecting Minnesota's deer hunting heritage and wild deer herds from the spread of Chronic Wasting Disease (CWD). Deer hunting is a deep-rooted tradition amongst Minnesotans. Nearly 500,000 deer hunting licenses are purchased across the state each year, and deer hunting alone generates nearly $500 million annually in total economic activity for the state, reflecting how crucial deer hunting is to Minnesota's outdoor economy.

We urge you to support critical Chronic Wasting Disease management improvements proposed in Minnesota Environment Omnibus Bills HF 2310 and SF 2438, which contain multiple provisions that tighten regulations concerning captive deer herds in an effort to curb the spread of CWD in Minnesota and would protect the cultural and economic value of deer hunting for Minnesota's future generations.

CWD is one of the most significant threats to wildlife conservation we have encountered over the last century. As many states have learned, preventing the spread of this always-fatal disease is a daunting task, and early detection and rapid response, once located, is critical for long-term management. Although new cases have been found in areas of the state thought free of the disease, Minnesota is currently well-positioned to combat CWD and keep infection rates low. To maintain this offensive position, those who interact with wild and captive deer must act with the utmost care for the wild deer population. Through proposed strong captive cervid provisions, HF 2310 and SF 2438 would greatly benefit Minnesota in its ongoing fight against CWD.

Specifically, these bills would:

- Require farmed cervid owners to notify of an escaped cervid within 24 hours;
- Require fencing for farmed cervids that would prevent physical contact with wild cervids;
- Prohibit moving a farmed white-tailed deer from a CWD-positive herd;
- Prohibit the importation of live cervid or cervid semen from a herd that has been exposed to CWD;
- Require the Board of Animal Health (BAH) to conduct annual testing of farmed white-tailed deer with RT-QuIC;
- Prohibit the Board of Animal Health (BAH) from issuing new registrations for the possession of captive white-tailed deer;
- Prohibit the movement of farmed white-tailed deer from a herd that tests positive for chronic wasting disease from any premises to another location;
- Establish new CWD testing protocol for captive deer facilities;
- Establish new procedures for captive deer facilities to comply with following the detection of CWD on the premises; and
- authorize the Department of Natural Resources (DNR) to contract with the Board of Animal Health to administer some or all of the statutes that govern farmed white-tailed deer once those duties are transferred to the DNR

Additionally, the bills amend the existing statute with more strict language with respect to escaped farmed cervid procedures, farmed cervid fencing requirements, farmed cervid identification requirements, and cervid carcass transportation rules.

CWD can spread quickly when positive animals are moved across the landscape. Deer hunters across Minnesota are subject to rules and regulations regarding mandatory CWD testing of hunter-harvested deer where CWD is detected and restrictions for transporting harvested deer into and within the state. As CWD spreads, more hunters are subject to these new regulations. Hunters are and will continue to combat CWD in line with the rules and regulations provided by state agencies.

The captive deer industry in Minnesota is considered the primary vector for the spread of CWD throughout the state. Cervids kept captive are more susceptible to the spread of disease, and the movement of captive cervids over long distances gives the disease an easy opportunity to spread across the state. Therefore, limiting contact between captive and wild deer is crucial. Additionally, double fencing for commercial deer farms can help prevent the escape of farmed deer or entry into the premises by wild deer, and also contact between farmed and wild herds through a fence.

The prohibition of new registrations for captive herds and the movement of captive white-tailed deer from any premises to another location will aid in limiting the spread of the disease and reduce the opportunity for contact between captive and wild deer. Finally, a new and more robust CWD testing protocol will help ensure that CWD-positive individuals are not transported, released, or disposed of in a manner that threatens wild deer in Minnesota.

We strongly urge you to prioritize critical improvements to CWD management and prevention proposed in this legislation to aid in the ongoing fight against Chronic Wasting Disease in Minnesota and help protect our hunting heritage for future generations.

Thank you for your consideration of this request,

Minnesota Conservation Federation

Backcountry Hunters and Anglers- Minnesota Chapter

Bluffland Whitetails

Izaak Walton League- Minnesota Chapter

Minnesota Deer Hunters Association

National Deer Association

National Wildlife Federation

Sportsmen for the Boundary Waters

The Wildlife Society- Minnesota Chapter

CC: Rep. Acomb, Rep. Hollins, Rep. Jordan, Rep Kraft, Sen. McEwen, Sen. Xiong, Sen. Coleman

MINNESOTA ETHANOL

Minnesota Ethanol Producers Association
701 Industrial Drive, Preston, MN 55965

April 28, 2023

The Honorable Foung Hawj
Senate Environment, Climate, and Legacy
3231 Minnesota Senate Building
95 University Avenue W.
St. Paul, MN 55155

The Honorable Rick Hansen
House Environment and Natural Resources
407 State Office Building
100 Rev. Dr. Martin Luther King Jr. Blvd.
St. Paul, MN 55155

RE: Article 3, Section 6 of HF 2310 (House)

Dear Chair Hawj, Chair Hansen, and Environment, Natural Resources, Climate, and Energy Conferees:

We write to share our concerns with Article 3, Section 6 of HF 2310 (House) related to the requirement for biofuel processing plants to monitor wastewater for the presence of neonicotinoid pesticides and perfluoroalkyl or polyfluoroalkyl substances (PFAS). While we strongly support and maintain existing federal and state safety controls, the additional monitoring requirements created in Article 3, Section 6 of HF 2310 (House) are redundant, unnecessary, and will not produce meaningful data.

The Presence of PFAS is Near Universal

Neither PFAS nor neonicotinoid pesticides are used in the production of biofuels. Further, the bioprocessing facilities we represent never actively used synthetic PFAS-containing foams to suppress fires, and PFAS-containing foams stored at our facilities were removed in 2022.

According to the U.S. Environmental Protection Agency (EPA), "because of their widespread use and their persistence in the environment, any PFAS are found in the blood of people and animals all over the world and are present at low levels in a variety of food products and in the environment." Given the widespread use and near-universal presence of PFAS, including in food, packaging, household, and beauty products, it would be irresponsible to single out biofuel producers for PFAS monitoring, and nearly impossible to discern if the presence of any PFAS is unique or the result of external factors.

Existing Federal, State and Commercial Safety Controls Safeguard Feed from Pesticides

Recognize that each of the bioprocessing facilities we represent already has a rigorous food safety plan in place, routinely conducts hazard analysis to review all potential hazards that can enter into the process (e.g., treated seed or unlawful pesticides), and has well-established procedures to prevent hazards from occurring. Per federal regulations (21 CFR 2.25), treated seed with poisonous treatments is already addressed through our hazard analysis and prevented from entering the manufacturing process.

As feed producers, we already have stringent requirements in place regarding the quality and safety of the products we supply, including federal and state inspections, testing products prior to acceptance or prior to a shipment leaving the U.S., requesting letters of guarantees, documenting supplier approval processes, and conducting third-party audits. There is also significant existing oversight provided to the MDA. For example, MDA can and does carry out inspections on behalf of the FDA, and the commissioner or agent has a right to obtain samples (MCFL 25.41).

Given the strict safety measures enforced currently by federal and state agencies, and the substantial testing requirements under existing commercial agreements, we believe the provision in Article 3, Section 6 of HF2310 (House) creating new monitoring requirements on bioprocessing facilities will not create any additional protections from neonicotinoid pesticides or control the presence of PFASs.

Please oppose the language in Article 3, Section 6 of HF 2310 (House) and do not adopt the provision into the HF 2310 Conference Committee Report.

Sincerely,

CHRIS HANSON
General Manager
POET Biorefining—Preston

TERRY HURLBURT
General Manager
POET Biorefining—Bingham Lake

SHANE ROBY
General Manager
POET Biorefining—Lake Crystal

RUSS GERMANN
General Manager
POET Biorefining—Glenville

CC: Senator Frentz
Senator McEwen
Senator Xiong
Senator Coleman
Representative Acomb
Representative Hollins
Representative Jordan
Representative Kraft

April 30, 2023

Environment, Natural Resources, Climate and Energy Committee
123 State Capitol
75 Rev. Dr. Martin Luther King, Jr. Blvd.
Saint Paul, MN 55155

Re: HF 2310 / SF 2438 - OPPOSE
Submitted via e-mail to: Peter.Strohmeier@house.mn.gov and Kara.Josephson@senate.mn
Submitted on April 30, 2023, prior to 12:00 pm Central Time, on or around 8:00 am.

Dear Chair Representative Hansen and Senate and House Conferees:

The American Coatings Association ("ACA")[1] appreciates the opportunity to comment in opposition to HF 2310 / SF 2438. The Association's membership represents 90% of the U.S. paint and coatings industry, including downstream users of chemicals who manufacture end-use formulated products such as paints, coatings, sealants and adhesives. ACA appreciates the committee's willingness to interact with stakeholders during this process.

PFAS encompasses a variety of fluorinated chemistries with very distinct physical and chemical properties, used in a variety of products. PFAS or fluorinated chemistries are generally known to be persistent, due to carbon-fluorine bonds, but have varying properties for toxicity and bioaccumulation. Generally, persistence alone is not an indicator of risk or potential for harm. Scientists consider persistence as one factor with toxicity and potential to bioaccumulate. Because of these varying characteristics, Minnesota's adoption of a broad PFAS definition inevitably captures a diverse range of reportable chemicals that are not harmful to human health or the environment. In addition, reporting through one standardized approach for a broad set of chemicals is challenging, due to complexities in the supply chain and difficulty in identifying reportable chemicals across thousands of products. ACA encourages the State of Minnesota to focus any legislative restrictions on those fluorinated chemistries that are associated with contamination in Minnesota, rather than enacting a broad reporting requirement.

[1] ACA is a voluntary, non-profit trade association working to advance the needs of the paint and coatings industry and the professionals who work in it. The organization represents paint and coatings manufacturers, raw materials suppliers, distributors, and technical professionals. ACA serves as an advocate and ally for members on legislative, regulatory and judicial issues, and provides forums for the advancement and promotion of the industry through educational and professional development services. ACA's membership represents over 90 percent of the total domestic production of paints and coatings in the country.

Not only is a broad reporting requirement of little public or environmental benefit, it is costly and administratively difficult to implement. A similar reporting requirement has proven challenging to implement in Maine. The Maine legislature is now considering amendments to its reporting requirement, passed in June 2021, since the act is administratively unworkable, with unrealistic data expectations and reporting times and an overly broad definition of PFAS. ACA urges this committee to avoid following the same path as Maine.

Minnesota's HF 2310 / SF 2438 has several provisions that are difficult to administer and necessary. For example, the definition of PFAS would encompass any chemical with a carbon-fluorine bond, although many chemicals covered under this broad definition are not associated with contamination, especially the short-chained fluorinated chemistries. The bill also implements a sweeping ban of a broad range of products, many of which have some critical function for society and/or pose no human health or environmental risk, due to PFAS content. Further, the bill assumes that adequate testing methods are available when this simply is not the case. EPA test methods focus on environmental and drinking water contamination. Test methods for PFAS in products are still being developed. In addition, downstream users of chemicals face significant challenges in identifying reportable amounts, often contained at trace levels.

ACA is in opposition to HF 2310 / SF 2438 due to the lack of a clear public benefit coupled with significant administrative costs and administrative barriers. If the legislature would like to address fluorinated chemicals, ACA recommends that this committee develop targeted legislation to address those chemicals associated with contamination in the state, identified by CAS number.

Sincerely,

Riaz Zaman
Sr. Counsel, Government Affairs
American Coatings Association
901 New York Ave., Ste. 300
Washington, DC 20001
202-719-3715
rzaman@paint.org

April 28, 2023

The Honorable Foung Hawj, Chair
The Honorable Rick Hansen, Chair
Conference Committee on Environment, Natural Resources, Climate and Energy
Minnesota State Capitol
St. Paul, MN 55155

RE: Article 7, Sections 4-5 of HF 2310: Application of certain pesticides prohibited- OPPOSE

Dear Senate & House Conferees:

On behalf of the Household & Commercial Products Association (HCPA), we are respectfully opposed to provisions (Article 7, Sections 4-5) in HF 2310 relative to the regulation of pesticides.

The Household & Commercial Products Association (HCPA) is the premier trade association representing the interests of companies engaged in the manufacture, formulation, distribution and sale of more than $180 billion annually in the U.S. of familiar consumer products that help household and institutional customers create cleaner and healthier environments. HCPA member companies employ hundreds of thousands of people globally. Products HCPA represents include disinfectants that kill germs in homes, hospitals and restaurants; air fresheners, room deodorizers, and candles that eliminate odors; pest management products for home, lawn and garden, and pets; cleaning products and polishes for use throughout the home and institutions; products used to protect and improve the performance and appearance of automobiles; aerosol products and a host of other products used every day.

Proposal will lead to a maze of regulations and enforcement

The precedent HF 2310 sets for local regulation of pesticides identified in the bill is unnecessary and would lead to troubling consequences. Federal law requires that before selling or distributing a pesticide in the United States, a person or company must obtain registration, or license from the U.S. Environmental Protection Agency (EPA).[1] Before registering a new pesticide or new use for a registered pesticide, EPA must first ensure that the pesticide, when used according to label directions, can be used with a reasonable certainty of no harm to human health and without posing unreasonable risks to

[1] According to the EPA, "The process of registering a pesticide is a scientific, legal, and administrative procedure through which EPA examines the ingredients of the pesticide; the specific site or crop where it is to be used; the amount, frequency, and timing of its use; and storage and disposal practices. The agency evaluates registration applications to assess a wide variety of potential health and environmental effects associated with use of the product. EPA evaluates and approves the language that appears on each pesticide label to ensure the directions for use, including safety measures, appropriately address potential risks."

the environment. EPA risk assessment is a process guided by scientific advisory panels. Localities do not have the expertise of chemists, scientists, or legal resources to effectively regulate pesticides compared to the EPA or Minnesota Department of Agriculture. Furthermore, this approach would establish a maze of regulations across 107 Home Rule cities and 746 Statutory cities, making compliance incredibly difficult.

Bill would lead to restrictions on common and important pest management tools

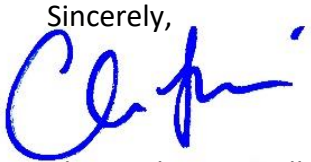
With respect to the scope of the restrictions, by including any pesticide with a precautionary statement about bees or pollinators, the provisions would capture a wide range of commonly used pesticides without an appropriate evaluation. HCPA appreciates the recognition within the bill that different application and use types are important to distinguish, such as pet products and indoor use. Not all products or uses are the same.

However, the approach the bill uses to regulate pesticides is flawed because it seeks to authorize a ban on all forms of insecticides with a pollinator label, and then attempts to enumerate all the possible instances that would be acceptable for use – presumably because they won't impact pollinators. This approach assumes the Legislature will successfully identify and capture all the possible uses it believes is appropriate. The language in the bill continues to restrict common consumer pesticidal products used outdoors such as fly abatement strips, scatter bait, and other important household insect pest management tools that do not interact with pollinators.

Finally, a comprehensive report by U.S. Department of Agriculture (USDA) and the USDA National Agricultural Statistics Service (NASS) describe a broad range of issues or "stressors" negatively affecting bees, including habitat loss, parasites and diseases, lack of genetic diversity, climate change, pesticides, reduced forage options and pathogens. The research and data collected nationally and specific to Minnesota shows the leading stressor to honeybee colonies is overwhelmingly varroa mites. Any legislation seeking to protect pollinator populations that ignores the most influential stressors will not be successful.

We support continued research on the risks to bee health and readily acknowledge the critical importance of pollinators to the agricultural economy and environment, however, in recognition of the work by the US EPA and lack of adequate science to support the measure, HCPA urges the Legislature to reject local regulation of pesticides.

Sincerely,



Christopher Finarelli
Director, State Government Relations & Public Policy - Western Region

April 28, 2023
RE: HF2310/SF2438 – **OPPOSE**

Dear Senate and House Conferees,

The undersigned organizations must respectfully take an OPPOSE position on HF 2310/SF 2438, legislation that would impose broad reporting requirements on manufacturers of all products containing PFAS sold in Minnesota, ban the sale of products containing PFAS in a variety of product categories and establish a future regulatory scheme to ban additional product categories containing PFAS.

<u>This legislation is overly broad, lacks scientific basis and will have significant unintended consequences and could eventually ban thousands of products from sale and transport of those products into Minnesota</u>. It would be one of the broadest bans on products containing PFAS in the nation and would have far reaching negative consequences on nearly every sector of the economy including aerospace, autos, powersports, alternative energy, healthcare, medical devices, building and construction, electronics, pharmaceuticals, and agriculture.

PFAS are a diverse universe of chemistries that enable a huge range of products and sectors – everything from electronics, semiconductors, automotive, aerospace, and alternative energy. **However, all PFAS are not the same**. It is neither scientifically accurate nor appropriate to group all PFAS together. This broad universe of chemistries includes liquids, gasses, and solids.

There has been a lot of work done to assess individual PFAS compounds and to look at appropriate sub-groupings within this broad universe. Grouping these substances together is also inconsistent with the views of key policy organizations including the National Academies of Science, Engineering, and Medicine (NASEM), the Environmental Council of the States (ECOS), and various states that have looked at this specifically.

Today's PFAS are essential to modern life and an important enabling technology. These chemistries provide products with strength, durability, stability, and resilience. **These properties are critical to the reliability and safe function of a broad range of products that are important for industry and consumers.** They play a vital role in everything from designing automobiles with low emissions and improved safety, reliability, and fuel efficiency to manufacturing semiconductors, solar panel and high-performance electronics. Multiple industries depend on high-performance PFAS including aerospace, autos, powersports, alternative energy (solar, wind), healthcare, medical devices, building and construction, electronics, chemicals and pharmaceuticals, oil and gas, and outdoor apparel and equipment, among other industries.

In this regard, the legislation would undermine effective product design, and in some cases, even overall product safety and efficacy for a broad range of products - including applications that are important for public safety and public health. One critical example and timely example, this bill would currently restrict critical materials that are essential to the COVID vaccine distribution and COVID testing, as well as the medical equipment used by healthcare providers that are on the front-line of fighting the COVID pandemic. This may not be the intent of the legislation, but this is the reality.

This bill also would adversely impact critical uses of this technology that are important for our society's broader sustainability objectives, including support for alternative energy and greenhouse gas reduction efforts. For example, lithium-ion electric vehicle batteries contain innovative fluoropolymer technology and are a critical product to Minnesota.

This legislation would have a significant impact on Minnesota in terms of the availability of critical products that are approved and used elsewhere. It would also foster an unworkable patchwork of state regulation with significant implications for Minnesota citizens, businesses and public entities, effectively isolating Minnesota from the rest of the country.

For these reasons, we must respectfully oppose HF 2310/SF 2438. Thank you in advance for considering our views. Should you have any questions, please contact Marcus Branstad at marcus_branstad@americanchemistry.com.

Sincerely,

American Chemistry Council

ACC Spray Foam Coalition

AGC Chemicals Americas Inc.

Agricultural Retailers Association

Alliance for Automotive Innovation

American Coatings Association

American Fuel and Petrochemical Manufacturers (AFPM)

American Petroleum Institute (API)

Animal Health Institute (AHI)

Arkema

Association of Equipment Manufacturers (AEM)

Association of Home Appliance Manufacturers (AHAM)

BASF

Carlisle Spray Foam Insulation

The Chemours Company

Communications Cable & Connectivity Association (CCCA)

Consumer Brands Association (CBA)

Consumer Technology Association (CTA)

Covestro LLC

Creative Polymer Solutions

CropLife America

Dupont

Fluid Sealing Association (FSA)

General Coatings Manufacturing Corp

Gujrat Fluorochemicals

Holcim

Huntsman

Hydraulic Institute

ICP Group

IDI Distributors

INDA, Association of the Nonwoven Fabrics Industry

Information Technology Industry Council (ITI)

ISSA, The Worldwide Cleaning Industry Association

Johns Manville

Juvenile Products Manufacturers Association (JPMA)

MEMA. The Vehicle Suppliers Association

Millipore Sigma

Motorcycle Industry Council (MIC)

National Association of Chemical Distributors (NACD)

National Council of Textile Organizations (NCTO)

National Electrical Manufacturers Association (NEMA)

National Insulation Contractors' Exchange, LLC (NICE)

National Marine Manufacturers Association (NMMA)

Natural Polymers, LLC

NCFI Polyurethanes

Outdoor Power Equipment Institute (OPEI)

Performance Fluoropolymer Partnership

Pine Chemicals Association International (PCA)

Plastics Industry Association

PRINTING United Alliance

Recreational Off-Highway Vehicle Association (ROHVA)

Responsible Industry for a Sound Environment (RISE)

Rhino Linings

Specialty Vehicle Institute of America (SVIA)

Spray Polyurethane Foam Alliance (SPFA)

Solvay

SWD Urethane

The Toy Association

Truck and Engine Manufacturers Association (EMA)

Window and Door Manufacturers Association

Generation Atomic
1878 Pascal Street
Saint Paul, MN 55113

April 28th, 2023

Dear Members of the Minnesota House Environment, Natural Resources, Climate and Energy Conference Committee,

We at Generation Atomic are writing to express our support for HF 2310, the Omnibus environment, natural resources, climate, and energy finance and policy bill which includes provisions that would appropriate funding for a study of advanced nuclear technologies. While this bill makes a well-rounded effort towards the state's energy policy, we believe that it is critical to explore all options when it comes to planning for Minnesota's energy future.

Generation Atomic supported the adoption of Minnesota's 100% carbon-free by 2040 bill which was signed into law earlier this year. We understand the importance of reducing our State's climate impact, but we also recognize the incredible technological challenge this commitment represents. To be successful in creating a reliable, affordable, and carbon free grid by 2040, it will require that policy makers have access to all the tools available. Nuclear energy has proven to be a vital part of the state's energy mix to date and has the potential to do so in the future as well.

According to the Energy Information Administration, in 2021, the majority of Minnesota's energy consumption still came from fossils like natural gas and coal. As a carbon-free power source with the highest capacity factor, nuclear represents an excellent option to both decarbonize the state's grid while also making sure the lights stay on in times of high demand and extreme weather. Advanced nuclear energy technologies also have the opportunity to provide long term, high-paying jobs to more of Minnesota's workforce during this transition. With the highest median salary and rates of unionization in the energy industry, repowering and replacing existing fossil facilities with new nuclear presents an opportunity for a just transition to impacted workers and their families. Their communities could benefit as well, as nuclear plants "on average deliver around $400 million annually to the economic livelihood of local communities". SF 2847 and the feasibility study included in this bill would work to better demonstrate these economic benefits, as well as the other ways nuclear can help Minnesota meet its goals in other areas.

Funding the advanced nuclear study now will help put these potential benefits into the context of Minnesota's specific electricity needs. Failure to do so will deny policy makers access to the information they need within the short timeframe remaining for planning and action. Ensuring that the advanced nuclear feasibility study is included in the final reconciled bill is an important step towards an energy future that takes into account both the real effects of climate change and the electricity needs of its constituents. We strongly encourage your support.

Thank you for your attention to this important issue.

Sincerely,

Eric Meyer
Executive Director
Generation Atomic

Philip Hult
Director of Government Affairs
Generation Atomic

Madison Schroder
Policy Coordinator
Generation Atomic

5/1/23

Honorable Foung Hawj

Chair, Senate Environment, Climate, and Legacy Committee

Minnesota State Senate

Saint Paul, Minnesota 55103

Honorable Rick Hansen

Chair, House Environment and Natural Resources Finance and Policy Committee

Minnesota House of Representatives

Saint Paul, Minnesota 55155

Support the Essential Industry Protecting Minnesotans Public Health, Safety, and Property, by Striking Art. 7, Section 4-5 from the Final Version of HF 2310

Chair Hawj, Chair Hansen, and members of the HF 2310 Conference Committee:

On behalf of the undersigned companies and organizations, the pest management industry urges you to strike Art. 7, Section 4-5 from the final version of HF 2310. These provisions would allow cities to undermine existing regulatory frameworks for pesticide applications in the state, putting the health, safety, and property of Minnesotans at risk. We applaud your efforts to protect pollinators in Minnesota, and respectfully offer our concerns with the above section and offer our services to the committee to craft the best version of HF 2310 for all Minnesotans.

The professional structural pest control industry and our certified commercial applicators, operators, and technicians use pesticide products in, on, and around structures to protect public health and property. Our industry professionally manages a wide range of structural pests with these products that include ants, bedbugs, mosquitos, ticks, and termites, among many other pests. Our member companies take pride in their role as protectors of public health and are keen stewards of the environment. We wish to work alongside the legislature to ensure thoughtful, science-based regulation wins the day.

The Minnesota Department of Agriculture (MDA) has regulated pesticides and has the sole regulative authority of pesticide application in Minnesota since 1987. Minnesota is one of 46 states across the nation that has this statutory preemption over local authorities. The MDA has professionals on staff to regulate and enforce Minnesota's pesticide laws. Our members are licensed by the MDA and if found misusing pesticides face fines, losing their licenses, and other disciplinary actions, unlike the everyday homeowner, who can purchase and use these pesticides with no oversight.

If this language is included, all of Minnesota's 853 cities would have the ability to bypass MDA and become the licensing, regulatory, and enforcement entity for pesticides within their borders. This scenario presents a myriad of problems for both public health and for business compliance. The average technician in Minnesota can traverse over 60 miles in a day, visiting anywhere between 6-10 cities depending on their location. If each of these cities have different policies in place regarding pesticide products, it creates a patchwork of regulation that becomes a compliance issue for both our businesses as well as the cities' regulatory entity. Perhaps most importantly, the pests we treat do not follow arbitrary boundaries set by

humans, and, for example, one city banning a product used to treat ticks or ants can unintentionally heighten pest infestations in neighboring cities.

It is known that structural pest control uses of pesticide products, like those affected by the above section of HF 2310, are unlikely to pose a threat to pollinators, as a recent Cornell University study on neonicotinoid pesticides illustrates a "negligible risk to pollinators from household pest control and antiparasitic uses… such applications are unlikely to lead to substantial exposure for insect pollinators."[1] Additionally, in a recent CDC tick borne diseases report, Minnesota is listed as a "high-incidence" state for Lyme Disease.[2] These products, when safely applied to the outside of structures according to EPA-approved label directions as our industry's professionals do, are essential to fighting disease bearing pests, like ticks, in Minnesota. Current Connecticut Department of Energy and Environmental Protection Commissioner, Katie Dykes, recently testified to this point, stating that "the unintended consequences that could result from unfettered municipal pesticide bans include an inability to control disease vector pests such as ticks and mosquitoes that pose human health threats".[3] Furthermore, this legislation exempts the Metropolitan Mosquito Control District presumably so that mosquitoes don't spread disease, but they only protect the public in 7 out of 87 counties. The other 80 counties in the state would then be at the mercy of mosquitoes and lose access to effective tools for treating their populations.

The language in this section allows cities to potentially ban all pesticides used by the professional structural pest control industry for federally mandated termite treatments for FHA and VA loans. This is destabilizing to the Minnesota real estate market because termite treatments are required for FHA loans for new construction in most of Minnesota. For all new construction, termite treatments are required in 64 of Minnesota's 87 counties by the United States Housing and Urban Development.[4] Most conventional lenders also require termite inspections. If termites are found upon inspection, then treatment is required for loan approval in many cases.[5]

This language was two standalone bills this session: HF 1130, by Representative Tabke, and SF 608 by Senator Boldon. Neither of these bills passed their respective chambers on their own, and the Senate bill never received a hearing in its committee. Our industry encourages the authors of these bills to continue to work with industry to build a compromise that works for Minnesota's citizens, businesses, and elected officials, without circumventing the legislative and scientific review process. It is for these reasons that we respectfully ask for you to not include the previously cited language in the final version of HF 2310.

Thank you for your consideration.

Sincerely,

Abra Kadabra Environmental Services
Adam's Pest Control
Bear Pest Control
Blackhawk Pest Control
Bob the Bug Man Pest Control
DoneRight Pest Solutions
Granite Pest Control
Independent Pest Control
Industrial Fumigant Company

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[1] https://cals.cornell.edu/pollinator-network/research
[2] https://www.cdc.gov/ticks/tickbornediseases/index.html, pg. 6.
[3] https://www.cga.ct.gov/2019/ENVdata/Tmy/2019SB-00076-R000318-Dykes,%20Katherine,%20Commissioner-Department%20of%20Energy%20and%20Environmental-TMY.PDF
[4] https://www.hud.gov/sites/dfiles/SFH/documents/SFH_POLI_TERMITE.pdf
[5] https://homeguides.sfgate.com/fha-termite-guidelines-2467.html

Lemke Pest Control
Minnesota Pest Management Association
National Pest Management Association
Orkin 546 (Minnesota)
Plunkett's Pest Control
Presto-X Minnesota
Rainbow Pest Experts
Rentokil/Terminix
Rollins, Inc.
Rove Pest Control
Spidexx Pest Control
Trutech Wildlife Services
Valor Pest Control

April 30, 2023

RE: HF2310/SF2438

Dear House and Senate Conferees:

On behalf of the Animal Health Institute (AHI), we request an expansion of the amendment language adopted in the Senate Finance Committee and included in SF 2438, related to reporting requirements for manufacturers of products containing PFAS, and a ban on sale in 2032. The Animal Health Institute (AHI) is the national trade association representing the companies that make the animal medicines, vaccines and parasiticides that keep animals and humans healthy.

AHI members develop, manufacture, and distribute a range of animal health products, including pharmaceuticals, biologics (including vaccines), flea and tick preventatives, and medical devices (including diagnostics), to veterinarians, pet owners, and food animal livestock owners. Based on the broad definition of "PFAS" as "a class of fluorinated organic chemicals containing at least one fully fluorinated carbon atom", certain animal health products from each of these categories contain PFAS either as an active ingredient (AI) or an essential, functional component of product packaging.

No current alternatives to PFAS are available for these products, making the use of PFAS unavoidable. Animal health products are all subject to intense federal oversight and regulatory frameworks focusing on product safety. Simply being categorized as PFAS does not equate to being harmful. For some diseases or conditions, active molecules that contain a limited number of fluorine atoms deliver superior treatment efficacy or provide the only treatment option.

Collecting the analytical information required under the reporting requirement from manufacturers and suppliers is both time and labor intensive. The type of analytical testing required to obtain the information is not readily available and would impose significant costs and disruptions to an already-strained product supply chain. The companies that produce these medications are dedicated to keeping them accessible and affordable. For these reasons, we ask that animal health products not be subject to the requirements of this bill and offer this possible exemption language:

- Page 104, after line 17, add the following underlined language: "(b) Subdivisions 2, 4, and 5 do not apply to a prosthetic or orthotic device, or to any product that is a medical device or drug or that is otherwise used in a medical setting or in medical applications regulated by the United States Food and Drug Administration; or to drugs, biologics, parasiticides, medical devices, or diagnostics regulated by the U.S. Food and Drug Administration, the U.S. Department of Agriculture, or the U.S. Environmental Protection Agency that are intended for use in animals."

1325 G Street, NW ■ Suite 700 ■ Washington, D.C. 20005-3104
Telephone (202) 637-2440 ■ Fax (202) 393-1667
www.ahi.org

Thank you for your consideration.

Sincerely,

Mandy Hagan
Director, State Government Affairs

1325 G Street, NW ■ Suite 700 ■ Washington, D.C. 20005-3104
Telephone (202) 637-2440 ■ Fax (202) 393-1667
www.ahi.org

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Advocacy that fits.

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April 27, 2023

RE: HF 2310/SF 2438 – OPPOSE

Dear Senate and House Conferees:

On behalf of the American Apparel & Footwear Association (AAFA) and the companies listed in the table below, I am writing to provide testimony expressing our concerns regarding on Sec. 62. [116.943] Products Containing PFAS of HF 2310/SF 2438.

AAFA is the national trade association representing apparel, footwear and other sewn products companies, and their suppliers, which compete in the global market. Representing more than 1,000 world famous name brands, AAFA is the trusted public policy and political voice of the apparel and footwear industry, its management and shareholders, its more than three million U.S. workers, and its contribution of $470 billion in annual U.S. retail sales. AAFA approaches all of its work through the lens of purpose-driven leadership in a manner that supports each member's ability to build and sustain inclusive and diverse cultures, meet and advance ESG goals, and draw upon the latest technology.

We deploy our association's extensive expertise in trade, brand protection, supply chain management, and manufacturing to help our members navigate the complex regulatory environment, lower costs, and grow their sustainability and product safety efforts. With our members engaged in the production and sale of clothing and footwear, we are on the front lines of product safety. It is our members who design and execute the quality and compliance programs that stitch product safety into every garment and shoe we make. To support our members in this effort, AAFA has taken the lead in educating our industry through alerts, webinars, and conferences on the development, interpretation, and implementation of product safety standards and regulations.

AAFA and our members are proud advocates for regulatory requirements that can effectively protect human health and the environment. Regulation plays a critical role in furthering our industry's efforts. But only if regulations are designed properly, serve their purpose, and are properly enforced. That is why we recently launched the *THREADS Sustainability and Social Responsibility Protocol*. We believe that the *THREADS Protocol* will speed up the development of policies that are effective and catalyze meaningful progress. *THREADS* calls for policies that are:

- **T**ransparently Developed and Enforced
- **H**armonized Across Jurisdictions and Industries
- **R**ealistic in Terms of Timelines
- **E**nforceable
- **A**djustable
- **D**esigned for Success
- **S**cience-Based

Although many of our members routinely exceed regulatory requirements and are already in the process of phasing out the use of intentionally added PFAS, viewing HF 2310/SF 2438 through the lens of *THREADS*, we have some concerns with the bill as currently drafted.

Harmonizing regulations and enforcement ensures a common approach and cost-effective implementation, greatly enhancing the likelihood that the regulations will achieve their stated goals. SF 834's reporting requirements appear to mirror requirements passed in Maine. Even when identical legislation passes in different states, differences in interpretation and enforcement create a confusing patchwork of requirements that complicate compliance efforts and divert resources away from innovative efforts to further enhance product safety. We strongly encourage the Minnesota Legislature to wait until Maine has finalized its implementing regulations to provide opportunity for full harmonization.

Further, Maine's current reporting requirements do not reflect the current science around identifying PFAS in consumer goods and, at present, neither do those in HF 2310/SF 2438. For instance, requiring reporting of individual PFAS by Chemical Abstract Service numbers (CAS #s) does not make sense for the entire class of PFAS chemicals because a very small fraction of the 12,000+ potential PFAS chemicals in existence have CAS #s assigned. Further, testing for PFAS chemicals in consumer products is complex and very much still in development. Currently, test methods exist for fewer than 100 of the 12,000+ PFAS chemicals. It is just not possible for manufacturers to identify each individual PFAS chemical in a given item.

Instead, science-based requirements should establish a Total Organic Fluorine (TOF) testing threshold (as adopted by California in their PFAS restriction bills AB 1817 and AB 652 and included in our most recent Restricted Substances List) and require reporting on apparel, footwear, and accessories with a result of 100ppm TOF or greater. TOF tests capture the presence of all PFAS, but do not identify which individual PFAS are present in a good. A TOF result of less than 100ppm demonstrates the PFAS found in the item were not intentionally added, because the presence of PFAS below 100ppm would not provide the item any characteristics associated with intentionally added PFAS (e.g. water/stain resistance or chemical/oil repellency). The establishment of a testing threshold is also necessary because PFAS contamination is widespread in the environment. Virtually any item tested will have some level of PFAS.

We have made Maine aware of these issues and are supporting legislation currently under consideration in the Maine Senate that would address a number of our concerns with the reporting requirements as written. We would be happy to discuss our concerns in more depth with you as the industry looks for policies that meet the THREADS Protocol requirements.

In the interim, we again urge Minnesota to wait until these concerns are addressed with Maine. Then, if legislation is adopted in Minnesota, it will be harmonized and will have benefitted from industry input at the outset so that it will achieve its goal of providing useful information about the sources of intentionally added PFAS to the people of Minnesota.

AMERICAN APPAREL & FOOTWEAR ASSOCIATION

Advocacy that fits.

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Please note that, while important, the discussions with Maine have siphoned time and resources away from continuing industry efforts to identify PFAS-alternatives and test those alternatives for performance and safety. Once safe and effective alternatives are identified, brands must work with their entire supply chains to transition to new technologies and validate that suppliers understand the new requirements. Dedicating resources to attempting to collect and package information required to meet varied reporting requirements takes away from these efforts.

Finally, while we understand why there is urgency in better understanding the sources of PFAS contamination, we caution that moving forward now would not necessarily provide information about PFAS sources any sooner. Maine moved too quickly and has had to grant extensions to more than 1,900 companies as it sorts through issues with the requirements and as it builds capacity to take the mandated reports. Minnesota can benefit from the work already underway in Maine without creating additional burdens for industry or its own regulators by waiting for Maine to finalize requirements.

We look forward to continuing to work with Minnesota on the regulation of substances in consumer products for the benefit of consumer product safety and public health. In the meantime, our members continue to design and execute the quality and compliance programs that emphasize product safety for every individual who steps into our apparel and footwear products.

Thank you for your consideration of this request. Please contact Chelsea Murtha of my staff at cmurtha@aafaglobal.org if you have any questions or would like additional information.

Sincerely,

Stephen Lamar
President & CEO
American Apparel & Footwear Association

MINNESOTA ELK BREEDERS ASSOCIATION

April 28, 2023

Chair Rick Hansen – House Environment and Natural Resources Finance and Policy Committee
Chair Patty Acomb – House Climate, Energy Finance and Policy Committee
Chair Foung Hawj – Senate Environment, Climate and Legacy Committee
Chair Nick Frentz – Senate Energy, Utilities, Environment and Climate Committee

RE: HF 2310

To Members of the Environment, Natural Resources, Energy and Climate Conference Committee,

The Minnesota Elk Breeders Association represents elk farmers from across Minnesota who are working diligently to responsibly raise elk and support our local small-town communities and economy. There has not been a case of CWD detected in Minnesota farmed elk in 14 years. We share everyone's passion for a healthy cervid population, both inside and outside the fence and ask you to thoughtfully consider our comments below.

- Page R148 Subd. 6 – Removing proposed language that would allow our personal premises location to be available to the public is extremely important. Making location data public, especially for a CWD-positive facility, could have catastrophic consequences for the owner, his animals and property by misguided individuals meaning to cause harm.

- Page R150 (g) – We support the added language in the Senate bill, "unless the escape was a result of natural disaster, vandalism, or destruction by a third party". It is critically important to recognize that situations beyond anyone's control should not be held against them.

- Page R150 Subd. 4 – We do not support requiring all owners of farmed cervidae to prevent physical contact between farmed cervidae and free-roaming cervidae. This is our biggest issue and the most difficult for the elk industry. Again, there hasn't been a case of CWD in Minnesota elk in 14 years, only one case in a red deer and none in reindeer. This unfunded mandate would collectively cost these individuals hundreds of thousands of dollars while offering little to no benefit in slowing the spread of CWD. Our small family farms cannot absorb the cost of this significant unfunded mandate and many would be forced out of business. No state in the nation requires a physical barrier for all cervidae farms. Elk naturally do not even interact with wild whitetail deer at the fence. We would like to think if we're forcing our small family farmers to spend many thousands of dollars on something, that we would see a tangible benefit. To that end, we would ask to remove elk (and similar) from this new provision.

- Page R152 (d)(3) – We do not support the 10-year requirement to maintain fences after a CWD detection and suggest no change be made to the original language of this section. Federal guidelines already require intensive disinfection measures and to maintain the fence for five years. There are no requirements for individual private property owners where CWD positive wild deer have been identified.

Minnesota Elk Breeders Association 9086 Keats Ave SW, Howard Lake, MN 55349 Ph: 320-543-2686 Email: info@mneba.org
www.mneba.org

- Page R152 (d)(7) – Also in this section, we do not support recording with the county recorder or registrar of titles, the date of CWD detection, the date of depopulation and landowner requirements. Adequate notice is provided in (d)(6) which we do not oppose. This added title language creates unnecessary difficulties and possible added legal expenses to properly omit this data once requirements have been met. We suggest language regarding deed recording be removed.

  CWD has been detected in wild deer in eleven Minnesota counties and in all states surrounding Minnesota. No individual private landowners outside the fence are required to put CWD detection language on their titles, even in areas that have the highest percentage of CWD detections (southeast Minnesota), nor for DNR dumpster sites which also do not require recording this activity on their real estate deed.

- Page R153 Subd. 11(a) – We support the added language in the Senate version which includes, "if the herd owner knew or reasonably should have known that the farmed Cervidae were infected…". Because of the lengthy incubation time for CWD, it may be impossible to know an animal was infected prior to movement. A herd owner should not be held liable in this provision if they had no way of knowing there was a problem.

- Page R153 Subd. 12(d) – We support the Senate version added language allowing cervidae semen to be imported from a herd certified as low-risk for chronic wasting disease. Pertaining to live animal importation, we would ask to change the current proposed language to allow live animals to be imported from herds certified as low-risk for chronic wasting disease. If this is not possible, we would ask that additional language be added to allow for live cervidae importation with a USDA validated CWD live animal test. Minnesota exports far more animals than it imports. If Minnesota closes its border to farmed cervidae imports, other states will in turn close their border to Minnesota imports and greatly hinder our ability to export animals.

The farmed cervid industry is closer than ever to breeding genetic resistance into our herds, identifying enhanced biosecurity measures (Dr. Wells work at the University of Minnesota) and beginning discussions on how to utilize live animal testing when it becomes validated. We are on the verge of being able to manage the threat of CWD in a farm situation with these increased measures. Our desire is to help develop new strategies that can also benefit the wild deer herd. We stand ready to work with you on achieving our shared goal for healthy deer herds on both sides of the fence without eliminating over 200 small family farms through overregulation in doing so.

Sincerely,

Mark Luedtke, President
Minnesota Elk Breeders Association

April 30, 3023

Chair Hansen and Committee Members on the Environment Natural Resources Committee:

Please give your support to these bills in HF 2310:

S**F 1339, Proper use and disposal of treated seed:** Kunesh, Morrison, Xiong
SF 835, DNR pesticide restrictions: Morrison, Kunesh, McEwen
SF 719, Restore the study of Neonics in game species: Dibble, Morrison, Hawj, McEwen, Port
SF 608, Municipal option for local control of pesticides: Boldon, McEwen, Fateh, Dibble
SF 2613, Native habitat lawns: Morrison, Cwodzinski, Fateh

I am an entomologist and small beekeeper and have worked in both aquatic and terrestrial habitats. I have increasingly seen the impacts of pesticides on invertebrates in aquatic habitats from agricultural runoff and the decline in native and honey bee populations in rural and urban landscapes. We have reached a crisis for the health of beneficial insects: beekeepers are struggling more each year to maintain healthy hives and our native bees, the ones that sustain all our wild and natural areas, forests, wetlands, prairies and deserts, are declining. Losing our native bees will lead to the breakdown of natural ecosystems.

SF 1339: Treated seeds are not registered as the pesticides that they are, so there is no oversight as to their use and handling.
Reading about the huge disaster in 2021 in Mead NB at the AltEn Ethanol Plant due to the unsafe disposal of pesticide treated seeds, should be enough for anyone not to risk this environmental degradation happening in one of the 19 ethanol plants in MN. Not only has it contaminated the drinking water for residents, it has degraded the local river and soils and destroyed honey bees hives within 3 miles; the fermenting seeds still have not been cleaned up, according to Prof Smart at UNB Lincoln, who testified in March 2023 before the House Environment Natural Resources Finance Committee. We must take action to properly monitor the use, storage, and disposal of treated seeds to prevent this kind of contamination in our state.

SF 835: DNR land, including wildlife management areas (WMAs), should be available for public enjoyment and the wildlife it manages and not be contaminated by treated seeds intentionally planted or discarded on the property. Not only are the beneficial insects exposed to these pesticides, but birds and other wildlife are also impacted because they depend on seeds and insects. In spite of the fact that farmers sign agreements not to use seeds in this manner on DNR land, the WMA supervisor I spoke with said he cannot possibly monitor all the WMAs in his territory and also said he assumed there are violations. Most of the public is not aware of these practices, but human health is now at risk. Please pass regulations to restrict any pesticides on DNR land.

SF 719: The recent research by Jenks and Lundgren of deer, game birds, and otters has revealed the presence of the systemic neonics in their bodies. These harmful chemicals are found in the soil and waters due to the pesticide treated seeds. Human health is increasingly at risk. Please support the further study of pesticide accumulation in game species.

SF 608: If municipalities had the option, and *if they so choose* to restrict the use of pesticides within their jurisdiction, it would be one way to make some progress restricting these harmful and unnecessary

chemicals in urban areas. It seems hard to believe but studies show that there are as many pesticides used in urban areas as in rural landscapes.

SF 2613: **Native habitat lawns**: many people do want to help pollinators, and native plantings will benefit all the native insects with which our native plants evolved. It is very possible to have both a native landscape and a well maintained yard. Please support this bill.

Sincerely,
Margot Monson

Margot Monson, Entomologist, Beekeeper
22 Ludlow Ave.
St.Paul, MN 55108
651-247-5253

Minnesota Pest Management Association
MPMA

Jay Bruesch, **Executive Director**, minnpest1@gmail.com, 6563 Bracken Drive Minnetrista MN 55331

5/1/2023

The Honorable Chairman Foung Hawj
The Honorable Chairman Rick Hansen
Minnesota HF 2310 Conference Committee
75 Rev. Dr. Martin Luther King, Jr. Blvd.
Saint Paul, MN 55155

RE: The Structural Pest Management Industry Urges the Conference Committee to Strike Language Allowing for Cities to Regulate Pesticides

Dear Chairman Hawj, Chairman Hansen, and members of the HF 2310 Conference Committee:

MPMA is the primary trade group representing the structural pest management industry in Minnesota. Our member companies manage pests including rodents, ants, cockroaches, bed bugs, mosquitoes, spiders, stinging insects, termites, and other pests in countless commercial, residential, and institutional settings. Approximately 97% of pest control companies in Minnesota are small businesses. We appreciate the opportunity to share our thoughts on Art. 7, Sec. 4-5 within the House version of HF 2310, as we want to be constructive in the policymaking process. **Also, we commend the legislature's efforts to protect the health of residents and pollinators in Minnesota.**

The professional structural pest management industry and our certified commercial applicators, operators, and technicians use pesticide products in, on, and around structures to protect public health and property. Our industry, deemed an essential service at the start of the pandemic, professionally manages a wide range of structural pests with these products that include ants, bedbugs, mosquitos, and termites, among many other pests. Our member companies take pride in their role as protectors of public health, food, and property extremely seriously and welcome further dialogue on this topic. We wish to work alongside the legislature to ensure thoughtful, science-based regulation wins the day.

The Minnesota Department of Agriculture (MDA) has responsibly regulated the sale and use of pesticides as the sole regulative authority of pesticide application in Minnesota since 1987. Minnesota is one of 46 states across the nation that has this statutory preemption over local authorities. The MDA has professionals on staff to regulate and enforce Minnesota's pesticide laws. Our members are licensed by the MDA and, if found misusing pesticides, face fines, losing their licenses, and other disciplinary actions, unlike the everyday homeowner, who can purchase and use these pesticides with no oversight. **Undercutting the existing science-based regulatory framework would have a negative impact on the health and safety of all Minnesotans as well as residential, agricultural, and commercial spaces.**

Art. 7, Sec. 4-5 in the House version of HF 2310 would allow all of Minnesota's cities to usurp the authority of MDA, along with the guidance and supervision of their professional staff and

scientists in our field, creating a patchwork of regulation. **The average service technician conducts between 8 to 10 services per day across multiple jurisdictions.** If every jurisdiction had its own arbitrary prohibitions and exemptions, the lack of uniformity creates an unnecessary burden on the ability of pest management professionals to safeguard public health and property from pest infestations. Pest control is also an essential tool in safeguarding environmental justice. While wealthy homeowners may be able to afford more expensive pest control, residents of multi-family housing are more acutely impacted by rodents, roaches, and other pests that contribute to asthma, and other vector- and pest-borne diseases.

Additionally, pests like mosquitos, ticks, and rodents do not abide by jurisdictional boundaries, so these varying regulations in one town might increase pest pressures on adjacent communities. Due to the nature of our applications both indoors and in close proximity to structures, our industry is unlikely to pose a threat to pollinators. In a recent CDC tick borne diseases report, Minnesota is listed as a "high-incidence" state for Lyme Disease.[1] Furthermore, once cities begin to wrest control of pesticide regulation from the MDA, these cities will also become the licensing, enforcement, and testing bodies for these pesticides, an undertaking that localities cannot manage like the existing, statewide framework.

Art. 7, Sec. 4-5 in HF 2310 as passed by the House was two standalone bills this session: HF 1130, by Representative Tabke, and SF 608 by Senator Boldon. Neither of these bills passed their respective chambers on their own, and the Senate bill never received a hearing in its committee. MPMA encourages the authors of these bills to continue to work with industry to build a compromise that works for Minnesota's citizens, businesses, and elected officials, without circumventing the legislative process by including it within a budget bill.

In conclusion, we want to be constructive in the policymaking process and applaud efforts to protect pollinators. **Our members are keen stewards of the environment and pollinator health and abide by our recommended best management practices for pollinators, which we are happy to provide to the committee.** This bill will remove the ability of pest management professionals to proactively protect Minnesota's public health, safety, and property. We firmly believe that your zip code should not determine your level of protection from these dangerous and destructive pests.

Thank you for the opportunity to inform the conference committee as to how the professional pest management industry protects public health and property. Do not hesitate to contact me at minnpest1@gmail.com if you have any questions and would like to discuss further.

Best regards,

THE MEMBER FIRMS OF THE MINNESOTA PEST MANAGEMENT ASSOCIATION
minnpest1@gmail.com

[1] https://www.cdc.gov/ticks/tickbornediseases/index.html, pg. 6.

MINNESOTA RESOURCE RECOVERY ASSOCIATION

"To promote a zero-waste society that advocates for reducing waste, sustainably reusing resources and less landfill use."

April 28, 2023

Representative Rick Hansen
Representative Patty Acomb
Representative Athena Hollins
Representative Sydney Jordan
Representative Larry Kraft

Senator Foung Hawj
Senator Nick A. Frentz
Senator Jennifer A. McEwen
Senator Tou Xiong
Senator Julia E. Coleman

RE: Omnibus environment, natural resources, climate, and energy finance and policy bill (H.F. 2310/S.F. 2438):

Dear Members of the Environment, Natural Resources, Climate, and Energy Conference Committee:

On behalf of the Minnesota Resource Recovery Association, (MRRA), I write in my capacity as a board chair to thank you in advance for receiving this letter. The MRRA represents eight resource recovery facilities that process approximately one million tons of solid waste per year in lieu of landfilling. This represents 1/3 of all the solid waste generated in Minnesota each year. These facilities process waste from 31 of Minnesota's 87 counties. We believe in moving Minnesota towards zero landfilling and leaving a legacy of a better Minnesota for future generations. However, Minnesotans continue to generate more waste which over time has become more diverse and less recyclable. Though in the short-term, waste-to-energy facilities may be more expensive to operate compared to landfills, the long-term environmental risks, and liabilities for managing these wastes are much less costly.

The MRRA supports incorporating environmental justice concerns into the permitting process and is committed to working together to improve HF 2310 (Hansen) / SF 2438 (Hawj) but the MRRA has concerns that the current language limits our ability to provide the best waste management solutions to our communities that results in the lowest overall environmental impact.

Cumulative Impact Language |*House Art. 3, Sec. 23* & *Senate Art. 4, Sec. 60*

- Overall, any facility in or near EJ areas in the state will face significant permitting challenges on almost every potential permitting submittal if this current legislation is enacted as proposed. Routine permits for renewal and potential future projects that could potentially increase the level of emissions at any increment would require a costly, time-consuming cumulative analysis with no guarantees of that cost resulting in an approved permit. The legislation makes it such that every proposed project permit application will need to have some type of emissions off-set

MINNESOTA RESOURCE RECOVERY ASSOCIATION

to avoid a cumulative analysis, but with the over-generalized language of the triggers, it introduces uncertainty in factoring risk into making cost benefit analysis.

Path to Zero Waste Study. *House Art. 3, Sec. 49.*

- MRRA supports a study and report that includes a pathway for the state to achieve zero waste. However, we strongly encourage conferees to consider changes to assure an objective examination of environmental impacts across the full range of considerations involved in moving closer to zero waste, in a way that more inclusively reflects the waste management hierarchy elsewhere in statute.

MRRA believes in moving Minnesota towards zero landfilling and leaving a legacy of a better Minnesota for future generations. For this reason, we respectfully request an opportunity to be involved in developing environmental justice bills to ensure that they are compatible with our shared environmental goals.

We thank you for your work to help Minnesota protect our climate and all our citizens by protecting Minnesota's investments in waste-to-energy. On behalf of the MRRA, I ask that you consider the environmental and climate benefits of resource recovery. I respectfully request the conference committee revise the current language to prevent further cost burdens on already compliant waste-to-energy facilities. We want to be part of the environmental justice conversation and consideration. The MRRA is available to provide additional information, resources, or discussion on this important topic. You can reach me at 218-770-2810 or cmcconn@co.ottertail.mn.us.

Chris McConn
MRRA, Board Chair

President: Drew Geving drew@nf4t.org www.nativefishfortomorrow.org

Dear Chair Hawj, Chair Hansen and Committee Members,

HF2310 contains important language for the conservation of Minnesota's native fish. Currently, 26 of Minnesota's native fish species are regulated as "rough fish". Unfortunately, this derogatory language is codified in Minnesota Statute 97A.015, Subd. 43.

Native Fish for Tomorrow is an angler led conservation group dedicated to the scientific and sustainable management of native fish for all people. We strongly support HF2310 and the provisions supporting native fish conservation.

The language in HF2310, requiring a DNR report to separate the regulations of native and invasive fish species is necessary for the scientific management of Minnesota's fish. However, there are differences in the structure of the appropriation. The appropriation was requested by the DNR to provide the staff time necessary to enact the reforms and rulemaking recommended by the report. Due to the long use of the term "rough fish" in Minnesota statute and rule, it has been incorporated into regulations almost 70 times. We believe the process of enacting the necessary changes will take two years, if not longer.

Native Fish for Tomorrow urges the committee to adopt the house language and appropriations for the conservation of Minnesota's native fish. Although we appreciate the Senate's support for native fish, we believe the house language better reflects the time required correct the "rough fish" regulations.

Sincerely,

Tyler Winter

Director, Native Fish for Tomorrow

National Pest Management Association
Our Mission is Your Protection

5/1/2023

The Honorable Chairman Foung Hawj
The Honorable Chairman Rick Hansen
Minnesota HF 2310 Conference Committee
75 Rev. Dr. Martin Luther King, Jr. Blvd.
Saint Paul, MN 55155

RE: The Structural Pest Management Industry Urges the Conference Committee to Strike Language Allowing for Cities to Regulate Pesticides

Dear Chairman Hawj, Chairman Hansen, and members of the HF 2310 Conference Committee:

The National Pest Management Association (NPMA), founded in 1933, is the only national trade group representing the structural pest control industry with over 5,000 members from around the world. We are proud to represent a multitude of small businesses through our members; over 80% have an annual revenue of less than $1 million. We appreciate the opportunity to share our thoughts on Art. 7, Sec. 4-5 within the House version of HF 2310, as we want to be constructive in the policymaking process. **Also, we commend the legislature's efforts to protect the health of residents and pollinators in Minnesota.**

The professional structural pest management industry and our certified commercial applicators, operators, and technicians use pesticide products in, on, and around structures to protect public health and property. Our industry, deemed an essential service at the start of the pandemic, professionally manages a wide range of structural pests with these products that include ants, bedbugs, mosquitos, and termites, among many other pests. Our member companies take pride in their role as protectors of public health, food, and property extremely seriously and welcome further dialogue on this topic. We wish to work alongside the legislature to ensure thoughtful, science-based regulation wins the day.

The Minnesota Department of Agriculture (MDA) has responsibly regulated the sale and use of pesticides as the sole regulative authority of pesticide application in Minnesota since 1987. Minnesota is one of 46 states across the nation that has this statutory preemption over local authorities. The MDA has professionals on staff to regulate and enforce Minnesota's pesticide laws. Our members are licensed by the MDA and, if found misusing pesticides, face fines, losing their licenses, and other disciplinary actions, unlike the everyday homeowner, who can purchase and use these pesticides with no oversight. **Undercutting the existing science-based regulatory framework would have a negative impact on the health and safety of all Minnesotans as well as residential, agricultural, and commercial spaces.**

Art. 7, Sec. 4-5 in the House version of HF 2310 would allow all of Minnesota's cities to usurp the authority of MDA, along with the guidance and supervision of their professional staff and scientists in our field, creating a patchwork of regulation. **The average service technician conducts between 8 to 10 services per day across multiple jurisdictions.** If every jurisdiction had its own arbitrary prohibitions and exemptions, the lack of uniformity creates an unnecessary burden on the ability of pest management professionals to safeguard public health and property from pest infestations. Pest control is also an essential tool in safeguarding environmental justice. While wealthy homeowners may be able to afford more expensive pest control, residents of multi-family housing are more acutely impacted by rodents, roaches, and other pests that contribute to asthma, and other vector-borne diseases.

Additionally, pests like mosquitos, ticks, and rodents do not abide by jurisdictional boundaries, so these varying regulations in one town might increase pest pressures on adjacent communities. Due to the nature of our applications both indoors and in close proximity to structures, our industry is unlikely to pose a threat to pollinators. In a recent CDC tick borne diseases report, Minnesota is listed as a "high-incidence" state for Lyme Disease.[1] Furthermore, once cities begin to wrest control of pesticide regulation from the MDA, these cities will also become the licensing, enforcement, and testing bodies for these pesticides, an undertaking that localities cannot manage like the existing, statewide framework.

Art. 7, Sec. 4-5 in HF 2310 as passed by the House was two standalone bills this session: HF 1130, by Representative Tabke, and SF 608 by Senator Boldon. Neither of these bills passed their respective chambers on their own, and the Senate bill never received a hearing in its committee. NPMA encourages the authors of these bills to continue to work with industry to build a compromise that works for Minnesota's citizens, businesses, and elected officials, without circumventing the legislative process by including it within a budget bill.

In conclusion, we want to be constructive in the policymaking process and applaud efforts to protect pollinators. **Our members are keen stewards of the environment and pollinator health and abide by our recommended best management practices for pollinators, which we are happy to provide to the committee.** This bill will remove the ability of pest management professionals to proactively protect Minnesota's public health, safety, and property. We firmly believe that your zip code should not determine your level of protection from these dangerous and destructive pests.

Thank you for the opportunity to inform the conference committee as to how the professional pest management industry protects public health and property. Do not hesitate to contact me at jreynolds@pestworld.org if you have any questions and would like to discuss further.

Best regards,

[1] https://www.cdc.gov/ticks/tickbornediseases/index.html, pg. 6.

Josh Reynolds
Manager of Legislative and Regulatory Affairs
National Pest Management Association
Direct: 703.688.9450

NSSF
The Firearm Industry Trade Association

CHRISTOPHER LEE
Director, Government Relations - State Affairs
clee@nssf.org | 203-434-4330 | nssf.org

Sen. Foung Hawj
Sen. Nick Frentz
Sen. Jennifer McEwen
Sen. Tou Xiong
Sen. Julia Coleman

Rep. Rick Hansen
Rep. Patty Acomb
Rep. Athena Hollins
Rep. Sydney Jordan
Rep. Larry Kraft

HF2310 Conferees - Environment, Natural Resources, Climate, and Energy Finance Omnibus

Position: Oppose restricting ammunition choice for hunters on WMAs.

Dear Chair Hansen, Chair Hawj, and Conferees:

Thank you for this opportunity to provide input on HF2310 (Hansen/Hawj).

The National Shooting Sports Foundation (NSSF) strongly opposes this language found in the Revisor Side-By-Side Environment and Natural Resources Articles 3-8 on page R105, Sect 76 of the House language which proposes to ban the use of traditional, or lead, ammunition while hunting on wildlife management areas in Minnesota and asks that the provision not be included in the conference report.

The House proposed prohibition of the choice of lead shot on WMAs will undoubtably cause an artificial shift in supply and demand that will result in an increase in the price of alternative ammunition. While growing in popularity with hunters, alternative ammunition made of copper, tungsten, bismuth, and steel are more expensive to produce and purchase than their counterparts.

Coupled with the ammunition shortage we are currently experiencing, removing lead shot as an ammunition choice is certain to have a detrimental impact on the number of hunters choosing to purchase Minnesota hunting licenses. Barriers for hunters affect not only sportsmen and women and Minnesota's tourism economy, but wildlife and conservation efforts in Minnesota in lost license revenue as well as collection of Pittman-Robertson funds which contributes 11% of every ammunition purchase to wildlife management and habitat. For FY22, that amounted to $32,250,271 that Minnesota received from USFWS to be used for wildlife conservation.

Our industry is proud of its strong presence and economic impact in Minnesota and are mindful of the important role sportsmen play in Minnesota’s economy. Our membership includes Minnesota-based federally licensed firearms retailers, most of which are small “mom-n-pop” businesses that are the backbone of the state’s economy, and large ammunition manufacturers such as Federal Premium Ammunition. In 2022, the Minnesota firearm industry employed over 13,000 Minnesotans and had an economic impact of over $3.6 billion on the state. Banning lead ammunition on WMAs and creating an artificial shift in the market could lead to the closure of small businesses impacting mostly rural communities.

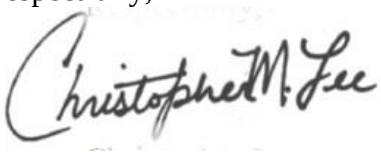
Additionally, any action taken by the legislature that leads to the reduction in the number of hunters or creates barriers for new or reactivated hunters will adversely affect management and restoration of wildlife in Minnesota. Raptor populations are thriving in Minnesota and across the country thanks to investments in

wildlife conservation, which have been funded largely by the firearm industry through the sale of firearms and ammunition. Attempts to ban lead ammunition are based on emotion and would certainly have a negative impact on Minnesota.

For these reasons, the NSSF strongly opposes any attempt to ban the use of lead ammunition, or lead shot, also known as traditional ammunition.

As the trade association for America's firearm, ammunition, hunting, and recreational shooting sports industry, NSSF seeks to promote, protect, and preserve hunting and the shooting sports. NSSF has a membership of approximately 10,000 manufacturers, distributors, firearms retailers, shooting ranges, and sportsmen's organizations. Our manufacturer members make the firearms used by law-abiding Minnesota sportsmen and women, the U.S. military, and law enforcement agencies throughout the state.

Respectfully,



Christopher Lee

David Ybarra , President
353 W 7th Street – Room 106
St. Paul MN 55102
(651) 291-5001

Jason Quiggin, Secy.-Treas.
353 W 7th St. – Room 106
St. Paul, MN 55102
(651) 291-5001

MINNESOTA PIPE TRADES ASSOCIATION

Affiliate of the United Association
Composed of Journeyman and Apprentices of the Plumbing and Pipe Fitting Industry
Of the United States and Canada
State Federation of Labor – A.F.L.-C.I.O.

April 27, 2023

Energy and Environment Conference Committee

Dear Chairs Frentz, Hawj, Acomb, Hansen and members of the Conference Committee,

On behalf of the Minnesota Pipe Trades Association, I write in support of the Advanced Nuclear Study provisions found in the Senate Omnibus bill.

The Minnesota Pipe Trades Association represents more than 9,000 men and women working in the construction industry. Our members perform mechanical construction, maintenance, and repair work, including plumbing, pipe fitting and fire protection. The energy sector is critical for our members who build and repair thermal power plants – including coal, gas, and nuclear, along with petroleum and renewable fuel refineries and pipelines.

While our members look forward to new opportunities to deploy growing green energy technologies such as geothermal, the energy transition is going to be challenging for those who have spent their careers working in the traditional energy sector. A "just transition" means ensuring that we are accounting for their unique skill sets and affording them opportunities to contribute to the low-carbon energy sector.

Nuclear energy generation has been an important source of work for our members in Minnesota. As a carbon-free resource that provides baseload electric power, it is the backbone of any effort to decarbonize. With new advanced nuclear energy technologies under development, it is important that we take a hard look to determine how they can contribute to decarbonization efforts while creating and maintaining good paying jobs.

The advanced nuclear study is an important step in doing just that. It will provide future legislators and the public with important information on how advanced nuclear energy fits into our state's energy future while supporting local workers.

We encourage the conference committee to include the study in the conference report!

David M. Ybarra, President
Minnesota Pipe Trades Assn

April 30, 2023

Rep. Peter Strohmeier and Sen. Kara Josephson:

My name is Karen Johnston and I am the regional director of Government Affairs for Toyota. We respectfully oppose HF2310, legislation that would impose broad reporting requirements on manufacturers of all products containing PFAS sold in Minnesota, ban the sale of products containing PFAS in a variety of product categories and establish a future regulatory scheme to ban additional product categories containing PFAS.

This legislation is overly broad, lacks scientific basis and will have significant unintended consequences and could eventually ban thousands of products from sale and transport of those products into Minnesota.

Today's PFAS are essential to modern life and an important enabling technology. These chemistries provide products with strength, durability, stability, and resilience. **These properties are critical to the reliability and safe function of a broad range of products that are important for industry and consumers.** They play a vital role in everything from designing automobiles with low emissions and improved safety, reliability, and fuel efficiency to manufacturing semiconductors, solar panel and high-performance electronics.

In this regard, the legislation would undermine effective product design, and in some cases, even overall product safety and efficacy for a broad range of products - including applications that are important for public safety and public health. One critical example and timely example, this bill would currently restrict critical materials that are essential to the COVID vaccine distribution and COVID testing, as well as the medical equipment used by healthcare providers that are on the front-line of fighting the COVID pandemic. This may not be the intent of the legislation, but this is the reality.

This bill also would adversely impact critical uses of this technology that are important for our society's broader sustainability objectives, including support for alternative energy and greenhouse gas reduction efforts. For example, lithium-ion electric vehicle batteries contain innovative fluoropolymer technology and are a critical product to Minnesota.

For these reasons, we must respectfully oppose HF 2310.

Sincerely,

Karen Johnston
Toyota Motor North America

PARTNERSHIP ON WASTE & ENERGY
Hennepin | Ramsey | Washington

MEMORANDUM

April 28, 2023

Representative Rick Hansen
Representative Patty Acomb
Representative Athena Hollins
Representative Sydney Jordan
Representative Larry Kraft

Senator Foung Hawj
Senator Nick A. Frentz
Senator Jennifer A. McEwen
Senator Tou Xiong
Senator Julia E. Coleman

Dear Members of the Environment, Natural Resources, Climate, and Energy Conference Committee (H.F. 2310/S.F. 2438):

The Partnership on Waste and Energy (Partnership) is a Joint Powers Board (Hennepin, Ramsey and Washington counties) formed to address waste management and energy issues. We seek to end waste, promote renewable energy and enhance the health and resiliency of communities we serve while advancing equity and responding to the challenges of a changing climate.

The Partnership appreciates the opportunity to express support for several provisions of H.F. 2310 that will have significant impact on protecting public health and the environment and help counties be more successful in reaching challenging statutory waste management goals.

Priority Provisions for Full Funding

- **Emerald Ash Borer (EAB) response.** The joint Senate-House Environment committee hearing on emerald ash borer earlier this session illustrated that comprehensive funding is needed to address the ongoing threats from EAB, and we strongly support *House Art. 1, Sec. 3, Subd. 4(m); Art. 4, Sec. 40; and House Art. 1, Sec. 2, Subd. 7(w)*:
    - $28 million for St. Paul Cogeneration urgently needed now to maintain the ability of this facility to handle 2/3 of the region's wood waste. No other capacity is currently available to absorb this volume of material. Closure of this facility would leave communities no option but stockpiling or open burning of hundreds of thousands of tons of wood waste, creating major public health and safety hazards.
    - $9 million for grants to communities burdened by costs to respond to EAB. A simple change is needed in Subd. 4 to clarify that treatment, removal and replacement of EAB-affected ash trees are eligible expenditures, conforming to the language in the Purpose and Establishment subdivisions of Section 40.
    - $4 million for a wood dehydrator at Koda Energy to help manage wood waste.
- **Increased SCORE grant funding.** The Partnership appreciates the appropriation of additional SCORE recycling grants in both bills and supports the Senate increase in base funding on an ongoing basis. Increased SCORE funding is foundational to waste reduction, reuse, recycling and composting efforts needed to meet state mandates. *Senate Art. 1, Sec. 2, Subd. 7(d).*

PARTNERSHIP ON WASTE AND ENERGY
HENNEPIN | RAMSEY | WASHINGTON
100 Red Rock Road | Newport, MN 55055
info@recyclingandenergy.org | 651-768-6670

- **Increased solid waste permitting capacity.** The Partnership strongly supports an increase to base funding for the MPCA's Resource Management and Assistance Division to address backlogs in solid waste permitting. Counties rely on the Agency to make timely decisions on permits for facilities to divert waste, including food waste, from landfills and waste-to-energy facilities to meet the state's waste management mandates. Long delays risk project viability and missed federal grant opportunities for necessary projects. *Art 1, Sec. 2, Subd. 7.*
- **Waste Prevention, reduction and recycling grants and loans.** The Partnership supports several provisions that will help meet state mandates and address food waste, develop stronger markets for recyclables and wood waste, and support a variety of other waste prevention and reuse activities by counties and our community partners. *House Art. 1, Sec. 2, Subd. 7 (e-g, p); Senate Art. 1, Sec. 2, Subd. 7 (e-g, q).*

Other Provisions We Support

The Partnership supports many other provisions in both bills, including:

- Updates to the Minnesota Pollution Control Agency's Capital Assistance Program.
- Repay the Metropolitan Landfill Contingency Action Trust.
- Compostable products and packaging standards and labeling requirements.
- Implementing Minnesota's PFAS Blueprint and reducing sources of PFAS.
- Funding the Pig's Eye Landfill Task Force.

Concerns

- **Zero-waste grant program.** The Partnership supports this program to advance strategic efforts for achieving zero waste. However, we encourage removal of new definitions that conflict with other statutory definitions, and we recommend using an MPCA-determined definition of zero waste that supports landfill diversion, consistent with the waste management hierarchy elsewhere in statute. *House Art. 3, Sec. 12.*
- **Path to Zero Waste Study.** The Partnership has supported a study that includes a pathway for the state to achieve zero waste. However, we cannot support the version in this bill without changes to assure an objective examination of environmental impacts across the full range of considerations involved in moving closer to zero waste, in a way that more inclusively accounts for the role of all management strategies in the state's waste management hierarchy. *House Art. 3, Sec. 49.*

Thank you for the opportunity to present the Partnership's positions as the committee creates an omnibus bill that best advances state public health and environmental protection goals. For further information on these and other Partnership positions, please contact Rob Vanasek at Capitol Hill Associates *(rob@capitolhillassoc.com; 612-964-4876)* and Sam Richie at Fryberger *(srichie@fryberger.com; 218-301-9758).*

Sincerely,

Commissioner Debbie Goettel, Hennepin County
Chair, Partnership on Waste and Energy

PARTNERSHIP ON WASTE AND ENERGY
HENNEPIN | RAMSEY | WASHINGTON

Written Testimony: HF2310: Open season for taking wolves prohibition

For: Omnibus Environment, Climate and Energy appropriations

Date: 5/1/2023

Dear Committee Members:

Thank you for reading this testimony to the committee regarding wolf population control and saving our Moose in Minnesota from extinction. To introduce myself, I have been an advocate for Minnesota Moose since 2012. I created a group focused on the saving our threatened Moose called "Howling for Moose Minnesota" in 2017 with over 650 members and I was on the DNR's Wolf Planning Committee as the sole advocate for Moose.

HF2310 proposes to eliminate hunting wolves in the state (wolf population management). The elimination of wolf population management in the Moose range will eliminate a critical tool towards helping our moose recover their population, and will handcuff wildlife managers. This type of proposal is counter productive for Moose recovery, and a run counter to the state's own biologist's recommendations (MN DNR), and eliminates an important management tool.

The most recent, 2023 DNR/Tribal moose survey shows **the moose population in Minnesota is down 30% over last year, so the downward spiral of our moose population continues. Since 2006, our moose population is down 65% (See graph below).** We had close to 9000 moose in the moose range in 2006 and currently have around 3200 moose remaining.

Wolves are the largest cause of Moose mortality in Minnesota. Wolves kill 70-80% of Calves and 36% of Adults anually. With this mortality rate, Moose cannot recover their population in the state. This is corroborated by the DNR's own studies (attached), as well as tribal biologists. 36% of all adult moose and 70-80% of all newborn calves are killed by wolves each year, making population recovery unlikely, if not impossible, with the current wolf densities in the remaining moose range.

All options/tools need to be available to our wildlife managers to do their jobs and help protect our moose. Wolf advocates, deer advocates, ranchers, tribes, all need to give up some ground to protect our moose. But if you vote to eliminate wolf hunting as a tool, you will do more harm to moose, and endanger their existence. Choosing between moose and wolves, should not be a choice! Both species are important, but there needs to be a realistic and viable population balance.

Reducing wolf numbers for the purpose of **moose population recovery is popular in Minnesota**. I was a part of the wolf advisory committee set up by the DNR, and the data presented by the public input surveys (on DNR website) show that people support a reduction in wolf population if for the benefit of moose in Minnesota. Very few want to see wolves gone, as they are as iconic a symbol of Minnesota, as are the moose. But balance needs to be returned to the Moose Range after years of little to no wolf control within the moose range.

Moose advocates and Howling for Moose Minnesota support the following actions to help protect our moose:

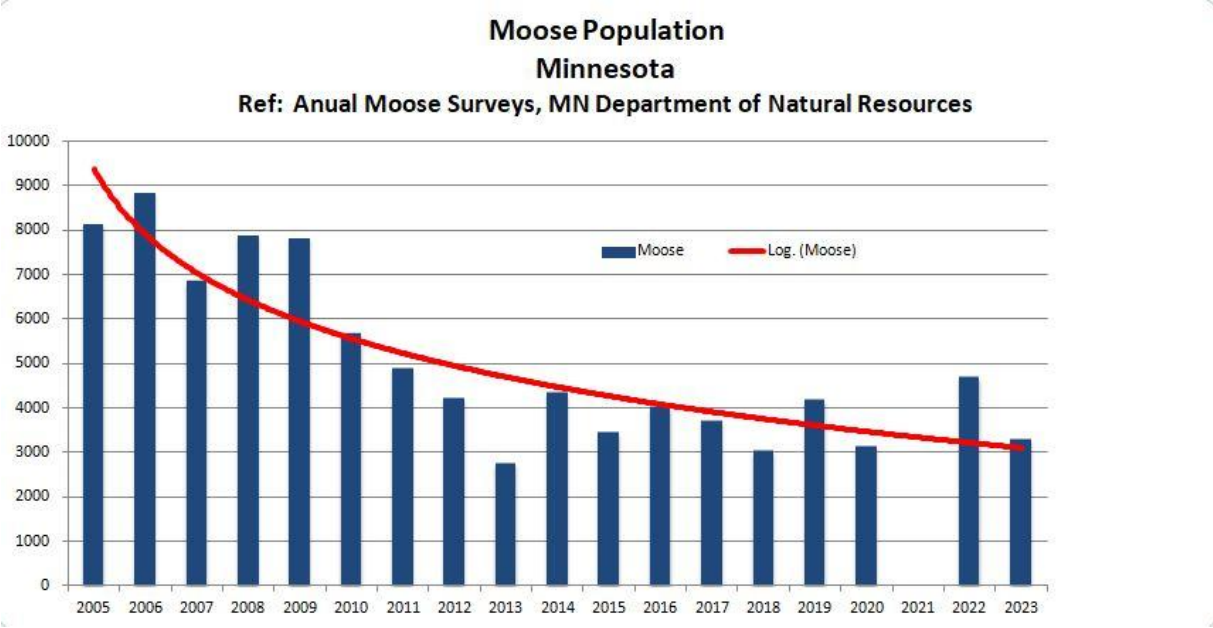
- Reduce wolf numbers to increase year over year calf recruitment through higher calf and adult moose survival rates. (not doing)
- Reduce deer numbers in the moose range to attempt to control brain worm transmission. (doing)
- Improve habitat within the Moose range. Outdoor Heritage money has been allocated for this effort already.
- Delay Elk introduction into the remaining moose range until we have a viable, live animal, Chronic Wasting Disease test (under development).
- Continue with a hunting moratorium on Moose.

The most important lever we can pull that we have not attempted (due to court rulings) is reducing wolf populations where Moose exist. We hope the committee will consider this testimony and its facts, and not support a ban on wolf population management as a tool to help protect our moose. Moose need your help urgently.

Sincerely,

Scott Engle

Howling for Moose Minnesota



DEPARTMENT OF NATURAL RESOURCES

WILDLIFE RESTORATION

Your DNR Study Excerpt
Wolves #1 cause of Mortality

CAUSES OF NON-HUNTING MORTALITY OF ADULT MOOSE IN MINNESOTA, 2013 – 2017

Michelle Carstensen, Erik C. Hildebrand, Dawn Plattner, Margaret Dexter, Arno Wünschmann, and Anibal Armien

RESULTS AND DISCUSSION

Annual Survival and Cause-Specific Mortality of Collared Moose

From 2013–2015 a total of 173 adult moose (123 females, 50 males) were captured and collared. Mean age at capture was 6.1 (±0.3, *n*=163) years for all moose; range was 1 to 16 years. Age of moose at capture was similar [*F-stat*=1.65, *p*=0.19] among years (6.0 years in

2013, *n*=101; 5.8 years in 2014, *n*=32; and 7.2 years in 2015, *n*=30). Annual (January–December) survival rates were was 81%, 88%, 85%, 87% and 86% in 2013 through 2017, respectively (Figure 1); the overall 5-year mean for non-hunting mortality was 14.4%. This is lower than the average non-hunting mortality rate of 21%, reported previously in MN, but higher than the 8-12% rates of North American moose populations (Mytton and Keith 1981, Larsen et al. 1989, Ballard et al. 1991, Stenhouse et al. 1995, Modafferi and Becker 1997). A total of 60 collared moose (41 females, 19 males) have died since this study began; which excludes 12 capture-related mortalities that are censored from subsequent survival analyses. Most collared moose mortalities (96%) occurred within the current moose range in northeast MN (Figure 2). Overall proximate causes of death included: wolf predation (*n*=18, 30%), parasitic infections (*n*=18, 30%), bacterial infections (*n*=12, 20%), accidents (*n*=2, 3%), hunter-harvest (*n*=3, 5%), calving complication (dystocia) (*n*=1, 2%), and undetermined health issues (*n*=6, 10%; Figure 3). Health-related causes were attributed to 68% of total deaths, with the remaining 32% being predator-related.

Bacterial infections were the third leading cause of moose deaths (Figure 4c). Four moose were attacked by a predator, most likely a wolf or wolves, and survived the initial encounter, but the wounds became infected and led to their death days to several weeks later. Prior to this study, scant evidence in the literature points to secondary bacterial infections caused by a predator attack as a major cause of moose mortality. Other trauma, including one case consistent with conspecific fighting of antlered males, resulted in puncture wounds that provided a route for bacteria to enter the body and cause systemic infection and septicemia. The exact circumstances that led to some of these trauma-induced injuries were unknown.

+ 18 confirmed wolf kills
+ 4 wolf inflicted wound infections
= 22 out of 60 deaths = 36% Associated with Wolf Predation.

CAUSES OF NON-HUNTING MORTALITY OF ADULT MOOSE IN MINNESOTA, 2013 – 2017

Michelle Carstensen, Erik C. Hildebrand, Dawn Plattner, Margaret Dexter, Arno Wünschmann, and Anibal Armien

SUMMARY OF FINDINGS

Minnesota's moose (*Alces alces*) are dying at rates much higher than elsewhere in North America. Moose have been nearly extirpated from the northwestern part of the state and aerial surveys indicate the northeastern population has declined 55% over the past decade. In 2013, a new study began to determine cause-specific mortality of adult moose in northeastern Minnesota by using GPS-satellite collars to get rapid notification of mortality events and recover carcasses within 24 hours of death. A total of 173 moose were collared over 3 years with annual non-hunting mortality rates of 19%, 12%, 15%, 13% and 14% in 2013-2017, respectively, and an overall mean of 14.4%. In total, 57 moose have died from non-hunting sources of mortality and 3 moose were legally harvested. Response times from mortality notification to arrival at the carcass were within 24 hours for 65% of death events. Most causes of mortality were health-related (65%), which included parasites (30%; e.g., winter ticks, brainworm, and liver flukes), bacterial infections (20%), accidents (3%), calving (2%) and other undetermined health issues (10%).The remainder was wolf-related (30%), with predisposing health conditions identified in nearly half of these moose. Legal harvest accounted for 5% of moose deaths. During the same time period, we also necropsied anecdotal moose deaths (*n*=91) across northern Minnesota, which included vehicle or train collisions, sick, and found dead animals. *Parelaphostrongylus tenuis* was confirmed in 42% of these cases, which is nearly twice the rate of detection of this parasite as in the collared moose studied during the same time period.

INTRODUCTION

Until recently, 2 geographically distinct moose (*Alces alces*) populations occurred in Minnesota (MN), one in the northwestern (NW) and the other in the northeastern (NE) part of the state. Since the mid-1980s the NW population has decreased from an estimated 4,000 to less than 100 moose, and since 2006 the NE population has declined 66% from an estimated 8,840 to 3,030 moose (DelGiudice 2018). However, there is some evidence that the moose population in the NE may be stabilizing over the last 7 years (2012-2018) at approximately 4,000 animals. Mean annual mortality rates of adults have been similarly high (21%) in both regions (Murray et al. 2006, Lenarz et al. 2009).

Parasites, including liver flukes (*Fascioloides magna*) and brainworm (*Parelaphostrongylus tenius*) and other non-specific health-related issues have been documented in the majority of moose deaths through these past research efforts (Murray et al. 2006, Lenarz et al. 2010, Wünschmann et al. 2015). Climate change has also been implicated as an underlying factor in both population declines. Recent study of moose calf survival documented survival rates between 29-40% from 2013-2016, with predation by wolves accounting for over two-thirds of mortalities (Severud 2017).

This 5-year study was designed to document causes of non-hunting mortality of adult moose in NE MN by deploying satellite-linked collars and by preparing an extensive network of responders trained in conducting field necropsies. Moose mortalities were thoroughly investigated within 24 hours of death to identify the proximate cause of mortality and to examine the influence of potential contributing factors. Further, efforts to investigate reports of non-collared sick and dead moose were intensified to provide additional anecdotal information on moose population health during the same time period. Once causes of death and major influential factors are identified, appropriate management actions may be taken to address the population decline.

METHODS

Moose (>1 year of age) were captured within the 3,732.8 km^2 study area located between 47°12'N and 47°95'N latitude and 90°33'W and 91°72'W in NE MN from 2013 to 2015, as described previously (Butler et al. 2013; Carstensen et al. 2014, 2015, 2016). All moose were fitted with GPS-Iridium satellite collars (Vectronic Aerospace GmbH; Berlin, Germany). Mortality implant transmitters (Vectronic Aerospace GmbH) were placed orally into a subset of the captured moose and provided immediate notification of mortality and recorded internal body temperature (Minicucci et al. 2018, Herberg et al. 2018).

Moose mortality response teams have 8 primary team leaders that have undergone necropsy training, and they are supported by about 20 secondary and tertiary team members (including MNDNR, tribal, academic, US Forest Service, and other personnel) available upon request. Every effort is made to respond to a moose mortality event with 24 hours of notification and to remove carcasses intact from the field and deliver them to the University of Minnesota Veterinary Diagnostic Laboratory (UMN VDL) for a complete necropsy by a board-certified pathologist. If a moose was found to be alive, but obviously ill, it was euthanized (via gunshot to the neck). If carcass extraction was not possible, a field necropsy was performed. Samples were submitted to the UMN VDL for diagnostic evaluation (Carstensen et al. 2014, 2015, 2016).

From 2013 to 2017, efforts were enhanced to respond to reports of sick or dead non-collared moose from anywhere in MN, from hereafter referred to as "anecdotal moose." This included sick moose that were still alive at the time of the initial report, recently found dead animals, and vehicle or train collisions. MNDNR biologists and conservation officers responded immediately to these reports and samples or whole carcasses were collected in a similar manner to the collared moose study, with the exception of salvage permits provided for the meat of vehicle-killed moose.

Moose age was determined by cementum annuli analysis of incisor teeth removed at time of capture and we used one-way analysis of variance to compare age among years. Annual (Jan-Dec) survival rates were estimated using Kaplan-Meier to allow for staggered entry design. Moose were censored from the analysis on the date their collar stop transmitting data, regardless of their survival state beyond that time, if known. Censored animals included those that died <2 weeks post-capture (presumed to be capture-related mortalities), slipped collars, remotely-release collars through a built-in blow off mechanism, hunter-harvested moose, and collars that stopped transmitting location data due to collar malfunction.

RESULTS AND DISCUSSION

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From 2013–2015 a total of 173 adult moose (123 females, 50 males) were captured and collared. Mean age at capture was 6.1 (±0.3, n=163) years for all moose; range was 1 to 16 years. Age of moose at capture was similar [F-$stat$=1.65, p=0.19] among years (6.0 years in

2013, *n*=101; 5.8 years in 2014, *n*=32; and 7.2 years in 2015, *n*=30). Annual (January–December) survival rates were was 81%, 88%, 85%, 87% and 86% in 2013 through 2017, respectively (Figure 1); the overall 5-year mean for non-hunting mortality was 14.4%. This is lower than the average non-hunting mortality rate of 21%, reported previously in MN, but higher than the 8-12% rates of North American moose populations (Mytton and Keith 1981, Larsen et al. 1989, Ballard et al. 1991, Stenhouse et al. 1995, Modafferi and Becker 1997). A total of 60 collared moose (41 females, 19 males) have died since this study began; which excludes 12 capture-related mortalities that are censored from subsequent survival analyses. Most collared moose mortalities (96%) occurred within the current moose range in northeast MN (Figure 2). Overall proximate causes of death included: wolf predation (*n*=18, 30%), parasitic infections (*n*=18, 30%), bacterial infections (*n*=12, 20%), accidents (*n*=2, 3%), hunter-harvest (*n*=3, 5%), calving complication (dystocia) (*n*=1, 2%), and undetermined health issues (*n*=6, 10%; Figure 3). Health-related causes were attributed to 68% of total deaths, with the remaining 32% being predator-related.

Eight (44%) of the wolf-killed moose had significant health conditions that likely predisposed them to predation, including encephalitis and meningitis*, P. tenuis* infections, winter tick (*Dermacentor albipictus*) infestations, calving, and pneumonia in the lungs (Figure 4a). Unfortunately, diagnostics were limited in 10 of the wolf-killed moose due to the degree of carcass consumption prior to the mortality team's arrival to the scene. It is possible that health issues may have compromised some of these moose as well.

Parasitic infections were a leading cause of moose deaths (Figure 4b). *P. tenuis* directly led to the death of 8 moose in this study; however, this parasite was also implicated in 5 wolf-caused deaths and 1 bacterial infection. Overall 23% of the moose that died during this study have been impacted by *P. tenuis* and this is likely an underestimate, as not all dead moose could be evaluated for this parasite. Winter tick infestations were primarily seen in spring 2013 (attributed to 3 moose deaths), as the severe and prolonged winters in 2012-13 and 2013-14 likely reduced tick survival. However, the past 4 winters have been extremely mild and it's likely that winter tick loads have recently increased on moose. In spring 2016, one moose in the study died from winter ticks; however, significant tick infestations were observed in other moose as well. We had expected that moose surviving into spring 2017 would experience a significant winter tick burden and this would result in an increase in tick-related mortalities; however, none of the collared moose died from winter tick burdens in 2017 but the sample size has markedly declined to only 37 animals left to monitor at the beginning of this year. Most moose in this study had livers that were damaged by liver flukes (*F. magna*), the severity of which varied from mild cases to severe infections that directly caused the death of 3 moose. Similarly, the majority of moose in this study had hydatid cysts in the lungs or liver, caused by *Echinococcosis granulosis*, but only 2 moose had severe enough infections with this parasite to cause mortality. We also observed one moose with an extensive cysticercus (*Taenia krabbei*) infection in various skeletal muscles and heart, which likely resulted in death due to reduced cardiac function.

Bacterial infections were the third leading cause of moose deaths (Figure 4c). Four moose were attacked by a predator, most likely a wolf or wolves, and survived the initial encounter, but the wounds became infected and led to their death days to several weeks later. Prior to this study, scant evidence in the literature points to secondary bacterial infections caused by a predator attack as a major cause of moose mortality. Other trauma, including one case consistent with conspecific fighting of antlered males, resulted in puncture wounds that provided a route for bacteria to enter the body and cause systemic infection and septicemia. The exact circumstances that led to some of these trauma-induced injuries were unknown.

The remainder of moose deaths were caused by accidents (1 vehicle collision and 1 fall through the ice), hunting (3 moose was legally harvested during tribal hunts), calving complications or dystocia (1 moose had twin calves stuck in the birth canal while being expelled simultaneously), and undetermined health-related deaths (6 moose).

There were 18 moose remaining in the study with active collars at the start of 2018. Unfortunately, collar failure rates have been high (causes unknown, assumed to be battery or transmission failures), with 79 collars that failed at varying times throughout the study (Table 1). Luckily, we were able to recover 40 of these failed collars (51%) from live moose via remote release mechanisms and obtain the data stored on the collar (e.g. MIT, activity, GPS location). Three moose had their collars slip off their necks, presumably due to an excessively loose fit, and were recovered in the field. Of the 18 collared moose that remained active into 2018, we attempted to remotely blow off all of these collars over 3 separate flights in January and February, and successfully recovered 16 of those collars. The satellite service for the 2 remaining collars was turned off at the end of March.

Table 1. Sample size of active, added, dead, and censored moose annually, throughout the 5-year study, 2013-2017.

	2013	**2014**	**2015**	**2016**	**2017**
Active collars at start of year (n)	0	79	81	72	37
New collars added (n)	111	31	31	0	0
Non-hunting related deaths (n)	20	12	13	6	3
Censored moose (n): • Capture-related deaths • Hunting-related deaths • Slipped collars • Transmission failures/missing animals	 4 0 1 7	 3 0 1 13	 5 1 1 16	 0 1 0 28	 0 1 0 15
Active collars at end of year (n)	79	81	72	37	18

Anecdotal Moose Mortality

From 2013–2015 a total of 91 anecdotal sick/dead moose (46 females, 43 males, and 2 unknown sex) reports were investigated throughout Minnesota (Figure 2). This included 62 adults (mean age was 4.5 ±0.5 years, *n*=48), 11 yearlings (>1 and <2 years of age), and 18 calves (<1 year of age). The majority (52%) of reports involved vehicle-killed moose, followed by found dead (24%), sick and euthanized (17%), and train-killed (7%) animals (Figure 5). The majority of these cases reported during the fall season (35%), where moose are moving more due to the breeding season and as a result, are more vulnerable to both vehicle and train collisions (Figure 6). Further, we had the most reports of found dead moose in the fall season, likely due to hunters afield pursing other big game and upland birds. Nearly half of all vehicle-killed moose cases occurred in the summer when tourist season peaks in the northeast and moose may be moving more in response to insect harassment.

Trauma was the cause of death for moose hit by either vehicles (*n*=47) or trains (*n*=6); however, examination of their internal organs confirmed *P. tenuis* infection in 8 moose, brain lesions of unknown cause in 2 moose, and marked liver fluke-induced hepatitis in one moose. Decomposition was a confounding factor in determining the cause of death for half of the 22 moose found dead by members of the public; however, *P. tenuis* infection (*n*=9), winter tick-associated anemia (*n*=1), marked liver fluke-induced hepatitis (*n*=1), and bacterial infection (*n*=1) were confirmed in the remainder. Interestingly, *P. tenuis* infection was determined to be the cause of 15 of the 16 sick moose reports where the animals had to be euthanized. One of

these moose was suffering from grain overload and brainworm simultaneously; both condition likely contributed to its death. The only sick moose that didn't have *P. tenuis* infection was an old bull that was injured by conspecific fighting and was dying from a bacterial infection from its wounds.

Our findings of parasitic loads of anecdotal moose from 2013-2017 were very similar to those reported by Wünschmann et al. (2015) for 62 anecdotal moose cases investigated between 2003 and 2013 in Minnesota. Those authors reported 45% of moose had *P. tenuis* infections, 60% had evidence of liver flukes, and 23% had noticeable winter tick loads. Similarly, we found 42% of moose had *P. tenuis* infections, 76% had evidence of liver flukes (18 marked, 13 moderate, and 20 mild infections of 76 cases evaluated), and 21% had noticeable winter tick loads (4 marked, 5 moderate, and 2 mild infestations of 52 cases evaluated).

Parelaphostrongylus tenuis infections occurred in anecdotal moose at nearly twice the rate of collared moose during the same 5-year time period in this study. This is likely due to a sightability bias for *P. tenuis*-exposed moose, as the infection causes animals to seek open areas (roads, train tracks, fields, pastures, logging openings) for prolonged periods of time, which greatly enhances opportunities for humans to see them and report sick moose. In some cases, these brainworm-infected moose appeared to be stuck in the mud or stranded on ice-covered lakes and local wildlife staff would "save" these moose from their dire predicaments. Celebrations were often short-lived as these animals soon returned to compromising situations again and would be euthanized due to public safety concerns. In the collared moose study, it's likely *P. tenuis* infections were underestimated due to limited diagnostics in cases were carcasses were heavily scavenged or decomposition was too advanced. Thus, the true impact of *P. tenuis* on Minnesota's moose likely lies between 23-42%, and is clearly playing a key role in the population decline.

ACKNOWLEDGMENTS

This project was very demanding and would not have been possible without the assistance of the following groups and individuals: the Environment and Natural Resources Trust Fund and the Minnesota Department of Natural Resources for funding this project, Mike Schrage (Fond du Lac Natural Resources) and Andy Edwards (1854 Treaty Authority) for their assistance in the field and during captures, Richard Gerhold and Caroline Grunenwald (University of Tennessee) for assisting with the identification of microfilaria and *P. tenuis*, Ulrike Munderloh (University of MN, Department of Entomology) for testing samples for tick-borne illness, J. P. Dubey (USDA, ARS) for neospora and toxoplasma testing, our team of primary responders (Dave Pauly, Nancy Hansen, Dave Ingebrigtsen, Jessica Holmes, Bailey Petersen, and John Giudice; MNDNR), our team of secondary responders (Bob Fashingbauer, Bob Kirsch, Bryan Lueth, Carolin Humpal, Jim LaBarre, Leslie McInenly, Lindsey Shartell, Meadow Kouffeld-Hansen, Steve Piepgras, Tim Pharis, Tom Rusch, Ted Dick, Penny Backman, Marshall Deters, and Jeff Hines; MNDNR), Dan Ryan and Dave Grosshuesch (US Forest Service), Brandon Seitz (Grand Portage National Monument), EJ Issac and Seth Moore (Grand Portage Band), Lance Overland (Fond du Lac Resources), Nick Bogyo (1854 Treaty Authority), Bill Severud and Tyler Obermoller (UMN) for their assistance in the field, and the MNDNR enforcement pilots (Jason Jensen, John Heineman, Tom Buker, Chris Lofstuen, and Bob Geving) for their assistance during captures and collar blow-offs, USDA-Wildlife Services (Paul Wolf) for use of their necropsy trailer, and Kaytee Firnett, Jeanna Lodel, Beth Martin, Amanda McGraw, and Amy Kingsley for assistance with data management and gearing-up for captures. Rob Fasteland (MNDNR Forestry) and the Lake & Cook County Highway Department staff for snow plowing and maintaining helispots used during capture events. Special thanks to special operations staff for remote hook/sling and radio training, including Bill Schuster, Lee Kessler, Mike McLaughlin, Dustin Nelson and Pat

Coughlin. This project was funded in part by the Wildlife Restoration (Pittman-Robertson) Program.

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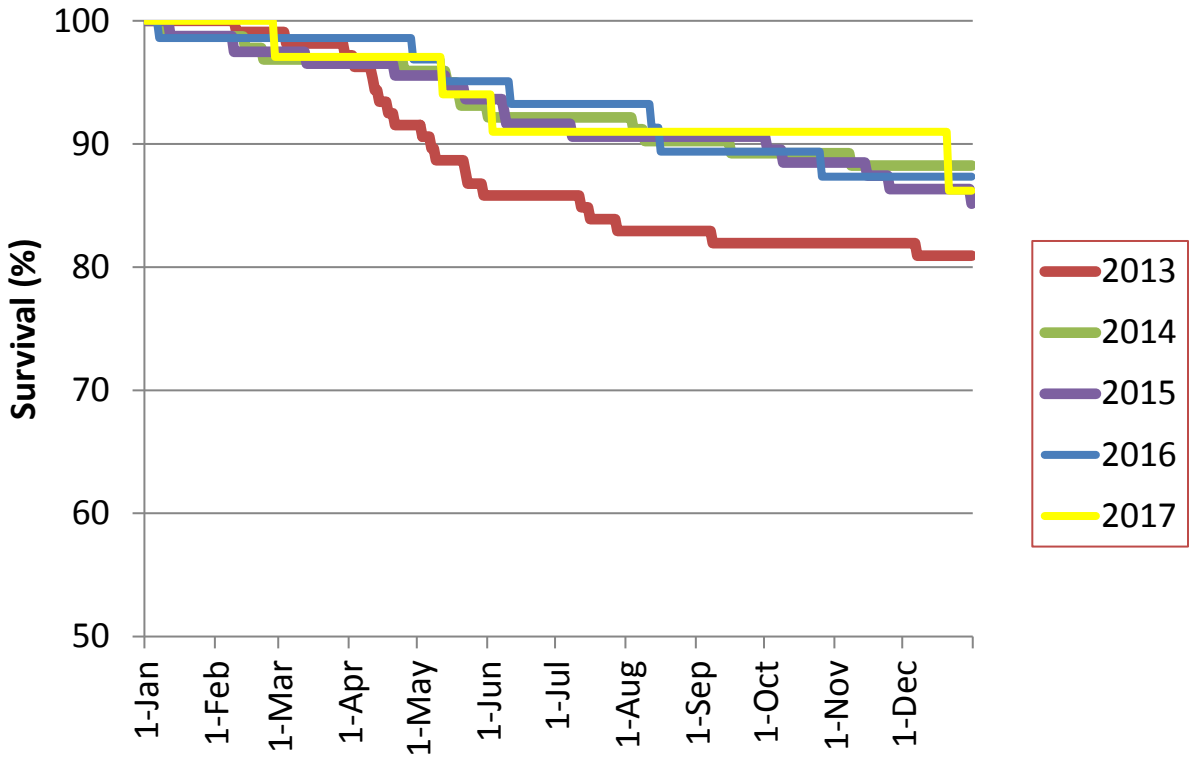


Figure 1. Annual survival of collared, adult moose (*n*=173) captured from 2013-2017, northeast Minnesota.

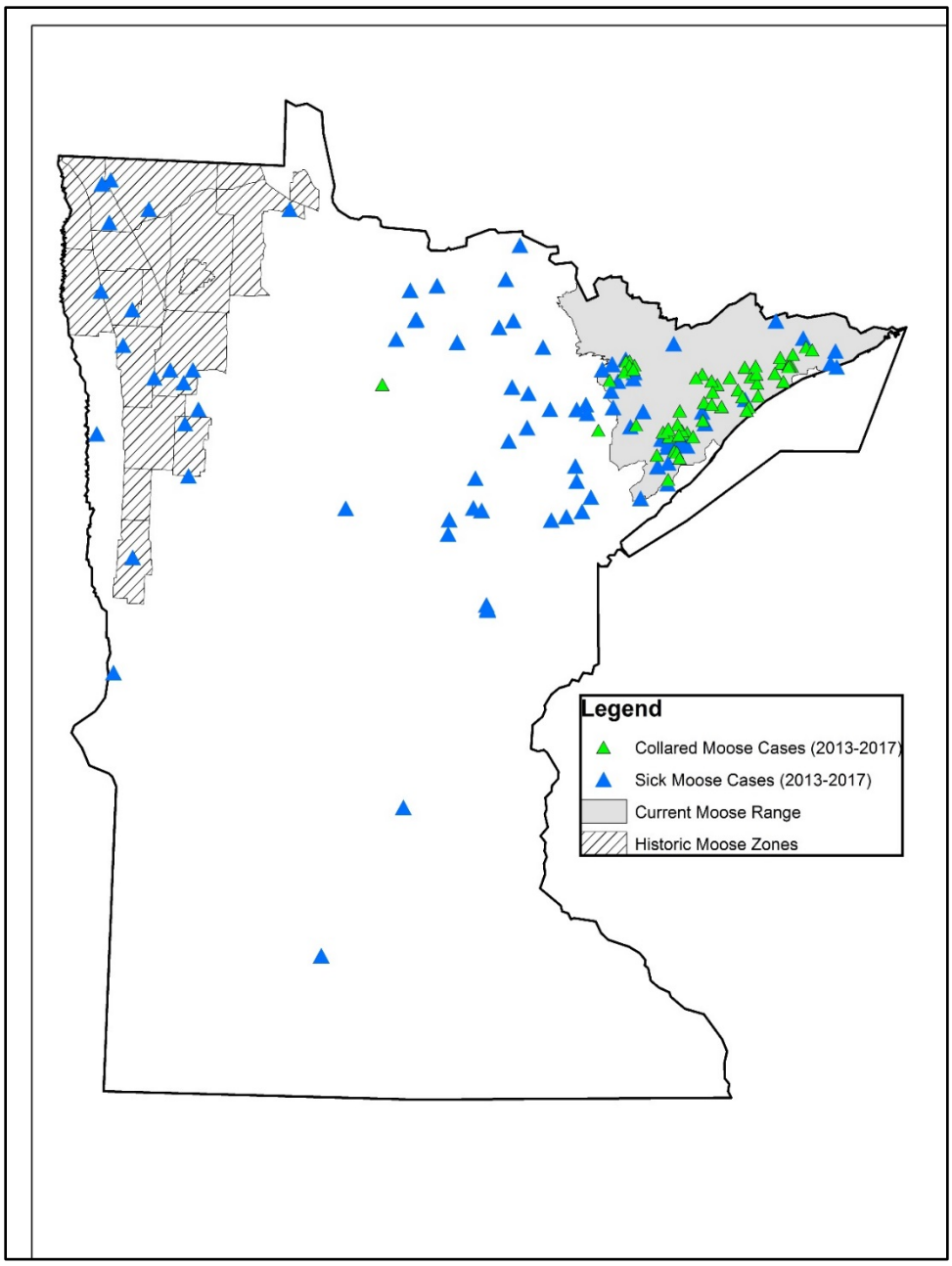


Figure 2. Location where mortalities were investigated for collared (*n*=60) and anecdotal moose (*n*=91) in Minnesota, 2013-2017.

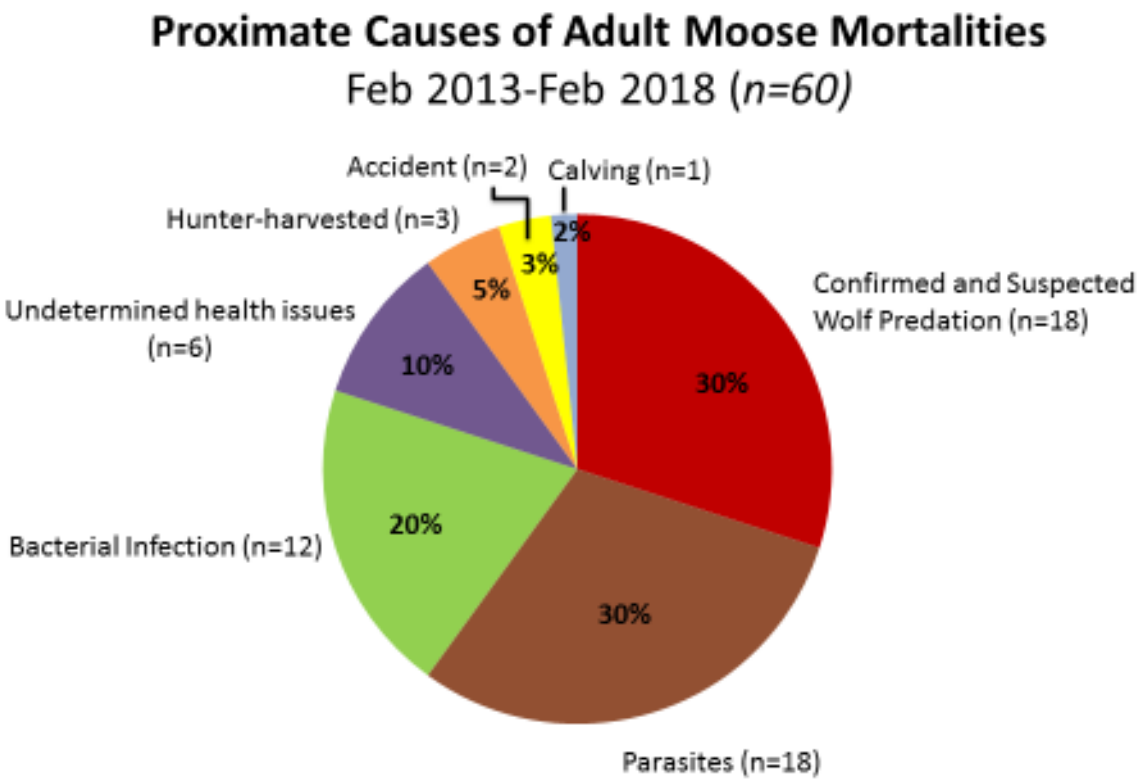
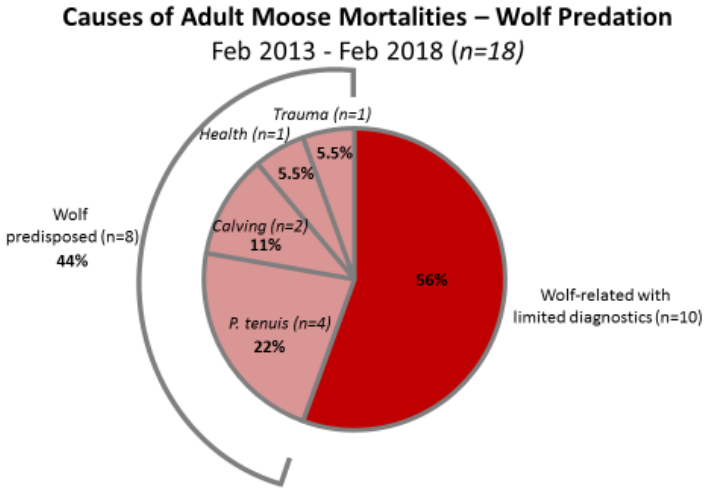


Figure 3. Cause-specific mortality of collared, adult moose (*n*=60) from 2013–2017, northeast Minnesota.

a)



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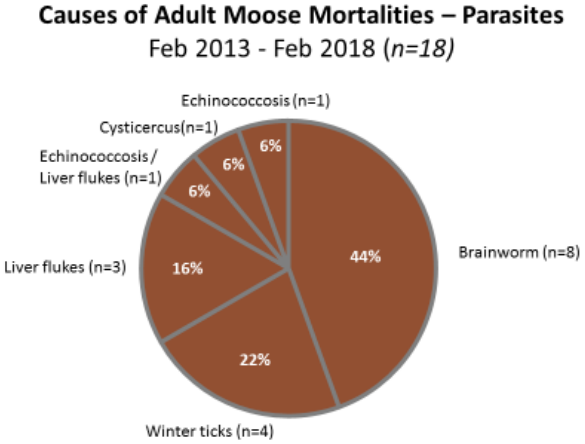

c)

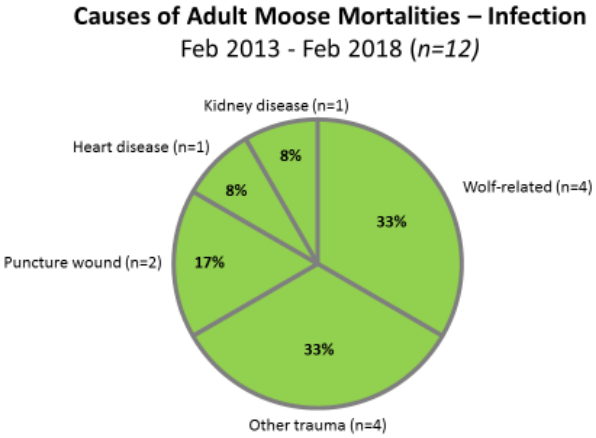

Figure 4. Breakdown of adult moose mortalities caused by wolf predation (a), parasites (b), and bacterial infections (c), 2013–2017, northeast Minnesota

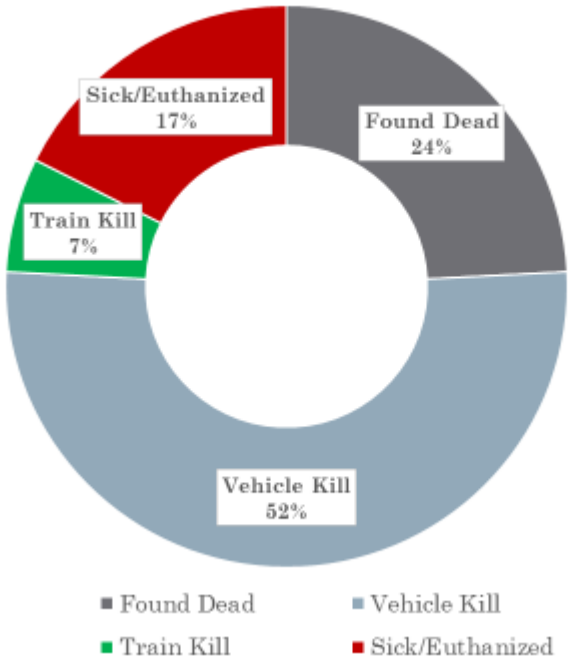

Figure 5. Causes of anecdotal moose (*n*=91) from 2013–2017 in Minnesota.

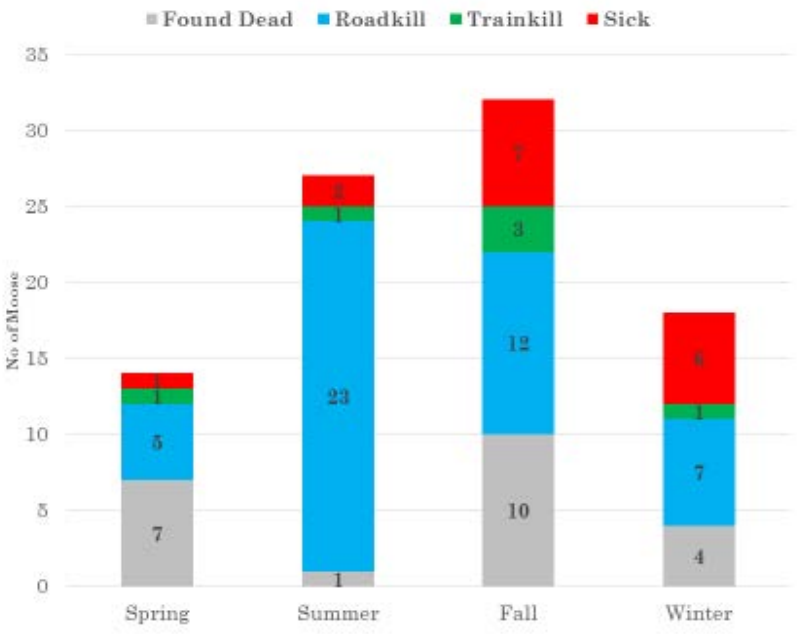

Figure 6. Seasonal variation in the causes of anecdotal moose deaths (*n*=91) in Minnesota from 2013–2017.

MOOSE CALF SURVIVAL, CAUSE-SPECIFIC MORTALITY, AND HABITAT USE

William J. Severud[1], Glenn D. DelGiudice, and Tyler R. Obermoller[1]

SUMMARY OF FINDINGS

Adult survival and recruitment are important drivers of large herbivore population dynamics. The moose (*Alces alces*) population in northeastern Minnesota has exhibited a downward trend from 2006 to 2017. Our research was initiated because neonatal and seasonal survival rates and specific causes of mortality (e.g., predation, undernutrition, disease) of calves were largely unknown. Also unknown was habitat use of calves and their dams during vulnerable and energetically taxing life stages. We remotely monitored global positioning system (GPS)-collared adult female moose during the calving season to locate and GPS-collar neonates in 2013 and 2014 (n = 49 and 25, respectively). In 2015, we used behavioral cues of existing GPS-collared cows to identify calving behavior and calf mortality due to predation. We surveyed and compared habitat characteristics of pre-calving, calving, peak-lactation, and mortality sites to investigate important factors that predicted use at a fine and broad scale. Survival of calves dropped precipitously to 58% by 30 days of age in 2013 and 2014, and then to 34% by 9 months of age. Median age at death of calves that died before 1 year of age was 18.3 days. Hazard started low at birth and spiked at about 20 days old. Similar patterns were observed in 2015, with a 30-day survival rate of 63% and 10-month survival rate of 40.5% of uncollared calves. Over-winter survival was generally high in all 3 years. Predation was the leading cause of mortality in 2013 and 2014, with 84% of mortalities due to wolves (*Canis lupus*) or black bears (*Ursus americanus*). Predation was an important cause of mortality in 2015 as well, but the relative certainty in assigning cause was low. Calves were generally preyed upon once the dam and calves departed their calving sites. At a fine scale, canopy closure, total available forage, and calf concealment were important variables when distinguishing site types. Cows tended to move from areas of little concealment cover to areas of greater concealment but less forage to calve. During peak milk production, cows and their calves used areas with abundant forage and high concealment. At a broad scale, the amount of mixed and deciduous forest was lower around calving sites when compared to pre-calving and peak-lactation sites. Calf mortality sites also had less deciduous forest. Identifying specific causes of calf mortality and understanding their relations to various landscape characteristics and other extrinsic factors should yield insight into mechanisms contributing to the declining moose population in northeastern Minnesota and serve as a basis for an ecologically sound management response.

INTRODUCTION

Ungulate population declines have been attributed to poor juvenile survival (Pinard et al. 2012, Forrester and Wittmer 2013). Large herbivore population growth is most sensitive to variation in adult survival, but differences in temporal variation of juvenile survival may be important in

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accounting for between-year variation in growth rates (Gaillard et al. 1998, 2000, Lenarz et al. 2010). When viable populations of predators are present, predation can be a primary cause of mortality of temperate ungulate neonates (Linnell et al. 1995, Carstensen et al. 2009, Severud et al. 2015*a*). Less is known about other specific ultimate and proximate sources of moose (*Alces alces*) calf mortality or contributing factors. It also is unclear when predation is compensatory or additive to other sources of mortality (Franzmann et al. 1980, Linnell et al. 1995), although a recent study documented additive effects of predation on moose calves in Alaska (Keech et al. 2011). The degree of predation's impact on population-wide calf survival rates depends on the extant predator guild and relative densities of predator and prey (Eriksen et al. 2011, Patterson et al. 2013). The moose population in northeastern Minnesota has declined 55% from 2005 to 2016 (DelGiudice 2016). Survival and cause-specific mortality of calves was largely unknown in this area, but recruitment had been estimated at 0.40 mostly before the population began its decline (Lenarz et al. 2010).

Selection of calving sites by ungulates may influence neonatal survival. Often females tradeoff access to forage for predator avoidance during this vulnerable life stage (Bowyer et al. 1999, Poole et al. 2007). Cover may affect vulnerability to predation (Griffith and Youtie 1988). As nutritional demands for lactation increase and calves begin to incorporate browse into their diet, forage becomes more important. Lactation is an energy-demanding phase of reproduction, requiring 2–3 times more energy than gestation (Robbins 1993). Milk production peaks 21–31 days post-parturition for moose cows (Schwartz and Renecker 2007).

OBJECTIVES

1. Estimate neonatal (30-day), seasonal, and annual survival of moose calves
2. Quantify cause-specific mortality of moose calves
3. Identify potentially important covariates that influence survival or cause-specific mortality
4. Compare habitat characteristics at pre-calving, calving, peak-lactation, and mortality sites at 2 different spatial scales

METHODS

Our study area is the same as that of the Environmental and Natural Resources Trust Fund (ENRTF)-supported study in the Arrowhead region of northeastern Minnesota focused on survival and cause-specific mortality of adult moose (Carstensen et al. 2015). White-tailed deer populations occurred at pre-fawning densities of ≤4 deer/km^2 (Grund 2014). Major predators of moose in the area included gray wolves (*Canis lupus,* 3 wolves/100 km^2, Erb et al. 2016) and black bears (*Ursus americanus,* 23 bears/100 km^2, Garshelis and Noyce 2011). Moose had not been harvested in the state since 2012 (DelGiudice 2014).

As part of the adult moose mortality study, 84, 25, and 20 female moose were captured and fitted with Iridium GPS collars (Vectronic Aerospace GmbH, Berlin, Germany) during January 2013, February 2014, and February 2015, respectively (Butler et al. 2013; Carstensen et al. 2014, 2015). Blood was collected and analyzed for serum progesterone; ≥2.0 ng/mL was indicative of pregnancy. We monitored cow movements during pre-parturition and calving, with particular attention given to pregnant cows, looking for calving movements (Bowyer et al. 1999, McGraw et al. 2014, Severud et al. 2015*a*).

In 2013 and 2014, calves were located and fitted with an expandable Globalstar GPS Calf Collar (Vectronic Aerospace, Berlin, Germany). Details of calf captures, handling protocols, and mortality investigations can be found in Severud et al. (2015*a*,*b*). In response to capture-induced abandonment of calves and capture-related mortality of adults (DelGiudice et al. 2014, 2015; Carstensen et al. 2015), the Governor of Minnesota issued Executive Order 15-10 (28 Apr 2015), barring state agencies from conducting or permitting any collaring of moose in the

state. We then monitored existing collared adult females for calving movements, and tracked dam behavior for indications of mortality movements.

We estimated birth-dates of all calves (2013–2015) based on dams' calving movements. We assumed calves were born 12 hours after the cow localized. In 2013 and 2014, time of death was estimated using the mortality mode of collars, and calf and dam locations relative to the mortality site. In response to a high rate of collar slippage in 2014, we conducted an apparent survival check flight in March 2015. In 2015, dam behavior was used to indicate calf mortality (time and location from which the dam initially fled was also the estimated time of death). We conducted flights via helicopter to assess seasonal apparent survival rates in 2015 during late November and early December (about 190 days old) and late March 2016 (about 320 days old).

We calculated Kaplan-Meier survival, hazard, and Cox proportional hazard using the R packages *survival, KMsurv,* and *muhaz*. Since calf births were tightly synchronized (Severud et al. 2015*b*), we calculated survival by calf age, with day 0 meaning birth. For smoothed empirical hazard curves, we used a global bandwidth and the product-limit method. We calculated cause-specific mortality rates with a cumulative incidence function using the R package *wild1*. Dam and calf location data were screened for locations that were thought to be erroneous fixes. We then calculated proximity between cows and calves. Summer field tests demonstrated mean linear error (± standard error, range) of locations for adult collars of 3.7 m (± 0.3, 0–17) under open canopy and 7.0 m (± 0.3, 1–36) under dense canopy (≥80% closure), and for calf collars of 24.9 m (± 2.7, 1–274) under open canopy and 40.3 m (± 1.3, 0–367) under dense canopy (Obermoller et al., unpublished data).

We collected site characteristics at the pre-calving site (location immediately preceding the calving movement) and presumed calving site (averaged coordinates over a 40- to 48-hour time period immediately following the calving movement, adjusted on site as confirmed by calving evidence; Figure 1). We similarly surveyed locations where calf mortalities were indicated by GPS locations of the dam (2013 and 2014) or confirmed by site evidence (e.g., calf bone fragments, hooves, hair, or predator sign in 2015). Calf mortalities occurring at the calving site were treated as having identical habitat conditions. When calf mortalities occurred outside of the calving site, new habitat data were collected.

Peak lactation of moose dams occurs 21–31 days postpartum (Schwartz and Renecker 2007). In 2015, when we observed evidence indicating a calf had survived ≥26 days (pellets and tracks), we collected site characteristics at the corresponding cow's peak-lactation location. We used the nearest GPS location from each collared cow with a known calf at 26 days post-calving. If the location was in the middle of a long distance movement, we used the center of the nearest grouping of ≥3 locations, which were usually 1 hour apart. We conducted all habitat work to match phenological conditions (i.e., leaf off and leaf on) to the time the initial location was recorded.

Habitat plots were centered at each cow's GPS location closest to the time of interest, unless that location was refuted by visual evidence. This typically occurred at calving and mortality sites, when we were able to see where a cow had calved or where a calf had died. In these cases, plot centers were placed in the middle of the cow's calving bed or at the primary location of calf remains or sign of a struggle. In the center of each plot, we collected an averaged waypoint using a handheld GPS unit, recorded the elevation from the unit's base map, and used a spherical convex densiometer to estimate canopy density. We also measured the prevailing slope and aspect using a clinometer and compass.

Canopy density (in addition to being measured at the plot center) and horizontal visibility were recorded 15 m from the plot center in each cardinal direction. We used a 2-m cover pole to determine horizontal visibility, recording the visible percentage (0, 25, 50, 75, or 100%) of

each of 19 bands from the center (Poole et al. 2007). To estimate calf hiding cover, we held a cardboard cut-out of a standing moose calf silhouette at the center of the plot and recorded the percentage of the cut-out that could be seen from 15 m away at a 1-m height in each cardinal direction. The observer then moved towards the cut-out, maintaining a 1-m height, and recorded their distance from the calf when visibility reached 25, 50, 75, and 100%.

We recorded trees, saplings, and shrubs within an 11-m radius from the central point. Trees were defined as any upright (<45° lean) woody plant with a DBH ≥10 cm. Saplings and shrubs were defined as DBH <10 cm. We determined the species and DBH of each tree, alive or dead, within the plots, and counted number of stems of saplings and shrubs by species. Trees <18 cm DBH and shrubs were further classified as forage or non-forage species (Peek et al. 1976, Portinga and Moen 2015).

We used binary logistic regression to compare pairs of pre-calving, calving, peak-lactation, and mortality sites. The response variable was coded as 1 of these 4 site types. To avoid multicollinearity caused by correlated habitat covariates, we conducted pairwise correlation analysis on all variables. We removed single variables from a highly correlated pair ($|r| > 0.5$), retaining the most parsimonious set of variables. We developed *a priori* models using all possible combinations of remaining variables, and evaluated model support using Akaike's Information Criterion corrected for small sample size (AIC_c); models within 2 AIC_c units of the best approximating model (i.e., $\Delta AIC_c \leq 2.0$) were considered to have strong support.

To investigate broad-scale patterns, we buffered pre-calving, calving, peak-lactation, and mortality sites from 2013–2015 (sites defined using the same criteria listed above) with a 565-m radius to yield polygons of about 100 ha (Poole et al. 2007, McGraw et al. 2012). We overlaid these polygons on a land cover classification layer (Minnesota Land Cover Classification and Impervious Surface Area by Landsat and Lidar) and calculated the area (ha) of each class per polygon, or buffered location. We then compared land cover types by our defined site types using analysis of variance (ANOVA) with Tukey's Honestly Significant Difference (HSD) as a *post hoc* analysis.

RESULTS

We collared 49 calves from 31 dams in 2013 and 25 calves from 19 dams in 2014 (58% and 32% twinning rates, respectively). The sex ratio of collared calves was 36 females: 38 males. Seven dams abandoned 9 calves in 2013 and 6 dams abandoned 9 calves in 2014 (DelGiudice et al. 2014, 2015). These calves, as well as 2 additional calves that died during or shortly after capture from trampling by the dam and not nursing due to unknown causes (DelGiudice and Severud 2016), were not included in survival analyses, leaving 54 calves. Of these 54 calves, 4 slipped their collars in 2013 and 10 in 2014, allowing the study of survival and natural cause-specific mortality in 40 calves. In 2015, we observed calving movements or localization of 50 cows and tracked those dams for mortality movements. Assuming a 30% twinning rate (M. Schrage, Fond du Lac Natural Resource Management Division, unpublished data), this yielded about 65 uncollared calves under observation during 2015. Median calving dates for 2013, 2014, and 2015 were May 14, 19, and 10, respectively.

Blood profiles of calves sampled in 2013 were reported elsewhere (DelGiudice and Severud 2016). For the sample of all collared calves from 2013 and 2014, mean total body mass at capture was 15.8 kg (± 0.3, 12–20.5, $n = 38$) and mean hind foot length (HFL) was 45.9 cm (± 0.3, 42–49, $n = 42$). Body mass and HFL were weakly correlated ($r^2 = 0.31$, $P < 0.001$). There were no differences in mass or HFL by sex or between twins versus singletons. Mean rectal temperature was 101.6 °F (± 0.12, 99.9–103.4, $n = 43$). Mean dam age of all collared calves was 6.4 years

old (± 0.5, 1–14, *n* = 43). Mean dam age of calves that died was 6.7 years old (± 0.7, 1–12, *n* = 23).

For pooled 2013 and 2014 collared calves, 30-day survival was 0.584 (95% Confidence Interval [CI] = 0.461–0.740, Figure 2) and declined to 0.341 (95% CI = 0.226–0.516) by 206 days of age (6–10 February 2014), when all remaining collars were removed (Figure 3). Incorporating data from winter survey flights to look for calves that slipped collars, survival is further adjusted to 0.285 (95% CI = 0.178–0.457). Nearly 80% of mortalities occurred by 1 July (about 50 days old) and 95% by mid-August (about 100 days old).

In 2015, we observed calf mortalities during the first 30 days of life, as indicated by mortality movements of dams. We were successful in confirming calf mortality in cases when the dam fled and made 1–7 return trips. Based on suspected and confirmed calf mortalities, 30-day survival was 0.632 (95% CI = 0.518–0.770, *n* = 54, Figure 2). For the uncollared 2015 cohort of calves, flights in early winter (30 Nov–3 Dec 2015) and late winter (28–29 Mar 2016) indicated an apparent survival rate of 0.442 and 0.405, respectively. In all 3 years, survival dropped dramatically from birth to age 50 days (Figures 2 and 3).

For collared calves in 2013 and 2014, dam age, HFL, mass, sex, and twin status did not meet the assumptions of proportionality, so we could not run Cox proportional hazard models. The empirical hazard function was low initially, and then peaked at about 15 days old before declining, with a second spike in hazard around 90 days of age (Figure 4). Mean age of death of calves that died before 1 year of age was 35 days old (± 7, 3–205, *n* = 31), but the median age was 18.3 days, very close to the peak in hazard. Mortalities from predation (*n* = 26) occurred 31.6 days (± 6.5, median = 17, range = 0–120.5) after leaving the calving site and occurred 1,553 m (± 289, median = 1,142, range = 107–5,788) from the calving site.

We documented 31 natural mortalities of collared calves in 2013 and 2014. Specific causes of mortality included 20 wolf-kills, 5 bear-kills, 2 natural abandonments, and 1 each of the following: drowning, abandonment of unknown cause, unknown predation, and an infection resulting from wolf bites (Figure 5). The cause-specific mortality curves rose rapidly from birth to 50 days of age. Over the first 9 months of age, the cumulative probability of being preyed upon by wolves was 50.2% (90% CI = 37.1–63.5), 11.7% (90% CI = 3.5–19.9) for bear predation, and 9.6% (90% CI = 2.9–16.3) for other causes. Predation accounted for 84% of all natural mortalities, with wolves having the greatest impact overall (77% of the predation events).

For uncollared calves born during 2015 we documented 11 natural mortalities, with 4 additional cases pending (no direct evidence of calf mortality, but predator scat [1 wolf, 5 bear] will be analyzed for presence of calf hair). We documented 8 wolf-kills, 1 bear-kill, and 2 unknown predator-kills (saliva evidence pending, calf remains located).

Most dams and their offspring (one outlier cow-calf pair excluded) were a mean of 101 m (± 1.5, 0–6,083) apart throughout the year. Much variation by individual and fate was apparent (Figure 6). The outlier was a twin that separated from its mother and twin in November. With this outlier included, the mean proximity of all dams and their offspring was 3,736 m (Figure 7).

We measured fine scale habitat characteristics at 34 pre-calving, 37 calving, 25 peak-lactation, and 5 mortality sites in 2015. For fine scale analysis, remaining habitat variables after removal of highly correlated variables included: slope, mean calf model visibility at 15 m (15 m vis), mean canopy closure, and total forage. We then evaluated 15 models of all possible combinations of variables.

There was high model uncertainty when comparing characteristics of pre-calving and calving sites; however, 15-m visibility was in 5 of 6 top models (Table 1). Median percentage of the calf model visible from 15 m was 40% less at calving sites when compared to pre-calving sites

(Figure 8). Canopy and forage were both significant predictors that distinguished calving from peak-lactation sites (Table 1). Peak-lactation sites had higher canopy closure and higher total amount of forage compared to calving sites (Figures 9 and 10). There was also high model uncertainty when predicting characteristics of calving and mortality sites, yet canopy or forage appeared in 5 of the top 7 models. Mortality sites had more open canopy and more forage than calving sites (Figures 9 and 10).

We analyzed 150 pre-calving, 155 calving, 73 peak-lactation, and 36 mortality sites from 2013 to 2015 at a broad scale. The discrepancy between pre-calving and calving sites is because not all cows made a calving movement. Only cows that still had a calf at heel 26 days postpartum were included. There were no differences by site type in the amount of open water, emergent wetlands, forested wetlands, conifer forest, regenerated forest, developed/urban, row crop, or grassland land cover types. However, pre-calving and peak-lactation sites both had more mixed and deciduous forest land cover compared with calving sites ($P < 0.03$; Figure 11). Mortality sites also had less deciduous forest compared to pre-calving and peak-lactation sites ($P < 0.03$; Figure 11).

DISCUSSION

We documented high mortality rates of moose neonates in this declining population. However, the mortalities tended to occur once the dams and their calves departed from calving sites. Peak energetic demands for dams due to lactation occur 21–31 days postpartum (Schwartz and Renecker 2007), which coincides with the highest hazard calves experienced. This suggests that dams seeking out high quality or quantities of forage to meet this demand may be travelling in risky areas or that movement to new foraging patches is itself risky, potentially exposing dams with young calves to predation. Our habitat surveys found that calving sites contained less forage, lower concealment, and decreased land cover types containing optimal foraging habitat than peak-lactation sites.

Our near-recruitment rates for 2013–2014 and 2015, although estimated in different ways (via collaring of calves versus observing cow movements and subsequent aerial surveys), were similar. Both methods required collars on adult cows, yet without calf collars extensive field searches and helicopter flight time were required. Tracking GPS-collared cow movements was a highly reliable way to estimate calving rates and to a lesser degree calf mortality. Due to the Governor of Minnesota's Executive Order 15-10, we were unable to confirm presence of calves shortly after birth, nor handle or collar calves in 2015. Without observing neonates at calving sites, we could not estimate twinning rates. We also did not know when a calf had died, but used dam movements as an indication of calf mortality. This also delayed site investigations, frequently making assignment of mortality cause difficult. Only in cases where the calf was ≤23 days old and the dam fled and made 1–7 return trips were we successful in confirming calf mortality. In a subset of those cases we could assign cause of death. This technique may serve as a method to estimate early neonatal mortality, but it has less power to detect mortality as calves age beyond 3 weeks (but see Obermoller et al. 2017). This method will not reliably detect calves that succumb to forms of mortality other than predation, because we have not documented cows fleeing from and returning to other mortality events (e.g., disease, drowning, abandonment, but see Obermoller et al. 2017).

Wolves accounted for the largest proportion of mortalities in all 3 years of the study. Wolf predation has been partially implicated in the decline of this population (Mech and Fieberg 2014) and has been shown to account for adult mortalities as well (Carstensen et al. 2015). However, adults have typically exhibited predisposing factors when preyed upon by wolves. The overall poor health of the northeastern Minnesota moose population (Carstensen et al. 2015, DelGiudice and Severud 2017) could potentially explain not only the high number of

capture-induced abandonments we observed (DelGiudice et al. 2014, 2015), but also the high rates of predation on calves. Dams in other studies and study areas defended their calves less vigorously following harsh winters or if in poor nutritional condition (Keech et al. 2011, Patterson et al. 2013).

Dams and calves often were in close proximity throughout the first year of life. One outlier was a twin that did not follow its dam and twin across a large lake at about 175 days old. The lone twin returned to where the group had spent time and survived until mid-winter when she was captured to have her collar removed.

At a fine scale, pre-calving sites were relatively open (less concealment cover) with moderate levels of canopy closure and forage availability. Calving sites had more concealment cover but less forage, aligning with other findings that moose tradeoff forage for safety during calving (Bowyer et al. 1999, Poole et al. 2007). Peak-lactation sites had a more closed canopy and abundant forage, leading to high calf concealment cover. However, this cover also may cause dams to be unable to detect approaching predators (Poole et al. 2007). Mortality sites tended to be more open in both concealment cover and canopy, resulting in less forage available. Some of these habitat metrics could be influenced by phenology. Pre-calving and calving typically occurred pre-leaf-out, whereas peak-lactation and mortality sites occurred post-leaf-out. Indeed, horizontal cover and canopy closure increase dramatically in deciduous-dominated over- and understory after leaf-out.

At a broad scale, we observed calving sites surrounded by less mixed and deciduous forest cover types, which are important foraging habitat (Mabille et al. 2012), indicating again that cows are forfeiting forage availability when choosing calving sites. By examining land cover types as well as fine scale measurements, we can infer that the increased concealment and canopy closure we observed at peak-lactation sites were not only an artifact of phenology, but also a result of the habitat itself. Collared moose in Finland showed a similar pattern—cows calved in areas with minimal vegetation <5 m in height, but cows and their calves moved to areas with dense vegetation shortly thereafter, ostensibly to seek out high quality and quantities of forage (Melin et al. 2015).

ACKNOWLEDGMENTS

We would like to thank B. Smith, K. Foshay, R. Ryan, T. Enright, J. Forester, R. Wright, V. St-Louis, the adult moose mortality study team (M. Carstensen, M. Dexter, E. Hildebrand, C. Jennelle, and D. Plattner), N. Hansen, D. Ingebritsen, G. Street, and DNR pilots B. Maas and J. Heineman. Thank you to all the observers who emailed us photos and information on calf sightings, including J. Alston, M. Swingen, D. Schottenbauer, A. Edwards, D. Johnson, B. Kirsch, M. Cochrane, G. Andrews, D. Dewey, M. Vasquez, and C. Henderson. This study has been funded in part by the Minnesota Environmental and Natural Resources Trust Fund (ENRTF), the Wildlife Restoration (Pittman-Robertson) Program, and MNDNR Section of Wildlife's Wildlife Populations and Research Unit. W. Severud was also supported by the Albert W. Franzmann and Distinguished Colleagues Memorial Award and the University of Minnesota's Doctoral Dissertation Fellowship.

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Table 1. Highest ranking *a priori* models for distinguishing pre-calving, calving, peak-lactation, and mortality sites of moose calves in northeastern Minnesota, May–July 2013. Statistically significant variables are marked with an asterisk (*). Only models within 2 units of the Akaike's Information Criterion for small sample size (AIC_c) for the best approximating model (i.e., $\Delta AIC_c \leq 2$) are presented. Canopy = mean canopy closure, Forage = total number of stems of forage species, 15m Vis = amount of calf silhouette visible from 15 m away from focal site (concealment cover).

Site comparison	Model	AIC_c	ΔAIC_c
Pre-calving vs. calving	15m Vis	99.185	0.000
	15m Vis + Forage	100.02	0.835
	15m Vis + Canopy	100.19	1.005
	Slope + 15m Vis	100.61	1.425
	Canopy	100.71	1.525
	15m Vis + Canopy + Forage	101.02	1.835
Calving vs. peak-lactation	Canopy* + Forage*	72.567	0.000
	15m Vis + Canopy* + Forage*	72.572	0.005
	Slope + Canopy* + Forage*	74.016	1.449
	Slope + 15m Vis + Canopy* + Forage*	74.131	1.564
Calving vs. mortality	Forage	33.172	0.000
	Canopy	34.196	1.024
	Slope	34.301	1.129
	15m Vis	34.641	1.469
	Slope + Forage	34.684	1.512
	15m Vis + Forage	35.104	1.932
	Canopy + Forage	35.117	1.945
Peak-lactation vs. mortality	Canopy*	23.042	0.000
	15m Vis + Canopy*	23.569	0.527
	Slope + Canopy*	24.165	1.123
	Slope + 15m Vis + Canopy*	24.27	1.228
	Canopy* + Forage	24.54	1.498

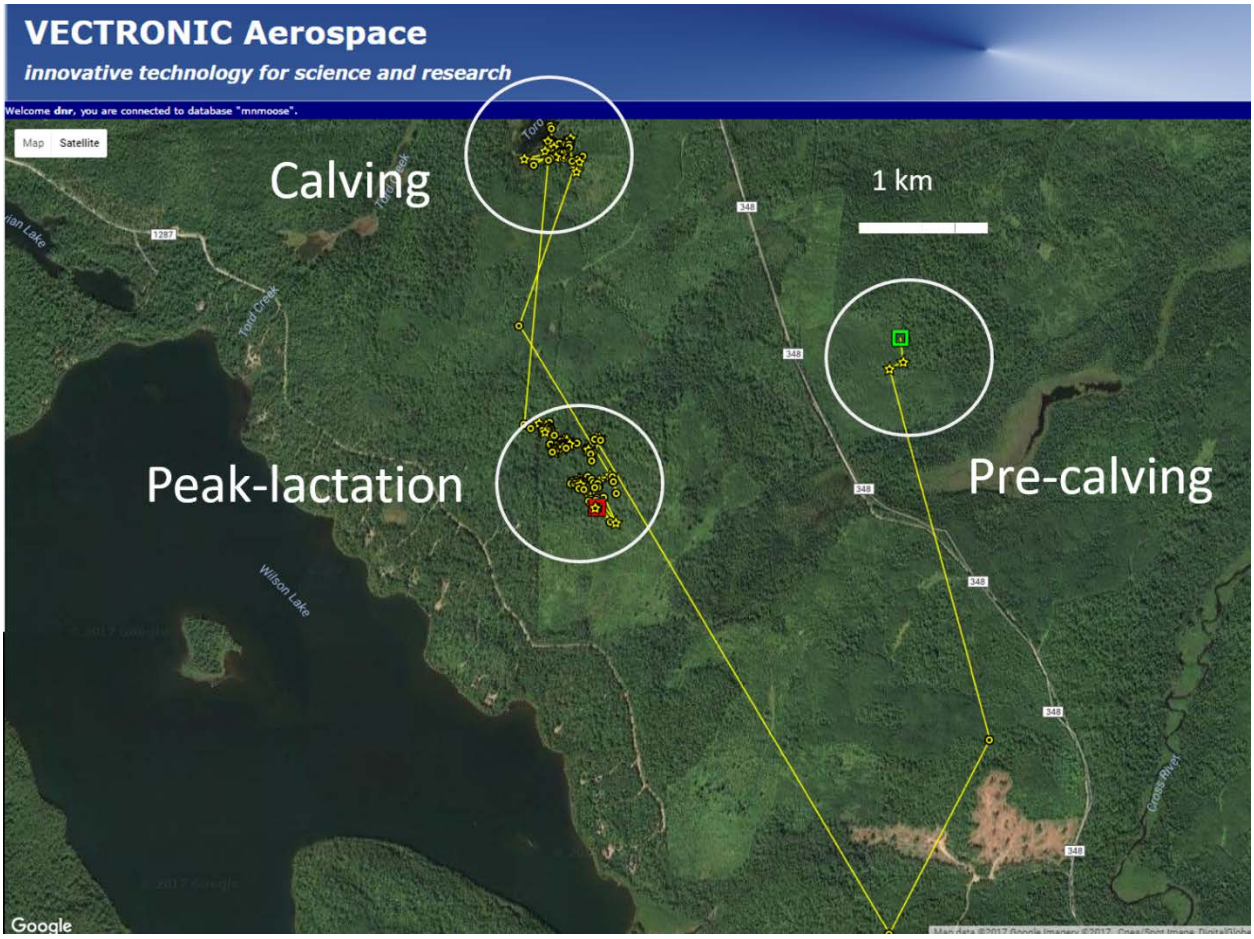

Figure 1. Example of moose pre-calving, calving, and peak-lactation sites, northeastern Minnesota, May–July 2013–2015. Pre-calving sites were defined as being where the calving movement originated. Peak-lactation sites were defined as locations of dams at 26 days from calving (milk production peaks 21–31 days postpartum).

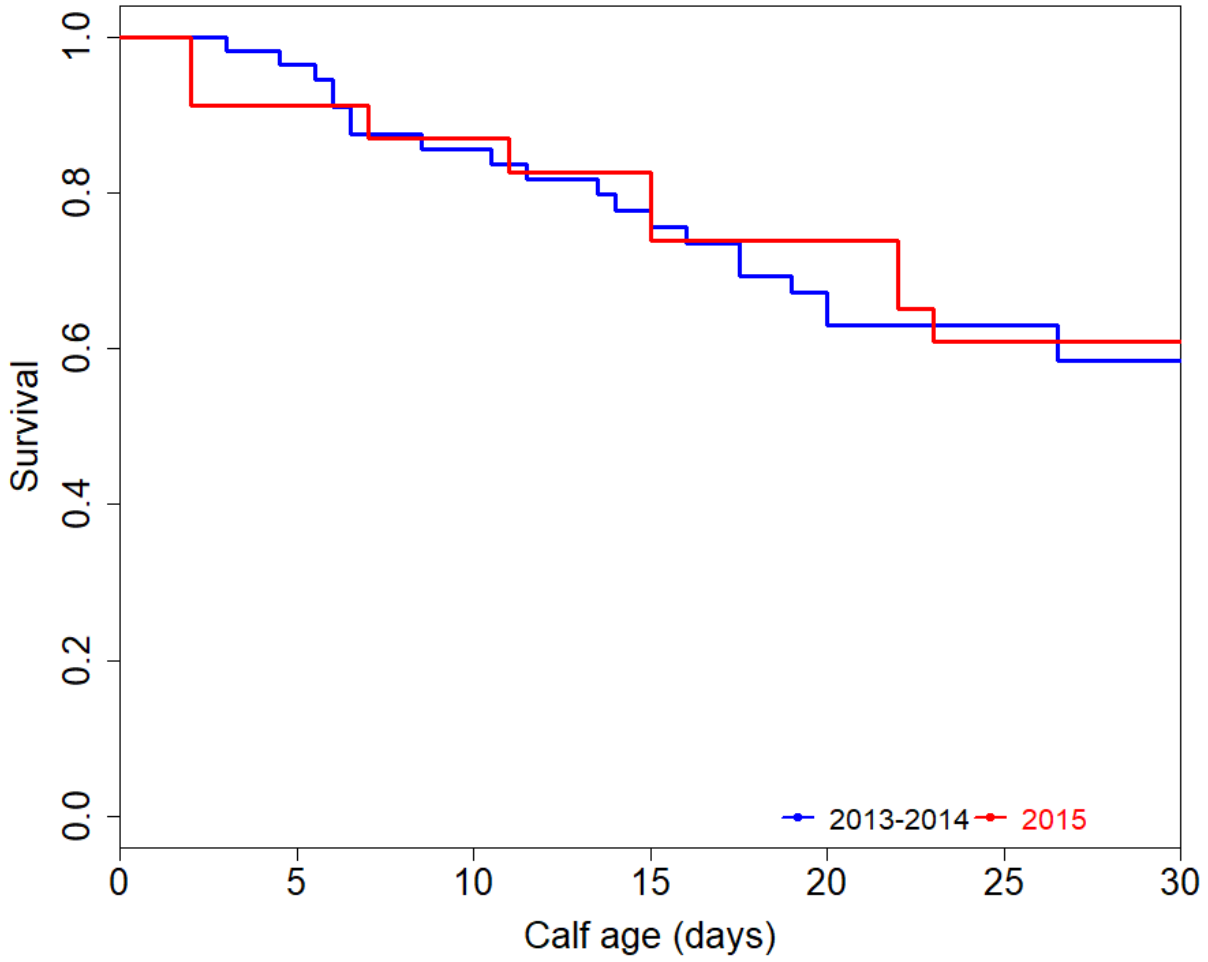

Figure 2. Kaplan-Meier 30-day survival for known moose calf mortalities, northeastern Minnesota, May–June 2013–2015. Mortality was confirmed by GPS collars (pooled 2013 and 2014, blue line, *n* = 54 calves) or through investigations triggered by dam movement patterns and observation of calf remains (2015, red line, *n* = 65 calves).

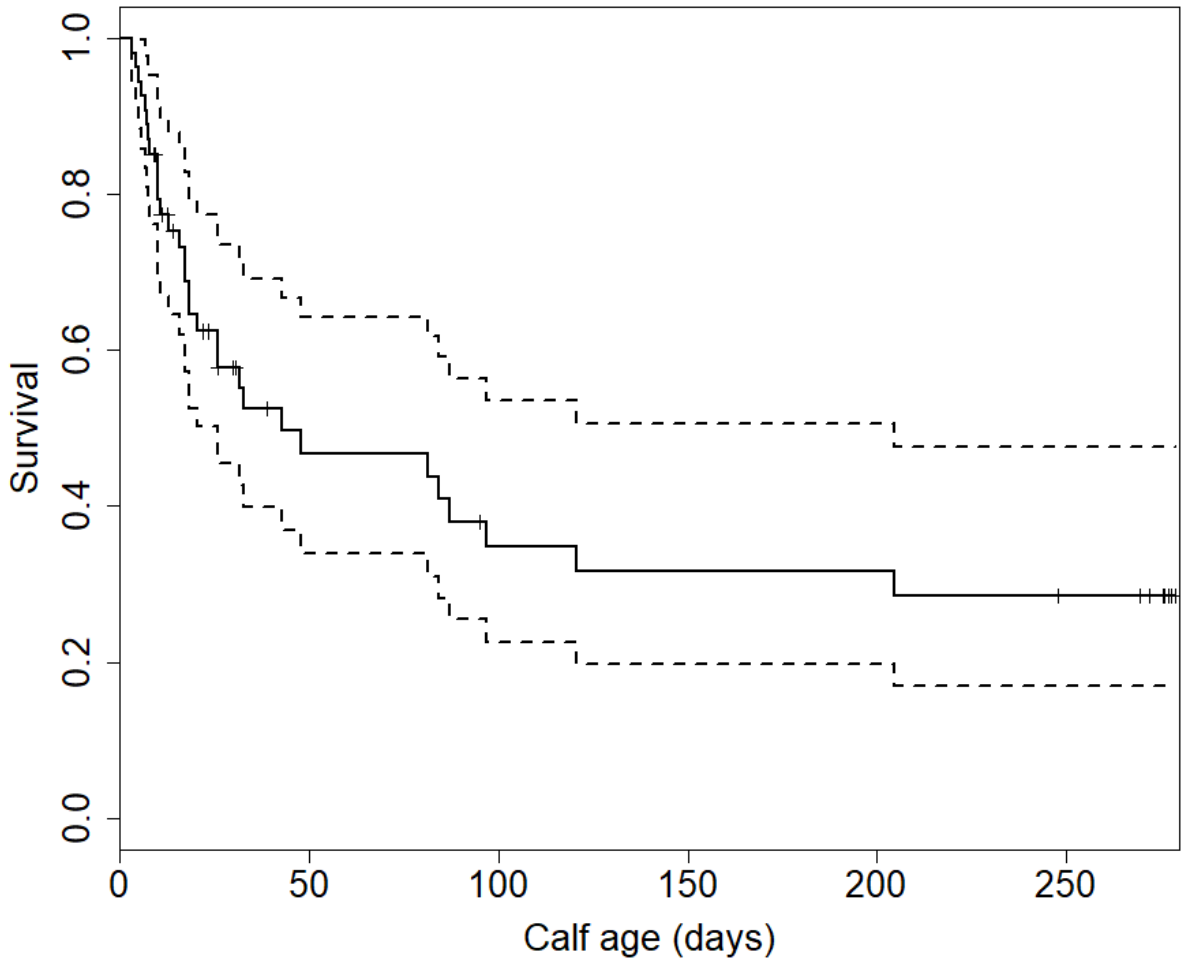

Figure 3. Kaplan-Meier 250-day survival for known moose calf mortalities (*n* = 54 calves), northeastern Minnesota, May–February 2013–2015. Tick marks indicate individuals censored due to slipped or removed collars. Dashed lines represent 95% confidence intervals.

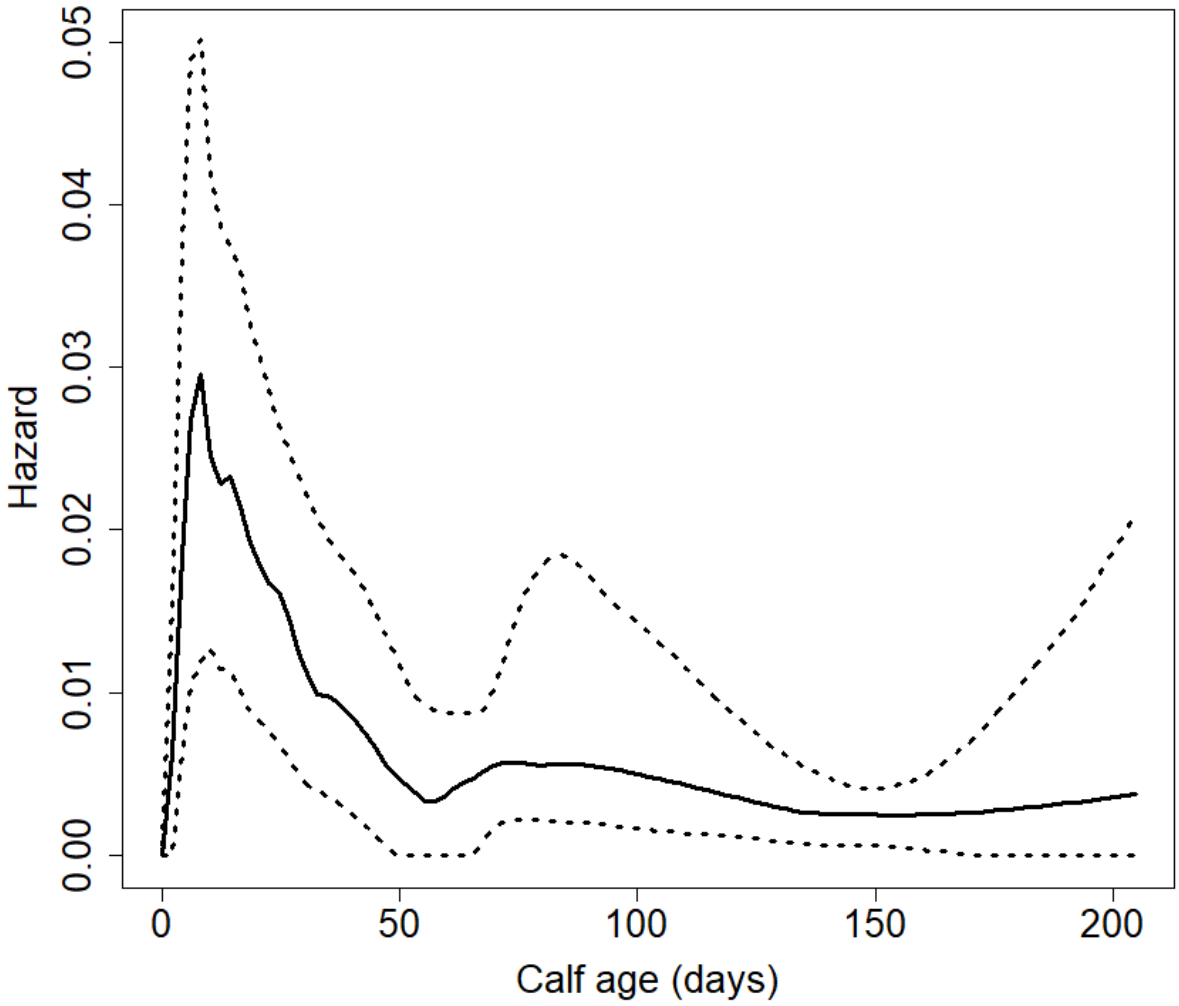

Figure 4. Empirical hazard function for known moose calf mortalities (*n* = 31 calves), northeastern Minnesota, May–February 2013–2015. Dashed lines represent 95% confidence intervals.

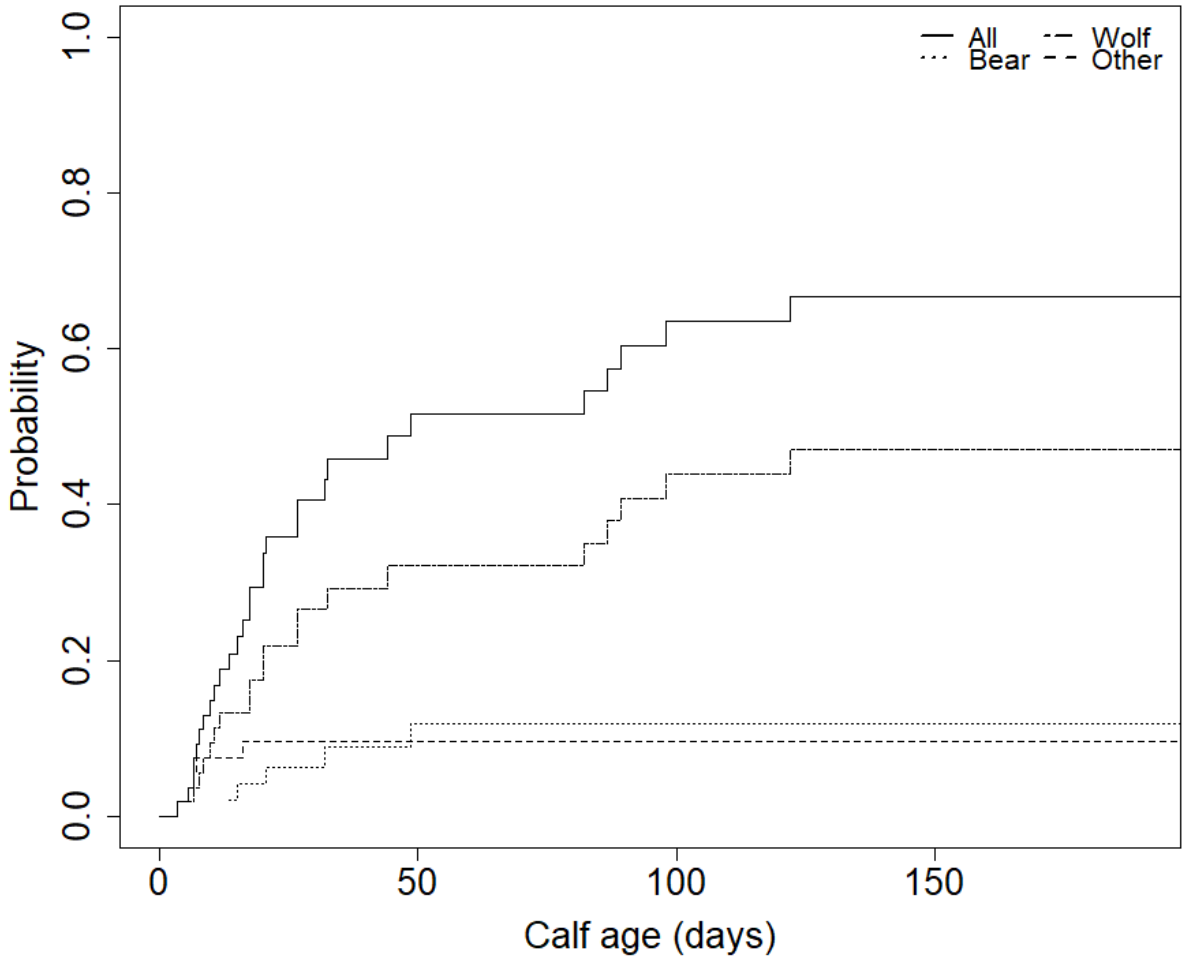

Figure 5. Cumulative incidence function for cause-specific mortality of moose calves in northeastern Minnesota (*n* = 40 calves), May–February 2013–2015. Causes of mortality were wolf predation (20), black bear predation (5), and other [natural abandonment (2), drowning (1), abandonment of unknown cause (1), unknown predator (1), and infection resulting from wolf attack (1)].

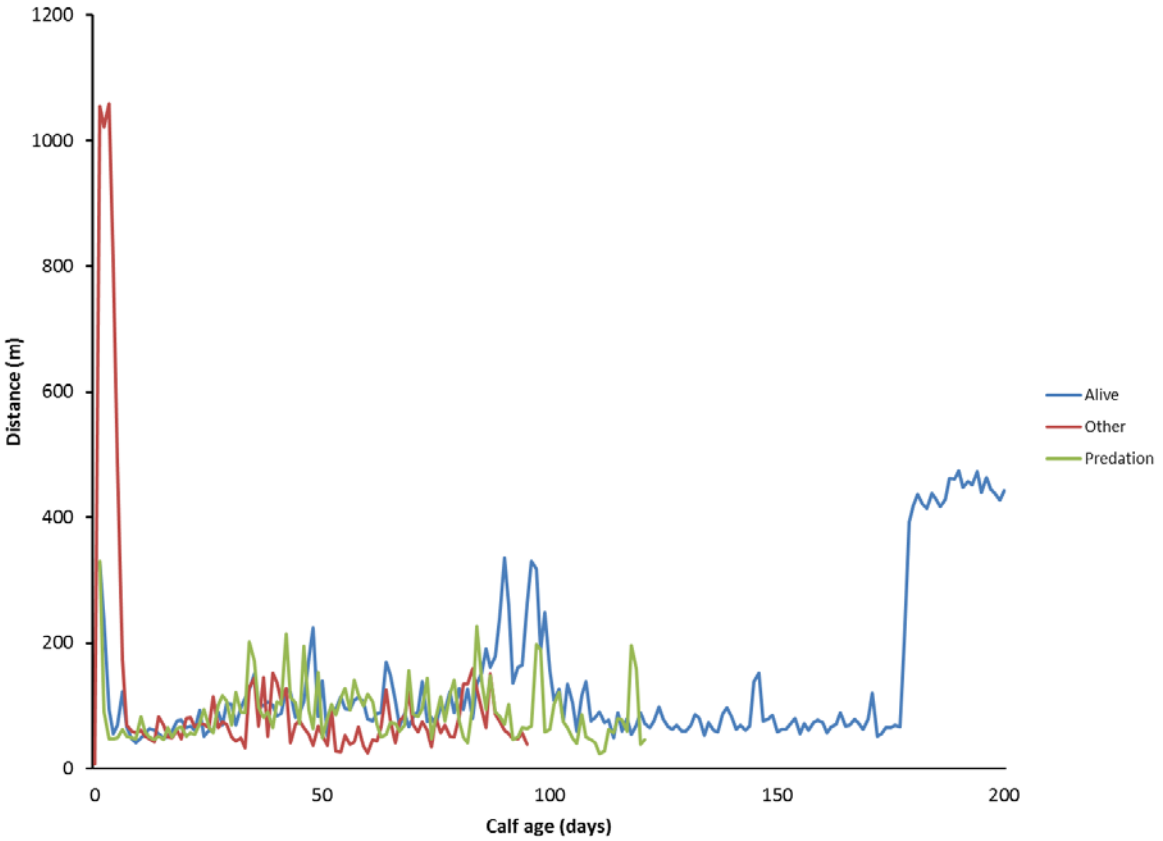

Figure 6. Mean daily distance between moose dams and their calves, excluding an outlier calf that moved up to 28,595 m from its dam, by calf age (up to 200 days old) and fate type (alive, other [non-predation mortality], and predation), northeastern Minnesota, May–February 2013–2015. Spikes in distance during the first 5 days were due to capture and handling.

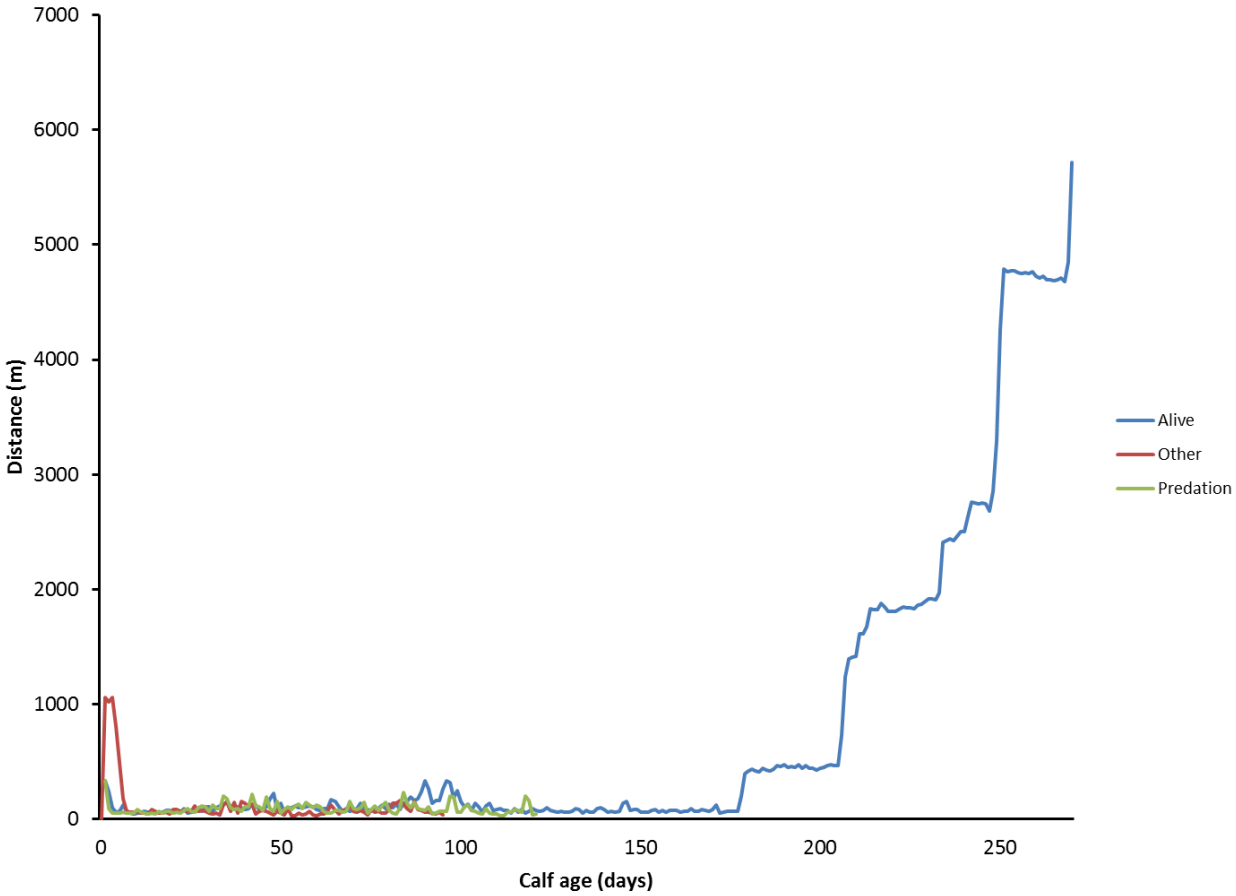

Figure 7. Mean daily distance between moose dams and their calves, including an outlier calf that moved much further from its dam than any other collared calf (up to 28,595 m), by calf age (up to 270 days old) and fate type (alive, other [non-predation mortality], and predation), northeastern Minnesota, May–February 2013–2015.

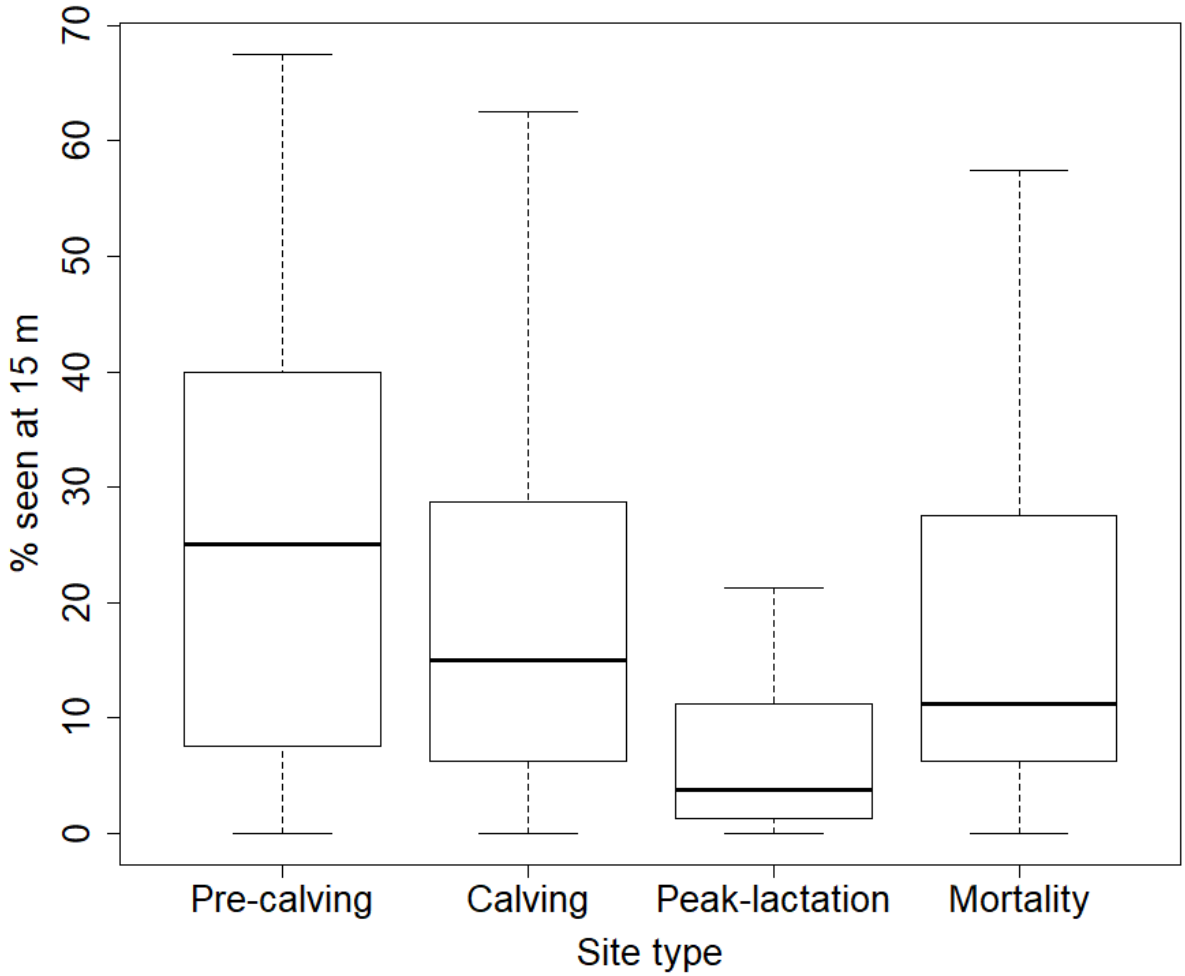

Figure 8. Percentage of calf silhouette visible from 15 m at pre-calving, calving, peak-lactation, and mortality sites (*n* = 34, 37, 25, and 5, respectively) of moose calves in northeastern Minnesota, May–July 2015. Boxes depict interquartile range and dark lines are median values.

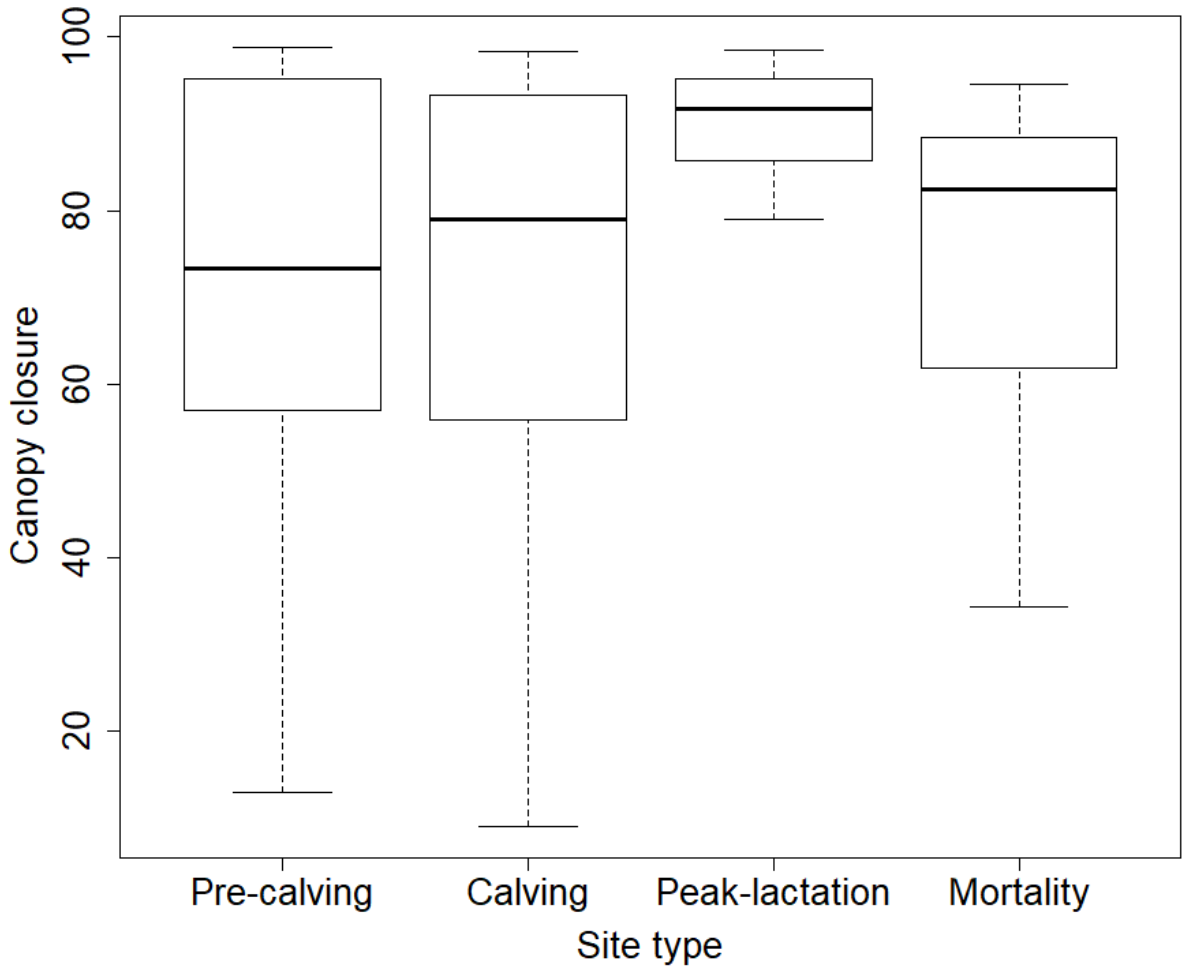

Figure 9. Canopy closure at pre-calving, calving, peak-lactation, and mortality sites (*n* = 34, 37, 25, and 5, respectively) of moose calves in northeastern Minnesota, May–July 2015. Boxes depict interquartile range and dark lines are median values.

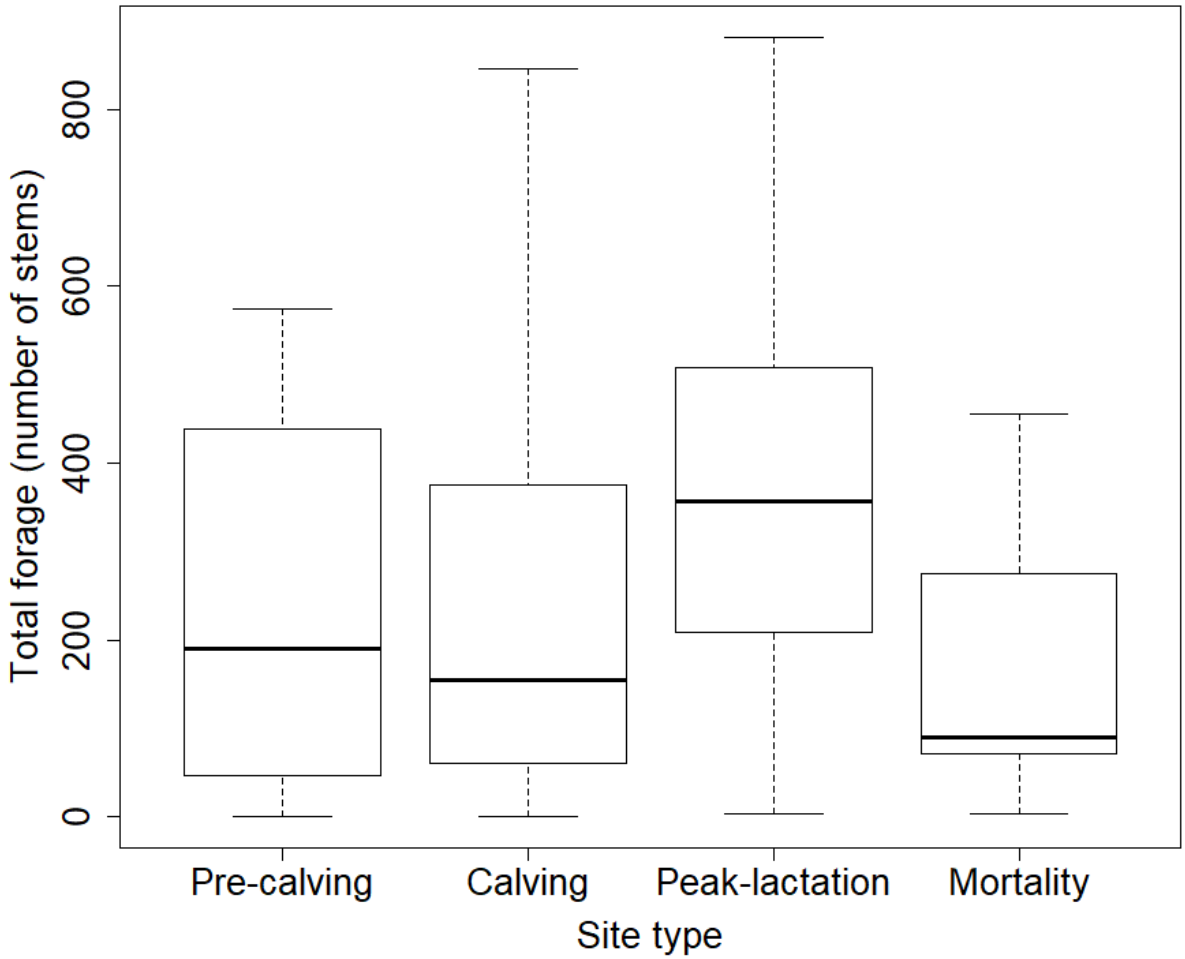

Figure 10. Number of forage stems at pre-calving, calving, peak-lactation, and mortality sites (*n* = 34, 37, 25, and 5, respectively) of moose calves in northeastern Minnesota, May–July 2015. Boxes depict interquartile range and dark lines are median values.

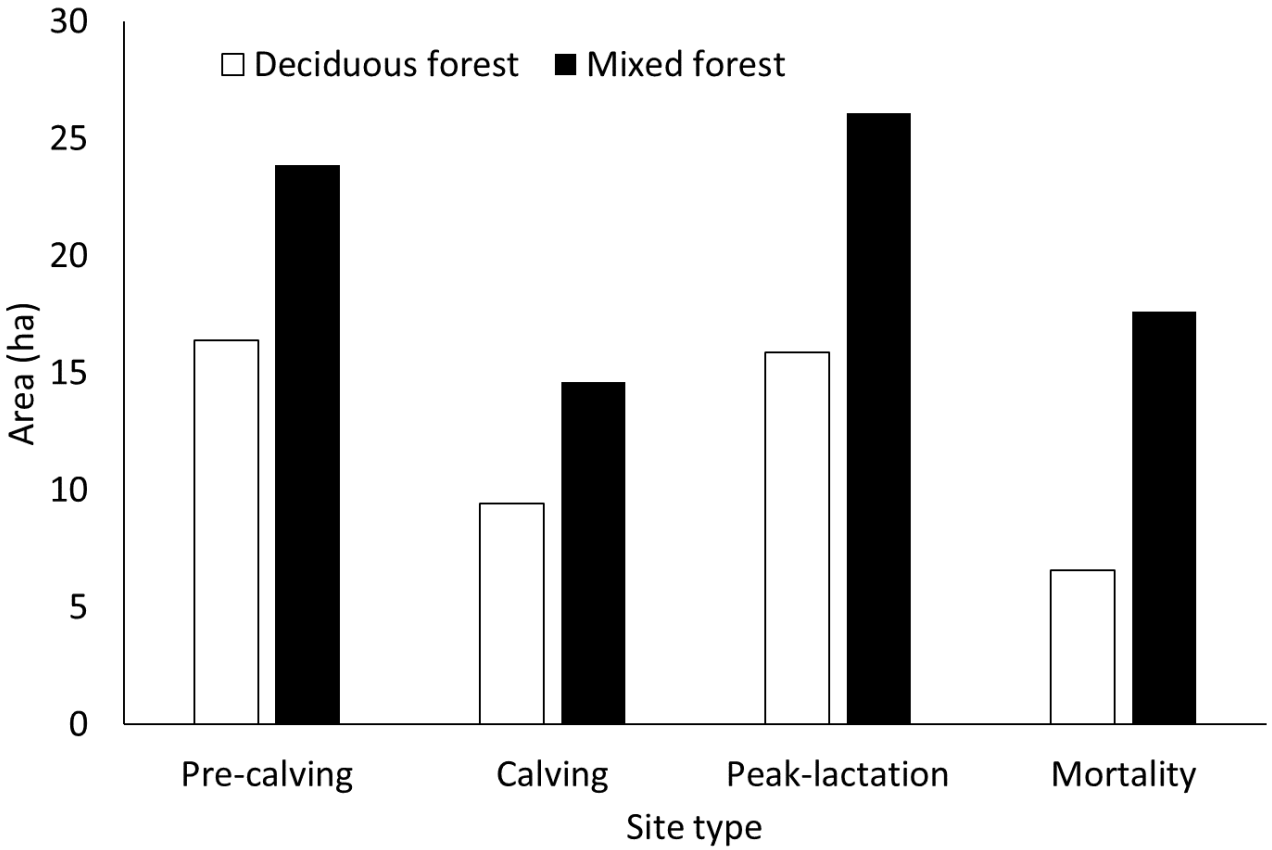

Figure 11. Amount (area in hectares) of deciduous forest (white) and mixed forest (black) within 100-ha buffers around pre-calving, calving, peak-lactation, and mortality sites of moose calves in northeastern Minnesota, May–July 2013–2015.

April 29, 2023

2023 Environment, Natural Resources, Climate and Energy Conference Committee (HF2310)
Representatives Hansen, Acomb, Hollins, Jordan, Kraft
Senators Hawj, Frentz, McEwen, Xiong, Coleman

Dear Conferees:

I write to urge you to delete the language purporting to transfer the state's Upper Sioux Agency State Park to Tribal ownership, which is contained in the Omnibus Environment and Natural Resources bill, page R-34 of the HF2310-3 side by side, so this land is preserved for all Minnesotans.

I earned a Ph.D. in History at Rutgers University and taught Minnesota History at the University of Minnesota and believe this transfer is wrong and potentially irreversible. This land is a living piece of history for the descendants of settlers involved in the Dakota War, no less than for Native Americans, and is important to all Minnesotans. It should not be alienated in this permanent fashion. Please remove the transfer language. Many generations of Minnesotans will thank you.

Sincerely,
Douglas Seaton
5601 Dewey Hill Rd, Unit 204
Edina, MN 55439

952-854-1317 PO Box 22262, St. Paul, MN 55122 www.mnlakesandrivers.org

March 13, 2023

TO: Chair Hawj & members of the Environment, Climate and Legacy Committee
RE: Legislative Water Commission reestablished, and appointments provided.

Greetings,

The Minnesota Lakes and Rivers Advocates, MLR is writing in support of SF 1918,Legislative Water Commission reestablished, and appointments provided.

MLR has had numerous occasions to present to the Legislative Water Commission over the last few years. There is no more important resource than water. Not only is water the basis for all life. Climate change is increasing, year by year, the value and importance of water will grow. As climate change impacts water in the atmosphere and across the landscape, water will become Minnesota;'s most valuable resource.

The Legislative Water Commission provides the consistent and ongoing focus on the many complex water issues that are emerging as climate impacts accelerate. The Legislative Water Commission serves a vital function providing continuity among the many organizations and agencies whose work involves protecting or enhancing water resources.

Sincerely,

Jeff Forester, E.D. MLR

minnesota
well owners organization

PO Box 6275

Rochester, MN 55903

507-273-4961

March 19, 2023

Chairman Hawj

Senate Environment, Climate, and Legacy Committee

Minnesota Senate

St. Paul, MN 55155

RE: MNWOO Supports HF 1338/SF1918

The Minnesota Well Owners Organization (MNWOO) is a statewide advocacy group working to assure safe drinking water at the kitchen sink for Private Well Users (PWUS). We are writing today in strong support of the re-establishment of the Legislative Water Commission as proposed in HF 1338.

Water connects everything. In Minnesota clean, healthy water helps define our culture, infrastructure, recreation, health, and our economy. The connections seem complex and therefore MNWOO believes that the focus on water coming from a new Legislative Water Commission would be a powerful way for the Legislature to recognize the connections and to assure sustainable water for our future.

Sincerely:

Jeffrey S. Broberg, LPG, Director: Minnesota Well Owners Organization

April 26, 2023

Rep. Rick Hansen
407 State Office Building
St. Paul, MN 55155

Rep. Patty Acomb
593 State Office Building
St. Paul, MN 55155

Rep. Athena Hollins
471 State Office Building
St. Paul, MN 55155

Rep. Sydney Jordan
553 State Office Building
St. Paul, MN 55155

Rep. Larry Kraft
515 State Office Building
St. Paul, MN 55155

Sen. Foung Hawj
Minnesota Senate Building, Room 3231
St. Paul, MN 55155

Sen. Nick Frentz
Minnesota Senate Building, Room 3109
St. Paul, MN 55155

Sen. Jennifer McEwen
Minnesota Senate Building, Room 3217
St. Paul, MN 55155

Sen. Tou Xiong
Minnesota Senate Building, Room 3203
St. Paul, MN 55155

Sen. Julia E. Coleman
Minnesota Senate Building, Room 2303
St. Paul, MN 55155

cc: Sen. Jeremy Miller, Rep. Gene Pelowski

RE: Seeking Targeted Changes to HF 2310

Dear House and Senate Conferees of HF 2310:

Solvay is a global leader in advanced materials and specialty chemicals. Our tailor-made products are critical for creating lighter-weight aircraft, electric vehicles, renewable energy installations, semiconductors, consumer goods, healthcare, and other essential products for a more sustainable society. In the United States, Solvay employs over 5,600 people working in 35 sites across 25 states.

I am the site director at our composite materials manufacturing site in Winona, Minnesota where we have 265 employees, including union members from Teamsters Union, Local 120.

We support all measures to keep the public safe, and our air and water resources clean for generations to come. We applaud the Legislature's actions to find ways to appropriately regulate PFAS in our state. Further, we are encouraged by many of the specific steps in the bill that would address some of the more common and higher-risk routes of potential environmental and human health exposure.

However, for the reasons below, we respectfully request your support to amend HF 2310 to remove Section 62, Subsection 5(c). As currently written, Sec. 62(5)(c) is overly broad, and will undermine U.S. competitiveness in key critical products that are vital to achieving the country's climate goals, preserving national security, and cost-effectively meeting the needs of Minnesota consumers.

At Solvay, we are proud of our role in enabling U.S. industry and manufacturing, and helping the decarbonization of the global economy. We take the subject of PFAS very seriously, as health and safety are Solvay's top priorities. In this vein, over the last several years, Solvay invested hundreds of millions of dollars to advance our technology so that in the United States we now produce all of our fluoropolymers – a specialty plastic that meets the broad definition of PFAS – without the use of fluorosurfactants. Fluorosurfactants are process aids that help ingredients work together in manufacturing some fluoropolymers and these are the PFAS substances under the most intense spotlight. Solvay was able to invent a next generation, more sustainable range of specialized fluoropolymers without the use of fluorosurfactants while keeping the unique properties of these products, as required for special applications.

As written, Section 62(5)(c) provides that, beginning Jan. 1, 2032, "a person may not sell, offer for sale, or distribute for sale in this state any product that contains intentionally added PFAS, unless the commissioner has determined by rule that the use of PFAS in the product is a currently unavoidable use." Some of the most important uses of fluoropolymers that Solvay provides include:

- Critical solutions in electronic and hydraulic systems, exterior coatings and o-rings and gaskets for aerospace and defense applications.
- Cathode binders and separators in high-capacity lithium-ion batteries for electric vehicle applications. All lithium-ion batteries need PVDF in order to operate safely and effectively.
- Solar panels, hydrogen membranes, wind turbines and semiconductors, all of which rely on these products' specific properties.

In the U.S., Solvay's fluorochemistries serve the key markets of aerospace and defense, electric vehicles and semiconductor manufacturing. The 2032 "unavoidable use restriction" results in a significant chilling effect for much-needed domestic investment in critical products like defense, semiconductors and EV batteries. The regulatory uncertainty associated with securing timely essential use designations for dozens, if not hundreds, of applications could seriously undermine our ability to confidently make these extremely large capital investments. Obviously, if adequate domestic supply is not available, our customers will be forced to rely on Chinese suppliers, which would threaten U.S. national security and economic competitiveness.

As such, removing Section 62(5)(c) before passage of HF 2310 is crucial for ensuring the viability of our Winona facility, and our nation's defense, critical product and clean energy supply chains. If you have any questions please feel free to contact David Cetola at dave.cetola@solvay.com.

Very truly yours,

Eric Siegfried
Solvay Winona Site Director

Solvay Winona Employees:

David Ybarra , President
353 W 7th Street – Room 106
St. Paul MN 55102
(651) 291-5001

Jason Quiggin, Secy.-Treas.
353 W 7th St. – Room 106
St. Paul, MN 55102
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MINNESOTA PIPE TRADES ASSOCIATION

Affiliate of the United Association
Composed of Journeyman and Apprentices of the Plumbing and Pipe Fitting Industry
Of the United States and Canada
State Federation of Labor – A.F.L.-C.I.O.

April 28, 2023

Energy and Environment Conference Committee

Dear Chairs Frentz, Hawj, Acomb, Hansen and members of the Conference Committee,

On behalf of the Minnesota Pipe Trades Association, I write in support of legislation that promotes the economic viability of renewable biomass power generation in the State of Minnesota, specifically in the management of tree waste by the state's largest biomass-fired combined heating and power plant, (St. Paul Cogeneration (SPC).

The management of roughly 250,000 tons of tree waste by SPC contributes approximately $15 million annually to the local economy in the form of jobs, contractors, and equipment while simultaneously managing the flood of wood waste in the region resulting from the spread of Emerald Ash Borer (EAB). SPC is the only practical disposal outlet for increasing volumes of ash tree waste, which will continue to rise as EAB spreads throughout the region.

Tree waste is utilized by SPC to produce renewable electricity and hot water for district heating. SPC accepts regional wood waste at no cost, from sources such as forest management, EAB infested tree removals, storm damage, etc.

Without SPC acting as the last stop for otherwise unusable tree waste, our cities and businesses will be left to contend with the influx of EAB-infested wood, leaving the material to be openly burned, adversely impacting surrounding communities.

Accordingly, we encourage the Conference Committee to adopt the House language relative to the issue, so SPC can continue to operate and maintain its vital role as critical infrastructure for the disposal of tree waste.

Sincerely

David M. Ybarra, President
Minnesota Pipe Trades Assn

ST PAUL
AREA CHAMBER

401 N Robert Street, Suite 150
St. Paul, MN 55101

MAKING CONNECTIONS THAT COUNT

April 27, 2023

Rep. Rick Hansen
407 State Office Building
St. Paul, MN 55155

Sen. Foung Hawj
3231 Minnesota Senate Building
St. Paul, MN 55155

Dear Chairs Hansen and Hawj and Conference Committee Members:

On behalf of the 1,700+ members and affiliates of the St. Paul Area Chamber, who together represent more than 3 million employees and their families, I'd like to request your support for financial solutions to enable continued operation of District Energy's St. Paul cogeneration facility. Specifically, we urge the adoption of the House provision that would provide a $28 million grant to District Energy St. Paul (lines 33.26-33.29).

District Energy processes 250,000 tons of wood waste per year for cities and counties throughout the metropolitan region. As Emerald ash borer (EAB) continues to spread, local government efforts to remove diseased trees will continue to increase demand for wood waste processing.

Unfortunately, District Energy's ability to continue to process this tree waste is uncertain after 2024, when its power purchase agreement expires. Without a customer to sell the power generated by the facility, District Energy simply cannot absorb the $5 million annual cost to process this wood waste and continue to provide this essential service for the region. The cessation of operations at District Energy would likely result in significant cost increases for the public to properly dispose of their diseased trees and/or the use of inadequate disposal methods that would have negative environmental consequences.

A new public-private partnership model is needed to ensure that the metropolitan region does not lose this critical facility. District Energy St. Paul is not a resource our state can afford to lose as we continue to battle EAB, so we ask that the conference committee adopt the funding included in the House bill.

Respectfully,

Brenda K. Kyle

B Kyle
President & CEO
St. Paul Area Chamber

Stephanie Chappell
2401 14th Street E
Glencoe MN 55336

MN 2023 Environment, Climate and Legacy Conference Committee

April 29, 2023

Dear Conference Committee Members:

Please remove all language related to the Upper Sioux Agency State Park listed on the April 27th side by side on page R-34. Upper Sioux Agency State Park (USASP) was created to preserve and protect one of the most significant sites related to the U.S. – Dakota War of 1862. All people of all colors, creed, and heritages need access to USASP to learn, grow and reflect on the events that took place there. Public inclusion and transparency is absent from this plan to give away public assets and property.

DNR estimates over 30,000 people visit the park heritage, history or recreation purposes. 2021 legislation created free park passes to Minnesota's 11 tribes in addition to other programs for Indian ceremony and 7 day free passes available to anyone via public libraries. These options will stop if the transfer is passed. Transfer will exclude 30,000 people from the park including descendants of Euro-American victims of the 1862 War who now have access for commemorative and religious ceremony.

The Consolidated Fiscal Note does not include any financial impact to local communities from loss of 30,000 visitors who contribute more than $60,000 to the DNR's revenue.

Bill language includes appropriations for state asset demolition, however the DNR has not stated why demolition is required or if the historic Agency duplex will be demolished pictured at left. Demolition estimates are $350,000 to $600,000.

Total transfer related costs per the Consolidated Fiscal Note are $6,781,000 including a $250,000 request for defeasance that has yet to be appropriated from General Funds.

Specifics are "unknown." Examples: it is unknown if $250,000 will cover the defeasance as there may be future required interest payments; there is no estimate of statutes presenting barriers to transfer; federal conservation fund revenue amounts are not given nor is it guaranteed LAWCON will be removed; no transfer date is set; public park and campground closure is not set according to DNR testimony. Calendar deadlines have changed from 2023 to 2033 (HF2388/2310 and SF2250/2438).

House Research does not correspond with bill language. Research identifies specific nonprofit involvement without addressing why a nonprofit is being used instead of nonpartisan state administration offices (Archaeologist and Historic Preservation). Bill language does not mention appropriations to or involvement of a nonprofit for services provided. The Minnesota Historical Society is a 501 c 3 nonprofit private organization.

The DNR's 2023 legislative initiatives do not mention the $6 million transfer. Equally irrational is a $139,000 to $188,000 expenditure (DNR estimate) to end future federal conservation funding (LAWCON).

Discussions between Governor Walz, National Park Service, Upper Sioux Community, and DNR officials excluded local government and descendants of 1862 massacre victims and captives. There has been no transparency and no attempt to involve the general public.

Few people realize Upper Sioux Agency carries generational pain for descendants of Euro-American heritage. Heroes to some were labeled traitors and survivors were blamed for their own rapes and mistreatment. 30,000 visitors deserve to know their struggles: John Otherday/Ampatutokacha, Sarah Wakefield, the Kochendorfer orphans, Mary Schwandt, Snana, Harriett Adams, Lillian Everett, Julia Wright, Benedict Juni, Jr., Mary Prescott/Spirit of the Moon, Thomas Williamson, Joel Whitney and Little Paul/Mazakutemani..

HF2388/SF2250's lack of organization, public inclusion, and transparency triggers need for investigation and review by legislative commission, the State Historic Preservation Office, Office of the State Archaeologist (protection of National Register Places and historic artifacts), the Attorney General's Office (nonprofit/agency partnership misconduct), and by the Legislative Auditor (State asset protection, the $250,000 defeasance, outdoor recreation system unit sales/transfers, public use, access, and master planning of USASP and the MN River State Trail).

Thank you,

Stephanie Chappell

Resources:
2023 DNR Legislative Initiatives Public Information Page with links to fact sheets.
Review of USA Historic Site by historian John LaBatte, a descendant of Dakota and Euro Americans involved in the U.S. – Dakota War of 1862.
Dissertation Essay by historian John LaBatte.
Upper Sioux Agency State Park Management Plan. Minnesota Department of Natural Resources Division of Parks and Trails. July 2009. Emphasis to pages 34-39, 48, 53, 58-62, 70-73.

Enclosure: StarTribune commentary, Dec. 26, 2022 Counterpoint We Should Also Remember Other Victims of 1862 by historian Curtis Dahlin.

Counterpoint: We should also remember other victims of 1862

The 650 men, women and children deserve our thoughts, too.

By Curtis Dahlin

DECEMBER 29, 2022 — 5:45PM

Opinion editor's note: *Star Tribune Opinion publishes a mix of national and local commentaries online and in print each day. To contribute, click here.*

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In "Riders share history's burden" (Dec. 27) the Star Tribune reported about Dakota Indians riding to Mankato and gathering there on Dec. 26, the anniversary of the hanging of 38 Dakota in 1862. Gov. Tim Walz was in attendance, and he apologized to the Dakota for the hanging of the 38 and for the removal of Dakota from Minnesota. But there is more to the story, as Walz, a former teacher, knows.

In 1862, the Dakota were unhappy and angry over their situation for a variety of reasons. By 1862, they had sold most of their land to the U.S. government. By mid-August, grievances came to a head among the Dakota, and some decided to wage war on settlers along the Minnesota River valley.

Early in the morning of Aug. 18, 1862, Dakota attacked the Lower Sioux Agency and then settlers who were living near them in Renville and Brown Counties. The Dakota's attacks that day were devastating, resulting in the killing of about 265 mostly unarmed men, women and children. Five Dakota warriors were killed. In the following days, the Dakota attacked Fort Ridgely twice and the town of New Ulm twice, but they were unable to take either place.

Ultimately, 650 whites were killed. Among them were 40 adult women and 100 children age 10 or under, including infants. Some were killed with great brutality, which particularly enraged the white population. In addition, the Dakota took about 150 white women and children captive, along with many mixed-bloods.

By the end of the conflict some 100 Dakota warriors were killed, but no Dakota women or children.

Gov. Alexander Ramsey learned of the attacks on the settlers on Aug. 19, and he selected Henry Sibley to lead the military response and stop the killing. Things got off to a rocky start for Sibley when on Sept. 2 and 3, a large burial party he had by then dispatched was badly mauled by the Dakota at the battle of Birch Coulee. Sibley continued to gather his force, and on Sept. 23 he defeated the Dakota at the Battle of Wood Lake. Three days later, he freed the captives at what became known as Camp Release.

Sibley established a military commission to try those Dakota who were accused of crimes. Nearly 400 were tried, with just over 300 being convicted of capital offenses. The trials were brief and the Dakota were not represented by counsel. But neither were Civil War soldiers accused of crimes. It was a different time. White settlers were clamoring for justice, and after the war ended, had made several attacks on Dakota prisoners, killing three.

President Abraham Lincoln had his staff review all the trial transcripts. He cut the number to be executed to 39, and one late reprieve brought the number to 38. Lincoln spared the lives of 265 convicted Dakota.

The 38 were hanged at Mankato on Dec. 26, 1862. It was the largest mass execution in U.S. history, in response to the deadliest Indian uprising in U.S. history.

In November 1862, about 1,600 Dakota dependents were taken to a camp at Fort Snelling. Here they were humanely treated, fed soldier's rations and protected from revenge-minded whites, of whom there were many. While at least 100 Dakota died in the camp from disease that winter, the same type of disease toll was taking place in the white community. The following spring, many but not all Dakota were shipped out of the state, to ensure none could resume killing settlers.

The war was the most significant and tragic event in Minnesota's history. If violence were to erupt today killing the same proportion of the state's population, there would be some 18,000 dead.

So governor, we know your feelings about the 38. What are your feelings about the 650 who were murdered? Are they worthy of being mentioned and remembered? Since this is now a public issue, I would request that you respond in a public setting.

Curtis Dahlin lives in Roseville.

Senators Frentz, Hawj, McEwen, Xiong, and Coleman
Representatives Acomb, R. Hansen, Hollins, Jordan, and Kraft

Dear members of the HF 2310 Conference Committee,

We write to highlight the **broad and deep support** among the labor and clean energy communities for Minnesota Power's **HVDC Modernization transmission line project** (HVDC = High-Voltage Direct Current), to greatly expand the transmission capacity of our HVDC line between Duluth, MN and Center, ND. The organizations that have expressed strong support for this project include:

- **MN AFL-CIO**
- **IBEW Local #31**
- **IBEW State Council**
- **Laborers' International Union of North America**
- **North Central States Regional Council of Carpenters**
- **International Union of Operating Engineers**
- **Minnesota Tribal Contractors Council**
- **Clean Grid Alliance**
- **Center for Energy and Environment**
- **Fresh Energy**
- **Minnesota Center for Environmental Advocacy**

The $17.5 million proposed by the Minnesota Senate to support this project will help realize significant benefits for Minnesotans:

- Strengthen our application to the U.S. Department of Energy for $50 million in Infrastructure Investment and Jobs Act funds
- Significantly increase the capacity of the line from 550 to 900 MW
- Leverage up to $25 million in project funding from North Dakota
- Improve grid reliability in the Upper Midwest
- Lower the overall cost of the project on Minnesota customers
- Assist the state in achieving 100% carbon-free electricity by 2040
- Provide an estimated 150-175 high-paying, union construction jobs
- Relieve significant transmission congestion in the region, flagged as a top priority in studies released by MISO and the U.S. Department of Energy.

This appropriation for the HVDC Modernization Project will strengthen Minnesota's electric grid, support our labor communities, and help provide reliable and affordable energy to Minnesotans. We urge you to include robust funding for this project in the committee's conference report. Thank you!

Zach Martin, Manager of Gov't Affairs
ALLETE, MN Power, NEE

Mike Bull, Senior Policy Advisor
ALLETE, MN Power, NEE

SIERRA CLUB
NORTH STAR CHAPTER

North Star Chapter
2300 Myrtle Avenue Suite 260
Saint Paul, MN 55114

April 28, 2023

Testimony on HF2310 – Boater Education Language

We support the bill's goal of educating more boaters to improve public safety, but we are concerned it will harm our aquatic ecosystems. The operation of certain boats in sensitive areas can cause substantial damage to lakes and the organisms that inhabit them.

The bill states that the course curriculum for how boaters should protect the environment will be based on "*best management practices*" determined by a working group of "*interested parties*" formed by the commissioner of the Minnesota Department of Natural Resources (MNDNR). This language does not require the MNDNR to recruit recognized environmentalists to be members of the group, leaving environmental protection to a group without any defined credentials.

The bill declares that "*The course must be approved by the National Association of State Boating Law Administrators* [NASBLA] ..." a nationally recognized authority on water safety and boater skills, but with no expertise for protecting aquatic ecosystems. Moreover, NASBLA states that, "…*members of the association have the right to voice concerns, contributions and objections to product development, professional standards and association leadership.*"

These potentially influential associate members are primarily from the boating industry, law enforcement, boater training, and public safety organizations. This list of NASBLA's associate members offers little comfort to those of us who want the course content based on sound scientific peer-reviewed studies for what boaters need to do to protect our aquatic ecosystems.

The bill is obviously focused on water safety, which is laudable. However, in addition to educating boaters about protecting other persons and properties, the course should also include information about sensitive aquatic environments and how to operate your watercraft in a way that does not cause damage to them. Minnesota experts should have the final say about protecting Minnesota's environment. Therefore, we are asking the bill's language to be revised to include an equally recognized Minnesota-based authority with credentials for developing curriculum that adequately protects our aquatic ecosystems, like NASBLA is for water safety.

Draft amendments were submitted in testimony for Senate bill SF553 on February 28, 2023.

Mark Strand
Member, Water and Wetlands Stewards Group
North Star Chapter of the Sierra Club

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Representative Rick Hansen
Environment and Natural Resources Policy and Finance Committee
407 State Office Building
75 Rev. Dr. Martin Luther King Jr. Blvd.
St. Paul, MN 55155

Senator Foung Hawj
Senate Environment, Climate and Legacy Committee
3231 Minnesota Senate Building
95 University Ave. W.
St. Paul, MN 55155

Representative Patty Acomb
House Climate and Energy Finance and Policy Committee
593 State Office Building
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St. Paul, MN 55155

Senator Nick Frentz
Senate Energy, Utilities, Environment, and Climate Committee
3109 Minnesota Senate Building
95 University Ave. W.
St. Paul, MN 55155

RE: Environment and Climate Finance and Policy Omnibus Bill – HF2310 May 1, 2023

Dear Chair Hansen, Hawj, Acomb, Frentz, and Members of the Conference Committee:

As Conference Committee works to produce a final Environment and Climate omnibus bill, we would like to express our gratitude for considering a set of key programs and investments that will benefit nature and Minnesotans.

We would like to highlight several investments discussed by both committees that we recommend the conference committee include in the final version of the bill because they will help provide carbon sequestration, water quality and quantity benefits, and ensure resilience in the face of climate change for communities and wildlife across the state.

House and Senate Article 1, Environment and Natural Resources Appropriations:

First, we would like to thank the committees for including the following investments that have been included in both versions of the bill:

- $17,000,000 for Climate Adaptation – Accelerated Water Storage & Treatment (BWSR) *(SBS R50, House language 51.33-52.14, Senate language 45.23-45.31)*
- $4,172,000 for Private Forest Landowner Technical Assistance, Cost Share, and Inventory (DNR) *(SBS R30, House language 32.14-32.18, Senate language 29.28-29.32)*
- $1,566,000 for Protect and Restore Carbon Storage in Peatlands (DNR) *(SBS R26, House language 29.7-29.14, Senate language 24.24-24.28)*
- $4,000,000 for the Habitat Enhancement Landscape Program (BWSR) *(SBS R48, House Language 49.27-49.32, Senate Language 44.11-44.16)*
- $2,300,000 for Nongame wildlife management (DNR) *(SBS R25, House language 27.21-27.29, Senate language 23.7-23.15)*

The Nature Conservancy
Protecting nature. Preserving life.™

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We are glad to see the continuous collaborative effort on the following investments, and we encourage the committee to prioritize the following appropriations that maximize the implementation of natural climate solutions:

- **Resilient Communities Grants and Technical Assistance (MPCA)** - $173,800,000 as proposed in the Senate version (For reference, $40,546,000 is proposed in the House version) *(SBS R4, House language 6.6-6.19, Senate language 5.14-6.3)*
- **Planting Tomorrow's Forests Today, or Reforestation and Forest Stand Improvement (DNR) -** $6,000,000 as proposed in the House version (For reference, $3,000,000 is proposed in the Senate version) *(SBS R30, House language 33.4-33.9, Senate language 30.17-30.22)*
- **Accelerated Tree Seed Collection (DNR)** - $1,600,000 as proposed in the House version (For reference, $800,000 is proposed in the Senate version) *(SBS R30, House language 32.19-32.24, Senate language 29.33-30.3)*
- **Enhancing Community Forests through the MN ReLeaf Program (DNR)** - $20,800,000 one-time and $400,000 ongoing per year as proposed in the House version (For reference, $17,800,000 one-time and $400,000 ongoing per year is proposed in the Senate version) *(SBS R30, House language 32.25-33.3, Senate language 30.4-30.16)*
- **Enhancing Grasslands and Restoring Wetlands on Wildlife Management Areas (DNR)** - $15,000,000 as proposed in the House version (For reference, $5,134,000 is proposed in the Senate version) *(SBS R36, House language 38.28-38.33, Senate language 35.12-35.17)*
- **Climate – Private Lands Grasslands/Working Land Restoration Easements (BWSR**) - $17,000,000 as proposed in the House version (For reference, $16,000,000 is proposed in the Senate version) *(SBS R48, House Language 50.7-50.27, Senate Language 44.32-45.9)*
- **Climate – Private Lands Peatland Restoration for Carbon Sequestration (BWSR)** - $15,000,000 as proposed in the Senate version (For reference, $7,500,000 is proposed in the House version) *(SBS R49, House Language 50.28-51.13, Senate Language 45.10-45.22)*

Additionally, we write to highlight investments that appear in one of the House or Senate versions of the bill, and we urge the committee to incorporate appropriations for these programs in the final bill:

- $7,100,000 for Climate - Mitigation and Resiliency for Reinvest in Minnesota (RIM) Easements (BWSR) – House only *(SBS R49, House language 51.14-51.32)*
- $6,000,000 for Scientific and Natural Areas Funding for improved maintenance (DNR) – House only *(SBS R27, House language 30.12-30.20)*
- $395,000 for Invasive Carp Removal and Surveys (DNR) – Senate only *(SBS R27, Senate language 26.4-26.9)*
- $325,000 for Invasive Carp Study (DNR) – Senate only *(SBS R28, Senate language 26.10-26.15)*
- $1,000,000 for Habitat-Friendly Utilities (BWSR) – Senate only *(SBS R52, Senate language 44.6-44.10)*

The following program was not included in the bills, but we offer it for your attention should there be an opportunity to further consider this program:

- **Investing in Minnesota's Wildlife and Aquatic Management Areas (DNR)**: $3,000,000 as included in the Governor's budget proposal for the protection of Wildlife Management Areas

The Nature Conservancy
Protecting nature. Preserving life.™

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(WMAs) and Aquatic Management Areas (AMAs), which provide multiple benefits for wildlife and aquatic habitat, water quality, biodiversity, and carbon sequestration and remain accessible for public recreation.

Senate Article 2, Energy Finance; House Article 9, Climate and Energy Finance:

Second, we thank the committee for its work to help people and nature respond and adapt to climate change and make Minnesota more resilient. There are many appropriations in the proposed bills that will address challenges facing the state.

As the conference committee considers energy and climate appropriations, we recommend the final bill include a $1,000,000 base appropriation, as proposed by the House *(SBS R12, House language 292.7-292.17)*, for the University of Minnesota Extension Service to enhance the capacity for Minnesota's agricultural sector, working lands, and communities to respond to climate change impacts. This program - as was first proposed in HF1853/SF2547 authored by Chairs Acomb and Frentz, respectively - would build critical scientific capacity and establish a strong foundation for extension and outreach services to support climate preparedness and adaptation across the state.

Science affirms that nature is a significant tool to be leveraged to meet the state's carbon sequestration goals and build community resiliency. This program would provide outreach and technical assistance to farmers and private landowners that support their operations as working lands face more frequent and extreme weather events such as droughts and floods. This would be the first program of its kind nationally and will position the state to leverage federal funding through the Infrastructure Investment and Jobs Act (IIJA), Inflation Reduction Act (IRA), and other federal programs.

We appreciate the committee's further consideration of these investments. Thank you for your efforts on behalf of nature in Minnesota.

Sincerely,

Stephanie Pinkalla
Government Relations Director
The Nature Conservancy in Minnesota

Mariam Mikayelyan
Capitol Pathways Intern
The Nature Conservancy in Minnesota

Molly Jansen
Government Relations Specialist
The Nature Conservancy in Minnesota

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April 28, 2023
Environment, Natural Resources, Climate and Energy Conference Committee
Minnesota House of Representatives
100 Rev. Dr. Martin Luther King Jr. Blvd.
Saint Paul, MN 55155

Dear Chair Hansen and the Environment, Natural Resources, Climate and Energy Conference Committee:

Thank you for the opportunity to provide testimony regarding the important policies pending before the Conference Committee. The Union of Concerned Scientists (UCS) is a national nonprofit organization dedicated to advancing science-based policy solutions. UCS has more than 500,000 supporters, including over 6,400 in Minnesota.

We strongly encourage you to support the following climate and energy priorities in your deliberations:

- Support the House position that includes the Next Generation Climate Act.
- Support the House position on the Minnesota Climate Innovation Finance Authority and recommend increasing the amount of funding for it.
- Support the House position for electric vehicle (EV) rebates and electric school buses.

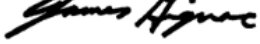
As the recent Intergovernmental Panel on Climate Change Sixth Assessment Report concluded, we are currently on a trajectory to exceed 1.5°C in global average temperature increase above pre-industrial levels within the next 10 to 15 years. Even at about 1.1°C now, we are already in a dangerous and deeply inequitable climate crisis. Which only reaffirms, with greater urgency, what we must do to address climate change: phase down fossil fuels sharply and quickly while transitioning to clean energy, make deep cuts in heat-trapping emissions, and rapidly shore up resilience to worsening climate impacts.

Minnesota can do its part to address global warming pollution by passing common sense clean energy and transportation legislation to help achieve its emission reduction goals and display the ambitious climate leadership that Minnesotans are calling for.

* * * *

Thank you for your consideration of these comments and for supporting a clean, equitable energy future for all Minnesotans.

Sincerely,



James Gignac
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From: Richard Hahn
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Date: 28 April 2023

Good Day

I am writing regarding the bill including language to repatriate the Upper Sioux Agency State Park land to the Dakota. I urge the REMOVAL of all references to the transfer of Upper Sioux Agency State Park, policy reviews, changes and financial earmarks stricken from the bill.

Passing a bill to repatriate the Agency land at this time does not serve all parties of interest. Improved and thorough COMMUNICATION, LISTENING and STUDY must be elements of this very important decision for Minnesota.

This is a time for WISDOM as opposed to any degree of political expediency. If all parties are well-served, is not a site that is sacred to Dakota AND descendants of murdered settlers, best owned, maintained, and managed by the state acting as a neutral party?

The large attendance at the informational meeting in Granite Falls on April 6 is evidence that improved communication and listening would be very desirable. In my view, area residents and descendants of 1862 settler victims are equal stakeholders in this effort. I further urge listening to, and consideration of, the information held and available from additional scholarly and published Minnesota historians.

Minnesota citizens living near the Agency clearly do not embrace a feeling of inclusion in the process and lobbying currently taking place in St. Paul. Descendants of early Minnesota settlers in the Minnesota River Valley are also equal victims of Minnesota's greatest tragedy and deserve your consideration.

Furthermore, I urge a comparative study of the approach to Civil War battlefields. The lands of the Wilderness, Fredericksburg, Gettysburg, Antietam, and many other Civil War sites are also uniquely sacred. In these cases, as well as others, the National Park Service approach of management has demonstrated a commitment to education and reconciliation. The events of 1862 in Minnesota deserve a similar approach, as opposed to any degree of exclusion.

Accordingly, the belief here is that it is desirable for the site of the Upper Sioux Agency to host as many visitors as allowable to better understand, and eventually value, the significance of this site.

Thank you,

Richard Hahn
419 Schilling Circle NW
Forest Lake, MN 55025
651-366-7771 (cell)
amadeus.rlh@gmail.com

From: Riverbottombeagles
To: Kara Josephson; Peter Strohmeier
Subject: Wolves
Date: Sunday, April 30, 2023 8:59:06 AM

I raise beagles for rabbit hunting in Minnesota and I have had seven dogs killed by wolves over the last few years. Three of them were killed near my home. Words cannot describe how it feels to find a dog that you raised and loved after a couple wolves got done with it, or the sound they make as they are dying in your arms after a wolf has crushed their chest.
I have no desire to hunt or trap wolves but to totally eliminate this option for wildlife managers to use in reducing conflict between wolves and the people that live near them is reckless to say the least. The only result that can come from this extreme frustration from the people that continue to suffer losses from wolves.
Please reconsider this ill advised approach.
Thank you for taking the time to listen.
Tom O'Connor

MINNESOTA ADVOCATES FOR NUCLEAR ENERGY
2837 SUNSET BLVD
MINNEAPOLIS. MN 55416

Dear Chair Hansen and Senate and House Conferees:

I submit this written testimony in support of the Senates Advanced Nuclear Energy (ANE) Study (SF 2427 Sec 43) on behalf of Minnesota Advocates for Nuclear Energy (MANE).

After 29 years of banning expansion of nuclear power in Minnesota, we believe it's past time for the State to look at the science and actual data, and put aside the fears, politics and myths which froze its utilization in decarbonating our State to only two nuclear plants built in the early '70's.[i]

We support and embrace the Senate's ANE Study. We are informed there is no House-side parallel bill.

After the 29 year moratorium and decades of contentious debate in the Legislature, we see the ANE Study as an opportunity, to finally professionally, scientifically and objectively study all the pros and cons, risks and opportunities, new advanced technologies, the applicable science and data, and evaluate the significant contribution expanded clean, carbon free advanced nuclear energy will make in reaching the recently enacted Clean Energy Act's laudable and ambitious requirement of providing electricity from 100% carbon free sources by 2040 (2040 NCZ).

The Senate ANE Study is supported by Xcel and the other statewide utilities, the Minnesota Chamber of Commerce, nearly all the State's unions, small and larger businesses, various clean energy and pro-nuclear organizations and Governor Walz, as well as MANE and Generation Atomic.

On a national level, the Democratic Biden administration has supported advanced nuclear energy as a necessary contributor to reaching the Nation's NCZ goal. As DOE Secretary Granholm has noted: Nuclear power is going to play a critical role in America's clean energy future, which means it's more important than ever that we invest in developing the brain trust.

The Citizens Climate Lobby, International Energy Agency and increasingly, many environmental organizations recognize the need for reliable, carbon free nuclear energy.

We agree with the experts that the 2023 Minnesota Clean Energy Act's laudable and ambitious 2040 requirement of zero carbon in all sources of the State's electricity cannot be met by the increase of solar cells and wind turbines alone. Expanded ANE is essential to give Minnesota a reasonable chance of reaching its 2040 NCZ. Prominent and reliable national experts agree:|

> "By focusing on the development of advanced nuclear technologies, NE supports the Administration's goals of providing domestic sources of secure energy, reducing greenhouse gases, and enhancing national security." US Department of Energy.

> "If we're serious about solving climate change, and quite frankly we have to be, the first thing we should do is keep safe reactors operating." But "even then, just maintaining that status quo is not enough. **We need more nuclear power to zero out emissions in America and to prevent a climate disaster."**
> **Bill Gates** (building the TerraPower nuclear plant in Wyoming).

"The only answer can be the development and deployment of modern nuclear power…Otherwise, gas will be the required complement to intermittent renewable energy for electricity generation...Modern nuclear power, in contrast, has the smallest environmental footprint of the potential energies because of its high energy density and the small volume of its waste, which is well-contained, unlike wastes of other energy sources."
Dr. James Hansen, former head of the NASA Goddard Institute for Space Studies

"Cost-optimized energy modeling reveals that nuclear power must ramp up for emissions to approach zero." **Dr. James Hansen**

Please also see the below cited authority[ii]

Even for those who harbor genuine and sincere concerns about advanced nuclear energy, the ANE Study has great value: It is designed precisely to research and address those very concerns, as well as an overall evaluation of ANE, providing an opportunity for informed decision-making based on scientific evidence and expert insights.

We thus respectfully ask you to support the Senate's ANE Study, because it foster a scientific, comprehensive and unbiased understanding of advanced nuclear energy for the benefit of all Minnesotans.

Respectively Submitted,

Seymour J. Mansfield
Founder & Chair
Minnesotans for Nuclear Energy

Dated: April 28, 2023

seymourmansfield2837@gmail.com
(612) 701-4295

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[i] These two 50 year old plants have operated safely and reliably. In fact, while they produce only 24% of Minnesota's total clean and dirty energy, the plants produce an impressive 44.9% of the State's clean, carbon free energy. Because of the moratorium, however, major technological advances in virtually every aspect of nuclear reactors have not been exploited by Minnesota.

[ii] Eric's Slides; Eric's 2023 MN Moratorium Brief; Fareed Zakaria's Last Word in support of Nuclear Energy; Why renewables can't save the planet | Michael Shellenberger | TEDxDanubia; Monticello Leak, Eric's Letter (no big deal). **And regarding the safety of spent fuel waste in dry casts:**
Dry Cask storage is the safest activity one can do in America. The risks are too small to be measured, although we try to assign numbers. But the risks are below any other activity humans engage in, making the relative risks not statistically different from zero. Crossing the street in any big city is 5,000 times more dangerous than nuclear waste disposal or storage. Nuclear waste has never claimed even a single life. It's too easy to shield, too easy to handle, too easy to store in dry casks, and too easy to monitor. The waste is solid and cannot leak.
James Conca, Trustee, Herbert M. Parker Foundation.
To be clear, regardless of the high safety of dry casts, we support the consensual siting of such casts at locations which agree for various considerations, economic returns, and compensation, unlike what had originally and unfairly occurred with regard to the Prairie Island Indian Community.

COALITION OF UTILITY CITIES

Becker ◆ Cohasset ◆ Granite Falls ◆ Hoyt Lakes ◆ Monticello ◆ Oak Park Heights ◆ Red Wing

April 30, 2023

Re: Community energy transition grant funding for power plant host communities

Conferees to House File 2310, Omnibus Environment, Climate, and Energy bill:

I submit this letter on behalf of the Coalition of Utility Cities (CUC) regarding the funding for Community Energy Transition Grants in the Senate version of HF 2310 (Page R10, Renewable Development Account Finance side-by-side).

CUC wants to ensure that conferees to HF 2310 are aware that both bodies, as well as the Governor, have adopted $10 million in total funding for DEED's Community Energy Transition Grant program, but that funding on the Senate side is split between $5 million from the Renewable Development Account (RDA) in this bill and $5 million from the general fund in SF 3035, the omnibus Jobs and Economic Development bill.

CUC recommendation: While either approach is acceptable, the House's and Governor's approach is slightly preferable because RDA funds to the program are limited to Xcel Energy's service territory, while general funds can reach communities throughout the state.

CUC is grateful all three of the House, Senate, and Governor for recognizing the importance of this program and want to work closely with you across conference committees to ensure that the $10 million funding amount moves forward.

Thank you again for your support for power plant host communities throughout this legislative session. With any questions, please feel free to contact the CUC's legislative representation, Shane Zahrt of Flaherty & Hood, at SAZahrt@flaherty-hood.com or (651) 295-1123.

Sincerely,

Max Peters
City Administrator, City of Cohasset
President, Coalition of Utility Cities

METRO CITIES
Association of Metropolitan Municipalities

April 30, 2023

Dear Members of the Environment, Natural Resources, Climate and Energy Conference Committee:

Metro Cities, representing the shared interests of cities across the metropolitan area, appreciates the opportunity to comment on the omnibus bills being considered by this conference committee.

Metro Cities supports several key provisions including:

- $9 million in Art. 1 § 3 of the House language for grants to local governments responding to emerald ash borer infestations.
- Funding in both bills for the Minnesota ReLeaf program and the Lawns to Legumes program.
- $87.2 million each year (Art. 1 § 2 of the Senate language) and $20 million in each year (Art. 1 § 2 of the House language) for grants to local governments to support local planning and implementation of water infrastructure projects that allow for adaptation as the climate changes.
- Funding in both bills that address Per- and Polyfluoroalkyl Substances (PFAS) including $25 million for grants to support planning, designing, and preparing for solutions for public water treatment systems contaminated with PFAS, and $4 million for PFAS reduction grants.
- Funding for metropolitan regional parks and trails operations and maintenance, modernization, and the mitigation of climate risks.
- $12 million transfer to the metropolitan area landfill contingency action trust (MLCAT) in the Senate bill and the full repayment to MLCAT in the House language. Making this account whole will help ensure its ability to address the environmental needs of MLCAT-eligible landfills in the metropolitan region.
- The Local Climate Action Grant Program in Art. 14 § 4 of the House language. Grant funding will support cities as they work to increase their adaptability and resiliency in the face of extreme weather and climate change.
- Funding for the GreenStep Cities program in both the House and Senate language.
- Art. 12 § 27 of the House language, which would have the state adopt an advanced energy building standard for new commercial buildings within the State Building Code. Metro Cities supports legislation that will increase the efficiency of buildings with the goal of reaching net zero energy consumption.

Thank you for your consideration of this letter. Please contact me if you have any questions.

Sincerely,

Mike Lund
Government Relations Specialist
Metro Cities

April 30, 2023

Via email to: kara.josephson@senate.mn and peter.strohmeier@house.mn.gov

RE: HF 2310/SF 2438 – **OPPOSE**

Dear Senate and House Conferees,

RISE (Responsible Industry for a Sound Environment)® and CropLife America, the national trade associations representing the manufacturers, formulators, and distributors of pesticides applied by consumers, professionals and agricultural producers in Minnesota must respectfully take an OPPOSE position on HF 2310/SF 2438. We ask that state and federally regulated pesticides are expressly exempted from PFAS restrictions, including those focused on "intentionally added" content.

The existing pesticide regulatory framework provides a rigorous scientific basis for exempting Minnesota Department of Agriculture (MDA) and United States Environmental Protection Agency (EPA) regulated pesticide products. The existing pesticide regulatory framework is appropriate for regulating all aspects of pesticide sales and use within the state, including the sale and use of fluorinated pesticides. For registered pesticide products, prohibitions based upon the term "intentionally added" are unnecessary. Pesticides registered by MDA under Chapter 18b, including those containing fluorinated chemistry, are essential to protecting public health and safety, communities, ecosystems, and crops grown in Minnesota. Pesticides are applied in Minnesota by professional applicators, growers, and consumers to manage mosquito and tick populations, create fire breaks, maintain roadway lines of site, keep transportation and utility rights of way clear of vegetation, manage invasive and non-native species on land and in water, and to grow important food crops.

Pesticides are rigorously regulated under long-standing federal law. Pesticides are unique substances, with more scientific data available about them than for any other products available in commerce today. Pesticide products are subject to regulation and oversight from five federal agencies: EPA, Department of Agriculture, Food and Drug Administration, Fish and Wildlife Service, and National Marine Fisheries Service. This multi-agency federal regulatory framework is focused on ensuring products can be used safely. This framework is also the foundation of the federal and state pesticide regulatory partnership.

To approve a new pesticide under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), EPA must determine that, when used in accordance with the label, it will *not* cause unreasonable adverse effects on the environment and *does* provide a reasonable certainty of

no harm to human health (7 U.S.C. §136a(c)(5)). Once registered, EPA must periodically review pesticide products to ensure they continue to meet this robust safety standard.

EPA subjects all new pesticide products to rigorous human health and environmental review and testing requirements to satisfy these standards for registration. These testing requirements include, depending on the type of pesticide, the following:

- Product chemistry
- Physical and chemical properties
- Acute, sub-chronic, and chronic toxicity
- Efficacy testing (for public health uses)
- Ecological effects
- Environmental fate
- Applicator exposure
- Residue chemistry (for food use pesticides)

EPA expends significant resources to review and approve the testing data during a scientifically rigorous process. It can take more than 10 years before a new product is registered for sale due to this stringent registration process. Products are then re-evaluated by EPA on a regular schedule to ensure they meet current scientific standards. Further, EPA may request new data at any time while the product is registered for use.

The federal and state regulation of pesticide distribution, sale, and use, as well as stringent safety standards and oversight, are well established federally under FIFRA and in Minnesota under Chapter 18b. The statutes are designed to evolve as science advances, to support product innovation, and to provide for robust stakeholder and public input into pesticide regulation. The statutes require the review of the most current scientific data on health and environmental impacts for all pesticide products and impose requirements to minimize any risks before they are made available for sale and use.

All pesticides, including those formulated with fluorinated chemistry, must already be registered by EPA prior to applying for and receiving a state registration from MDA. Before pesticides even enter commerce in Minnesota, they must already be deemed safe for use by EPA.

Regulators have broad authority to regulate pesticides. EPA and MDA have broad authority to change the availability and use status of any pesticide product at any time for a range of safety and scientific reasons. These regulatory processes and options should not be superseded by the prohibitions proposed in HF 2310/SF 2438.

The European Union acknowledges the pesticide scientific and regulatory framework as a basis for exemption from PFAS restrictions. The European Union's (EU) European Chemicals Agency (ECHA) published a proposal February 7, 2023, for restrictions on per- and polyfluoroalkyl substances (PFAS). Within the proposal are express exemptions for pesticides. The ECHA states "it is recognized that the use of these substances is specifically regulated in the EU with extensive evaluations and approval processes by designated bodies with specific expertise and experience." This acknowledges the stringent and thorough regulatory evaluation process pesticides currently undergo before they can be sold or used by consumers, professionals, and agricultural producers.

For these reasons, we are respectfully seeking an exemption from the provisions of HF 2310/SF 2438 for MDA and EPA regulated products. Thank you for the opportunity to provide our testimony.

Megan J. Provost
President
RISE
4201 Wilson Blvd.
Arlington, VA 22203
202-872-3860

Chris Novak
President and CEO
CropLife America
4201 Wilson Blvd.
Arlington, VA 22203
202-296-1585

RISE (Responsible Industry for a Sound Environment)® is the national trade association representing manufacturers, formulators, distributors, and other industry leaders engaged with specialty pesticides and fertilizers used by professionals and consumers. Learn more at www.pestfacts.org.

CropLife America (CLA) represents the manufacturers, formulators, and distributors of crop protection products in the United States. CLA member companies produce, sell, and distribute virtually all the crop protection products used by American farmers. Learn more at www.croplifeamerica.org.


RISE
Responsible Industry for
a Sound Environment®


CropLife
AMERICA

Emily Wallace
3005 29th Avenue NE
St Anthony Village, MN
55418

Dear Energy & Climate Conference Committee,

I'm writing to you to urge you and your committee to include the Next Generation Climate Act (HF1973) in the omnibus bill. I think it's really critical that Minnesota work to meet the greenhouse gas emissions reduction goals that the IPCC recommends. We really do not have time to waste, we cannot continue "business as usual", and we cannot wait for the market to solve the climate crisis in which we find ourselves. This matters so much to me because I have a 15 month old daughter, and I'm finding it challenging to look into the future and feel hopeful about it if we don't make some big changes on a collective scale with regards to decarbonizing. This is also an important part of Governor Walz' climate plan, as I'm sure you know. Minnesota could be a leader in this way for the rest of the country. I think a net zero carbon emissions goal by 2050 is absolutely achievable, but we have to be all in to do it and this bill will do exactly that. In reality, we need to achieve that even earlier than 2050, so we need to get started reducing emissions in a meaningful way NOW. I'm not a policy wonk, nor a scientist, but what I see happening on a daily basis with regards to climate change alarms me.

I also want to see as much funding as possible go towards electric school buses (HF2502). Again, we can do that, we CAN afford it. Please do the right thing, think of children who suffer from asthma, and just children in general, who have to ride diesel buses and breathe that EVERY single day. That impacts their health, their future. Electric buses are simply common sense. We have the technology and the ability to do something to lower emissions, what we need is the political will to make collective change and that begins with you.

Thank you.

May 1, 2023

Minnesota State Legislature
Environment, Natural Resources, Climate and Energy Conference Committee

Re: HF2310 – Zero Waste Grant Program

Dear Conference Committee Members,

Minnesota needs to invest in community-generated Zero Waste solutions to better manage our resources and reduce waste. To that end, **we ask that you adopt the Zero Waste Grant program in the final Conference Omnibus bill.**

As mission-based recyclers, we see our state's waste crisis first hand and the clear evidence that our communities cannot continue to thrive in an economy designed for linear consumption. Amid historic supply chain disruptions, the intensifying climate crisis, and rampant plastic pollution, there has never been a more important time to invest in a circular economy for Minnesotans that prioritizes reduction and reuse. Investments in Zero Waste infrastructure are investments in a resilient statewide economy, a healthier environment, and stable supply chains for Minnesota manufacturers.

The Zero Waste Grant program provides funding for small businesses, non-profits, and local governments to overcome start-up barriers and support their efforts to create reuse systems, reduce waste, and contribute to a circular economy. The program will invest in:

- **Source Reduction & Reuse:** Funding will be prioritized to support projects focused on transitioning away from single-use to reuse systems and projects that aim to keep our valuable resources in the ground.
- **Electronic Source Reduction & Recycling:** Funding will support efforts to increase and expand electronics recycling and repair across the state.
- **Recycling & Composting Infrastructure:** Funding will support projects that expand access to recycling and composting and projects that improve the processes.
- **Environmental Justice Areas & Rural Communities:** Grant projects serving environmental justice areas and rural communities are prioritized.

The Zero Waste Grant program prioritizes reuse and reduction. This could look like something as impactful as helping a rural school district purchase dishwashers and reusable dishes to move away from single-use disposables, a central collection and washing station for refillable bottles for cottage industries or breweries in the area, or a community-scale composting program that reduces food waste and creates healthy soils for urban gardens. This grant program will help communities get over startup hurdles and set up sustainable systems specific to their situations.

Finally, since the initial introduction of the bill, we have worked with a diverse constituency to strengthen the bill. This includes incorporating feedback from the counties' Partnership on Waste and Energy and the Minnesota Pollution Control Agency to streamline the grant process, reduce conflicting definitions, and target grant dollars where they are needed most.

This program is a critical step toward a more sustainable economy in Minnesota. We thank Representative Hollins for her leadership on this issue and ask for the Conference Committee's strong support for this program. Please feel free to contact Lucy Mullany (lucym@eurekarecycling.org), Director of Policy and Advocacy at Eureka Recycling, with questions or for further information.

Sincerely,

Lynn Hoffman,
Co-President of Eureka Recycling
(612) 455-9110
lynnh@eurekarecycling.org

Laborers' International Union of North America

LiUNA! MINNESOTA & NORTH DAKOTA
Feel the Power

81 E Little Canada Road
St. Paul, MN 55117
651.653.9776 phone | 651.653.9776 fax
Joel Smith
President & Business Manager

April 30, 2023

Chairs Hansen, Hawj, Acomb, and Frentz, and Environment and Energy Conferees:

On behalf of the 29,000 members and family members of Laborers' International Union of North America (LIUNA) Minnesota and North Dakota, I write to urge you to craft an Omnibus Energy and Environment Bill (HF 2310) which demonstrates through its investments and policies that we can protect our environment while growing our economy and creating family-supporting jobs.

Earlier this year, LIUNA advocated for adoption of 100% Clean Energy legislation, but we argued at the time that the objective would only be met if we provided utilities and others charged with rebuilding our energy infrastructure with the flexibility and tools needed to do the job. The Senate version of HF 2310 meets this standard by providing essential tools to secure our energy future and avoiding costly mandates that could jeopardize progress.

The Senate proposal includes funds for critically-needed transmission and grid reliability projects, grants for Tribal Nations, and support for research into advanced nuclear and battery storage technologies that will be needed when the wind doesn't blow and the sun doesn't shine. The bill also modernizes Minnesota's Community Solar Garden program – lowering bills, raising labor standards, increasing transparency, and addressing current inequities. Finally, we appreciate the Senate's effort to address significant concerns raised by organized labor and clean energy companies in its proposal to expand intervenor compensation.

Beyond supporting progress toward 100% clean energy, both House and Senate versions of HF 2310 include programs that accelerate innovation through the Buy Clean program, the Climate Innovation Finance Authority, and deployment of electric vehicle infrastructure. HF 2310 will also ensure that clean energy jobs support families by attaching prevailing wage requirements to solar on school, electric panel upgrades, and other projects funded by the Renewable Development Account.

We continue to oppose costly proposals to expand the existing Community Solar Garden program and establish a battery storage mandate, along with the House version of intervenor compensation, because we believe each will burden ratepayers and complicate the state's path to 100% clean energy. We ask conferees to adopt the Senate positions or defer these matters for further work in the interim and consideration next year.

We strongly support funding in the environment side of HF 2310 for significant and needed stormwater infrastructure investments through both the Climate Resiliency grants (for which we prefer the Senate funding level) and the House Inflow and Infiltration (I&I) grants provision.

Finally, we continue to work with Representative Lee, the advocates and MPCA on a rightsized approach to the cumulative impacts provision that both addresses concentrations of health impacts carried in overburdened EJ areas while still providing for good, family-supporting jobs for people in these communities.

We appreciate your attention to these important issues.

In Solidarity,

Joel A. Smith

Joel Smith
President and Business Manager

Testimony: Re-creation of the Legislative Water Commission
House File1338; Senate File1918

CHAIR HANSON AND MEMBERS

ATTACHED -WRITTEN TESTIMONY-FOR " SUBCOMMITTEE ON MINNESOTA WATER POLICY-(LCC)-DIRECTOR REVIEW & -DISTRIBUTION-THANK

TO: WHOM IT MAY CONCERN-INVOLVING-SENATE AND HOUSE-LEGISLATIVE "-MAJORITY AND MINORITY LEADERS -(WRITTEN TESTIMONY - AS FOLLOWS

FROM DICK MYERS

PREVIOUSLY - SUBCOMMITTEE ON MINNESOTA WATER POLICY -(LCC) REGONAL VOLUNTEER STAKEHOLDER REP. GREATER MINNESOTA - AREA - CURRENT ONGOING - CONSULTATION- JIM STARK - DIRECTOR SUBCOMMITTEE ON MINNESOTA WATER POLICY
(LCC)

SUBJECT: SF-1918-HF-1338-BILLS- INTRODUCED- SENATE -SENATOR-HAWJ, FOUNG-" ASSISTANT MAJORITY LEADER- THE " HOUSE " - & OTHER LEGISLATIVE-"REPS" AND CO-INTRODUCED-BY REP. PAUL TORKELSON-DEPUTY MINORITY LEADER - REP. PETER FISHER-MEMBER-"ENVIRONMENT AND NATURAL RESOURCES FINANCE AND POLICY-
COMMITTEE"

WE: MEANING (REGIONAL STAKEHOLDERS) - GREATER MINNESOTA - AND WITH " EXPECTED LEGISLATIVE SUPPORT " , HAVE CONCLUDED THE FOLLOWING:

A. THE REPLACEMENT OF THE " SUBCOMMITTEE ON MINNESOTA WATER POLICY -(LCC) WITH THE " LEGISLATIVE WATER COMMISSION " AND IS VIEWED AS LEGISLATIVLY " ACCEPTABLE" BASED THE (2023) LEGISLATIVE SESSION TIME LINES AND OUTCOMES AS PRESENTED.AND WITH POSSIBLE SENATE BI-PARTISAN CO-INTRODUCTION

B. AFTER CAREFUL REVIEW OF THE CONTENT INVOLVING BOTH - THE " LEGISLATIVE WATER COMMISSION AND SUBCOMMITTEE- ON MINNESOTA

WATER POLICY) THAT THERE APPEARS TO BE - BASIC AGREEMENT- OF POLCY & PROCESS-, INVOLVING -SUB-GROUPS- AND STATE AGENCIES-

PLEASE NOTE-" SUBED.-4-POWERS AND DUTIES-PART (A)-BELOW. AND MOVING FORWARD ,MAY REQUIRE ADDITIONAL LEGISLATIVE - REVIEW-BY MEMBERS OF THE- HOUSE & SENATE-ENVIRONMENT , CLIMATE AND LEGACY COMMITTEE AND HOUSE-ENVIRONMENT AND NATURAL RESOURCES FINANCE AND POLICY-COMMITTEE" WITH OVER SITE BY THE " LEGISLATIVE WATER COMMISSION DIRECTOR "

IN CONCLUSION-THERE IS CLEARLY A NEED FOR A CONTINUATION OF AN BI-PARTISAN- BICAMERAL APPROACH THAT MAY UNDER THE CURRENT LEGISLATIVE TIME FRAME, BE POSSIBLE AND ACHIEVEABLE NEXT (SESSION) - AS PESENTED BELOW

WE THANK YOU FOR THE OPPOTUNITY TO CONTRIBUTE.
SINCERELY-DICK MYERS- AND REGIONAL-STAKEHOLDERS CONSTITUENTS-STEARNS-SHERBURNE-BENTON-WADENA-BECKER-HUBBARD-CLEARWATER BELTRAMI-CROW WING-CASS- RENVILLE-COUNTIES-FORWARD AS DEEMED APPROPRIATE-IE.-DISTRICT'S-13A-14A-14-02-05- 5A-15B-16-44A-67-AaRON PERSON " UPPER RED LAKE KEEP IT CLEAN COMMITTEE

Testimony: Re-creation of the Legislative Water Commission
House File1338; Senate File1918

History:
Chair Hanson and Members,

I am writing to you in support of House File 1338, the bill to reconstitute the Legislative Water Commission.

Back in 1989, the original Legislative Water Commission was formed to help the Legislature understand and manage water issues at the Capitol. The Commission members became quite knowledgeable - not only about Minnesota's water resources - but also about how the water agencies worked, their roles in water management and the needs of the regulatory system.

The responsibility for Minnesota's water is spread across many units of government at the city, county, watershed and state levels. All these units do their jobs and coordination happens through a variety of mechanisms. But in a way, our water regulation system is like a growing child, with lots of busy hands and feet but with still developing executive function*. Reconstitution of the Legislative Water Commission will help to provide that executive function to the water regulatory system in Minnesota as well as to build water expertise at the Capitol.

Gretchen Sabel, Andover, Minnesota
Retired, Minnesota Pollution Control Agency (also MN Environmental Quality Board)
Member of the Minnesota Ground Water Association White Paper Team
Co-author of "Minnesota's 1989 Ground Water Protection Act: Legacy and Future Directions, published Nov. 2022"

***Executive function** is the mental processes that enable us to plan, focus attention, remember instructions, and juggle multiple tasks successfully. From Harvard Center for the Developing Child*

April 30th, 2023

Members of the Conference Committee on Environment, Climate and Energy (HF 2310)

Re: Please oppose any prohibition of potential future managed wolf season.

We, the undersigned organizations, respectfully ask you to oppose the House provision in HF 2310 that would prohibit a future wolf season in Minnesota. This provision was a last-minute floor amendment added to the House version on April 17th, without consideration, testimony, or other public input at a legislative committee hearing. We believe a major policy change such as the status of a wolf hunting season in Minnesota should be addressed within traditional policy legislation, not added as an amendment to a major spending or policy bill without public or DNR input.

We also urge you to support active and responsible wolf management within Minnesota. Wolf population estimates are well above target population numbers. The USFWS set a recovery goal of 1,251-1,400 wolves in Minnesota, a number that was expanded by the DNR to 1,600 wolves. Wolves have surpassed both goals with a current population of around 2,700. With an increasing human population and resulting habitat fragmentation, this is not an ecologically sustainable population. Therefore, we believe active wolf management is the responsible thing to do.

Importantly, the wolf was reinstated to full protection as threatened under the Endangered Species Act (ESA) in February 2022 by federal court order. There is not a current season and cannot be one until wolves are removed from ESA protections. In the meantime, wolf predation on Minnesota's wild deer herd is excessive which severely undermines the rich tradition of deer hunting in the State of Minnesota. The same can be said of moose populations in several areas with the potential for similar problems with our elk herd.

A responsible wolf management plan may include scientifically controlled seasons in the future, should the wolf be delisted at the federal level. The wolf population is concerning to Minnesota hunters, trappers, conservationists, farmers, breeders, and others. We recognize this is a culturally sensitive and challenging issue with strong opinions put forward by all stakeholders. The issue deserves proper legislative hearings and consideration through the official legislative process, and we ask that any efforts to have this "prohibition" become law without due process be opposed.

Minnesota Deer Hunters Association

Minnesota Forest Zone Trappers Association

Safari Club International

Ruffed Grouse Society

Congressional Sportsmen's Foundation

MN State Chapter National Deer Association

The Sportsmen's Alliance

Rocky Mountain Elk Foundation

Minnesota State Cattlemen's Association

Minnesota Elk Breeder's Association

Minnesota Backcountry Hunters & Anglers

Minnesota Trapper's Association

Minnesota Crop Production Retailers

601 Carlson Parkway, Suite 450 | Minnetonka, MN 55305 | P: 763.235.6466
www.mcpr-cca.org

Date: April 30, 2023

To: Members of the Omnibus Environment, Natural Resources, Climate and Energy Conference Committee

From: Patrick Murray, Executive Director of the Minnesota Crop Production Retailers

Re: Environment, Natural Resources, Climate and Energy Omnibus Finance and Policy Bill (House File 2310/Senate File 2438)

Chair Hansen, Chair Hawj, Sen. Frentz, Sen. Xiong, Sen. McEwan, Sen. Coleman, Rep. Acomb, Rep. Hollins, Rep. Jordan, and Rep. Kraft

The Minnesota Crop Production Retailers (MCPR) is a nonprofit organization representing agricultural retailers and distributors, crop input suppliers, crop advisors, and registrants who supply Minnesota's farmers with a host of products and services.

We thank you for the opportunity to provide comments in regard to several provisions contained in **House File 2310** that would be extremely harmful to Minnesota's agricultural retail community if enacted into law.

We respectfully ask that you oppose the language contained in **Article 7, Section 3** in **House File 2310** that would regulate the use, storage, disposal, and sale of pesticide treated seed.

- For background, a seed treatment is the application of biological organisms/products and chemical ingredients to a seed with the intent to suppress, control, or repel plant pathogens, insects, or other pests that attack seed, seedlings, or plants.
- Treated seeds provide a sustainable solution to farmers in a highly targeted and precise approach that also means less impact on the surrounding environment.
- Disposing of treated seed is heavily regulated at various levels of government, including the Clean Water Act, Ground Water Protection Act, and the Clean Air Act.
- Minnesota's agricultural sector is fully committed to following all laws, regulations, and guidelines for the safe use of seed and management of surplus seed.
- In April of 2022, the Minnesota Pollution Control Agency published treated-seed disposal guidance that deems this language duplicative and unnecessary.

We also respectfully ask that you oppose the language contained in **Article 7, Sections 4 and 5** in **House File 2310** that would eliminate existing state authority that ensures safe and consistent regulatory standards for pesticide use in the state.

- This language would weaken the state's ability to effectively regulate pesticides that are registered and regulated by the Minnesota Department of Agriculture (MDA).

- These current regulations enforced by MDA ensure safe and proper pesticide use in the state through registration of pesticides, licensing of pesticide applicators, and through research and enforcement activities.
- Uniform state law comprehensively regulates virtually all aspects of labeling, distribution, sale, storage, transportation, use & application, and disposal of pesticides.
- State regulation of pesticides also ensures uniformity with federal regulation, and between states and their municipalities to avoid confusion that may endanger public health or the environment from differing requirements.

We also respectfully ask that you oppose the language contained in **Article 7, Section 6** in **House File 2310** that would require label statements for certain pesticide-treated seed.

- Seed treatment pesticide products are highly regulated and it is absolutely essential that anyone who treats, handles, transports, plants, recycles, re-uses or disposes of treated seeds manage them properly and in accordance with label instructions to minimize the risk of pesticide exposure to humans and the environment.
- This language is redundant and unnecessary as existing cautionary statements are already regulated by the U.S. Environmental Protection Agency (EPA) per the Federal Insecticide Fungicide and Rodenticide Act (FIFRA).
- Treated seeds undergo a thorough evaluation by the EPA, and applicable state agencies, prior to commercialization and periodically thereafter. Only after a product is approved by the relevant federal and state agencies, can the seed treatment product be used in accordance with the EPA-approved label.
- Labels for seed treatment products carry language that must be placed on the seed tags accompanying treated seed packages regarding permitted & prohibited practices.

We also ask that you oppose the language contained in **Article 7, Section 8** in **House File 2310** that consumer guidance regarding the use and disposal of pesticide treated-seed must be developed by the MPCA Commissioner in consultation with the MDA Commissioner, as well as that guidance must then be posted in a conspicuous location by a retailer selling treated seed.

- In April of 2022, the Minnesota Pollution Control Agency published treated-seed disposal guidance that deems this language unnecessary.
- This language would put an additional burden on already short-staffed ag retailers to comply with a provision that is duplicative of seed industry used labels known as “bag tags” that are already affixed to all bags of treated seed.
- This language is duplicative of U.S. EPA rules that already include seed industry documentation on handling, disposal, and general user guidance, that also addresses pollinator production which is extremely important to agriculture production.

For these reasons above, MCPR respectfully opposes the language contained in **Article 7, Sections 3, 4, 5, 6 and 8 of House File 2310**. We appreciate the opportunity to provide this input to you and your fellow conference committee members.

MINNESOTA DEER HUNTERS ASSOCIATION
460 Peterson Road, Grand Rapids, MN 55744
Fax: 218-327-1349 / Phone: 1-800-450-DEER
www.mndeerhunters.com
BUILDING OUR HUNTING AND CONSERVATION LEGACY THROUGH HABITAT, EDUCATION AND ADVOCACY

April 30, 2023

To: Members of the Environment, Natural Resources, Climate and Energy Conference Committee

Re: Minnesota Deer Hunters Association position on certain provisions in Omnibus Bill HF 2310

Dear Senators and Representatives,

Thank you all for serving on this critically important committee. Management of Minnesota's environment and natural resources is an immense responsibility, and we want to ensure you have the position of the MDHA on several issues before you in HF 2310.

1. Supported provisions in HF 2310
    a. Portable stands in NW Minnesota WMA (Environmental Policy Art. 3-8, page R91-92)
        i. MDHA supports the Senate provision.
    b. Study neonicotinoid exposure on MN Game Species (Environmental Appropriations Art. 1, page R38)
        i. MDHA supports the Senate provision with the higher appropriation.
    c. Modify Muzzleloader Provisions (Environmental Policy Art. 3-8, page R101)
        i. MDHA supports - Same/Similar provisions.
    d. Chronic Wasting Disease (Environmental Policy Art. 3-8, page R149)
        i. There remain significant differences between House and Senate positions.
        ii. MDHA legislative priorities include double fencing around cervid farms and stronger enforcement from state agencies.
    e. Big game licenses after felony conviction (Environmental Policy Art. 3-8, page R95)
        i. MDHA supports - Same/Similar provisions.
    f. Shooting Sports Facilities Grants (Environmental Appropriations Art. 1, page R39)
        i. MDHA supports - Same/Similar provisions.
    g. Blaze Orange/Pink markings on ground blinds (Environmental Policy Art. 3-8, page R102)
        i. MDHA supports - Similar provisions.
    h. Eliminating Shotgun Zone in Southern Minnesota (Environmental Policy Art. 3-8, page R1030104)
        i. MDHA supports the Senate provision.
    i. Modifying Crossbow use and Analysis (Environmental Policy Art. 3-8, page R101-102)
        i. MDHA supports the Senate provision.

2. Opposed provisions in HF 2310
    a. Prohibiting any future wolf season (Environmental Policy Art. 3-8, page R104)
        i. MDHA opposes this house only provision.

The Minnesota Deer Hunters Association will continue to be a resource during the conference committee process, and we welcome the opportunity to be a part of continued conversations around policies and appropriations that impact deer hunting and hunters across Minnesota.

May 1, 2023

Chair Rick Hansen
Representative Patty Acomb
Representative Athena Hollins
Representative Sydney Jordan
Representative Larry Kraft

Chair Foung Hawj
Senator Nick Frentz
Senator Jennifer McEwen
Senator Tou Xiong
Senator Julia Coleman

Dear Conference Committee Conferees:

Clean water, healthy soil and fresh air are not only what pollinating insects, birds and mammals need to survive, but all of these make up the foundation that all humankind relies on to exist. There are many “canaries in the coal mine” to which we are wise to pay heed.

For these reasons, the Minnesota Environmental Partnership (MEP) Pollinator and Wildlife Cluster urges your support for the following provisions HF2310:

In HF2310 House version we urge your support for:

Proper Use and Disposal of Treated Seed, Funding 20.27, Language 129.27, 142.30, 171.22, 274.7, 274.12, 275.25, 276.13, 277.3
DNR pesticide restrictions, 195.8
Municipal Option for Local Control of Pesticides, 274.17, 275.1
*Lawns to Legumes, Funding 49.18, Language, 256.7
*Restore the Study of Neonics in Game Species, 40.9, 100.7

and in the HF2310 Senate version we urge your support for:

*Lawns to Legumes, Funding 43.32, Language 86.12
*Restore the Study of Neonics in Game Species, 25.32

*Included in both bills

The House and Senate versions have some funding differences in the Lawns to Legumes and the Study of Neonics in Game Species provisions. We hope the conference committee will resolve those within range of the differences.

We will be available throughout the conference committee process to answer any questions members may have.

Chris Cowen
Contract Lobbyist
Pesticide Action Network
651 402 6869

Minnesota Forestry Association
www.MinnesotaForestry.org
P.O. Box 6060 ● Grand Rapids, MN 55744
E-Mail: Info@MinnesotaForestry.org

Your Woodland, Your Legacy

TO: Conferee Members of the Environment and Natural Resources and Climate and Energy Conference Committee
FROM: Minnesota Forestry Association - MFA
100 Rev Dr Martin Luther King Jr Boulevard.
April 27, 2023

Senator and Chair Hawj	**Representative and Chair Hansen**
Senator and Chair Frentz	**Representative and Chair Acomb**
Senator and Vice-Chair McEwen	**Representative and Vice-Chair Jordan**
Senator Xiong	**Representative and Vice-Chair Kraft**
Senator Coleman	**Representative Hollin**

Founded in 1876 to promote stewardship of Minnesota's forests, the Minnesota Forestry Association (MFA) has become a leading advocate to encourage the retention and sustainable management of family-owned woodlands. Privately-owned forestlands comprise 40% of Minnesota's forests. Well-managed forests, a complex endeavor, protect water quality and provide critical wildlife habitats. Private forests also play a significant role in supplying wood to Minnesota's timber industry. Converting that wood to forest products, which sequesters carbon for long periods of time, also allows the regrowth of younger trees that sequester carbon faster than the trees that were harvested.

It is with that history and current context that we support a number of Senate and House Environment and Natural Resource Omnibus bill provisions. We want to highlight specific provisions that are critical to fostering healthy forests and identify one provision that gives us pause.

MFA strongly supports the following provisions:

- **Addressing EAB Wood Waste by:**
  - Grant funding for a wood dehydrator at the Koda biomass plant in Shakopee to process EAB wood waste (among other materials) and produce heat. MFA supports and encourages adoption of the House amount, at $4 Million (HF2310, Line 13.25), given the size and severity of the issue.
  - $37 million for a comprehensive EAB response program (HF2310, Line 200.19). This is in the House version and MFA strongly encourages the Senate to adopt these provisions. They include:
    - $28 million for District Energy in St. Paul to keep it viable as an EAB wood waste destination, which is the only option many counties currently have for disposal of waste wood.
    - $9 million for grants to local units of government for EAB response, for tree removal and planting.
    - $1 million for grants to schools to plant trees on school grounds.

- **Increasing and improving removal and replanting practices:** Funding for the Minnesota ReLeaf program, at $10 million each year of the 2024-25 biennium in the House version and $8.9 in the Senate (HF2310, Line 30.12 and SF2438, Line 28.4).
- State Parks tree removal and replacement with more climate-adapted tree species at $10 million in the House version (HF2310, Line 34.32).
- $9 million for tree removal and replacement in the Metro Regional Parks System in the House version. (HF2310, Line 53.24)
- $1.5 million for Serve Minnesota to "preserve and increase tree canopy throughout the state by training, supporting, and deploying AmeriCorps members to plant and inventory trees, develop and implement pest management plans." (HF2310, Line 70.20)
- $906,000 for seedlings for reforestation. Funding will go to the Board of Regents of the University of Minnesota and Duluth, to collaborate with The Nature Conservancy and Minnesota Extension. (HF2310, Line 74.29)

MFA has concerns about the following provision:

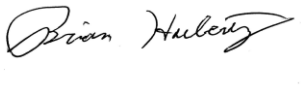
- **Lowland Conifer Carbon Reserve establishment**, which is found in the House Version (HF2310, Line 201.19).
  - While MFA is supportive of using forests for carbon sequestration through afforestation, applying management practices that encourage growth, and storing carbon in forest products, focusing on setting aside older lowland conifers from being harvested could be counterproductive. MFA has concerns about the unintended consequences of these changes. The changes are overly prescriptive and could interfere with healthy forest management practices. As an example, preventing the harvest of trees older than 90 years will result in letting some of them die. They will then emit carbon back into the atmosphere when they could have been utilized in forest products that would store their carbon. Another example includes managing *Mistle Toe*, a common invasive parasite that grows on *Black Spruce* trees. It can spread within a spruce stand, ultimately strangling and killing infected trees, which would emit carbon back to the atmosphere. Harvesting infested stands is a primary means of controlling the pest.
  - The provisions of the Carbon Reserve to only allow natural regeneration is problematic. Natural regeneration of poor unproductive lowland conifers (i.e. often referred to as stagnant) is not a problem since the sites have a more receptive sphagnum moss seed bed and can regenerate by layering (the lower tree branches take root in the moss to become a new tree.) It is the regeneration of black spruce on better growing sites that is concerning. These sites often need treatment by prescribed burning to prepare a seedbed by removing feather mosses because it makes poor seed beds. On large disturbances, such as damage from windstorms, foresters often need to use aerial seeding to regenerate the site. These examples are to highlight that we need to defer to expert forest management practitioners and not codify this into law.
  - Additionally, we have concerns about the compensation proposed for School Trust Fund lands for unproductive lowland conifers, which we will elaborate on, if requested.

Finally, MFA would prefer to see the goals in the 1/15/2023 "A Report to the MN Legislature: "Forest Carbon in Minnesota – Opportunities for Mitigating Climate Change" pursued as a more effective way to sequester carbon. View the goals in the attached summary found on page 5 of the report.

MFA is encouraged by the funding provisions put forth by the House and Senate Environment and Natural Resources Committee members and the Chairs' leadership. We look forward to watching these provisions

continue to move forward. Please see us as a resource should any forestry questions arise. For additional information, contact Sam Richie at srichie@fryberger.com or at (218) 301-9758.

Sincerely,



Brian Huberty

MFA President
Minnesota Forestry Association:
An organization of, by, and for private woodland owners and friends

Date: *April 28, 2023*
To: *Rep. Acomb, Sen. Frentz, Rep. Hansen, Sen. Hawj, Rep. Hollins, Rep. Jordan, Rep. Kraft, Sen. McEwen, Sen. Xiong, and Sen. Coleman.*
From: *The Minnesota Climate and Clean Energy Equity Network*

Support Local Solar to Benefit All Minnesotans

Dear Chair Hansen and Environment, Natural Resources, Climate, and Energy Conference Committee Members,

We commend the progress that the Minnesota Legislature has made this session to advance serious climate legislation. The 100% Carbon-Free Electricity Law lays the groundwork for a clean energy transition in Minnesota. However, more must be done to expand communities' and families' access to affordable local rooftop and community solar, to do right by Minnesotans and to get us to an equitable clean energy future.

We urge you to include the following policies in the final omnibus Environment, Natural Resources, Climate and Energy bill, HF2310:

- **Minnesota Climate Innovation Finance Authority |** Support House version HF2310, increasing appropriations to $45 million if possible.
- **Community Solar Gardens and Community Access Program |** Adopt certain principles in conference committee.
- **HOA Homeowners Right to Go Solar |** Support as written in House version HF2310.
- **Funding for Solar*Rewards |** Support certain provisions from each House version HF2310 and the Senate Companion.
- **Distributed Energy Resources Grid Upgrade Program |** Support as written in House version HF2310.
- **Small Interconnection Cost-Sharing Program |** Support as written in House version HF2310 and the Senate Companion.
- **Energy Storage Incentive Program |** Fund grants for energy storage systems ≤ 50 kW.
- **Intervenor Compensation |** Support as written in House version HF2310.

Our organizations convened after the 2022 election to ensure that the benefits of the clean energy transition accrue to all Minnesotans, not just the big utility corporations. We share a common goal of advancing energy democracy, equity, and justice, including through equitable local solar.

Minnesotans Need Local Solar

Local rooftop and community solar provide many benefits to Minnesotans. Research has found that local solar is a cost-effective way to clean up our power grid and it compares favorably with

utility-scale solar projects, when all costs are counted. Plus, rooftop solar and community solar create direct benefits for families and communities. They save people money on electricity bills, create jobs across the state, and increase the resiliency and reliability of our energy system.

Policies for Equitable Local Solar

As energy costs rise and communities feel the impacts of climate change, legislative action is needed to make sure the benefits of local solar are available to all Minnesotans, no matter their income, color, or location. We urge you to continue to support legislation that will boost equitable access to rooftop and community solar.

Policies that are essential to pass this session via the omnibus Environment, Natural Resources, Climate and Energy bill HF 2310 include:

Minnesota Climate Innovation Finance Authority | Support House version in HF2310, increasing appropriations to $45 million if possible.
HF2310 (Lines 291.28-292.5 and 369.12-382.11) / HF2310 Senate Companion (Lines 54.10-54.15 and 234.5-246.8)

- Boldly fund climate solutions by devoting at least $20 million to the establishment of MNCIFA as per HF2310, which would provide financing for more clean energy projects across the state and increase access to solar and energy efficiency for environmental justice communities, low-income households, and other historically underserved communities. If more funds become available to the conference committee, it should be a priority to increase this appropriation to $45 million, as originally proposed in HF2336/SF2301, to help scale Minnesota's equitable transition to clean energy and address the climate crisis.

Community Solar Gardens and Community Access Program | Adopt certain principles in conference committee.
HF2310 (Lines 389.7-393.19) / HF2310 Senate Companion (Lines 188.15-193.5)

- Create the Community Access Program as described in HF2310 to increase access to community solar for residential and low- and moderate-income (LMI) subscribers.
    - Subscribers should get Applicable Retail Rate or the Average Retail Rate if the garden meets the residential and LMI requirements. This would ensure that residential customers and LMI customers are fairly compensated for the renewable energy they produce to offset the energy they use.
    - The Community Access Program should not have an annual or total cap on the number of MW that are admitted into the program. This would help promote

truly equitable solar and make sure low- and moderate-income households aren't left behind as Minnesota builds out its solar capacity through means like a distributed generation (DG) program and utility-scale solar.

- Maintain the existing Community Solar Garden program, removing contiguous county requirements, increasing permitted project size from 1 MW to 5 MW and expanding the program to all public utilities, as detailed in HF2310.
- Order the Public Utilities Commission to develop a comparable, robust program for non-subscriber distributed solar to complement the subscriber-based programs and leave to the Commission to decide the best format, e.g. standard offer or request for proposals.

HOA Homeowners Right to Go Solar | Support as written in HF2310.
HF2310 (Lines 407.1-409.13) / SF2542 (Lines 24.11-26.24)

- Guarantee homeowners association (HOA) homeowners' right to go solar, while still allowing HOAs to set reasonable rules. Currently, HOAs are a major obstacle to more solar in Minnesota with 34% of Minnesota homeowners belonging to an HOA.

Funding for Solar*Rewards | Support certain provisions from each HF2310 and the Senate Companion.
HF2310 (Lines 385.23-387.6) / HF2310 Senate Companion (Lines 170.1-171.10)

- Use RDA funds to increase the Xcel Solar*Rewards program by at least $15 million over three years, to at least $10 million each year 2023-2025. (The Senate version increases funding by $15 million but allocates funding unevenly over the three years.) Establish a strong carve-out for supporting solar adoption by low-income customers, especially ownership of solar, dedicating half of program funding to low-income solar (HF2310 Senate Companion), to be administered as described in HF2310.

Distributed Energy Resources Grid Upgrade Program | Support as written in House Version HF2310.
HF2310 (Lines 298.14-298.23 and 404.1-406.31) / HF2310 Senate Companion (Lines 54.1-54.9, 63.27-64.16, and 223.4-226.5)

- Appropriate $10 million from the Renewable Development Account as provided in HF2310 to establish a fund for improvements to Xcel's electrical grid to enable more distributed solar. In some communities, such as Northfield, Red Wing and surrounding areas, the grid can accommodate no additional local solar without these upgrades. We call on the Distributed Energy Resource Systems Upgrade Program created in this bill to develop policies that require Xcel to maintain a grid that is distributed energy resources-ready as part of its obligation as a regulated monopoly.

Small Interconnection Cost-Sharing Program | Support as written in HF2310 and Senate Companion.
HF2310 (Lines 298.24-299.3) / HF2310 Senate Companion (Lines 63.27-64.16)

- Provide $250,000 to implement a small interconnection cost-sharing program for Xcel customers as ordered by the Public Utilities Commission. Xcel customers too often face exorbitant costs to connect their solar arrays to the grid. When the utility claims its local distribution grid needs upgrades to connect more solar, the customer has to foot the bill or cancel the project. Xcel customers will be able to tap these funds to cover up to $15,000 in grid upgrade costs. The fund will be replenished by a $200 fee most solar owners will pay to interconnect their project.

Energy Storage Incentive Program | Fund grants for energy storage systems ≤ 50 kW.
HF2310 (Lines 286.12-286.30, 297.28-297.34, and 342.15-343.16) / HF2310 Senate Companion (Lines 56.7-56.23, 63.18-63.26, and 229.20-230.16)

- Provide an upfront grant incentive to electric customers that install energy storage systems up to 50 kW to encourage adoption of energy storage technologies.

Intervenor Compensation | Support as written in House version HF2310.
HF2310 (Lines 358.3-362.32) / HF2310 Senate Companion (Lines 203.1-208.17)

- Update the existing statute that compensates qualifying public-interest intervenors in certain Public Utilities Commission proceedings to enable greater participation by many of the communities who are most impacted by high energy costs, including low-income households, BIPOC communities, and renters. It's essential to adopt this policy as written in the House and Senate omnibus bills with no sunset.

We look forward to enacting this essential legislation to save families money, strengthen our communities, and fight climate change. Please let us know if you would like to discuss any of these policies with you in further detail.

Sincerely,

Minnesota Climate and Clean Energy Equity Network

Institute for Local Self-Reliance	Cooperative Energy Futures	
Solar United Neighbors of Minnesota	Minneapolis Climate Action	*(cont.)*

Sierra Club North Star Chapter

Communities Organizing Power and Action for Latinos-COPAL

Coalition for Community Solar Access (CCSA)

MN Interfaith Power & Light

Oak Grove Presbyterian Green Committee

Minnesota Well Owners Organization

Hastings Environmental Protectors

Friends of Minnesota Scientific and Natural Areas

Vote Solar

Minnesota Solar Energy Industries Association (MnSEIA)

CURE

Minnesota Center for Environmental Advocacy

Community Power

Vote Climate

League of Women Voters Minnesota

BUILDING TRADES
AFL-CIO
MINNESOTA STATE BUILDING & CONSTRUCTION TRADES COUNCIL

Chair Hansen, Chair Hawj, Chair Acomb, Chair Frentz, and Members of the House and Senate Environment Committees:

On behalf of the 70,000 skilled construction workers represented by unions affiliated with the Minnesota Building and Construction Trades Council, I want to thank you for your commitment to working people, and ask for your consideration as you negotiate an omnibus finance and policy bill. Whether union construction workers are repowering wind turbines or removing lead pipes or building geothermal energy systems, our members are on the front lines of efforts to protect Minnesota's environmental resources and accelerate the state's energy transition.

The House and Senate Environment and Energy Omnibus Bills propose investments that create good union jobs and incorporate strong labor protections in key funding programs. We hope that the committee will adopt the Senate's proposal to make substantial investments in improving stormwater infrastructure to prepare for increasingly frequent extreme weather events. We support proposals to invest in critical transmission and distribution infrastructure through Minnesota Power's proposed HVDC upgrade and electric cooperative grid resiliency improvements. And we support House and Senate proposals to help finance electric panel upgrades and solar generation on public facilities, and to direct Minnesota utilities to invest in charging infrastructure.

Strong labor standards are crucial not only to ensure a beneficial energy transition but also to attract the next generation of skilled construction workers, so we appreciate the inclusion of prevailing wage requirements covering a wide range of programs – from electric panel upgrades to solar on schools to other initiatives funded through the Renewable Development Account. One area of long standing concern has been the lack of prevailing wage protection for workers building Community Solar Gardens and other distributed generation, so we appreciate the Senate's proposal to expand coverage and ensure consistent standards for utility and community-scale solar.

While we generally support the direction taken by House and Senate funding and policy proposals, we want to highlight two areas of concern. First, with respect to intervenor compensation, Minnesota Building Trades supports efforts to bring more voices from underrepresented communities into the Public Utilities Commission process, and appreciate the Senate's efforts to do so in a manner that serves customers and the public interest in a fair and efficient process for approving critical energy projects.

At the same time, we oppose the House proposal to vastly expand the existing program without creating meaningful guardrails to protect customers and stakeholders - including union members, local communities, and others that are ineligible or lack expertise and resources needed to secure compensation. We shared these concerns in March, and are disappointed that they were never addressed.

Dan McConnell, President • Don Mullin, Secretary Treasurer • Tom Dicklich, Executive Director
353 W. 7th STREET, ROOM 105, ST. PAUL, MN 55102 • TEL (651) 287-9999 • www.minnesotabuildingtrades.org

While the Senate proposal represents a large increase in the size and scope of intervenor compensation, it focuses on those proceedings where intervention is most likely to be helpful rather than harmful to ratepayers and Minnesotans as a whole. The Senate language minimizes the likelihood that ratepayer funds could be used to delay or block utility investments that are needed to meet the state's energy goals. Further, the proposed five-year sunset represents a reasonable compromise between organizations that seek ratepayer funding for their advocacy and unions whose members will be asked to help fund that advocacy.

Second, the Minnesota Building Trades remains deeply concerned by cumulative impacts proposals included in both House and Senate Environment omnibus bills, but we appreciate the willingness of the bill authors and conference committee members to continue working toward solutions that address environmental justice concerns without jeopardizing family-supporting jobs and vital services.

As indicated in a prior letter to House and Senate Environment Committees, we support action to combat environmental racism, but do not believe that the current proposals are well designed to accomplish this objective. Instead, the proposal could make it impossible to build new facilities or operate existing facilities in areas where loss of union jobs could have a greater negative health impact than the facilities themselves.

We are troubled by the fact that no comprehensive list of facilities whose permits could be terminated has been made available to the public, but our own research suggests that the legislation might endanger existing family-supporting jobs at dozens of facilities across the Twin Cities metro area. At least two-thirds of the facilities that we identified employ union operations workforce, and nearly all rely on Building Trades for occasional or ongoing maintenance and construction.

We believe that these flaws are a result of decisions to exclude the voices of workers and their unions from initial stakeholder discussions, but we appreciate the current willingness of the bill authors and advocates to collaborate on changes that advance mutual goals. Specifically, we recommend altering review criteria to focus on permits with the potential to substantially impact communities of color and immigrant communities facing elevated levels of pollution. We also recommend giving regulators discretion to weigh environmental and socioeconomic impacts of permit decisions. Lastly we suggest clarification of community benefit "off-ramp" criteria and requirements.

We thank the chairs and committee members for your consideration and hope to see our concerns addressed through the current bill or a stakeholder process that allows for robust solutions to be adopted in the coming year.

Sincerely,

Tom Dicklich
Executive Director

ASSOCIATION OF HOME APPLIANCE MANUFACTURERS

1111 19th Street NW ➢ Suite 402 ➢ Washington, DC 20036
t 202.872.5955 f 202.872.9354 www.aham.org

April 30, 2023

RE: Oppose- HF 2310/SF 2438, Omnibus environment, natural resources, climate, and energy finance and policy bill.

Dear Senate and House Conferees,

The Association of Home Appliance Manufacturers (AHAM) strongly urges the committee to oppose the PFAS provisions HF 2310/SF 2438, which would ban products containing PFAS substances, including products with environmentally friendly HFO blowing agents.

AHAM members produce hundreds of millions of products each year. They design and build products at the highest levels of quality and safety. As such, they have demonstrated their commitment to strong internal safety design, monitoring, and evaluation/failure analysis systems. Together with industry design practices, test requirements, and redundant safety mechanisms PFAS chemicals play an important role in the safety profile of household appliances in their great resistance to high temperatures.

Among the problems with this legislation is the broad grouping of PFAS substances. The definition of PFAS in the bill includes possibly 10,000 substances, which should not be treated as a single class. Based on the bill's definition of PFAS chemicals, a hydrofluoroolefin (HFO) foam blowing agent would be banned. HFOs are one of the more climate friendly alternatives for HFCs for use as refrigerator insulation foam blowing agents. These blends also are climate friendly alternatives as refrigerants in room air conditioners, portable air conditioners and dehumidifiers. In fact, the U.S. Environmental Protection Agency (EPA) and many states required a transition to these and other low global warming potential (GWP) foam blowing agents and refrigerants. These chemicals were approved under EPA's Significant New Alternatives Policy (SNAP) program, which included an environmental review.[1] Ultimately, the use of such a broad definition could needlessly impose new requirements on products and technologies deemed safe and environmentally beneficial. We request that the Conference Committee seek to exclude HFO foam blowing agents from this prohibition.

The proposal also prohibits the sale of cookware in 2025 if the product contains intentionally added PFAS. The definition of cookware states that it "includes but is not limited to pots, pans, skillets, grills, baking sheets, baking molds, trays, bowls, and cooking utensils." In 2021, the State

[1] *See* Protection of Stratospheric Ozone: Listing of Substitutes Under the Significant New Alternatives Policy Program, Final Rule at 86 Fed. Reg. 24444.

of California passed a cookware disclosure law[2] and clarified the definition of cookware by removing "but is not limited to" language so that cookware is only the items listed in the bill. We strongly recommend harmonizing with California's law to at least remove one area of uncertainty and conflicting laws around the country.

AHAM has conducted a member survey in a good faith effort to determine the extent to which PFAS is used in home appliances. AHAM members indicated portable and major kitchen appliances contain PFAS chemicals but in trace amounts, ranging from as low as 0.001 to 0.07 lbs. per unit. In almost all cases, the use of PFAS was confined to internal components and parts, such as bolts and washers, plastic brackets, and wire terminals with no direct exposure to consumers during use. This material is added during the manufacturing process, which reduces the potential for any consumer exposure during use or transmission to the environment.

It is also extremely important to consider potential alternatives with any restrictions. In some instances, such as in front load washers, the ball bearings which sustain the stainless steel basket are a very critical structural parts where PFAS is present and there are no other viable solutions at the moment. Another important thing to consider is that appliance manufacturers employ a complex, global supply chain for thousands of models with hundreds of thousands of components, often involving multi-tiered suppliers located on multiple continents. Gathering detailed information on any given chemical, let alone a chemical class as broad as PFAS, is extremely difficult even for one given year.

Presently, the Maine Department of Environmental Protection (DEP) is undertaking the task directed by their legislature for similar reporting structure. Despite having over a year to construct a rule-making, they have yet to formalize it while the first reporting requirement has already passed. Last year, the Governor of California vetoed similar legislation in part because the EPA "is currently undergoing rulemaking to require reporting of PFAS." The EPA has implemented a PFAS Action Plan that has served as a roadmap for the agency's activities addressing PFAS chemicals. Thank you for the opportunity to present this written statement to the hearing record.

Sincerely,

John Keane

John Keane
Manager of Government Relations

AHAM represents more than 150 member companies that manufacture 90% of the major, portable and floor care appliances shipped for sale in the U.S. Home appliances are the heart of the home, and AHAM members provide safe, innovative, sustainable and efficient products that enhance consumers' lives. In Minnesota, the home appliance industry is a significant and critical segment of the economy. The total economic impact of the home appliance industry to

[2] https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=202120220AB1200

Minnesota is $3.6 billion, more than 20,000 direct and indirect jobs, $468.5 million in state tax revenue, and more than $1.2 billion in wages. The home appliance industry, through its products and innovation, is essential to consumer lifestyle, health, safety and convenience. Home appliances also are a success story in terms of energy efficiency and environmental protection.

MINNESOTA afl-cio
A STRONG, UNITED VOICE FOR MINNESOTA'S WORKING PEOPLE

April 28, 2023

Senator Foung Hawj
3231 Senate Office Building
St. Paul, MN 55155

Rep. Rick Hanson
407 State Office Building
St. Paul, MN 55155

Dear House & Senate Conferees,

On behalf of more than 300,000 union members in every corner of our state and all working people, we're writing to help inform your work as you craft the omnibus environment, natural resources, climate, and energy finance and policy bill. There are many provisions in both House and Senate bills that will create new family-sustaining union jobs and help with a just transition to cleaner energy sources.

We thank the House and Senate for including significant investments for energy and environmental improvements that will create high-quality union jobs. We strongly support proposed spending in climate resiliency grants which will help Minnesota communities manage stormwater and other infrastructure challenges that have been exacerbated by climate change. We also support investments in electric buses and charging infrastructure, electric panel upgrades, and installation of solar on schools and other public buildings.

We urge the committee to fund for several critical funding priorities contained in the Senate but not the House bill. These projects include $17.5 million in funding for Minnesota Power's proposed HVDC upgrade, which will help to unlock clean energy opportunities; support decarbonization of mining and other heavy industry that employs hundreds of union members in Northern Minnesota; and create hundreds of new jobs for members in the construction trades. We also support proposals to fund research into advanced nuclear generation and battery storage which could each play a key role in our energy transition and position our state to be a clean energy leader. Finally, we support grants for local climate action proposed by the House, and grants for Tribal energy programs and electric cooperative grid resiliency proposed by the Senate.

Most importantly, we appreciate both chambers' commitment to incorporating strong labor protections in the Energy and Environment sections of both bills. These provisions include prevailing wage requirements for projects funded by the Renewable Development Account (RDA) and other programs authorized by the bill and authorization for the Minnesota Climate Finance Authority to require use of Project Labor Agreements. We encourage the committee to make such labor protections consistent across programs, including Community Solar Gardens and other ratepayer-subsidized distributed generation projects.

Thank you for your consideration and please reach out if you have any questions.

Sincerely,

Bernie Burnham
President

Brad Lehto
Secretary-Treasurer

175 Aurora Avenue
St. Paul, MN 55103
Phone: (651) 227-7647
Fax: (651) 227-3801
Web Site: www.mnaflcio.org

LOCAL 12

April 30, 2023

Chair Rick Hansen
House Environment and Natural Resources Finance and Policy Committee
407 State Office Building
100 Rev. Dr. Martin Luther King Jr. Blvd.
Saint Paul, MN 55155

Chair Foung Hawj
MN Senate Environment, Climate, and Energy Committee
1150 State Office Building
75 Rev. Dr. Martin Luther King Jr. Blvd.
St. Paul, MN 55155

Chair Nick Frentz
Energy, Utilities, Environment, and Climate Committee
1150 State Office Building
75 Rev. Dr. Martin Luther King Jr. Blvd.
St. Paul, MN 55155

RE: Support for critical Chronic Wasting Disease (CWD) management provisions in Minnesota Environment Omnibus Bills HF 2310/SF2438

Dear Chair Rick Hanson, Chair Foung Hawj, Chair Nick Frentz, and Environment, Natural Resources, Climate and Energy Conference Committee members,

The undersigned hunting and conservation organizations write on behalf of thousands of outdoor enthusiasts across Minnesota who understand the value of protecting Minnesota's deer hunting heritage and wild deer herds from the spread of Chronic Wasting Disease (CWD). Deer hunting is a deep-rooted tradition amongst Minnesotans. Nearly 500,000 deer hunting licenses are purchased across the state each year, and deer hunting alone generates nearly $500 million annually in total economic activity for the state, reflecting how crucial deer hunting is to Minnesota's outdoor economy.

We urge you to support critical Chronic Wasting Disease management improvements proposed in Minnesota Environment Omnibus Bills HF 2310 and SF 2438, which contain multiple provisions that tighten regulations concerning captive deer herds in an effort to curb the spread of CWD in Minnesota and would protect the cultural and economic value of deer hunting for Minnesota's future generations.

CWD is one of the most significant threats to wildlife conservation we have encountered over the last century. As many states have learned, preventing the spread of this always-fatal disease is a daunting task, and early detection and rapid response, once located, is critical for long-term management. Although new cases have been found in areas of the state thought free of the disease, Minnesota is currently well-positioned to combat CWD and keep infection rates low. To maintain this offensive position, those who interact with wild and captive deer must act with the utmost care for the wild deer population. Through proposed strong captive cervid provisions, HF 2310 and SF 2438 would greatly benefit Minnesota in its ongoing fight against CWD.

Specifically, these bills would:

- Require farmed cervid owners to notify of an escaped cervid within 24 hours;
- Require fencing for farmed cervids that would prevent physical contact with wild cervids;
- Prohibit moving a farmed white-tailed deer from a CWD-positive herd;
- Prohibit the importation of live cervid or cervid semen from a herd that has been exposed to CWD;
- Require the Board of Animal Health (BAH) to conduct annual testing of farmed white-tailed deer with RT-QuIC;
- Prohibit the Board of Animal Health (BAH) from issuing new registrations for the possession of captive white-tailed deer;
- Prohibit the movement of farmed white-tailed deer from a herd that tests positive for chronic wasting disease from any premises to another location;
- Establish new CWD testing protocol for captive deer facilities;
- Establish new procedures for captive deer facilities to comply with following the detection of CWD on the premises; and
- authorize the Department of Natural Resources (DNR) to contract with the Board of Animal Health to administer some or all of the statutes that govern farmed white-tailed deer once those duties are transferred to the DNR

Additionally, the bills amend the existing statute with more strict language with respect to escaped farmed cervid procedures, farmed cervid fencing requirements, farmed cervid identification requirements, and cervid carcass transportation rules.

CWD can spread quickly when positive animals are moved across the landscape. Deer hunters across Minnesota are subject to rules and regulations regarding mandatory CWD testing of hunter-harvested deer where CWD is detected and restrictions for transporting harvested deer into and within the state. As CWD spreads, more hunters are subject to these new regulations. Hunters are and will continue to combat CWD in line with the rules and regulations provided by state agencies.

The captive deer industry in Minnesota is considered the primary vector for the spread of CWD throughout the state. Cervids kept captive are more susceptible to the spread of disease, and the movement of captive cervids over long distances gives the disease an easy opportunity to spread across the state. Therefore, limiting contact between captive and wild deer is crucial. Additionally, double fencing for commercial deer farms can help prevent the escape of farmed deer or entry into the premises by wild deer, and also contact between farmed and wild herds through a fence.

The prohibition of new registrations for captive herds and the movement of captive white-tailed deer from any premises to another location will aid in limiting the spread of the disease and reduce the opportunity for contact between captive and wild deer. Finally, a new and more robust CWD testing protocol will help ensure that CWD-positive individuals are not transported, released, or disposed of in a manner that threatens wild deer in Minnesota.

We strongly urge you to prioritize critical improvements to CWD management and prevention proposed in this legislation to aid in the ongoing fight against Chronic Wasting Disease in Minnesota and help protect our hunting heritage for future generations.

Thank you for your consideration of this request,

Minnesota Conservation Federation

Backcountry Hunters and Anglers- Minnesota Chapter

Bluffland Whitetails

Izaak Walton League- Minnesota Chapter

Minnesota Deer Hunters Association

National Deer Association

National Wildlife Federation

Sportsmen for the Boundary Waters

The Wildlife Society- Minnesota Chapter

CC: Rep. Acomb, Rep. Hollins, Rep. Jordan, Rep Kraft, Sen. McEwen, Sen. Xiong, Sen. Coleman

MINNESOTA ETHANOL

Minnesota Ethanol Producers Association
701 Industrial Drive, Preston, MN 55965

April 28, 2023

The Honorable Foung Hawj
Senate Environment, Climate, and Legacy
3231 Minnesota Senate Building
95 University Avenue W.
St. Paul, MN 55155

The Honorable Rick Hansen
House Environment and Natural Resources
407 State Office Building
100 Rev. Dr. Martin Luther King Jr. Blvd.
St. Paul, MN 55155

RE: Article 3, Section 6 of HF 2310 (House)

Dear Chair Hawj, Chair Hansen, and Environment, Natural Resources, Climate, and Energy Conferees:

We write to share our concerns with Article 3, Section 6 of HF 2310 (House) related to the requirement for biofuel processing plants to monitor wastewater for the presence of neonicotinoid pesticides and perfluoroalkyl or polyfluoroalkyl substances (PFAS). While we strongly support and maintain existing federal and state safety controls, the additional monitoring requirements created in Article 3, Section 6 of HF 2310 (House) are redundant, unnecessary, and will not produce meaningful data.

The Presence of PFAS is Near Universal

Neither PFAS nor neonicotinoid pesticides are used in the production of biofuels. Further, the bioprocessing facilities we represent never actively used synthetic PFAS-containing foams to suppress fires, and PFAS-containing foams stored at our facilities were removed in 2022.

According to the U.S. Environmental Protection Agency (EPA), "because of their widespread use and their persistence in the environment, any PFAS are found in the blood of people and animals all over the world and are present at low levels in a variety of food products and in the environment." Given the widespread use and near-universal presence of PFAS, including in food, packaging, household, and beauty products, it would be irresponsible to single out biofuel producers for PFAS monitoring, and nearly impossible to discern if the presence of any PFAS is unique or the result of external factors.

Existing Federal, State and Commercial Safety Controls Safeguard Feed from Pesticides

Recognize that each of the bioprocessing facilities we represent already has a rigorous food safety plan in place, routinely conducts hazard analysis to review all potential hazards that can enter into the process (e.g., treated seed or unlawful pesticides), and has well-established procedures to prevent hazards from occurring. Per federal regulations (21 CFR 2.25), treated seed with poisonous treatments is already addressed through our hazard analysis and prevented from entering the manufacturing process.

As feed producers, we already have stringent requirements in place regarding the quality and safety of the products we supply, including federal and state inspections, testing products prior to acceptance or prior to a shipment leaving the U.S., requesting letters of guarantees, documenting supplier approval processes, and conducting third-party audits. There is also significant existing oversight provided to the MDA. For example, MDA can and does carry out inspections on behalf of the FDA, and the commissioner or agent has a right to obtain samples (MCFL 25.41).

Given the strict safety measures enforced currently by federal and state agencies, and the substantial testing requirements under existing commercial agreements, we believe the provision in Article 3, Section 6 of HF2310 (House) creating new monitoring requirements on bioprocessing facilities will not create any additional protections from neonicotinoid pesticides or control the presence of PFASs.

Please oppose the language in Article 3, Section 6 of HF 2310 (House) and do not adopt the provision into the HF 2310 Conference Committee Report.

Sincerely,

CHRIS HANSON
General Manager
POET Biorefining—Preston

TERRY HURLBURT
General Manager
POET Biorefining—Bingham Lake

SHANE ROBY
General Manager
POET Biorefining—Lake Crystal

RUSS GERMANN
General Manager
POET Biorefining—Glenville

CC: Senator Frentz
Senator McEwen
Senator Xiong
Senator Coleman
Representative Acomb
Representative Hollins
Representative Jordan
Representative Kraft

April 30, 2023

Environment, Natural Resources, Climate and Energy Committee
123 State Capitol
75 Rev. Dr. Martin Luther King, Jr. Blvd.
Saint Paul, MN 55155

Re: HF 2310 / SF 2438 - OPPOSE
Submitted via e-mail to: Peter.Strohmeier@house.mn.gov and Kara.Josephson@senate.mn
Submitted on April 30, 2023, prior to 12:00 pm Central Time, on or around 8:00 am.

Dear Chair Representative Hansen and Senate and House Conferees:

The American Coatings Association ("ACA")[1] appreciates the opportunity to comment in opposition to HF 2310 / SF 2438. The Association's membership represents 90% of the U.S. paint and coatings industry, including downstream users of chemicals who manufacture end-use formulated products such as paints, coatings, sealants and adhesives. ACA appreciates the committee's willingness to interact with stakeholders during this process.

PFAS encompasses a variety of fluorinated chemistries with very distinct physical and chemical properties, used in a variety of products. PFAS or fluorinated chemistries are generally known to be persistent, due to carbon-fluorine bonds, but have varying properties for toxicity and bioaccumulation. Generally, persistence alone is not an indicator of risk or potential for harm. Scientists consider persistence as one factor with toxicity and potential to bioaccumulate. Because of these varying characteristics, Minnesota's adoption of a broad PFAS definition inevitably captures a diverse range of reportable chemicals that are not harmful to human health or the environment. In addition, reporting through one standardized approach for a broad set of chemicals is challenging, due to complexities in the supply chain and difficulty in identifying reportable chemicals across thousands of products. ACA encourages the State of Minnesota to focus any legislative restrictions on those fluorinated chemistries that are associated with contamination in Minnesota, rather than enacting a broad reporting requirement.

[1] ACA is a voluntary, non-profit trade association working to advance the needs of the paint and coatings industry and the professionals who work in it. The organization represents paint and coatings manufacturers, raw materials suppliers, distributors, and technical professionals. ACA serves as an advocate and ally for members on legislative, regulatory and judicial issues, and provides forums for the advancement and promotion of the industry through educational and professional development services. ACA's membership represents over 90 percent of the total domestic production of paints and coatings in the country.

Not only is a broad reporting requirement of little public or environmental benefit, it is costly and administratively difficult to implement. A similar reporting requirement has proven challenging to implement in Maine. The Maine legislature is now considering amendments to its reporting requirement, passed in June 2021, since the act is administratively unworkable, with unrealistic data expectations and reporting times and an overly broad definition of PFAS. ACA urges this committee to avoid following the same path as Maine.

Minnesota's HF 2310 / SF 2438 has several provisions that are difficult to administer and necessary. For example, the definition of PFAS would encompass any chemical with a carbon-fluorine bond, although many chemicals covered under this broad definition are not associated with contamination, especially the short-chained fluorinated chemistries. The bill also implements a sweeping ban of a broad range of products, many of which have some critical function for society and/or pose no human health or environmental risk, due to PFAS content. Further, the bill assumes that adequate testing methods are available when this simply is not the case. EPA test methods focus on environmental and drinking water contamination. Test methods for PFAS in products are still being developed. In addition, downstream users of chemicals face significant challenges in identifying reportable amounts, often contained at trace levels.

ACA is in opposition to HF 2310 / SF 2438 due to the lack of a clear public benefit coupled with significant administrative costs and administrative barriers. If the legislature would like to address fluorinated chemicals, ACA recommends that this committee develop targeted legislation to address those chemicals associated with contamination in the state, identified by CAS number.

Sincerely,

Riaz Zaman
Sr. Counsel, Government Affairs
American Coatings Association
901 New York Ave., Ste. 300
Washington, DC 20001
202-719-3715
rzaman@paint.org

April 28, 2023

The Honorable Foung Hawj, Chair
The Honorable Rick Hansen, Chair
Conference Committee on Environment, Natural Resources, Climate and Energy
Minnesota State Capitol
St. Paul, MN 55155

RE: Article 7, Sections 4-5 of HF 2310: Application of certain pesticides prohibited- OPPOSE

Dear Senate & House Conferees:

On behalf of the Household & Commercial Products Association (HCPA), we are respectfully opposed to provisions (Article 7, Sections 4-5) in HF 2310 relative to the regulation of pesticides.

The Household & Commercial Products Association (HCPA) is the premier trade association representing the interests of companies engaged in the manufacture, formulation, distribution and sale of more than $180 billion annually in the U.S. of familiar consumer products that help household and institutional customers create cleaner and healthier environments. HCPA member companies employ hundreds of thousands of people globally. Products HCPA represents include disinfectants that kill germs in homes, hospitals and restaurants; air fresheners, room deodorizers, and candles that eliminate odors; pest management products for home, lawn and garden, and pets; cleaning products and polishes for use throughout the home and institutions; products used to protect and improve the performance and appearance of automobiles; aerosol products and a host of other products used every day.

Proposal will lead to a maze of regulations and enforcement

The precedent HF 2310 sets for local regulation of pesticides identified in the bill is unnecessary and would lead to troubling consequences. Federal law requires that before selling or distributing a pesticide in the United States, a person or company must obtain registration, or license from the U.S. Environmental Protection Agency (EPA).[1] Before registering a new pesticide or new use for a registered pesticide, EPA must first ensure that the pesticide, when used according to label directions, can be used with a reasonable certainty of no harm to human health and without posing unreasonable risks to

[1] According to the EPA, "The process of registering a pesticide is a scientific, legal, and administrative procedure through which EPA examines the ingredients of the pesticide; the specific site or crop where it is to be used; the amount, frequency, and timing of its use; and storage and disposal practices. The agency evaluates registration applications to assess a wide variety of potential health and environmental effects associated with use of the product. EPA evaluates and approves the language that appears on each pesticide label to ensure the directions for use, including safety measures, appropriately address potential risks."

the environment. EPA risk assessment is a process guided by scientific advisory panels. Localities do not have the expertise of chemists, scientists, or legal resources to effectively regulate pesticides compared to the EPA or Minnesota Department of Agriculture. Furthermore, this approach would establish a maze of regulations across 107 Home Rule cities and 746 Statutory cities, making compliance incredibly difficult.

Bill would lead to restrictions on common and important pest management tools

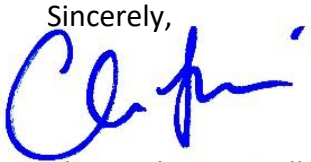
With respect to the scope of the restrictions, by including any pesticide with a precautionary statement about bees or pollinators, the provisions would capture a wide range of commonly used pesticides without an appropriate evaluation. HCPA appreciates the recognition within the bill that different application and use types are important to distinguish, such as pet products and indoor use. Not all products or uses are the same.

However, the approach the bill uses to regulate pesticides is flawed because it seeks to authorize a ban on all forms of insecticides with a pollinator label, and then attempts to enumerate all the possible instances that would be acceptable for use – presumably because they won't impact pollinators. This approach assumes the Legislature will successfully identify and capture all the possible uses it believes is appropriate. The language in the bill continues to restrict common consumer pesticidal products used outdoors such as fly abatement strips, scatter bait, and other important household insect pest management tools that do not interact with pollinators.

Finally, a comprehensive report by U.S. Department of Agriculture (USDA) and the USDA National Agricultural Statistics Service (NASS) describe a broad range of issues or "stressors" negatively affecting bees, including habitat loss, parasites and diseases, lack of genetic diversity, climate change, pesticides, reduced forage options and pathogens. The research and data collected nationally and specific to Minnesota shows the leading stressor to honeybee colonies is overwhelmingly varroa mites. Any legislation seeking to protect pollinator populations that ignores the most influential stressors will not be successful.

We support continued research on the risks to bee health and readily acknowledge the critical importance of pollinators to the agricultural economy and environment, however, in recognition of the work by the US EPA and lack of adequate science to support the measure, HCPA urges the Legislature to reject local regulation of pesticides.

Sincerely,



Christopher Finarelli
Director, State Government Relations & Public Policy - Western Region

April 28, 2023
RE: HF2310/SF2438 – **OPPOSE**

Dear Senate and House Conferees,

The undersigned organizations must respectfully take an OPPOSE position on HF 2310/SF 2438, legislation that would impose broad reporting requirements on manufacturers of all products containing PFAS sold in Minnesota, ban the sale of products containing PFAS in a variety of product categories and establish a future regulatory scheme to ban additional product categories containing PFAS.

<u>This legislation is overly broad, lacks scientific basis and will have significant unintended consequences and could eventually ban thousands of products from sale and transport of those products into Minnesota</u>. It would be one of the broadest bans on products containing PFAS in the nation and would have far reaching negative consequences on nearly every sector of the economy including aerospace, autos, powersports, alternative energy, healthcare, medical devices, building and construction, electronics, pharmaceuticals, and agriculture.

PFAS are a diverse universe of chemistries that enable a huge range of products and sectors – everything from electronics, semiconductors, automotive, aerospace, and alternative energy. **However, all PFAS are not the same**. It is neither scientifically accurate nor appropriate to group all PFAS together. This broad universe of chemistries includes liquids, gasses, and solids.

There has been a lot of work done to assess individual PFAS compounds and to look at appropriate sub-groupings within this broad universe. Grouping these substances together is also inconsistent with the views of key policy organizations including the National Academies of Science, Engineering, and Medicine (NASEM), the Environmental Council of the States (ECOS), and various states that have looked at this specifically.

Today's PFAS are essential to modern life and an important enabling technology. These chemistries provide products with strength, durability, stability, and resilience. **These properties are critical to the reliability and safe function of a broad range of products that are important for industry and consumers.** They play a vital role in everything from designing automobiles with low emissions and improved safety, reliability, and fuel efficiency to manufacturing semiconductors, solar panel and high-performance electronics. Multiple industries depend on high-performance PFAS including aerospace, autos, powersports, alternative energy (solar, wind), healthcare, medical devices, building and construction, electronics, chemicals and pharmaceuticals, oil and gas, and outdoor apparel and equipment, among other industries.

In this regard, the legislation would undermine effective product design, and in some cases, even overall product safety and efficacy for a broad range of products - including applications that are important for public safety and public health. One critical example and timely example, this bill would currently restrict critical materials that are essential to the COVID vaccine distribution and COVID testing, as well as the medical equipment used by healthcare providers that are on the front-line of fighting the COVID pandemic. This may not be the intent of the legislation, but this is the reality.

This bill also would adversely impact critical uses of this technology that are important for our society's broader sustainability objectives, including support for alternative energy and greenhouse gas reduction efforts. For example, lithium-ion electric vehicle batteries contain innovative fluoropolymer technology and are a critical product to Minnesota.

This legislation would have a significant impact on Minnesota in terms of the availability of critical products that are approved and used elsewhere. It would also foster an unworkable patchwork of state regulation with significant implications for Minnesota citizens, businesses and public entities, effectively isolating Minnesota from the rest of the country.

For these reasons, we must respectfully oppose HF 2310/SF 2438. Thank you in advance for considering our views. Should you have any questions, please contact Marcus Branstad at marcus_branstad@americanchemistry.com.

Sincerely,

American Chemistry Council

ACC Spray Foam Coalition

AGC Chemicals Americas Inc.

Agricultural Retailers Association

Alliance for Automotive Innovation

American Coatings Association

American Fuel and Petrochemical Manufacturers (AFPM)

American Petroleum Institute (API)

Animal Health Institute (AHI)

Arkema

Association of Equipment Manufacturers (AEM)

Association of Home Appliance Manufacturers (AHAM)

BASF

Carlisle Spray Foam Insulation

The Chemours Company

Communications Cable & Connectivity Association (CCCA)

Consumer Brands Association (CBA)

Consumer Technology Association (CTA)

Covestro LLC

Creative Polymer Solutions

CropLife America

Dupont

Fluid Sealing Association (FSA)

General Coatings Manufacturing Corp

Gujrat Fluorochemicals

Holcim

Huntsman

Hydraulic Institute

ICP Group

IDI Distributors

INDA, Association of the Nonwoven Fabrics Industry

Information Technology Industry Council (ITI)

ISSA, The Worldwide Cleaning Industry Association

Johns Manville

Juvenile Products Manufacturers Association (JPMA)

MEMA. The Vehicle Suppliers Association

Millipore Sigma

Motorcycle Industry Council (MIC)

National Association of Chemical Distributors (NACD)

National Council of Textile Organizations (NCTO)

National Electrical Manufacturers Association (NEMA)

National Insulation Contractors' Exchange, LLC (NICE)

National Marine Manufacturers Association (NMMA)

Natural Polymers, LLC

NCFI Polyurethanes

Outdoor Power Equipment Institute (OPEI)

Performance Fluoropolymer Partnership

Pine Chemicals Association International (PCA)

Plastics Industry Association

PRINTING United Alliance

Recreational Off-Highway Vehicle Association (ROHVA)

Responsible Industry for a Sound Environment (RISE)

Rhino Linings

Specialty Vehicle Institute of America (SVIA)

Spray Polyurethane Foam Alliance (SPFA)

Solvay

SWD Urethane

The Toy Association

Truck and Engine Manufacturers Association (EMA)

Window and Door Manufacturers Association

Generation Atomic
1878 Pascal Street
Saint Paul, MN 55113

April 28th, 2023

Dear Members of the Minnesota House Environment, Natural Resources, Climate and Energy Conference Committee,

We at Generation Atomic are writing to express our support for HF 2310, the Omnibus environment, natural resources, climate, and energy finance and policy bill which includes provisions that would appropriate funding for a study of advanced nuclear technologies. While this bill makes a well-rounded effort towards the state's energy policy, we believe that it is critical to explore all options when it comes to planning for Minnesota's energy future.

Generation Atomic supported the adoption of Minnesota's 100% carbon-free by 2040 bill which was signed into law earlier this year. We understand the importance of reducing our State's climate impact, but we also recognize the incredible technological challenge this commitment represents. To be successful in creating a reliable, affordable, and carbon free grid by 2040, it will require that policy makers have access to all the tools available. Nuclear energy has proven to be a vital part of the state's energy mix to date and has the potential to do so in the future as well.

According to the Energy Information Administration, in 2021, the majority of Minnesota's energy consumption still came from fossils like natural gas and coal. As a carbon-free power source with the highest capacity factor, nuclear represents an excellent option to both decarbonize the state's grid while also making sure the lights stay on in times of high demand and extreme weather. Advanced nuclear energy technologies also have the opportunity to provide long term, high-paying jobs to more of Minnesota's workforce during this transition. With the highest median salary and rates of unionization in the energy industry, repowering and replacing existing fossil facilities with new nuclear presents an opportunity for a just transition to impacted workers and their families. Their communities could benefit as well, as nuclear plants "on average deliver around $400 million annually to the economic livelihood of local communities". SF 2847 and the feasibility study included in this bill would work to better demonstrate these economic benefits, as well as the other ways nuclear can help Minnesota meet its goals in other areas.

Funding the advanced nuclear study now will help put these potential benefits into the context of Minnesota's specific electricity needs. Failure to do so will deny policy makers access to the information they need within the short timeframe remaining for planning and action. Ensuring that the advanced nuclear feasibility study is included in the final reconciled bill is an important step towards an energy future that takes into account both the real effects of climate change and the electricity needs of its constituents. We strongly encourage your support.

Thank you for your attention to this important issue.

Sincerely,

Eric Meyer
Executive Director
Generation Atomic

Philip Hult
Director of Government Affairs
Generation Atomic

Madison Schroder
Policy Coordinator
Generation Atomic

5/1/23

Honorable Foung Hawj

Chair, Senate Environment, Climate, and Legacy Committee

Minnesota State Senate

Saint Paul, Minnesota 55103

Honorable Rick Hansen

Chair, House Environment and Natural Resources Finance and Policy Committee

Minnesota House of Representatives

Saint Paul, Minnesota 55155

Support the Essential Industry Protecting Minnesotans Public Health, Safety, and Property, by Striking Art. 7, Section 4-5 from the Final Version of HF 2310

Chair Hawj, Chair Hansen, and members of the HF 2310 Conference Committee:

On behalf of the undersigned companies and organizations, the pest management industry urges you to strike Art. 7, Section 4-5 from the final version of HF 2310. These provisions would allow cities to undermine existing regulatory frameworks for pesticide applications in the state, putting the health, safety, and property of Minnesotans at risk. We applaud your efforts to protect pollinators in Minnesota, and respectfully offer our concerns with the above section and offer our services to the committee to craft the best version of HF 2310 for all Minnesotans.

The professional structural pest control industry and our certified commercial applicators, operators, and technicians use pesticide products in, on, and around structures to protect public health and property. Our industry professionally manages a wide range of structural pests with these products that include ants, bedbugs, mosquitos, ticks, and termites, among many other pests. Our member companies take pride in their role as protectors of public health and are keen stewards of the environment. We wish to work alongside the legislature to ensure thoughtful, science-based regulation wins the day.

The Minnesota Department of Agriculture (MDA) has regulated pesticides and has the sole regulative authority of pesticide application in Minnesota since 1987. Minnesota is one of 46 states across the nation that has this statutory preemption over local authorities. The MDA has professionals on staff to regulate and enforce Minnesota's pesticide laws. Our members are licensed by the MDA and if found misusing pesticides face fines, losing their licenses, and other disciplinary actions, unlike the everyday homeowner, who can purchase and use these pesticides with no oversight.

If this language is included, all of Minnesota's 853 cities would have the ability to bypass MDA and become the licensing, regulatory, and enforcement entity for pesticides within their borders. This scenario presents a myriad of problems for both public health and for business compliance. The average technician in Minnesota can traverse over 60 miles in a day, visiting anywhere between 6-10 cities depending on their location. If each of these cities have different policies in place regarding pesticide products, it creates a patchwork of regulation that becomes a compliance issue for both our businesses as well as the cities' regulatory entity. Perhaps most importantly, the pests we treat do not follow arbitrary boundaries set by

humans, and, for example, one city banning a product used to treat ticks or ants can unintentionally heighten pest infestations in neighboring cities.

It is known that structural pest control uses of pesticide products, like those affected by the above section of HF 2310, are unlikely to pose a threat to pollinators, as a recent Cornell University study on neonicotinoid pesticides illustrates a "negligible risk to pollinators from household pest control and antiparasitic uses… such applications are unlikely to lead to substantial exposure for insect pollinators."[1] Additionally, in a recent CDC tick borne diseases report, Minnesota is listed as a "high-incidence" state for Lyme Disease.[2] These products, when safely applied to the outside of structures according to EPA-approved label directions as our industry's professionals do, are essential to fighting disease bearing pests, like ticks, in Minnesota. Current Connecticut Department of Energy and Environmental Protection Commissioner, Katie Dykes, recently testified to this point, stating that "the unintended consequences that could result from unfettered municipal pesticide bans include an inability to control disease vector pests such as ticks and mosquitoes that pose human health threats".[3] Furthermore, this legislation exempts the Metropolitan Mosquito Control District presumably so that mosquitoes don't spread disease, but they only protect the public in 7 out of 87 counties. The other 80 counties in the state would then be at the mercy of mosquitoes and lose access to effective tools for treating their populations.

The language in this section allows cities to potentially ban all pesticides used by the professional structural pest control industry for federally mandated termite treatments for FHA and VA loans. This is destabilizing to the Minnesota real estate market because termite treatments are required for FHA loans for new construction in most of Minnesota. For all new construction, termite treatments are required in 64 of Minnesota's 87 counties by the United States Housing and Urban Development.[4] Most conventional lenders also require termite inspections. If termites are found upon inspection, then treatment is required for loan approval in many cases.[5]

This language was two standalone bills this session: HF 1130, by Representative Tabke, and SF 608 by Senator Boldon. Neither of these bills passed their respective chambers on their own, and the Senate bill never received a hearing in its committee. Our industry encourages the authors of these bills to continue to work with industry to build a compromise that works for Minnesota's citizens, businesses, and elected officials, without circumventing the legislative and scientific review process. It is for these reasons that we respectfully ask for you to not include the previously cited language in the final version of HF 2310.

Thank you for your consideration.

Sincerely,

Abra Kadabra Environmental Services
Adam's Pest Control
Bear Pest Control
Blackhawk Pest Control
Bob the Bug Man Pest Control
DoneRight Pest Solutions
Granite Pest Control
Independent Pest Control
Industrial Fumigant Company

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[1] https://cals.cornell.edu/pollinator-network/research
[2] https://www.cdc.gov/ticks/tickbornediseases/index.html, pg. 6.
[3] https://www.cga.ct.gov/2019/ENVdata/Tmy/2019SB-00076-R000318-Dykes,%20Katherine,%20Commissioner-Department%20of%20Energy%20and%20Environmental-TMY.PDF
[4] https://www.hud.gov/sites/dfiles/SFH/documents/SFH_POLI_TERMITE.pdf
[5] https://homeguides.sfgate.com/fha-termite-guidelines-2467.html

Lemke Pest Control
Minnesota Pest Management Association
National Pest Management Association
Orkin 546 (Minnesota)
Plunkett's Pest Control
Presto-X Minnesota
Rainbow Pest Experts
Rentokil/Terminix
Rollins, Inc.
Rove Pest Control
Spidexx Pest Control
Trutech Wildlife Services
Valor Pest Control

April 30, 2023

RE: HF2310/SF2438

Dear House and Senate Conferees:

On behalf of the Animal Health Institute (AHI), we request an expansion of the amendment language adopted in the Senate Finance Committee and included in SF 2438, related to reporting requirements for manufacturers of products containing PFAS, and a ban on sale in 2032. The Animal Health Institute (AHI) is the national trade association representing the companies that make the animal medicines, vaccines and parasiticides that keep animals and humans healthy.

AHI members develop, manufacture, and distribute a range of animal health products, including pharmaceuticals, biologics (including vaccines), flea and tick preventatives, and medical devices (including diagnostics), to veterinarians, pet owners, and food animal livestock owners. Based on the broad definition of "PFAS" as "a class of fluorinated organic chemicals containing at least one fully fluorinated carbon atom", certain animal health products from each of these categories contain PFAS either as an active ingredient (AI) or an essential, functional component of product packaging.

No current alternatives to PFAS are available for these products, making the use of PFAS unavoidable. Animal health products are all subject to intense federal oversight and regulatory frameworks focusing on product safety. Simply being categorized as PFAS does not equate to being harmful. For some diseases or conditions, active molecules that contain a limited number of fluorine atoms deliver superior treatment efficacy or provide the only treatment option.

Collecting the analytical information required under the reporting requirement from manufacturers and suppliers is both time and labor intensive. The type of analytical testing required to obtain the information is not readily available and would impose significant costs and disruptions to an already-strained product supply chain. The companies that produce these medications are dedicated to keeping them accessible and affordable. For these reasons, we ask that animal health products not be subject to the requirements of this bill and offer this possible exemption language:

- Page 104, after line 17, add the following underlined language: "(b) Subdivisions 2, 4, and 5 do not apply to a prosthetic or orthotic device, or to any product that is a medical device or drug or that is otherwise used in a medical setting or in medical applications regulated by the United States Food and Drug Administration; or to drugs, biologics, parasiticides, medical devices, or diagnostics regulated by the U.S. Food and Drug Administration, the U.S. Department of Agriculture, or the U.S. Environmental Protection Agency that are intended for use in animals."

1325 G Street, NW ■ Suite 700 ■ Washington, D.C. 20005-3104
Telephone (202) 637-2440 ■ Fax (202) 393-1667
www.ahi.org

Thank you for your consideration.

Sincerely,

Mandy Hagan
Director, State Government Affairs

1325 G Street, NW ■ Suite 700 ■ Washington, D.C. 20005-3104
Telephone (202) 637-2440 ■ Fax (202) 393-1667
www.ahi.org

AMERICAN APPAREL & FOOTWEAR ASSOCIATION

Advocacy that fits.

740 6th Street, NW • Washington, DC 20001 | P: 202-853-9080 | www.aafaglobal.org

April 27, 2023

RE: HF 2310/SF 2438 – OPPOSE

Dear Senate and House Conferees:

On behalf of the American Apparel & Footwear Association (AAFA) and the companies listed in the table below, I am writing to provide testimony expressing our concerns regarding on Sec. 62. [116.943] Products Containing PFAS of HF 2310/SF 2438.

AAFA is the national trade association representing apparel, footwear and other sewn products companies, and their suppliers, which compete in the global market. Representing more than 1,000 world famous name brands, AAFA is the trusted public policy and political voice of the apparel and footwear industry, its management and shareholders, its more than three million U.S. workers, and its contribution of $470 billion in annual U.S. retail sales. AAFA approaches all of its work through the lens of purpose-driven leadership in a manner that supports each member's ability to build and sustain inclusive and diverse cultures, meet and advance ESG goals, and draw upon the latest technology.

We deploy our association's extensive expertise in trade, brand protection, supply chain management, and manufacturing to help our members navigate the complex regulatory environment, lower costs, and grow their sustainability and product safety efforts. With our members engaged in the production and sale of clothing and footwear, we are on the front lines of product safety. It is our members who design and execute the quality and compliance programs that stitch product safety into every garment and shoe we make. To support our members in this effort, AAFA has taken the lead in educating our industry through alerts, webinars, and conferences on the development, interpretation, and implementation of product safety standards and regulations.

AAFA and our members are proud advocates for regulatory requirements that can effectively protect human health and the environment. Regulation plays a critical role in furthering our industry's efforts. But only if regulations are designed properly, serve their purpose, and are properly enforced. That is why we recently launched the *THREADS Sustainability and Social Responsibility Protocol*. We believe that the *THREADS Protocol* will speed up the development of policies that are effective and catalyze meaningful progress. *THREADS* calls for policies that are:

- **T**ransparently Developed and Enforced
- **H**armonized Across Jurisdictions and Industries
- **R**ealistic in Terms of Timelines
- **E**nforceable
- **A**djustable
- **D**esigned for Success
- **S**cience-Based

Although many of our members routinely exceed regulatory requirements and are already in the process of phasing out the use of intentionally added PFAS, viewing HF 2310/SF 2438 through the lens of *THREADS*, we have some concerns with the bill as currently drafted.

Harmonizing regulations and enforcement ensures a common approach and cost-effective implementation, greatly enhancing the likelihood that the regulations will achieve their stated goals. SF 834's reporting requirements appear to mirror requirements passed in Maine. Even when identical legislation passes in different states, differences in interpretation and enforcement create a confusing patchwork of requirements that complicate compliance efforts and divert resources away from innovative efforts to further enhance product safety. We strongly encourage the Minnesota Legislature to wait until Maine has finalized its implementing regulations to provide opportunity for full harmonization.

Further, Maine's current reporting requirements do not reflect the current science around identifying PFAS in consumer goods and, at present, neither do those in HF 2310/SF 2438. For instance, requiring reporting of individual PFAS by Chemical Abstract Service numbers (CAS #s) does not make sense for the entire class of PFAS chemicals because a very small fraction of the 12,000+ potential PFAS chemicals in existence have CAS #s assigned. Further, testing for PFAS chemicals in consumer products is complex and very much still in development. Currently, test methods exist for fewer than 100 of the 12,000+ PFAS chemicals. It is just not possible for manufacturers to identify each individual PFAS chemical in a given item.

Instead, science-based requirements should establish a Total Organic Fluorine (TOF) testing threshold (as adopted by California in their PFAS restriction bills AB 1817 and AB 652 and included in our most recent Restricted Substances List) and require reporting on apparel, footwear, and accessories with a result of 100ppm TOF or greater. TOF tests capture the presence of all PFAS, but do not identify which individual PFAS are present in a good. A TOF result of less than 100ppm demonstrates the PFAS found in the item were not intentionally added, because the presence of PFAS below 100ppm would not provide the item any characteristics associated with intentionally added PFAS (e.g. water/stain resistance or chemical/oil repellency). The establishment of a testing threshold is also necessary because PFAS contamination is widespread in the environment. Virtually any item tested will have some level of PFAS.

We have made Maine aware of these issues and are supporting legislation currently under consideration in the Maine Senate that would address a number of our concerns with the reporting requirements as written. We would be happy to discuss our concerns in more depth with you as the industry looks for policies that meet the THREADS Protocol requirements.

In the interim, we again urge Minnesota to wait until these concerns are addressed with Maine. Then, if legislation is adopted in Minnesota, it will be harmonized and will have benefitted from industry input at the outset so that it will achieve its goal of providing useful information about the sources of intentionally added PFAS to the people of Minnesota.

AMERICAN APPAREL & FOOTWEAR ASSOCIATION

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Please note that, while important, the discussions with Maine have siphoned time and resources away from continuing industry efforts to identify PFAS-alternatives and test those alternatives for performance and safety. Once safe and effective alternatives are identified, brands must work with their entire supply chains to transition to new technologies and validate that suppliers understand the new requirements. Dedicating resources to attempting to collect and package information required to meet varied reporting requirements takes away from these efforts.

Finally, while we understand why there is urgency in better understanding the sources of PFAS contamination, we caution that moving forward now would not necessarily provide information about PFAS sources any sooner. Maine moved too quickly and has had to grant extensions to more than 1,900 companies as it sorts through issues with the requirements and as it builds capacity to take the mandated reports. Minnesota can benefit from the work already underway in Maine without creating additional burdens for industry or its own regulators by waiting for Maine to finalize requirements.

We look forward to continuing to work with Minnesota on the regulation of substances in consumer products for the benefit of consumer product safety and public health. In the meantime, our members continue to design and execute the quality and compliance programs that emphasize product safety for every individual who steps into our apparel and footwear products.

Thank you for your consideration of this request. Please contact Chelsea Murtha of my staff at cmurtha@aafaglobal.org if you have any questions or would like additional information.

Sincerely,

Stephen Lamar
President & CEO
American Apparel & Footwear Association

MINNESOTA ELK BREEDERS ASSOCIATION

April 28, 2023

Chair Rick Hansen – House Environment and Natural Resources Finance and Policy Committee
Chair Patty Acomb – House Climate, Energy Finance and Policy Committee
Chair Foung Hawj – Senate Environment, Climate and Legacy Committee
Chair Nick Frentz – Senate Energy, Utilities, Environment and Climate Committee

RE: HF 2310

To Members of the Environment, Natural Resources, Energy and Climate Conference Committee,

The Minnesota Elk Breeders Association represents elk farmers from across Minnesota who are working diligently to responsibly raise elk and support our local small-town communities and economy. There has not been a case of CWD detected in Minnesota farmed elk in 14 years. We share everyone's passion for a healthy cervid population, both inside and outside the fence and ask you to thoughtfully consider our comments below.

- Page R148 Subd. 6 – Removing proposed language that would allow our personal premises location to be available to the public is extremely important. Making location data public, especially for a CWD-positive facility, could have catastrophic consequences for the owner, his animals and property by misguided individuals meaning to cause harm.

- Page R150 (g) – We support the added language in the Senate bill, "unless the escape was a result of natural disaster, vandalism, or destruction by a third party". It is critically important to recognize that situations beyond anyone's control should not be held against them.

- Page R150 Subd. 4 – We do not support requiring all owners of farmed cervidae to prevent physical contact between farmed cervidae and free-roaming cervidae. This is our biggest issue and the most difficult for the elk industry. Again, there hasn't been a case of CWD in Minnesota elk in 14 years, only one case in a red deer and none in reindeer. This unfunded mandate would collectively cost these individuals hundreds of thousands of dollars while offering little to no benefit in slowing the spread of CWD. Our small family farms cannot absorb the cost of this significant unfunded mandate and many would be forced out of business. No state in the nation requires a physical barrier for all cervidae farms. Elk naturally do not even interact with wild whitetail deer at the fence. We would like to think if we're forcing our small family farmers to spend many thousands of dollars on something, that we would see a tangible benefit. To that end, we would ask to remove elk (and similar) from this new provision.

- Page R152 (d)(3) – We do not support the 10-year requirement to maintain fences after a CWD detection and suggest no change be made to the original language of this section. Federal guidelines already require intensive disinfection measures and to maintain the fence for five years. There are no requirements for individual private property owners where CWD positive wild deer have been identified.

Minnesota Elk Breeders Association 9086 Keats Ave SW, Howard Lake, MN 55349 Ph: 320-543-2686 Email: info@mneba.org
www.mneba.org

- Page R152 (d)(7) – Also in this section, we do not support recording with the county recorder or registrar of titles, the date of CWD detection, the date of depopulation and landowner requirements. Adequate notice is provided in (d)(6) which we do not oppose. This added title language creates unnecessary difficulties and possible added legal expenses to properly omit this data once requirements have been met. We suggest language regarding deed recording be removed.

  CWD has been detected in wild deer in eleven Minnesota counties and in all states surrounding Minnesota. No individual private landowners outside the fence are required to put CWD detection language on their titles, even in areas that have the highest percentage of CWD detections (southeast Minnesota), nor for DNR dumpster sites which also do not require recording this activity on their real estate deed.

- Page R153 Subd. 11(a) – We support the added language in the Senate version which includes, "if the herd owner knew or reasonably should have known that the farmed Cervidae were infected…". Because of the lengthy incubation time for CWD, it may be impossible to know an animal was infected prior to movement. A herd owner should not be held liable in this provision if they had no way of knowing there was a problem.

- Page R153 Subd. 12(d) – We support the Senate version added language allowing cervidae semen to be imported from a herd certified as low-risk for chronic wasting disease. Pertaining to live animal importation, we would ask to change the current proposed language to allow live animals to be imported from herds certified as low-risk for chronic wasting disease. If this is not possible, we would ask that additional language be added to allow for live cervidae importation with a USDA validated CWD live animal test. Minnesota exports far more animals than it imports. If Minnesota closes its border to farmed cervidae imports, other states will in turn close their border to Minnesota imports and greatly hinder our ability to export animals.

The farmed cervid industry is closer than ever to breeding genetic resistance into our herds, identifying enhanced biosecurity measures (Dr. Wells work at the University of Minnesota) and beginning discussions on how to utilize live animal testing when it becomes validated. We are on the verge of being able to manage the threat of CWD in a farm situation with these increased measures. Our desire is to help develop new strategies that can also benefit the wild deer herd. We stand ready to work with you on achieving our shared goal for healthy deer herds on both sides of the fence without eliminating over 200 small family farms through overregulation in doing so.

Sincerely,

Mark Luedtke, President
Minnesota Elk Breeders Association

April 30, 3023

Chair Hansen and Committee Members on the Environment Natural Resources Committee:

Please give your support to these bills in HF 2310:

S**F 1339, Proper use and disposal of treated seed:** Kunesh, Morrison, Xiong
SF 835, DNR pesticide restrictions: Morrison, Kunesh, McEwen
SF 719, Restore the study of Neonics in game species: Dibble, Morrison, Hawj, McEwen, Port
SF 608, Municipal option for local control of pesticides: Boldon, McEwen, Fateh, Dibble
SF 2613, Native habitat lawns: Morrison, Cwodzinski, Fateh

I am an entomologist and small beekeeper and have worked in both aquatic and terrestrial habitats. I have increasingly seen the impacts of pesticides on invertebrates in aquatic habitats from agricultural runoff and the decline in native and honey bee populations in rural and urban landscapes. We have reached a crisis for the health of beneficial insects: beekeepers are struggling more each year to maintain healthy hives and our native bees, the ones that sustain all our wild and natural areas, forests, wetlands, prairies and deserts, are declining. Losing our native bees will lead to the breakdown of natural ecosystems.

SF 1339: Treated seeds are not registered as the pesticides that they are, so there is no oversight as to their use and handling.
Reading about the huge disaster in 2021 in Mead NB at the AltEn Ethanol Plant due to the unsafe disposal of pesticide treated seeds, should be enough for anyone not to risk this environmental degradation happening in one of the 19 ethanol plants in MN. Not only has it contaminated the drinking water for residents, it has degraded the local river and soils and destroyed honey bees hives within 3 miles; the fermenting seeds still have not been cleaned up, according to Prof Smart at UNB Lincoln, who testified in March 2023 before the House Environment Natural Resources Finance Committee. We must take action to properly monitor the use, storage, and disposal of treated seeds to prevent this kind of contamination in our state.

SF 835: DNR land, including wildlife management areas (WMAs), should be available for public enjoyment and the wildlife it manages and not be contaminated by treated seeds intentionally planted or discarded on the property. Not only are the beneficial insects exposed to these pesticides, but birds and other wildlife are also impacted because they depend on seeds and insects. In spite of the fact that farmers sign agreements not to use seeds in this manner on DNR land, the WMA supervisor I spoke with said he cannot possibly monitor all the WMAs in his territory and also said he assumed there are violations. Most of the public is not aware of these practices, but human health is now at risk. Please pass regulations to restrict any pesticides on DNR land.

SF 719: The recent research by Jenks and Lundgren of deer, game birds, and otters has revealed the presence of the systemic neonics in their bodies. These harmful chemicals are found in the soil and waters due to the pesticide treated seeds. Human health is increasingly at risk. Please support the further study of pesticide accumulation in game species.

SF 608: If municipalities had the option, and *if they so choose* to restrict the use of pesticides within their jurisdiction, it would be one way to make some progress restricting these harmful and unnecessary

chemicals in urban areas. It seems hard to believe but studies show that there are as many pesticides used in urban areas as in rural landscapes.

SF 2613: **Native habitat lawns**: many people do want to help pollinators, and native plantings will benefit all the native insects with which our native plants evolved. It is very possible to have both a native landscape and a well maintained yard. Please support this bill.

Sincerely,
Margot Monson

Margot Monson, Entomologist, Beekeeper
22 Ludlow Ave.
St.Paul, MN 55108
651-247-5253

Minnesota Pest Management Association
MPMA

Jay Bruesch, **Executive Director**, minnpest1@gmail.com, 6563 Bracken Drive Minnetrista MN 55331

5/1/2023

The Honorable Chairman Foung Hawj
The Honorable Chairman Rick Hansen
Minnesota HF 2310 Conference Committee
75 Rev. Dr. Martin Luther King, Jr. Blvd.
Saint Paul, MN 55155

RE: The Structural Pest Management Industry Urges the Conference Committee to Strike Language Allowing for Cities to Regulate Pesticides

Dear Chairman Hawj, Chairman Hansen, and members of the HF 2310 Conference Committee:

MPMA is the primary trade group representing the structural pest management industry in Minnesota. Our member companies manage pests including rodents, ants, cockroaches, bed bugs, mosquitoes, spiders, stinging insects, termites, and other pests in countless commercial, residential, and institutional settings. Approximately 97% of pest control companies in Minnesota are small businesses. We appreciate the opportunity to share our thoughts on Art. 7, Sec. 4-5 within the House version of HF 2310, as we want to be constructive in the policymaking process. **Also, we commend the legislature's efforts to protect the health of residents and pollinators in Minnesota.**

The professional structural pest management industry and our certified commercial applicators, operators, and technicians use pesticide products in, on, and around structures to protect public health and property. Our industry, deemed an essential service at the start of the pandemic, professionally manages a wide range of structural pests with these products that include ants, bedbugs, mosquitos, and termites, among many other pests. Our member companies take pride in their role as protectors of public health, food, and property extremely seriously and welcome further dialogue on this topic. We wish to work alongside the legislature to ensure thoughtful, science-based regulation wins the day.

The Minnesota Department of Agriculture (MDA) has responsibly regulated the sale and use of pesticides as the sole regulative authority of pesticide application in Minnesota since 1987. Minnesota is one of 46 states across the nation that has this statutory preemption over local authorities. The MDA has professionals on staff to regulate and enforce Minnesota's pesticide laws. Our members are licensed by the MDA and, if found misusing pesticides, face fines, losing their licenses, and other disciplinary actions, unlike the everyday homeowner, who can purchase and use these pesticides with no oversight. **Undercutting the existing science-based regulatory framework would have a negative impact on the health and safety of all Minnesotans as well as residential, agricultural, and commercial spaces.**

Art. 7, Sec. 4-5 in the House version of HF 2310 would allow all of Minnesota's cities to usurp the authority of MDA, along with the guidance and supervision of their professional staff and

scientists in our field, creating a patchwork of regulation. **The average service technician conducts between 8 to 10 services per day across multiple jurisdictions.** If every jurisdiction had its own arbitrary prohibitions and exemptions, the lack of uniformity creates an unnecessary burden on the ability of pest management professionals to safeguard public health and property from pest infestations. Pest control is also an essential tool in safeguarding environmental justice. While wealthy homeowners may be able to afford more expensive pest control, residents of multi-family housing are more acutely impacted by rodents, roaches, and other pests that contribute to asthma, and other vector- and pest-borne diseases.

Additionally, pests like mosquitos, ticks, and rodents do not abide by jurisdictional boundaries, so these varying regulations in one town might increase pest pressures on adjacent communities. Due to the nature of our applications both indoors and in close proximity to structures, our industry is unlikely to pose a threat to pollinators. In a recent CDC tick borne diseases report, Minnesota is listed as a "high-incidence" state for Lyme Disease.[1] Furthermore, once cities begin to wrest control of pesticide regulation from the MDA, these cities will also become the licensing, enforcement, and testing bodies for these pesticides, an undertaking that localities cannot manage like the existing, statewide framework.

Art. 7, Sec. 4-5 in HF 2310 as passed by the House was two standalone bills this session: HF 1130, by Representative Tabke, and SF 608 by Senator Boldon. Neither of these bills passed their respective chambers on their own, and the Senate bill never received a hearing in its committee. MPMA encourages the authors of these bills to continue to work with industry to build a compromise that works for Minnesota's citizens, businesses, and elected officials, without circumventing the legislative process by including it within a budget bill.

In conclusion, we want to be constructive in the policymaking process and applaud efforts to protect pollinators. **Our members are keen stewards of the environment and pollinator health and abide by our recommended best management practices for pollinators, which we are happy to provide to the committee.** This bill will remove the ability of pest management professionals to proactively protect Minnesota's public health, safety, and property. We firmly believe that your zip code should not determine your level of protection from these dangerous and destructive pests.

Thank you for the opportunity to inform the conference committee as to how the professional pest management industry protects public health and property. Do not hesitate to contact me at minnpest1@gmail.com if you have any questions and would like to discuss further.

Best regards,

THE MEMBER FIRMS OF THE MINNESOTA PEST MANAGEMENT ASSOCIATION
minnpest1@gmail.com

[1] https://www.cdc.gov/ticks/tickbornediseases/index.html, pg. 6.

MINNESOTA RESOURCE RECOVERY ASSOCIATION

"To promote a zero-waste society that advocates for reducing waste, sustainably reusing resources and less landfill use."

April 28, 2023

Representative Rick Hansen
Representative Patty Acomb
Representative Athena Hollins
Representative Sydney Jordan
Representative Larry Kraft

Senator Foung Hawj
Senator Nick A. Frentz
Senator Jennifer A. McEwen
Senator Tou Xiong
Senator Julia E. Coleman

RE: Omnibus environment, natural resources, climate, and energy finance and policy bill (H.F. 2310/S.F. 2438):

Dear Members of the Environment, Natural Resources, Climate, and Energy Conference Committee:

On behalf of the Minnesota Resource Recovery Association, (MRRA), I write in my capacity as a board chair to thank you in advance for receiving this letter. The MRRA represents eight resource recovery facilities that process approximately one million tons of solid waste per year in lieu of landfilling. This represents 1/3 of all the solid waste generated in Minnesota each year. These facilities process waste from 31 of Minnesota's 87 counties. We believe in moving Minnesota towards zero landfilling and leaving a legacy of a better Minnesota for future generations. However, Minnesotans continue to generate more waste which over time has become more diverse and less recyclable. Though in the short-term, waste-to-energy facilities may be more expensive to operate compared to landfills, the long-term environmental risks, and liabilities for managing these wastes are much less costly.

The MRRA supports incorporating environmental justice concerns into the permitting process and is committed to working together to improve HF 2310 (Hansen) / SF 2438 (Hawj) but the MRRA has concerns that the current language limits our ability to provide the best waste management solutions to our communities that results in the lowest overall environmental impact.

Cumulative Impact Language |*House Art. 3, Sec. 23* & *Senate Art. 4, Sec. 60*

- Overall, any facility in or near EJ areas in the state will face significant permitting challenges on almost every potential permitting submittal if this current legislation is enacted as proposed. Routine permits for renewal and potential future projects that could potentially increase the level of emissions at any increment would require a costly, time-consuming cumulative analysis with no guarantees of that cost resulting in an approved permit. The legislation makes it such that every proposed project permit application will need to have some type of emissions off-set

MINNESOTA RESOURCE RECOVERY ASSOCIATION

to avoid a cumulative analysis, but with the over-generalized language of the triggers, it introduces uncertainty in factoring risk into making cost benefit analysis.

Path to Zero Waste Study. *House Art. 3, Sec. 49.*

- MRRA supports a study and report that includes a pathway for the state to achieve zero waste. However, we strongly encourage conferees to consider changes to assure an objective examination of environmental impacts across the full range of considerations involved in moving closer to zero waste, in a way that more inclusively reflects the waste management hierarchy elsewhere in statute.

MRRA believes in moving Minnesota towards zero landfilling and leaving a legacy of a better Minnesota for future generations. For this reason, we respectfully request an opportunity to be involved in developing environmental justice bills to ensure that they are compatible with our shared environmental goals.

We thank you for your work to help Minnesota protect our climate and all our citizens by protecting Minnesota's investments in waste-to-energy. On behalf of the MRRA, I ask that you consider the environmental and climate benefits of resource recovery. I respectfully request the conference committee revise the current language to prevent further cost burdens on already compliant waste-to-energy facilities. We want to be part of the environmental justice conversation and consideration. The MRRA is available to provide additional information, resources, or discussion on this important topic. You can reach me at 218-770-2810 or cmcconn@co.ottertail.mn.us.

Chris McConn
MRRA, Board Chair

President: Drew Geving drew@nf4t.org www.nativefishfortomorrow.org

Dear Chair Hawj, Chair Hansen and Committee Members,

HF2310 contains important language for the conservation of Minnesota's native fish. Currently, 26 of Minnesota's native fish species are regulated as "rough fish". Unfortunately, this derogatory language is codified in Minnesota Statute 97A.015, Subd. 43.

Native Fish for Tomorrow is an angler led conservation group dedicated to the scientific and sustainable management of native fish for all people. We strongly support HF2310 and the provisions supporting native fish conservation.

The language in HF2310, requiring a DNR report to separate the regulations of native and invasive fish species is necessary for the scientific management of Minnesota's fish. However, there are differences in the structure of the appropriation. The appropriation was requested by the DNR to provide the staff time necessary to enact the reforms and rulemaking recommended by the report. Due to the long use of the term "rough fish" in Minnesota statute and rule, it has been incorporated into regulations almost 70 times. We believe the process of enacting the necessary changes will take two years, if not longer.

Native Fish for Tomorrow urges the committee to adopt the house language and appropriations for the conservation of Minnesota's native fish. Although we appreciate the Senate's support for native fish, we believe the house language better reflects the time required correct the "rough fish" regulations.

Sincerely,

Tyler Winter

Director, Native Fish for Tomorrow

National Pest Management Association
Our Mission is Your Protection

5/1/2023

The Honorable Chairman Foung Hawj
The Honorable Chairman Rick Hansen
Minnesota HF 2310 Conference Committee
75 Rev. Dr. Martin Luther King, Jr. Blvd.
Saint Paul, MN 55155

RE: The Structural Pest Management Industry Urges the Conference Committee to Strike Language Allowing for Cities to Regulate Pesticides

Dear Chairman Hawj, Chairman Hansen, and members of the HF 2310 Conference Committee:

The National Pest Management Association (NPMA), founded in 1933, is the only national trade group representing the structural pest control industry with over 5,000 members from around the world. We are proud to represent a multitude of small businesses through our members; over 80% have an annual revenue of less than $1 million. We appreciate the opportunity to share our thoughts on Art. 7, Sec. 4-5 within the House version of HF 2310, as we want to be constructive in the policymaking process. **Also, we commend the legislature's efforts to protect the health of residents and pollinators in Minnesota.**

The professional structural pest management industry and our certified commercial applicators, operators, and technicians use pesticide products in, on, and around structures to protect public health and property. Our industry, deemed an essential service at the start of the pandemic, professionally manages a wide range of structural pests with these products that include ants, bedbugs, mosquitos, and termites, among many other pests. Our member companies take pride in their role as protectors of public health, food, and property extremely seriously and welcome further dialogue on this topic. We wish to work alongside the legislature to ensure thoughtful, science-based regulation wins the day.

The Minnesota Department of Agriculture (MDA) has responsibly regulated the sale and use of pesticides as the sole regulative authority of pesticide application in Minnesota since 1987. Minnesota is one of 46 states across the nation that has this statutory preemption over local authorities. The MDA has professionals on staff to regulate and enforce Minnesota's pesticide laws. Our members are licensed by the MDA and, if found misusing pesticides, face fines, losing their licenses, and other disciplinary actions, unlike the everyday homeowner, who can purchase and use these pesticides with no oversight. **Undercutting the existing science-based regulatory framework would have a negative impact on the health and safety of all Minnesotans as well as residential, agricultural, and commercial spaces.**

Art. 7, Sec. 4-5 in the House version of HF 2310 would allow all of Minnesota's cities to usurp the authority of MDA, along with the guidance and supervision of their professional staff and scientists in our field, creating a patchwork of regulation. **The average service technician conducts between 8 to 10 services per day across multiple jurisdictions.** If every jurisdiction had its own arbitrary prohibitions and exemptions, the lack of uniformity creates an unnecessary burden on the ability of pest management professionals to safeguard public health and property from pest infestations. Pest control is also an essential tool in safeguarding environmental justice. While wealthy homeowners may be able to afford more expensive pest control, residents of multi-family housing are more acutely impacted by rodents, roaches, and other pests that contribute to asthma, and other vector-borne diseases.

Additionally, pests like mosquitos, ticks, and rodents do not abide by jurisdictional boundaries, so these varying regulations in one town might increase pest pressures on adjacent communities. Due to the nature of our applications both indoors and in close proximity to structures, our industry is unlikely to pose a threat to pollinators. In a recent CDC tick borne diseases report, Minnesota is listed as a "high-incidence" state for Lyme Disease.[1] Furthermore, once cities begin to wrest control of pesticide regulation from the MDA, these cities will also become the licensing, enforcement, and testing bodies for these pesticides, an undertaking that localities cannot manage like the existing, statewide framework.

Art. 7, Sec. 4-5 in HF 2310 as passed by the House was two standalone bills this session: HF 1130, by Representative Tabke, and SF 608 by Senator Boldon. Neither of these bills passed their respective chambers on their own, and the Senate bill never received a hearing in its committee. NPMA encourages the authors of these bills to continue to work with industry to build a compromise that works for Minnesota's citizens, businesses, and elected officials, without circumventing the legislative process by including it within a budget bill.

In conclusion, we want to be constructive in the policymaking process and applaud efforts to protect pollinators. **Our members are keen stewards of the environment and pollinator health and abide by our recommended best management practices for pollinators, which we are happy to provide to the committee.** This bill will remove the ability of pest management professionals to proactively protect Minnesota's public health, safety, and property. We firmly believe that your zip code should not determine your level of protection from these dangerous and destructive pests.

Thank you for the opportunity to inform the conference committee as to how the professional pest management industry protects public health and property. Do not hesitate to contact me at jreynolds@pestworld.org if you have any questions and would like to discuss further.

Best regards,

[1] https://www.cdc.gov/ticks/tickbornediseases/index.html, pg. 6.

Josh Reynolds
Manager of Legislative and Regulatory Affairs
National Pest Management Association
Direct: 703.688.9450

NSSF
The Firearm Industry Trade Association

CHRISTOPHER LEE
Director, Government Relations - State Affairs
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Sen. Foung Hawj
Sen. Nick Frentz
Sen. Jennifer McEwen
Sen. Tou Xiong
Sen. Julia Coleman

Rep. Rick Hansen
Rep. Patty Acomb
Rep. Athena Hollins
Rep. Sydney Jordan
Rep. Larry Kraft

HF2310 Conferees - Environment, Natural Resources, Climate, and Energy Finance Omnibus

Position: Oppose restricting ammunition choice for hunters on WMAs.

Dear Chair Hansen, Chair Hawj, and Conferees:

Thank you for this opportunity to provide input on HF2310 (Hansen/Hawj).

The National Shooting Sports Foundation (NSSF) strongly opposes this language found in the Revisor Side-By-Side Environment and Natural Resources Articles 3-8 on page R105, Sect 76 of the House language which proposes to ban the use of traditional, or lead, ammunition while hunting on wildlife management areas in Minnesota and asks that the provision not be included in the conference report.

The House proposed prohibition of the choice of lead shot on WMAs will undoubtably cause an artificial shift in supply and demand that will result in an increase in the price of alternative ammunition. While growing in popularity with hunters, alternative ammunition made of copper, tungsten, bismuth, and steel are more expensive to produce and purchase than their counterparts.

Coupled with the ammunition shortage we are currently experiencing, removing lead shot as an ammunition choice is certain to have a detrimental impact on the number of hunters choosing to purchase Minnesota hunting licenses. Barriers for hunters affect not only sportsmen and women and Minnesota's tourism economy, but wildlife and conservation efforts in Minnesota in lost license revenue as well as collection of Pittman-Robertson funds which contributes 11% of every ammunition purchase to wildlife management and habitat. For FY22, that amounted to $32,250,271 that Minnesota received from USFWS to be used for wildlife conservation.

Our industry is proud of its strong presence and economic impact in Minnesota and are mindful of the important role sportsmen play in Minnesota’s economy. Our membership includes Minnesota-based federally licensed firearms retailers, most of which are small “mom-n-pop” businesses that are the backbone of the state’s economy, and large ammunition manufacturers such as Federal Premium Ammunition. In 2022, the Minnesota firearm industry employed over 13,000 Minnesotans and had an economic impact of over $3.6 billion on the state. Banning lead ammunition on WMAs and creating an artificial shift in the market could lead to the closure of small businesses impacting mostly rural communities.

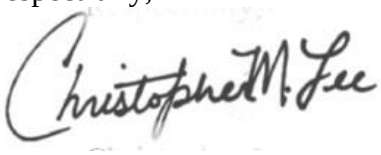
Additionally, any action taken by the legislature that leads to the reduction in the number of hunters or creates barriers for new or reactivated hunters will adversely affect management and restoration of wildlife in Minnesota. Raptor populations are thriving in Minnesota and across the country thanks to investments in

wildlife conservation, which have been funded largely by the firearm industry through the sale of firearms and ammunition. Attempts to ban lead ammunition are based on emotion and would certainly have a negative impact on Minnesota.

For these reasons, the NSSF strongly opposes any attempt to ban the use of lead ammunition, or lead shot, also known as traditional ammunition.

As the trade association for America's firearm, ammunition, hunting, and recreational shooting sports industry, NSSF seeks to promote, protect, and preserve hunting and the shooting sports. NSSF has a membership of approximately 10,000 manufacturers, distributors, firearms retailers, shooting ranges, and sportsmen's organizations. Our manufacturer members make the firearms used by law-abiding Minnesota sportsmen and women, the U.S. military, and law enforcement agencies throughout the state.

Respectfully,



Christopher Lee

David Ybarra , President
353 W 7th Street – Room 106
St. Paul MN 55102
(651) 291-5001

Jason Quiggin, Secy.-Treas.
353 W 7th St. – Room 106
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MINNESOTA PIPE TRADES ASSOCIATION

Affiliate of the United Association
Composed of Journeyman and Apprentices of the Plumbing and Pipe Fitting Industry
Of the United States and Canada
State Federation of Labor – A.F.L.-C.I.O.

April 27, 2023

Energy and Environment Conference Committee

Dear Chairs Frentz, Hawj, Acomb, Hansen and members of the Conference Committee,

On behalf of the Minnesota Pipe Trades Association, I write in support of the Advanced Nuclear Study provisions found in the Senate Omnibus bill.

The Minnesota Pipe Trades Association represents more than 9,000 men and women working in the construction industry. Our members perform mechanical construction, maintenance, and repair work, including plumbing, pipe fitting and fire protection. The energy sector is critical for our members who build and repair thermal power plants – including coal, gas, and nuclear, along with petroleum and renewable fuel refineries and pipelines.

While our members look forward to new opportunities to deploy growing green energy technologies such as geothermal, the energy transition is going to be challenging for those who have spent their careers working in the traditional energy sector. A "just transition" means ensuring that we are accounting for their unique skill sets and affording them opportunities to contribute to the low-carbon energy sector.

Nuclear energy generation has been an important source of work for our members in Minnesota. As a carbon-free resource that provides baseload electric power, it is the backbone of any effort to decarbonize. With new advanced nuclear energy technologies under development, it is important that we take a hard look to determine how they can contribute to decarbonization efforts while creating and maintaining good paying jobs.

The advanced nuclear study is an important step in doing just that. It will provide future legislators and the public with important information on how advanced nuclear energy fits into our state's energy future while supporting local workers.

We encourage the conference committee to include the study in the conference report!

David M. Ybarra, President
Minnesota Pipe Trades Assn

April 30, 2023

Rep. Peter Strohmeier and Sen. Kara Josephson:

My name is Karen Johnston and I am the regional director of Government Affairs for Toyota. We respectfully oppose HF2310, legislation that would impose broad reporting requirements on manufacturers of all products containing PFAS sold in Minnesota, ban the sale of products containing PFAS in a variety of product categories and establish a future regulatory scheme to ban additional product categories containing PFAS.

This legislation is overly broad, lacks scientific basis and will have significant unintended consequences and could eventually ban thousands of products from sale and transport of those products into Minnesota.

Today's PFAS are essential to modern life and an important enabling technology. These chemistries provide products with strength, durability, stability, and resilience. **These properties are critical to the reliability and safe function of a broad range of products that are important for industry and consumers.** They play a vital role in everything from designing automobiles with low emissions and improved safety, reliability, and fuel efficiency to manufacturing semiconductors, solar panel and high-performance electronics.

In this regard, the legislation would undermine effective product design, and in some cases, even overall product safety and efficacy for a broad range of products - including applications that are important for public safety and public health. One critical example and timely example, this bill would currently restrict critical materials that are essential to the COVID vaccine distribution and COVID testing, as well as the medical equipment used by healthcare providers that are on the front-line of fighting the COVID pandemic. This may not be the intent of the legislation, but this is the reality.

This bill also would adversely impact critical uses of this technology that are important for our society's broader sustainability objectives, including support for alternative energy and greenhouse gas reduction efforts. For example, lithium-ion electric vehicle batteries contain innovative fluoropolymer technology and are a critical product to Minnesota.

For these reasons, we must respectfully oppose HF 2310.

Sincerely,

Karen Johnston
Toyota Motor North America

PARTNERSHIP ON WASTE & ENERGY
Hennepin | Ramsey | Washington

MEMORANDUM

April 28, 2023

Representative Rick Hansen
Representative Patty Acomb
Representative Athena Hollins
Representative Sydney Jordan
Representative Larry Kraft

Senator Foung Hawj
Senator Nick A. Frentz
Senator Jennifer A. McEwen
Senator Tou Xiong
Senator Julia E. Coleman

Dear Members of the Environment, Natural Resources, Climate, and Energy Conference Committee (H.F. 2310/S.F. 2438):

The Partnership on Waste and Energy (Partnership) is a Joint Powers Board (Hennepin, Ramsey and Washington counties) formed to address waste management and energy issues. We seek to end waste, promote renewable energy and enhance the health and resiliency of communities we serve while advancing equity and responding to the challenges of a changing climate.

The Partnership appreciates the opportunity to express support for several provisions of H.F. 2310 that will have significant impact on protecting public health and the environment and help counties be more successful in reaching challenging statutory waste management goals.

Priority Provisions for Full Funding

- **Emerald Ash Borer (EAB) response.** The joint Senate-House Environment committee hearing on emerald ash borer earlier this session illustrated that comprehensive funding is needed to address the ongoing threats from EAB, and we strongly support *House Art. 1, Sec. 3, Subd. 4(m); Art. 4, Sec. 40; and House Art. 1, Sec. 2, Subd. 7(w)*:
    - $28 million for St. Paul Cogeneration urgently needed now to maintain the ability of this facility to handle 2/3 of the region's wood waste. No other capacity is currently available to absorb this volume of material. Closure of this facility would leave communities no option but stockpiling or open burning of hundreds of thousands of tons of wood waste, creating major public health and safety hazards.
    - $9 million for grants to communities burdened by costs to respond to EAB. A simple change is needed in Subd. 4 to clarify that treatment, removal and replacement of EAB-affected ash trees are eligible expenditures, conforming to the language in the Purpose and Establishment subdivisions of Section 40.
    - $4 million for a wood dehydrator at Koda Energy to help manage wood waste.
- **Increased SCORE grant funding.** The Partnership appreciates the appropriation of additional SCORE recycling grants in both bills and supports the Senate increase in base funding on an ongoing basis. Increased SCORE funding is foundational to waste reduction, reuse, recycling and composting efforts needed to meet state mandates. *Senate Art. 1, Sec. 2, Subd. 7(d).*

PARTNERSHIP ON WASTE AND ENERGY
HENNEPIN | RAMSEY | WASHINGTON
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- **Increased solid waste permitting capacity.** The Partnership strongly supports an increase to base funding for the MPCA's Resource Management and Assistance Division to address backlogs in solid waste permitting. Counties rely on the Agency to make timely decisions on permits for facilities to divert waste, including food waste, from landfills and waste-to-energy facilities to meet the state's waste management mandates. Long delays risk project viability and missed federal grant opportunities for necessary projects. *Art 1, Sec. 2, Subd. 7.*
- **Waste Prevention, reduction and recycling grants and loans.** The Partnership supports several provisions that will help meet state mandates and address food waste, develop stronger markets for recyclables and wood waste, and support a variety of other waste prevention and reuse activities by counties and our community partners. *House Art. 1, Sec. 2, Subd. 7 (e-g, p); Senate Art. 1, Sec. 2, Subd. 7 (e-g, q).*

Other Provisions We Support

The Partnership supports many other provisions in both bills, including:

- Updates to the Minnesota Pollution Control Agency's Capital Assistance Program.
- Repay the Metropolitan Landfill Contingency Action Trust.
- Compostable products and packaging standards and labeling requirements.
- Implementing Minnesota's PFAS Blueprint and reducing sources of PFAS.
- Funding the Pig's Eye Landfill Task Force.

Concerns

- **Zero-waste grant program.** The Partnership supports this program to advance strategic efforts for achieving zero waste. However, we encourage removal of new definitions that conflict with other statutory definitions, and we recommend using an MPCA-determined definition of zero waste that supports landfill diversion, consistent with the waste management hierarchy elsewhere in statute. *House Art. 3, Sec. 12.*
- **Path to Zero Waste Study.** The Partnership has supported a study that includes a pathway for the state to achieve zero waste. However, we cannot support the version in this bill without changes to assure an objective examination of environmental impacts across the full range of considerations involved in moving closer to zero waste, in a way that more inclusively accounts for the role of all management strategies in the state's waste management hierarchy. *House Art. 3, Sec. 49.*

Thank you for the opportunity to present the Partnership's positions as the committee creates an omnibus bill that best advances state public health and environmental protection goals. For further information on these and other Partnership positions, please contact Rob Vanasek at Capitol Hill Associates *(rob@capitolhillassoc.com; 612-964-4876)* and Sam Richie at Fryberger *(srichie@fryberger.com; 218-301-9758).*

Sincerely,

Commissioner Debbie Goettel, Hennepin County
Chair, Partnership on Waste and Energy

PARTNERSHIP ON WASTE AND ENERGY
HENNEPIN | RAMSEY | WASHINGTON

Written Testimony: HF2310: Open season for taking wolves prohibition

For: Omnibus Environment, Climate and Energy appropriations

Date: 5/1/2023

Dear Committee Members:

Thank you for reading this testimony to the committee regarding wolf population control and saving our Moose in Minnesota from extinction. To introduce myself, I have been an advocate for Minnesota Moose since 2012. I created a group focused on the saving our threatened Moose called "Howling for Moose Minnesota" in 2017 with over 650 members and I was on the DNR's Wolf Planning Committee as the sole advocate for Moose.

HF2310 proposes to eliminate hunting wolves in the state (wolf population management). The elimination of wolf population management in the Moose range will eliminate a critical tool towards helping our moose recover their population, and will handcuff wildlife managers. This type of proposal is counter productive for Moose recovery, and a run counter to the state's own biologist's recommendations (MN DNR), and eliminates an important management tool.

The most recent, 2023 DNR/Tribal moose survey shows **the moose population in Minnesota is down 30% over last year, so the downward spiral of our moose population continues. Since 2006, our moose population is down 65% (See graph below).** We had close to 9000 moose in the moose range in 2006 and currently have around 3200 moose remaining.

Wolves are the largest cause of Moose mortality in Minnesota. Wolves kill 70-80% of Calves and 36% of Adults anually. With this mortality rate, Moose cannot recover their population in the state. This is corroborated by the DNR's own studies (attached), as well as tribal biologists. 36% of all adult moose and 70-80% of all newborn calves are killed by wolves each year, making population recovery unlikely, if not impossible, with the current wolf densities in the remaining moose range.

All options/tools need to be available to our wildlife managers to do their jobs and help protect our moose. Wolf advocates, deer advocates, ranchers, tribes, all need to give up some ground to protect our moose. But if you vote to eliminate wolf hunting as a tool, you will do more harm to moose, and endanger their existence. Choosing between moose and wolves, should not be a choice! Both species are important, but there needs to be a realistic and viable population balance.

Reducing wolf numbers for the purpose of **moose population recovery is popular in Minnesota**. I was a part of the wolf advisory committee set up by the DNR, and the data presented by the public input surveys (on DNR website) show that people support a reduction in wolf population if for the benefit of moose in Minnesota. Very few want to see wolves gone, as they are as iconic a symbol of Minnesota, as are the moose. But balance needs to be returned to the Moose Range after years of little to no wolf control within the moose range.

Moose advocates and Howling for Moose Minnesota support the following actions to help protect our moose:

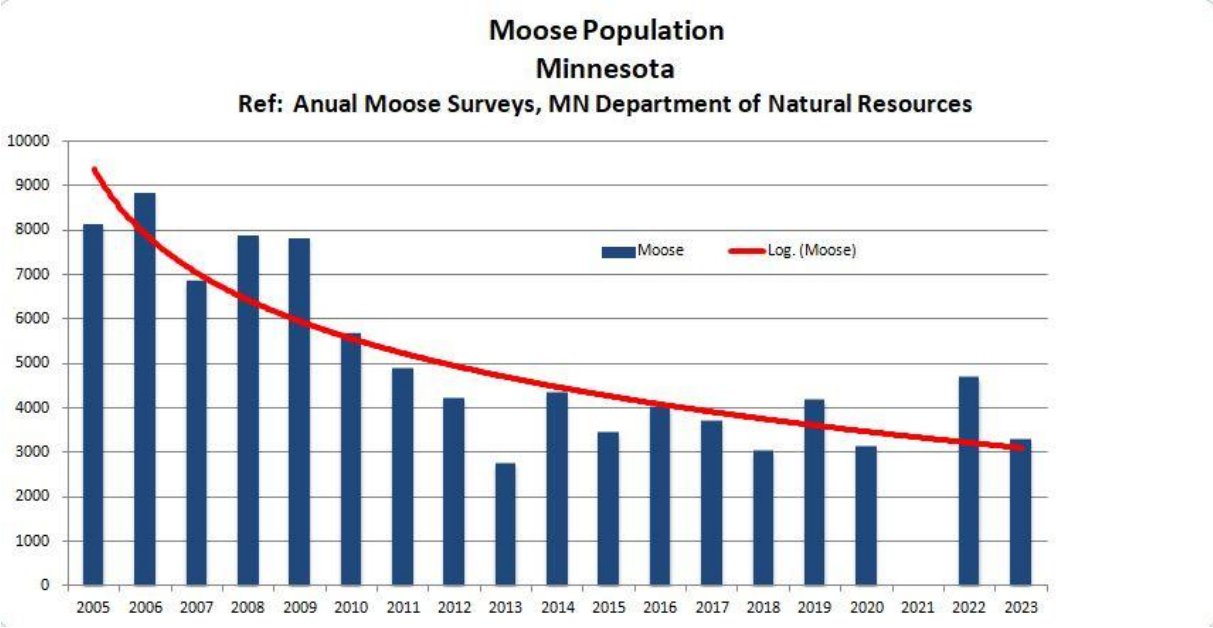
- Reduce wolf numbers to increase year over year calf recruitment through higher calf and adult moose survival rates. (not doing)
- Reduce deer numbers in the moose range to attempt to control brain worm transmission. (doing)
- Improve habitat within the Moose range. Outdoor Heritage money has been allocated for this effort already.
- Delay Elk introduction into the remaining moose range until we have a viable, live animal, Chronic Wasting Disease test (under development).
- Continue with a hunting moratorium on Moose.

The most important lever we can pull that we have not attempted (due to court rulings) is reducing wolf populations where Moose exist. We hope the committee will consider this testimony and its facts, and not support a ban on wolf population management as a tool to help protect our moose. Moose need your help urgently.

Sincerely,

Scott Engle

Howling for Moose Minnesota



DEPARTMENT OF NATURAL RESOURCES

WILDLIFE RESTORATION

Your DNR Study Excerpt
Wolves #1 cause of Mortality

CAUSES OF NON-HUNTING MORTALITY OF ADULT MOOSE IN MINNESOTA, 2013 – 2017

Michelle Carstensen, Erik C. Hildebrand, Dawn Plattner, Margaret Dexter, Arno Wünschmann, and Anibal Armien

RESULTS AND DISCUSSION

Annual Survival and Cause-Specific Mortality of Collared Moose

From 2013–2015 a total of 173 adult moose (123 females, 50 males) were captured and collared. Mean age at capture was 6.1 (±0.3, *n*=163) years for all moose; range was 1 to 16 years. Age of moose at capture was similar [*F-stat*=1.65, *p*=0.19] among years (6.0 years in

2013, *n*=101; 5.8 years in 2014, *n*=32; and 7.2 years in 2015, *n*=30). Annual (January–December) survival rates were was 81%, 88%, 85%, 87% and 86% in 2013 through 2017, respectively (Figure 1); the overall 5-year mean for non-hunting mortality was 14.4%. This is lower than the average non-hunting mortality rate of 21%, reported previously in MN, but higher than the 8-12% rates of North American moose populations (Mytton and Keith 1981, Larsen et al. 1989, Ballard et al. 1991, Stenhouse et al. 1995, Modafferi and Becker 1997). A total of 60 collared moose (41 females, 19 males) have died since this study began; which excludes 12 capture-related mortalities that are censored from subsequent survival analyses. Most collared moose mortalities (96%) occurred within the current moose range in northeast MN (Figure 2). Overall proximate causes of death included: wolf predation (*n*=18, 30%), parasitic infections (*n*=18, 30%), bacterial infections (*n*=12, 20%), accidents (*n*=2, 3%), hunter-harvest (*n*=3, 5%), calving complication (dystocia) (*n*=1, 2%), and undetermined health issues (*n*=6, 10%; Figure 3). Health-related causes were attributed to 68% of total deaths, with the remaining 32% being predator-related.

Bacterial infections were the third leading cause of moose deaths (Figure 4c). Four moose were attacked by a predator, most likely a wolf or wolves, and survived the initial encounter, but the wounds became infected and led to their death days to several weeks later. Prior to this study, scant evidence in the literature points to secondary bacterial infections caused by a predator attack as a major cause of moose mortality. Other trauma, including one case consistent with conspecific fighting of antlered males, resulted in puncture wounds that provided a route for bacteria to enter the body and cause systemic infection and septicemia. The exact circumstances that led to some of these trauma-induced injuries were unknown.

+ 18 confirmed wolf kills
+ 4 wolf inflicted wound infections
= 22 out of 60 deaths = 36% Associated with Wolf Predation.

CAUSES OF NON-HUNTING MORTALITY OF ADULT MOOSE IN MINNESOTA, 2013 – 2017

Michelle Carstensen, Erik C. Hildebrand, Dawn Plattner, Margaret Dexter, Arno Wünschmann, and Anibal Armien

SUMMARY OF FINDINGS

Minnesota's moose (*Alces alces*) are dying at rates much higher than elsewhere in North America. Moose have been nearly extirpated from the northwestern part of the state and aerial surveys indicate the northeastern population has declined 55% over the past decade. In 2013, a new study began to determine cause-specific mortality of adult moose in northeastern Minnesota by using GPS-satellite collars to get rapid notification of mortality events and recover carcasses within 24 hours of death. A total of 173 moose were collared over 3 years with annual non-hunting mortality rates of 19%, 12%, 15%, 13% and 14% in 2013-2017, respectively, and an overall mean of 14.4%. In total, 57 moose have died from non-hunting sources of mortality and 3 moose were legally harvested. Response times from mortality notification to arrival at the carcass were within 24 hours for 65% of death events. Most causes of mortality were health-related (65%), which included parasites (30%; e.g., winter ticks, brainworm, and liver flukes), bacterial infections (20%), accidents (3%), calving (2%) and other undetermined health issues (10%).The remainder was wolf-related (30%), with predisposing health conditions identified in nearly half of these moose. Legal harvest accounted for 5% of moose deaths. During the same time period, we also necropsied anecdotal moose deaths (*n*=91) across northern Minnesota, which included vehicle or train collisions, sick, and found dead animals. *Parelaphostrongylus tenuis* was confirmed in 42% of these cases, which is nearly twice the rate of detection of this parasite as in the collared moose studied during the same time period.

INTRODUCTION

Until recently, 2 geographically distinct moose (*Alces alces*) populations occurred in Minnesota (MN), one in the northwestern (NW) and the other in the northeastern (NE) part of the state. Since the mid-1980s the NW population has decreased from an estimated 4,000 to less than 100 moose, and since 2006 the NE population has declined 66% from an estimated 8,840 to 3,030 moose (DelGiudice 2018). However, there is some evidence that the moose population in the NE may be stabilizing over the last 7 years (2012-2018) at approximately 4,000 animals. Mean annual mortality rates of adults have been similarly high (21%) in both regions (Murray et al. 2006, Lenarz et al. 2009).

Parasites, including liver flukes (*Fascioloides magna*) and brainworm (*Parelaphostrongylus tenius*) and other non-specific health-related issues have been documented in the majority of moose deaths through these past research efforts (Murray et al. 2006, Lenarz et al. 2010, Wünschmann et al. 2015). Climate change has also been implicated as an underlying factor in both population declines. Recent study of moose calf survival documented survival rates between 29-40% from 2013-2016, with predation by wolves accounting for over two-thirds of mortalities (Severud 2017).

This 5-year study was designed to document causes of non-hunting mortality of adult moose in NE MN by deploying satellite-linked collars and by preparing an extensive network of responders trained in conducting field necropsies. Moose mortalities were thoroughly investigated within 24 hours of death to identify the proximate cause of mortality and to examine the influence of potential contributing factors. Further, efforts to investigate reports of non-collared sick and dead moose were intensified to provide additional anecdotal information on moose population health during the same time period. Once causes of death and major influential factors are identified, appropriate management actions may be taken to address the population decline.

METHODS

Moose (>1 year of age) were captured within the 3,732.8 km^2 study area located between 47°12'N and 47°95'N latitude and 90°33'W and 91°72'W in NE MN from 2013 to 2015, as described previously (Butler et al. 2013; Carstensen et al. 2014, 2015, 2016). All moose were fitted with GPS-Iridium satellite collars (Vectronic Aerospace GmbH; Berlin, Germany). Mortality implant transmitters (Vectronic Aerospace GmbH) were placed orally into a subset of the captured moose and provided immediate notification of mortality and recorded internal body temperature (Minicucci et al. 2018, Herberg et al. 2018).

Moose mortality response teams have 8 primary team leaders that have undergone necropsy training, and they are supported by about 20 secondary and tertiary team members (including MNDNR, tribal, academic, US Forest Service, and other personnel) available upon request. Every effort is made to respond to a moose mortality event with 24 hours of notification and to remove carcasses intact from the field and deliver them to the University of Minnesota Veterinary Diagnostic Laboratory (UMN VDL) for a complete necropsy by a board-certified pathologist. If a moose was found to be alive, but obviously ill, it was euthanized (via gunshot to the neck). If carcass extraction was not possible, a field necropsy was performed. Samples were submitted to the UMN VDL for diagnostic evaluation (Carstensen et al. 2014, 2015, 2016).

From 2013 to 2017, efforts were enhanced to respond to reports of sick or dead non-collared moose from anywhere in MN, from hereafter referred to as "anecdotal moose." This included sick moose that were still alive at the time of the initial report, recently found dead animals, and vehicle or train collisions. MNDNR biologists and conservation officers responded immediately to these reports and samples or whole carcasses were collected in a similar manner to the collared moose study, with the exception of salvage permits provided for the meat of vehicle-killed moose.

Moose age was determined by cementum annuli analysis of incisor teeth removed at time of capture and we used one-way analysis of variance to compare age among years. Annual (Jan-Dec) survival rates were estimated using Kaplan-Meier to allow for staggered entry design. Moose were censored from the analysis on the date their collar stop transmitting data, regardless of their survival state beyond that time, if known. Censored animals included those that died <2 weeks post-capture (presumed to be capture-related mortalities), slipped collars, remotely-release collars through a built-in blow off mechanism, hunter-harvested moose, and collars that stopped transmitting location data due to collar malfunction.

RESULTS AND DISCUSSION

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2013, *n*=101; 5.8 years in 2014, *n*=32; and 7.2 years in 2015, *n*=30). Annual (January–December) survival rates were was 81%, 88%, 85%, 87% and 86% in 2013 through 2017, respectively (Figure 1); the overall 5-year mean for non-hunting mortality was 14.4%. This is lower than the average non-hunting mortality rate of 21%, reported previously in MN, but higher than the 8-12% rates of North American moose populations (Mytton and Keith 1981, Larsen et al. 1989, Ballard et al. 1991, Stenhouse et al. 1995, Modafferi and Becker 1997). A total of 60 collared moose (41 females, 19 males) have died since this study began; which excludes 12 capture-related mortalities that are censored from subsequent survival analyses. Most collared moose mortalities (96%) occurred within the current moose range in northeast MN (Figure 2). Overall proximate causes of death included: wolf predation (*n*=18, 30%), parasitic infections (*n*=18, 30%), bacterial infections (*n*=12, 20%), accidents (*n*=2, 3%), hunter-harvest (*n*=3, 5%), calving complication (dystocia) (*n*=1, 2%), and undetermined health issues (*n*=6, 10%; Figure 3). Health-related causes were attributed to 68% of total deaths, with the remaining 32% being predator-related.

Eight (44%) of the wolf-killed moose had significant health conditions that likely predisposed them to predation, including encephalitis and meningitis*, P. tenuis* infections, winter tick (*Dermacentor albipictus*) infestations, calving, and pneumonia in the lungs (Figure 4a). Unfortunately, diagnostics were limited in 10 of the wolf-killed moose due to the degree of carcass consumption prior to the mortality team's arrival to the scene. It is possible that health issues may have compromised some of these moose as well.

Parasitic infections were a leading cause of moose deaths (Figure 4b). *P. tenuis* directly led to the death of 8 moose in this study; however, this parasite was also implicated in 5 wolf-caused deaths and 1 bacterial infection. Overall 23% of the moose that died during this study have been impacted by *P. tenuis* and this is likely an underestimate, as not all dead moose could be evaluated for this parasite. Winter tick infestations were primarily seen in spring 2013 (attributed to 3 moose deaths), as the severe and prolonged winters in 2012-13 and 2013-14 likely reduced tick survival. However, the past 4 winters have been extremely mild and it's likely that winter tick loads have recently increased on moose. In spring 2016, one moose in the study died from winter ticks; however, significant tick infestations were observed in other moose as well. We had expected that moose surviving into spring 2017 would experience a significant winter tick burden and this would result in an increase in tick-related mortalities; however, none of the collared moose died from winter tick burdens in 2017 but the sample size has markedly declined to only 37 animals left to monitor at the beginning of this year. Most moose in this study had livers that were damaged by liver flukes (*F. magna*), the severity of which varied from mild cases to severe infections that directly caused the death of 3 moose. Similarly, the majority of moose in this study had hydatid cysts in the lungs or liver, caused by *Echinococcosis granulosis*, but only 2 moose had severe enough infections with this parasite to cause mortality. We also observed one moose with an extensive cysticercus (*Taenia krabbei*) infection in various skeletal muscles and heart, which likely resulted in death due to reduced cardiac function.

Bacterial infections were the third leading cause of moose deaths (Figure 4c). Four moose were attacked by a predator, most likely a wolf or wolves, and survived the initial encounter, but the wounds became infected and led to their death days to several weeks later. Prior to this study, scant evidence in the literature points to secondary bacterial infections caused by a predator attack as a major cause of moose mortality. Other trauma, including one case consistent with conspecific fighting of antlered males, resulted in puncture wounds that provided a route for bacteria to enter the body and cause systemic infection and septicemia. The exact circumstances that led to some of these trauma-induced injuries were unknown.

The remainder of moose deaths were caused by accidents (1 vehicle collision and 1 fall through the ice), hunting (3 moose was legally harvested during tribal hunts), calving complications or dystocia (1 moose had twin calves stuck in the birth canal while being expelled simultaneously), and undetermined health-related deaths (6 moose).

There were 18 moose remaining in the study with active collars at the start of 2018. Unfortunately, collar failure rates have been high (causes unknown, assumed to be battery or transmission failures), with 79 collars that failed at varying times throughout the study (Table 1). Luckily, we were able to recover 40 of these failed collars (51%) from live moose via remote release mechanisms and obtain the data stored on the collar (e.g. MIT, activity, GPS location). Three moose had their collars slip off their necks, presumably due to an excessively loose fit, and were recovered in the field. Of the 18 collared moose that remained active into 2018, we attempted to remotely blow off all of these collars over 3 separate flights in January and February, and successfully recovered 16 of those collars. The satellite service for the 2 remaining collars was turned off at the end of March.

Table 1. Sample size of active, added, dead, and censored moose annually, throughout the 5-year study, 2013-2017.

	2013	**2014**	**2015**	**2016**	**2017**
Active collars at start of year (n)	0	79	81	72	37
New collars added (n)	111	31	31	0	0
Non-hunting related deaths (n)	20	12	13	6	3
Censored moose (n): • Capture-related deaths • Hunting-related deaths • Slipped collars • Transmission failures/missing animals	 4 0 1 7	 3 0 1 13	 5 1 1 16	 0 1 0 28	 0 1 0 15
Active collars at end of year (n)	79	81	72	37	18

Anecdotal Moose Mortality

From 2013–2015 a total of 91 anecdotal sick/dead moose (46 females, 43 males, and 2 unknown sex) reports were investigated throughout Minnesota (Figure 2). This included 62 adults (mean age was 4.5 ±0.5 years, *n*=48), 11 yearlings (>1 and <2 years of age), and 18 calves (<1 year of age). The majority (52%) of reports involved vehicle-killed moose, followed by found dead (24%), sick and euthanized (17%), and train-killed (7%) animals (Figure 5). The majority of these cases reported during the fall season (35%), where moose are moving more due to the breeding season and as a result, are more vulnerable to both vehicle and train collisions (Figure 6). Further, we had the most reports of found dead moose in the fall season, likely due to hunters afield pursing other big game and upland birds. Nearly half of all vehicle-killed moose cases occurred in the summer when tourist season peaks in the northeast and moose may be moving more in response to insect harassment.

Trauma was the cause of death for moose hit by either vehicles (*n*=47) or trains (*n*=6); however, examination of their internal organs confirmed *P. tenuis* infection in 8 moose, brain lesions of unknown cause in 2 moose, and marked liver fluke-induced hepatitis in one moose. Decomposition was a confounding factor in determining the cause of death for half of the 22 moose found dead by members of the public; however, *P. tenuis* infection (*n*=9), winter tick-associated anemia (*n*=1), marked liver fluke-induced hepatitis (*n*=1), and bacterial infection (*n*=1) were confirmed in the remainder. Interestingly, *P. tenuis* infection was determined to be the cause of 15 of the 16 sick moose reports where the animals had to be euthanized. One of

these moose was suffering from grain overload and brainworm simultaneously; both condition likely contributed to its death. The only sick moose that didn't have *P. tenuis* infection was an old bull that was injured by conspecific fighting and was dying from a bacterial infection from its wounds.

Our findings of parasitic loads of anecdotal moose from 2013-2017 were very similar to those reported by Wünschmann et al. (2015) for 62 anecdotal moose cases investigated between 2003 and 2013 in Minnesota. Those authors reported 45% of moose had *P. tenuis* infections, 60% had evidence of liver flukes, and 23% had noticeable winter tick loads. Similarly, we found 42% of moose had *P. tenuis* infections, 76% had evidence of liver flukes (18 marked, 13 moderate, and 20 mild infections of 76 cases evaluated), and 21% had noticeable winter tick loads (4 marked, 5 moderate, and 2 mild infestations of 52 cases evaluated).

Parelaphostrongylus tenuis infections occurred in anecdotal moose at nearly twice the rate of collared moose during the same 5-year time period in this study. This is likely due to a sightability bias for *P. tenuis*-exposed moose, as the infection causes animals to seek open areas (roads, train tracks, fields, pastures, logging openings) for prolonged periods of time, which greatly enhances opportunities for humans to see them and report sick moose. In some cases, these brainworm-infected moose appeared to be stuck in the mud or stranded on ice-covered lakes and local wildlife staff would "save" these moose from their dire predicaments. Celebrations were often short-lived as these animals soon returned to compromising situations again and would be euthanized due to public safety concerns. In the collared moose study, it's likely *P. tenuis* infections were underestimated due to limited diagnostics in cases were carcasses were heavily scavenged or decomposition was too advanced. Thus, the true impact of *P. tenuis* on Minnesota's moose likely lies between 23-42%, and is clearly playing a key role in the population decline.

ACKNOWLEDGMENTS

This project was very demanding and would not have been possible without the assistance of the following groups and individuals: the Environment and Natural Resources Trust Fund and the Minnesota Department of Natural Resources for funding this project, Mike Schrage (Fond du Lac Natural Resources) and Andy Edwards (1854 Treaty Authority) for their assistance in the field and during captures, Richard Gerhold and Caroline Grunenwald (University of Tennessee) for assisting with the identification of microfilaria and *P. tenuis*, Ulrike Munderloh (University of MN, Department of Entomology) for testing samples for tick-borne illness, J. P. Dubey (USDA, ARS) for neospora and toxoplasma testing, our team of primary responders (Dave Pauly, Nancy Hansen, Dave Ingebrigtsen, Jessica Holmes, Bailey Petersen, and John Giudice; MNDNR), our team of secondary responders (Bob Fashingbauer, Bob Kirsch, Bryan Lueth, Carolin Humpal, Jim LaBarre, Leslie McInenly, Lindsey Shartell, Meadow Kouffeld-Hansen, Steve Piepgras, Tim Pharis, Tom Rusch, Ted Dick, Penny Backman, Marshall Deters, and Jeff Hines; MNDNR), Dan Ryan and Dave Grosshuesch (US Forest Service), Brandon Seitz (Grand Portage National Monument), EJ Issac and Seth Moore (Grand Portage Band), Lance Overland (Fond du Lac Resources), Nick Bogyo (1854 Treaty Authority), Bill Severud and Tyler Obermoller (UMN) for their assistance in the field, and the MNDNR enforcement pilots (Jason Jensen, John Heineman, Tom Buker, Chris Lofstuen, and Bob Geving) for their assistance during captures and collar blow-offs, USDA-Wildlife Services (Paul Wolf) for use of their necropsy trailer, and Kaytee Firnett, Jeanna Lodel, Beth Martin, Amanda McGraw, and Amy Kingsley for assistance with data management and gearing-up for captures. Rob Fasteland (MNDNR Forestry) and the Lake & Cook County Highway Department staff for snow plowing and maintaining helispots used during capture events. Special thanks to special operations staff for remote hook/sling and radio training, including Bill Schuster, Lee Kessler, Mike McLaughlin, Dustin Nelson and Pat

Coughlin. This project was funded in part by the Wildlife Restoration (Pittman-Robertson) Program.

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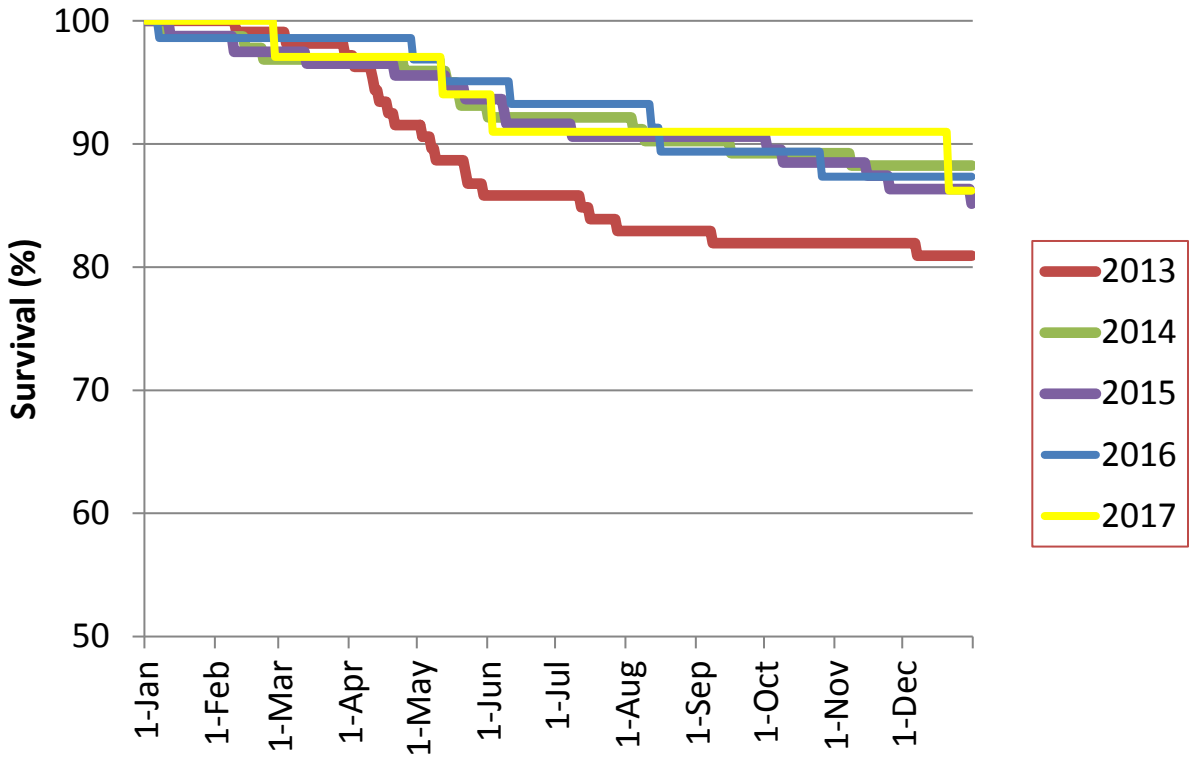


Figure 1. Annual survival of collared, adult moose (*n*=173) captured from 2013-2017, northeast Minnesota.

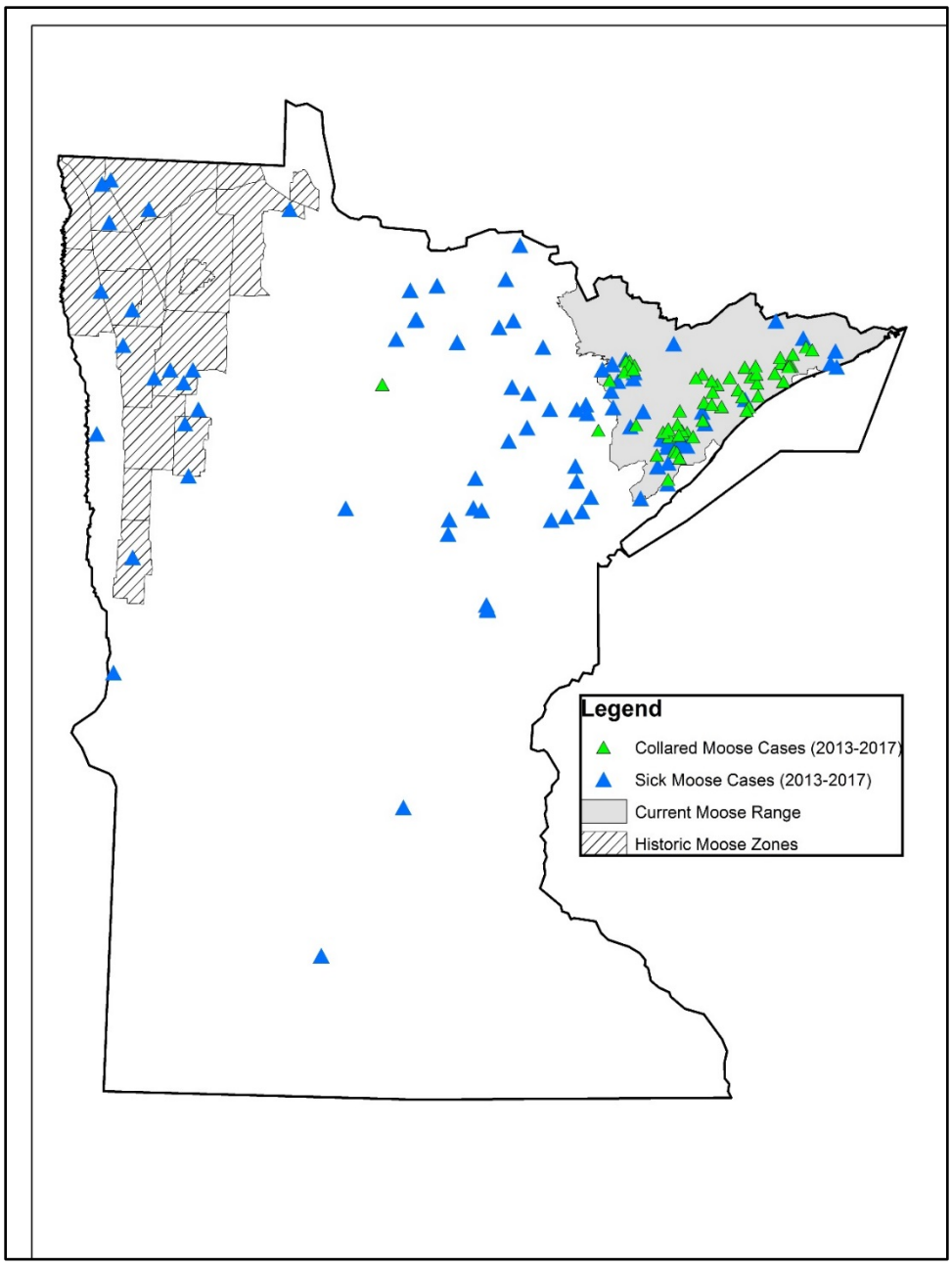


Figure 2. Location where mortalities were investigated for collared (*n*=60) and anecdotal moose (*n*=91) in Minnesota, 2013-2017.

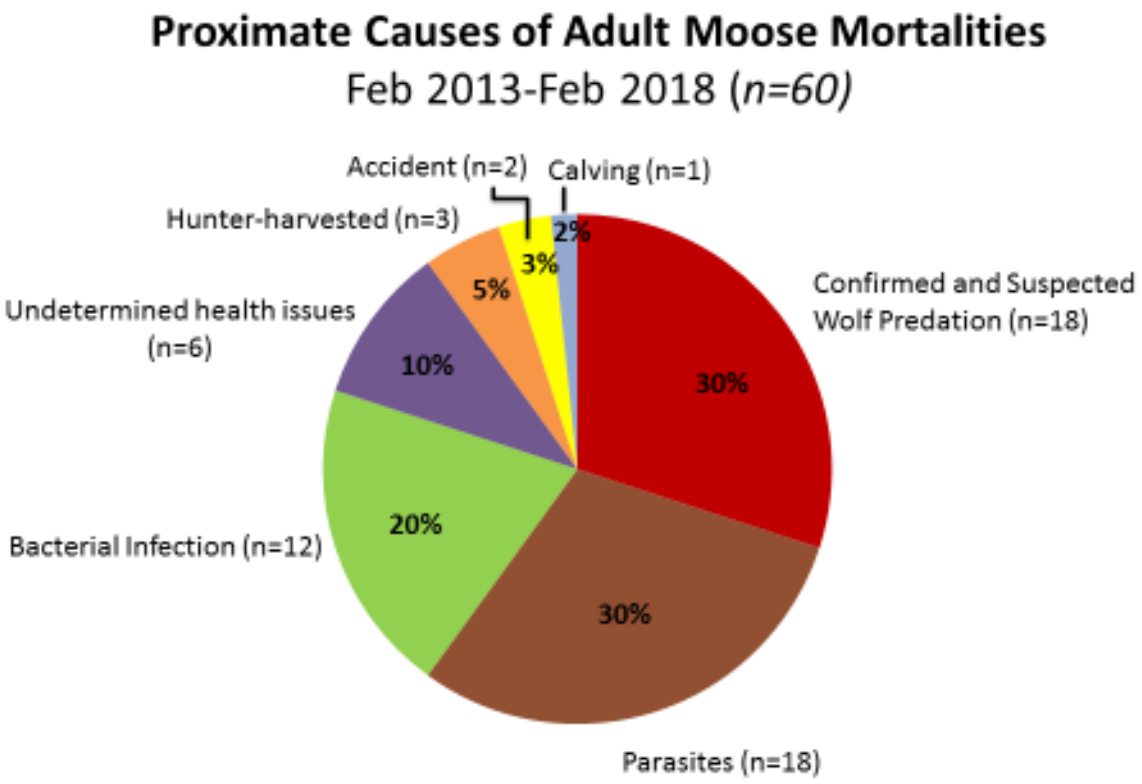
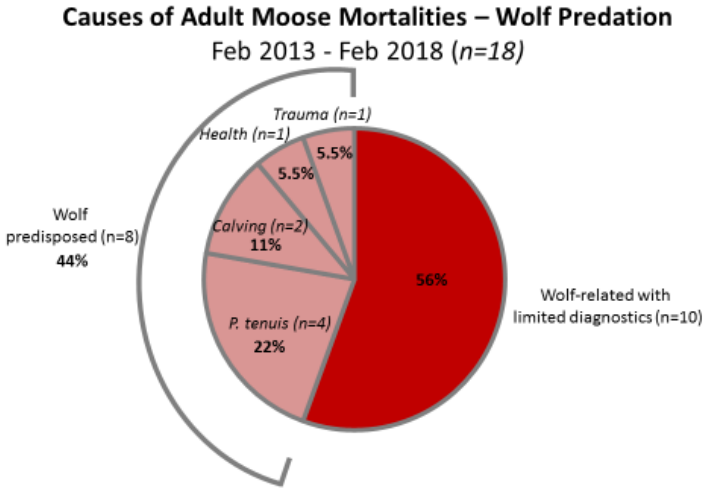
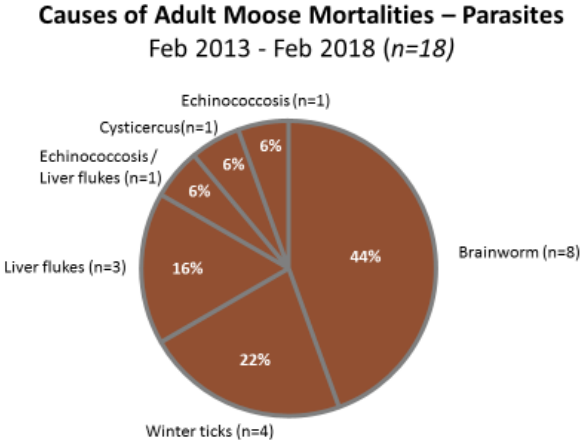


Figure 3. Cause-specific mortality of collared, adult moose (*n*=60) from 2013–2017, northeast Minnesota.

a)



b)



c)

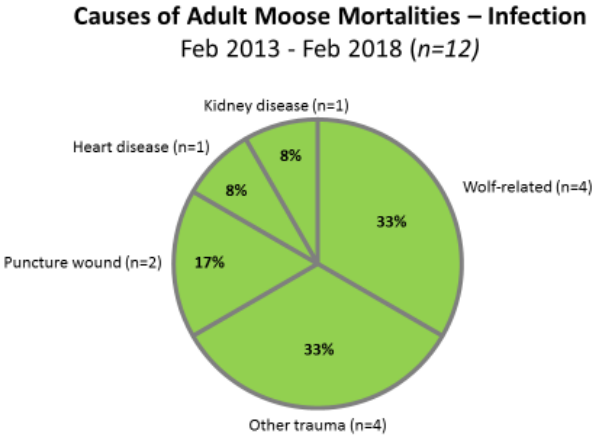


Figure 4. Breakdown of adult moose mortalities caused by wolf predation (a), parasites (b), and bacterial infections (c), 2013–2017, northeast Minnesota

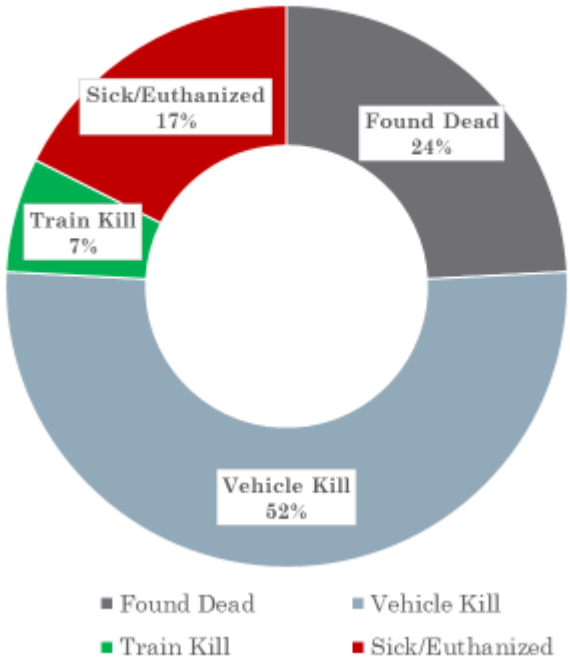


Figure 5. Causes of anecdotal moose (*n*=91) from 2013–2017 in Minnesota.

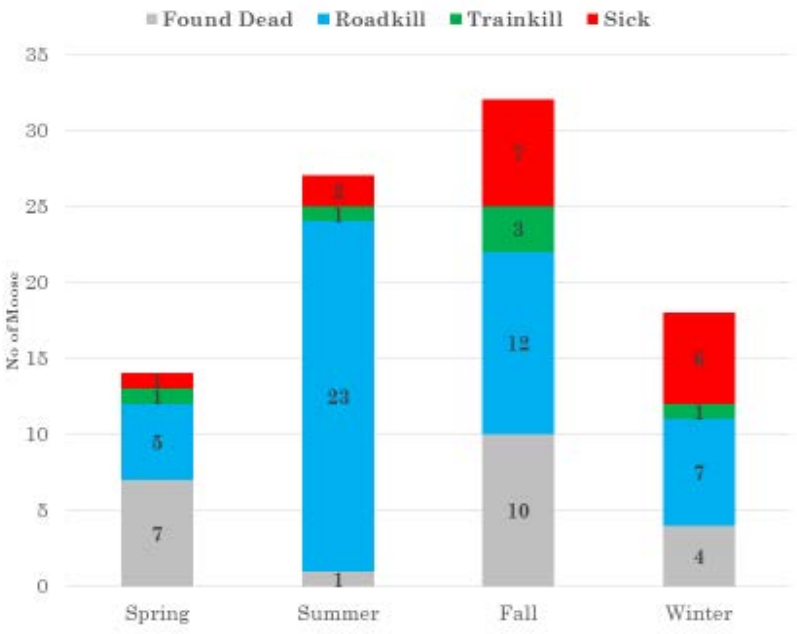


Figure 6. Seasonal variation in the causes of anecdotal moose deaths (*n*=91) in Minnesota from 2013–2017.

MOOSE CALF SURVIVAL, CAUSE-SPECIFIC MORTALITY, AND HABITAT USE

William J. Severud[1], Glenn D. DelGiudice, and Tyler R. Obermoller[1]

SUMMARY OF FINDINGS

Adult survival and recruitment are important drivers of large herbivore population dynamics. The moose (*Alces alces*) population in northeastern Minnesota has exhibited a downward trend from 2006 to 2017. Our research was initiated because neonatal and seasonal survival rates and specific causes of mortality (e.g., predation, undernutrition, disease) of calves were largely unknown. Also unknown was habitat use of calves and their dams during vulnerable and energetically taxing life stages. We remotely monitored global positioning system (GPS)-collared adult female moose during the calving season to locate and GPS-collar neonates in 2013 and 2014 (n = 49 and 25, respectively). In 2015, we used behavioral cues of existing GPS-collared cows to identify calving behavior and calf mortality due to predation. We surveyed and compared habitat characteristics of pre-calving, calving, peak-lactation, and mortality sites to investigate important factors that predicted use at a fine and broad scale. Survival of calves dropped precipitously to 58% by 30 days of age in 2013 and 2014, and then to 34% by 9 months of age. Median age at death of calves that died before 1 year of age was 18.3 days. Hazard started low at birth and spiked at about 20 days old. Similar patterns were observed in 2015, with a 30-day survival rate of 63% and 10-month survival rate of 40.5% of uncollared calves. Over-winter survival was generally high in all 3 years. Predation was the leading cause of mortality in 2013 and 2014, with 84% of mortalities due to wolves (*Canis lupus*) or black bears (*Ursus americanus*). Predation was an important cause of mortality in 2015 as well, but the relative certainty in assigning cause was low. Calves were generally preyed upon once the dam and calves departed their calving sites. At a fine scale, canopy closure, total available forage, and calf concealment were important variables when distinguishing site types. Cows tended to move from areas of little concealment cover to areas of greater concealment but less forage to calve. During peak milk production, cows and their calves used areas with abundant forage and high concealment. At a broad scale, the amount of mixed and deciduous forest was lower around calving sites when compared to pre-calving and peak-lactation sites. Calf mortality sites also had less deciduous forest. Identifying specific causes of calf mortality and understanding their relations to various landscape characteristics and other extrinsic factors should yield insight into mechanisms contributing to the declining moose population in northeastern Minnesota and serve as a basis for an ecologically sound management response.

INTRODUCTION

Ungulate population declines have been attributed to poor juvenile survival (Pinard et al. 2012, Forrester and Wittmer 2013). Large herbivore population growth is most sensitive to variation in adult survival, but differences in temporal variation of juvenile survival may be important in

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accounting for between-year variation in growth rates (Gaillard et al. 1998, 2000, Lenarz et al. 2010). When viable populations of predators are present, predation can be a primary cause of mortality of temperate ungulate neonates (Linnell et al. 1995, Carstensen et al. 2009, Severud et al. 2015*a*). Less is known about other specific ultimate and proximate sources of moose (*Alces alces*) calf mortality or contributing factors. It also is unclear when predation is compensatory or additive to other sources of mortality (Franzmann et al. 1980, Linnell et al. 1995), although a recent study documented additive effects of predation on moose calves in Alaska (Keech et al. 2011). The degree of predation's impact on population-wide calf survival rates depends on the extant predator guild and relative densities of predator and prey (Eriksen et al. 2011, Patterson et al. 2013). The moose population in northeastern Minnesota has declined 55% from 2005 to 2016 (DelGiudice 2016). Survival and cause-specific mortality of calves was largely unknown in this area, but recruitment had been estimated at 0.40 mostly before the population began its decline (Lenarz et al. 2010).

Selection of calving sites by ungulates may influence neonatal survival. Often females tradeoff access to forage for predator avoidance during this vulnerable life stage (Bowyer et al. 1999, Poole et al. 2007). Cover may affect vulnerability to predation (Griffith and Youtie 1988). As nutritional demands for lactation increase and calves begin to incorporate browse into their diet, forage becomes more important. Lactation is an energy-demanding phase of reproduction, requiring 2–3 times more energy than gestation (Robbins 1993). Milk production peaks 21–31 days post-parturition for moose cows (Schwartz and Renecker 2007).

OBJECTIVES

1. Estimate neonatal (30-day), seasonal, and annual survival of moose calves
2. Quantify cause-specific mortality of moose calves
3. Identify potentially important covariates that influence survival or cause-specific mortality
4. Compare habitat characteristics at pre-calving, calving, peak-lactation, and mortality sites at 2 different spatial scales

METHODS

Our study area is the same as that of the Environmental and Natural Resources Trust Fund (ENRTF)-supported study in the Arrowhead region of northeastern Minnesota focused on survival and cause-specific mortality of adult moose (Carstensen et al. 2015). White-tailed deer populations occurred at pre-fawning densities of ≤4 deer/km^2 (Grund 2014). Major predators of moose in the area included gray wolves (*Canis lupus,* 3 wolves/100 km^2, Erb et al. 2016) and black bears (*Ursus americanus,* 23 bears/100 km^2, Garshelis and Noyce 2011). Moose had not been harvested in the state since 2012 (DelGiudice 2014).

As part of the adult moose mortality study, 84, 25, and 20 female moose were captured and fitted with Iridium GPS collars (Vectronic Aerospace GmbH, Berlin, Germany) during January 2013, February 2014, and February 2015, respectively (Butler et al. 2013; Carstensen et al. 2014, 2015). Blood was collected and analyzed for serum progesterone; ≥2.0 ng/mL was indicative of pregnancy. We monitored cow movements during pre-parturition and calving, with particular attention given to pregnant cows, looking for calving movements (Bowyer et al. 1999, McGraw et al. 2014, Severud et al. 2015*a*).

In 2013 and 2014, calves were located and fitted with an expandable Globalstar GPS Calf Collar (Vectronic Aerospace, Berlin, Germany). Details of calf captures, handling protocols, and mortality investigations can be found in Severud et al. (2015*a*,*b*). In response to capture-induced abandonment of calves and capture-related mortality of adults (DelGiudice et al. 2014, 2015; Carstensen et al. 2015), the Governor of Minnesota issued Executive Order 15-10 (28 Apr 2015), barring state agencies from conducting or permitting any collaring of moose in the

state. We then monitored existing collared adult females for calving movements, and tracked dam behavior for indications of mortality movements.

We estimated birth-dates of all calves (2013–2015) based on dams' calving movements. We assumed calves were born 12 hours after the cow localized. In 2013 and 2014, time of death was estimated using the mortality mode of collars, and calf and dam locations relative to the mortality site. In response to a high rate of collar slippage in 2014, we conducted an apparent survival check flight in March 2015. In 2015, dam behavior was used to indicate calf mortality (time and location from which the dam initially fled was also the estimated time of death). We conducted flights via helicopter to assess seasonal apparent survival rates in 2015 during late November and early December (about 190 days old) and late March 2016 (about 320 days old).

We calculated Kaplan-Meier survival, hazard, and Cox proportional hazard using the R packages *survival, KMsurv,* and *muhaz*. Since calf births were tightly synchronized (Severud et al. 2015*b*), we calculated survival by calf age, with day 0 meaning birth. For smoothed empirical hazard curves, we used a global bandwidth and the product-limit method. We calculated cause-specific mortality rates with a cumulative incidence function using the R package *wild1*. Dam and calf location data were screened for locations that were thought to be erroneous fixes. We then calculated proximity between cows and calves. Summer field tests demonstrated mean linear error (± standard error, range) of locations for adult collars of 3.7 m (± 0.3, 0–17) under open canopy and 7.0 m (± 0.3, 1–36) under dense canopy (≥80% closure), and for calf collars of 24.9 m (± 2.7, 1–274) under open canopy and 40.3 m (± 1.3, 0–367) under dense canopy (Obermoller et al., unpublished data).

We collected site characteristics at the pre-calving site (location immediately preceding the calving movement) and presumed calving site (averaged coordinates over a 40- to 48-hour time period immediately following the calving movement, adjusted on site as confirmed by calving evidence; Figure 1). We similarly surveyed locations where calf mortalities were indicated by GPS locations of the dam (2013 and 2014) or confirmed by site evidence (e.g., calf bone fragments, hooves, hair, or predator sign in 2015). Calf mortalities occurring at the calving site were treated as having identical habitat conditions. When calf mortalities occurred outside of the calving site, new habitat data were collected.

Peak lactation of moose dams occurs 21–31 days postpartum (Schwartz and Renecker 2007). In 2015, when we observed evidence indicating a calf had survived ≥26 days (pellets and tracks), we collected site characteristics at the corresponding cow's peak-lactation location. We used the nearest GPS location from each collared cow with a known calf at 26 days post-calving. If the location was in the middle of a long distance movement, we used the center of the nearest grouping of ≥3 locations, which were usually 1 hour apart. We conducted all habitat work to match phenological conditions (i.e., leaf off and leaf on) to the time the initial location was recorded.

Habitat plots were centered at each cow's GPS location closest to the time of interest, unless that location was refuted by visual evidence. This typically occurred at calving and mortality sites, when we were able to see where a cow had calved or where a calf had died. In these cases, plot centers were placed in the middle of the cow's calving bed or at the primary location of calf remains or sign of a struggle. In the center of each plot, we collected an averaged waypoint using a handheld GPS unit, recorded the elevation from the unit's base map, and used a spherical convex densiometer to estimate canopy density. We also measured the prevailing slope and aspect using a clinometer and compass.

Canopy density (in addition to being measured at the plot center) and horizontal visibility were recorded 15 m from the plot center in each cardinal direction. We used a 2-m cover pole to determine horizontal visibility, recording the visible percentage (0, 25, 50, 75, or 100%) of

each of 19 bands from the center (Poole et al. 2007). To estimate calf hiding cover, we held a cardboard cut-out of a standing moose calf silhouette at the center of the plot and recorded the percentage of the cut-out that could be seen from 15 m away at a 1-m height in each cardinal direction. The observer then moved towards the cut-out, maintaining a 1-m height, and recorded their distance from the calf when visibility reached 25, 50, 75, and 100%.

We recorded trees, saplings, and shrubs within an 11-m radius from the central point. Trees were defined as any upright (<45° lean) woody plant with a DBH ≥10 cm. Saplings and shrubs were defined as DBH <10 cm. We determined the species and DBH of each tree, alive or dead, within the plots, and counted number of stems of saplings and shrubs by species. Trees <18 cm DBH and shrubs were further classified as forage or non-forage species (Peek et al. 1976, Portinga and Moen 2015).

We used binary logistic regression to compare pairs of pre-calving, calving, peak-lactation, and mortality sites. The response variable was coded as 1 of these 4 site types. To avoid multicollinearity caused by correlated habitat covariates, we conducted pairwise correlation analysis on all variables. We removed single variables from a highly correlated pair ($|r| > 0.5$), retaining the most parsimonious set of variables. We developed *a priori* models using all possible combinations of remaining variables, and evaluated model support using Akaike's Information Criterion corrected for small sample size (AIC_c); models within 2 AIC_c units of the best approximating model (i.e., $\Delta AIC_c \leq 2.0$) were considered to have strong support.

To investigate broad-scale patterns, we buffered pre-calving, calving, peak-lactation, and mortality sites from 2013–2015 (sites defined using the same criteria listed above) with a 565-m radius to yield polygons of about 100 ha (Poole et al. 2007, McGraw et al. 2012). We overlaid these polygons on a land cover classification layer (Minnesota Land Cover Classification and Impervious Surface Area by Landsat and Lidar) and calculated the area (ha) of each class per polygon, or buffered location. We then compared land cover types by our defined site types using analysis of variance (ANOVA) with Tukey's Honestly Significant Difference (HSD) as a *post hoc* analysis.

RESULTS

We collared 49 calves from 31 dams in 2013 and 25 calves from 19 dams in 2014 (58% and 32% twinning rates, respectively). The sex ratio of collared calves was 36 females: 38 males. Seven dams abandoned 9 calves in 2013 and 6 dams abandoned 9 calves in 2014 (DelGiudice et al. 2014, 2015). These calves, as well as 2 additional calves that died during or shortly after capture from trampling by the dam and not nursing due to unknown causes (DelGiudice and Severud 2016), were not included in survival analyses, leaving 54 calves. Of these 54 calves, 4 slipped their collars in 2013 and 10 in 2014, allowing the study of survival and natural cause-specific mortality in 40 calves. In 2015, we observed calving movements or localization of 50 cows and tracked those dams for mortality movements. Assuming a 30% twinning rate (M. Schrage, Fond du Lac Natural Resource Management Division, unpublished data), this yielded about 65 uncollared calves under observation during 2015. Median calving dates for 2013, 2014, and 2015 were May 14, 19, and 10, respectively.

Blood profiles of calves sampled in 2013 were reported elsewhere (DelGiudice and Severud 2016). For the sample of all collared calves from 2013 and 2014, mean total body mass at capture was 15.8 kg (± 0.3, 12–20.5, $n = 38$) and mean hind foot length (HFL) was 45.9 cm (± 0.3, 42–49, $n = 42$). Body mass and HFL were weakly correlated ($r^2 = 0.31$, $P < 0.001$). There were no differences in mass or HFL by sex or between twins versus singletons. Mean rectal temperature was 101.6 °F (± 0.12, 99.9–103.4, $n = 43$). Mean dam age of all collared calves was 6.4 years

old (± 0.5, 1–14, *n* = 43). Mean dam age of calves that died was 6.7 years old (± 0.7, 1–12, *n* = 23).

For pooled 2013 and 2014 collared calves, 30-day survival was 0.584 (95% Confidence Interval [CI] = 0.461–0.740, Figure 2) and declined to 0.341 (95% CI = 0.226–0.516) by 206 days of age (6–10 February 2014), when all remaining collars were removed (Figure 3). Incorporating data from winter survey flights to look for calves that slipped collars, survival is further adjusted to 0.285 (95% CI = 0.178–0.457). Nearly 80% of mortalities occurred by 1 July (about 50 days old) and 95% by mid-August (about 100 days old).

In 2015, we observed calf mortalities during the first 30 days of life, as indicated by mortality movements of dams. We were successful in confirming calf mortality in cases when the dam fled and made 1–7 return trips. Based on suspected and confirmed calf mortalities, 30-day survival was 0.632 (95% CI = 0.518–0.770, *n* = 54, Figure 2). For the uncollared 2015 cohort of calves, flights in early winter (30 Nov–3 Dec 2015) and late winter (28–29 Mar 2016) indicated an apparent survival rate of 0.442 and 0.405, respectively. In all 3 years, survival dropped dramatically from birth to age 50 days (Figures 2 and 3).

For collared calves in 2013 and 2014, dam age, HFL, mass, sex, and twin status did not meet the assumptions of proportionality, so we could not run Cox proportional hazard models. The empirical hazard function was low initially, and then peaked at about 15 days old before declining, with a second spike in hazard around 90 days of age (Figure 4). Mean age of death of calves that died before 1 year of age was 35 days old (± 7, 3–205, *n* = 31), but the median age was 18.3 days, very close to the peak in hazard. Mortalities from predation (*n* = 26) occurred 31.6 days (± 6.5, median = 17, range = 0–120.5) after leaving the calving site and occurred 1,553 m (± 289, median = 1,142, range = 107–5,788) from the calving site.

We documented 31 natural mortalities of collared calves in 2013 and 2014. Specific causes of mortality included 20 wolf-kills, 5 bear-kills, 2 natural abandonments, and 1 each of the following: drowning, abandonment of unknown cause, unknown predation, and an infection resulting from wolf bites (Figure 5). The cause-specific mortality curves rose rapidly from birth to 50 days of age. Over the first 9 months of age, the cumulative probability of being preyed upon by wolves was 50.2% (90% CI = 37.1–63.5), 11.7% (90% CI = 3.5–19.9) for bear predation, and 9.6% (90% CI = 2.9–16.3) for other causes. Predation accounted for 84% of all natural mortalities, with wolves having the greatest impact overall (77% of the predation events).

For uncollared calves born during 2015 we documented 11 natural mortalities, with 4 additional cases pending (no direct evidence of calf mortality, but predator scat [1 wolf, 5 bear] will be analyzed for presence of calf hair). We documented 8 wolf-kills, 1 bear-kill, and 2 unknown predator-kills (saliva evidence pending, calf remains located).

Most dams and their offspring (one outlier cow-calf pair excluded) were a mean of 101 m (± 1.5, 0–6,083) apart throughout the year. Much variation by individual and fate was apparent (Figure 6). The outlier was a twin that separated from its mother and twin in November. With this outlier included, the mean proximity of all dams and their offspring was 3,736 m (Figure 7).

We measured fine scale habitat characteristics at 34 pre-calving, 37 calving, 25 peak-lactation, and 5 mortality sites in 2015. For fine scale analysis, remaining habitat variables after removal of highly correlated variables included: slope, mean calf model visibility at 15 m (15 m vis), mean canopy closure, and total forage. We then evaluated 15 models of all possible combinations of variables.

There was high model uncertainty when comparing characteristics of pre-calving and calving sites; however, 15-m visibility was in 5 of 6 top models (Table 1). Median percentage of the calf model visible from 15 m was 40% less at calving sites when compared to pre-calving sites

(Figure 8). Canopy and forage were both significant predictors that distinguished calving from peak-lactation sites (Table 1). Peak-lactation sites had higher canopy closure and higher total amount of forage compared to calving sites (Figures 9 and 10). There was also high model uncertainty when predicting characteristics of calving and mortality sites, yet canopy or forage appeared in 5 of the top 7 models. Mortality sites had more open canopy and more forage than calving sites (Figures 9 and 10).

We analyzed 150 pre-calving, 155 calving, 73 peak-lactation, and 36 mortality sites from 2013 to 2015 at a broad scale. The discrepancy between pre-calving and calving sites is because not all cows made a calving movement. Only cows that still had a calf at heel 26 days postpartum were included. There were no differences by site type in the amount of open water, emergent wetlands, forested wetlands, conifer forest, regenerated forest, developed/urban, row crop, or grassland land cover types. However, pre-calving and peak-lactation sites both had more mixed and deciduous forest land cover compared with calving sites ($P < 0.03$; Figure 11). Mortality sites also had less deciduous forest compared to pre-calving and peak-lactation sites ($P < 0.03$; Figure 11).

DISCUSSION

We documented high mortality rates of moose neonates in this declining population. However, the mortalities tended to occur once the dams and their calves departed from calving sites. Peak energetic demands for dams due to lactation occur 21–31 days postpartum (Schwartz and Renecker 2007), which coincides with the highest hazard calves experienced. This suggests that dams seeking out high quality or quantities of forage to meet this demand may be travelling in risky areas or that movement to new foraging patches is itself risky, potentially exposing dams with young calves to predation. Our habitat surveys found that calving sites contained less forage, lower concealment, and decreased land cover types containing optimal foraging habitat than peak-lactation sites.

Our near-recruitment rates for 2013–2014 and 2015, although estimated in different ways (via collaring of calves versus observing cow movements and subsequent aerial surveys), were similar. Both methods required collars on adult cows, yet without calf collars extensive field searches and helicopter flight time were required. Tracking GPS-collared cow movements was a highly reliable way to estimate calving rates and to a lesser degree calf mortality. Due to the Governor of Minnesota's Executive Order 15-10, we were unable to confirm presence of calves shortly after birth, nor handle or collar calves in 2015. Without observing neonates at calving sites, we could not estimate twinning rates. We also did not know when a calf had died, but used dam movements as an indication of calf mortality. This also delayed site investigations, frequently making assignment of mortality cause difficult. Only in cases where the calf was ≤23 days old and the dam fled and made 1–7 return trips were we successful in confirming calf mortality. In a subset of those cases we could assign cause of death. This technique may serve as a method to estimate early neonatal mortality, but it has less power to detect mortality as calves age beyond 3 weeks (but see Obermoller et al. 2017). This method will not reliably detect calves that succumb to forms of mortality other than predation, because we have not documented cows fleeing from and returning to other mortality events (e.g., disease, drowning, abandonment, but see Obermoller et al. 2017).

Wolves accounted for the largest proportion of mortalities in all 3 years of the study. Wolf predation has been partially implicated in the decline of this population (Mech and Fieberg 2014) and has been shown to account for adult mortalities as well (Carstensen et al. 2015). However, adults have typically exhibited predisposing factors when preyed upon by wolves. The overall poor health of the northeastern Minnesota moose population (Carstensen et al. 2015, DelGiudice and Severud 2017) could potentially explain not only the high number of

capture-induced abandonments we observed (DelGiudice et al. 2014, 2015), but also the high rates of predation on calves. Dams in other studies and study areas defended their calves less vigorously following harsh winters or if in poor nutritional condition (Keech et al. 2011, Patterson et al. 2013).

Dams and calves often were in close proximity throughout the first year of life. One outlier was a twin that did not follow its dam and twin across a large lake at about 175 days old. The lone twin returned to where the group had spent time and survived until mid-winter when she was captured to have her collar removed.

At a fine scale, pre-calving sites were relatively open (less concealment cover) with moderate levels of canopy closure and forage availability. Calving sites had more concealment cover but less forage, aligning with other findings that moose tradeoff forage for safety during calving (Bowyer et al. 1999, Poole et al. 2007). Peak-lactation sites had a more closed canopy and abundant forage, leading to high calf concealment cover. However, this cover also may cause dams to be unable to detect approaching predators (Poole et al. 2007). Mortality sites tended to be more open in both concealment cover and canopy, resulting in less forage available. Some of these habitat metrics could be influenced by phenology. Pre-calving and calving typically occurred pre-leaf-out, whereas peak-lactation and mortality sites occurred post-leaf-out. Indeed, horizontal cover and canopy closure increase dramatically in deciduous-dominated over- and understory after leaf-out.

At a broad scale, we observed calving sites surrounded by less mixed and deciduous forest cover types, which are important foraging habitat (Mabille et al. 2012), indicating again that cows are forfeiting forage availability when choosing calving sites. By examining land cover types as well as fine scale measurements, we can infer that the increased concealment and canopy closure we observed at peak-lactation sites were not only an artifact of phenology, but also a result of the habitat itself. Collared moose in Finland showed a similar pattern—cows calved in areas with minimal vegetation <5 m in height, but cows and their calves moved to areas with dense vegetation shortly thereafter, ostensibly to seek out high quality and quantities of forage (Melin et al. 2015).

ACKNOWLEDGMENTS

We would like to thank B. Smith, K. Foshay, R. Ryan, T. Enright, J. Forester, R. Wright, V. St-Louis, the adult moose mortality study team (M. Carstensen, M. Dexter, E. Hildebrand, C. Jennelle, and D. Plattner), N. Hansen, D. Ingebritsen, G. Street, and DNR pilots B. Maas and J. Heineman. Thank you to all the observers who emailed us photos and information on calf sightings, including J. Alston, M. Swingen, D. Schottenbauer, A. Edwards, D. Johnson, B. Kirsch, M. Cochrane, G. Andrews, D. Dewey, M. Vasquez, and C. Henderson. This study has been funded in part by the Minnesota Environmental and Natural Resources Trust Fund (ENRTF), the Wildlife Restoration (Pittman-Robertson) Program, and MNDNR Section of Wildlife's Wildlife Populations and Research Unit. W. Severud was also supported by the Albert W. Franzmann and Distinguished Colleagues Memorial Award and the University of Minnesota's Doctoral Dissertation Fellowship.

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Table 1. Highest ranking *a priori* models for distinguishing pre-calving, calving, peak-lactation, and mortality sites of moose calves in northeastern Minnesota, May–July 2013. Statistically significant variables are marked with an asterisk (*). Only models within 2 units of the Akaike's Information Criterion for small sample size (AIC_c) for the best approximating model (i.e., $\Delta AIC_c \leq 2$) are presented. Canopy = mean canopy closure, Forage = total number of stems of forage species, 15m Vis = amount of calf silhouette visible from 15 m away from focal site (concealment cover).

Site comparison	Model	AIC_c	ΔAIC_c
Pre-calving vs. calving	15m Vis	99.185	0.000
	15m Vis + Forage	100.02	0.835
	15m Vis + Canopy	100.19	1.005
	Slope + 15m Vis	100.61	1.425
	Canopy	100.71	1.525
	15m Vis + Canopy + Forage	101.02	1.835
Calving vs. peak-lactation	Canopy* + Forage*	72.567	0.000
	15m Vis + Canopy* + Forage*	72.572	0.005
	Slope + Canopy* + Forage*	74.016	1.449
	Slope + 15m Vis + Canopy* + Forage*	74.131	1.564
Calving vs. mortality	Forage	33.172	0.000
	Canopy	34.196	1.024
	Slope	34.301	1.129
	15m Vis	34.641	1.469
	Slope + Forage	34.684	1.512
	15m Vis + Forage	35.104	1.932
	Canopy + Forage	35.117	1.945
Peak-lactation vs. mortality	Canopy*	23.042	0.000
	15m Vis + Canopy*	23.569	0.527
	Slope + Canopy*	24.165	1.123
	Slope + 15m Vis + Canopy*	24.27	1.228
	Canopy* + Forage	24.54	1.498

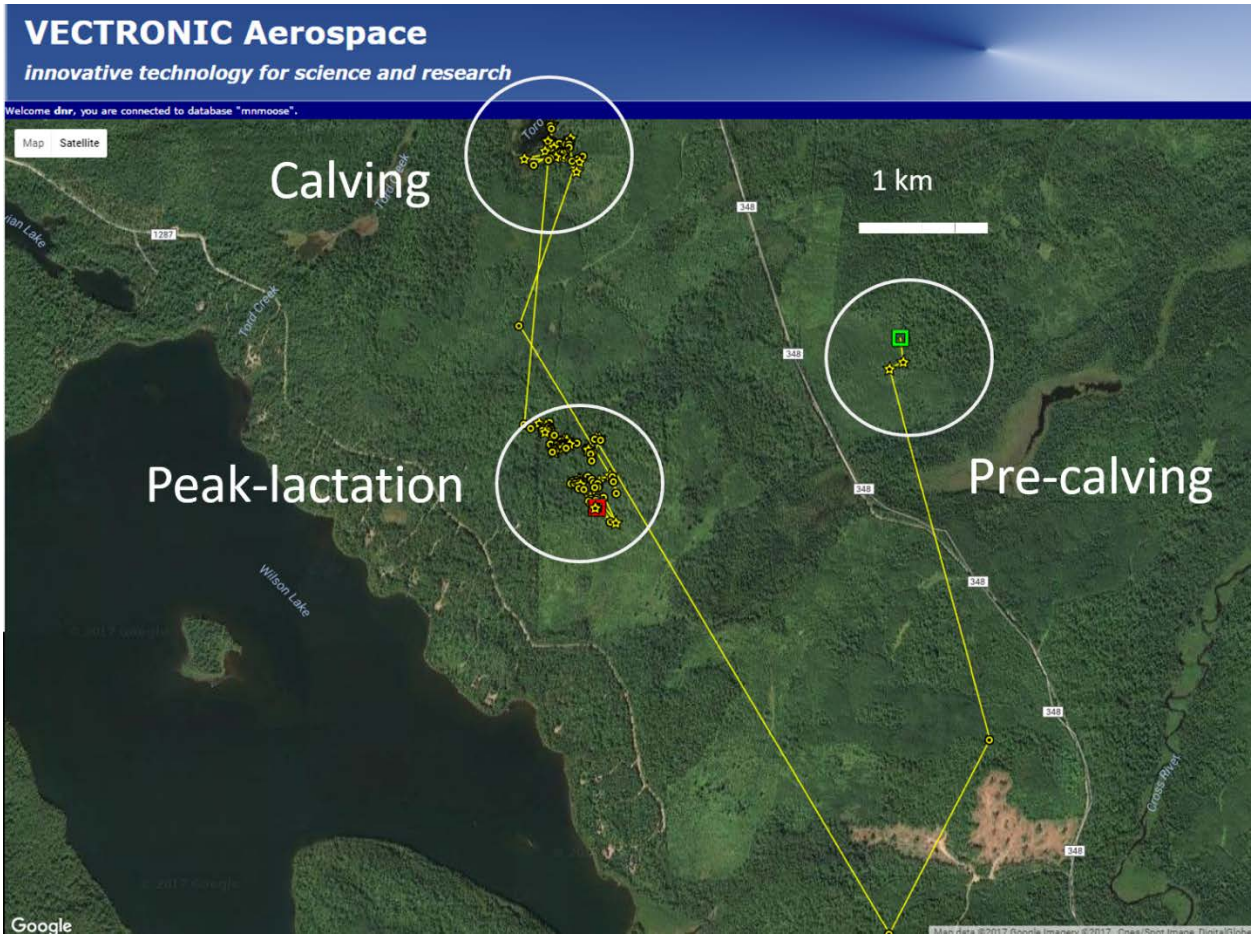


Figure 1. Example of moose pre-calving, calving, and peak-lactation sites, northeastern Minnesota, May–July 2013–2015. Pre-calving sites were defined as being where the calving movement originated. Peak-lactation sites were defined as locations of dams at 26 days from calving (milk production peaks 21–31 days postpartum).

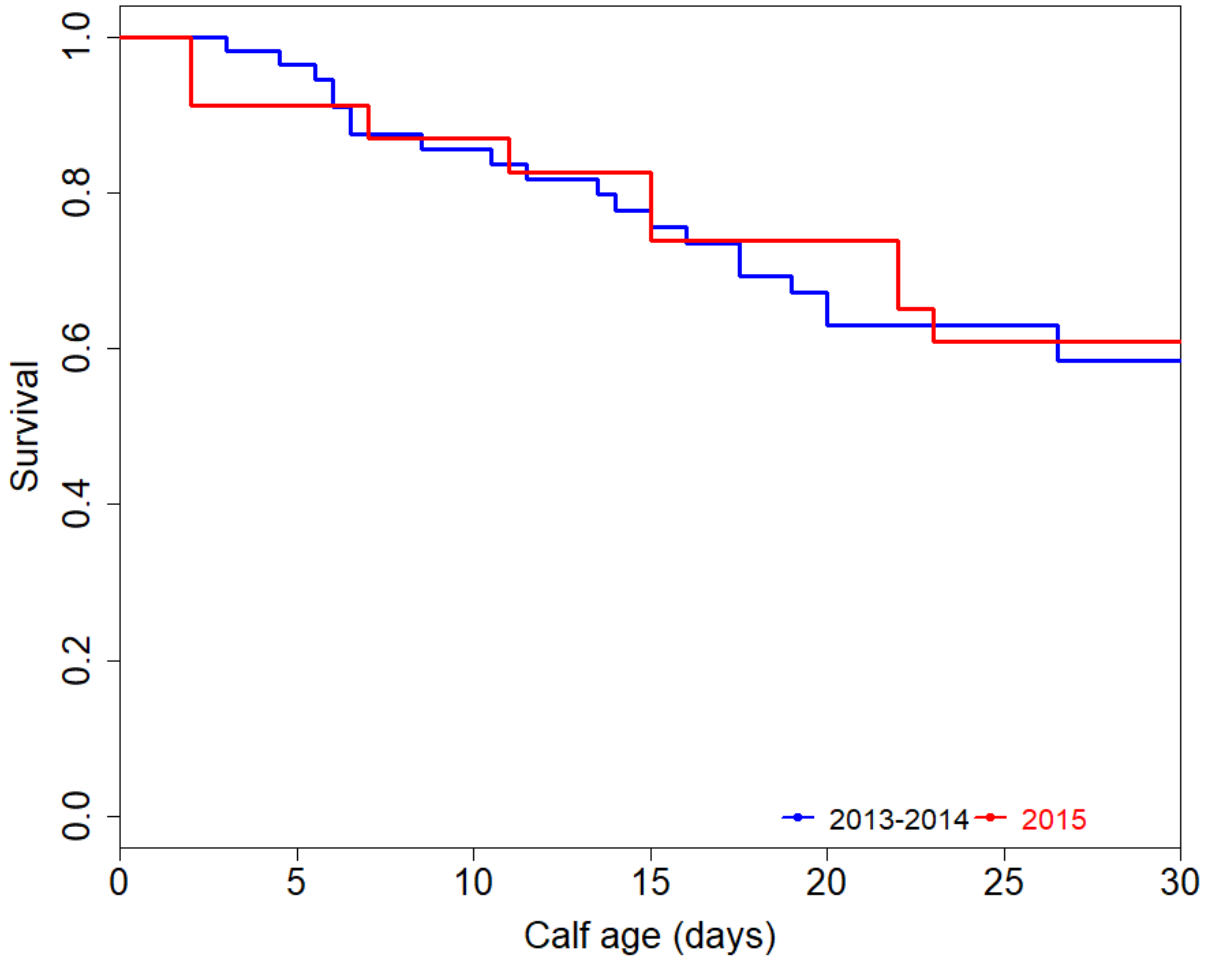


Figure 2. Kaplan-Meier 30-day survival for known moose calf mortalities, northeastern Minnesota, May–June 2013–2015. Mortality was confirmed by GPS collars (pooled 2013 and 2014, blue line, *n* = 54 calves) or through investigations triggered by dam movement patterns and observation of calf remains (2015, red line, *n* = 65 calves).

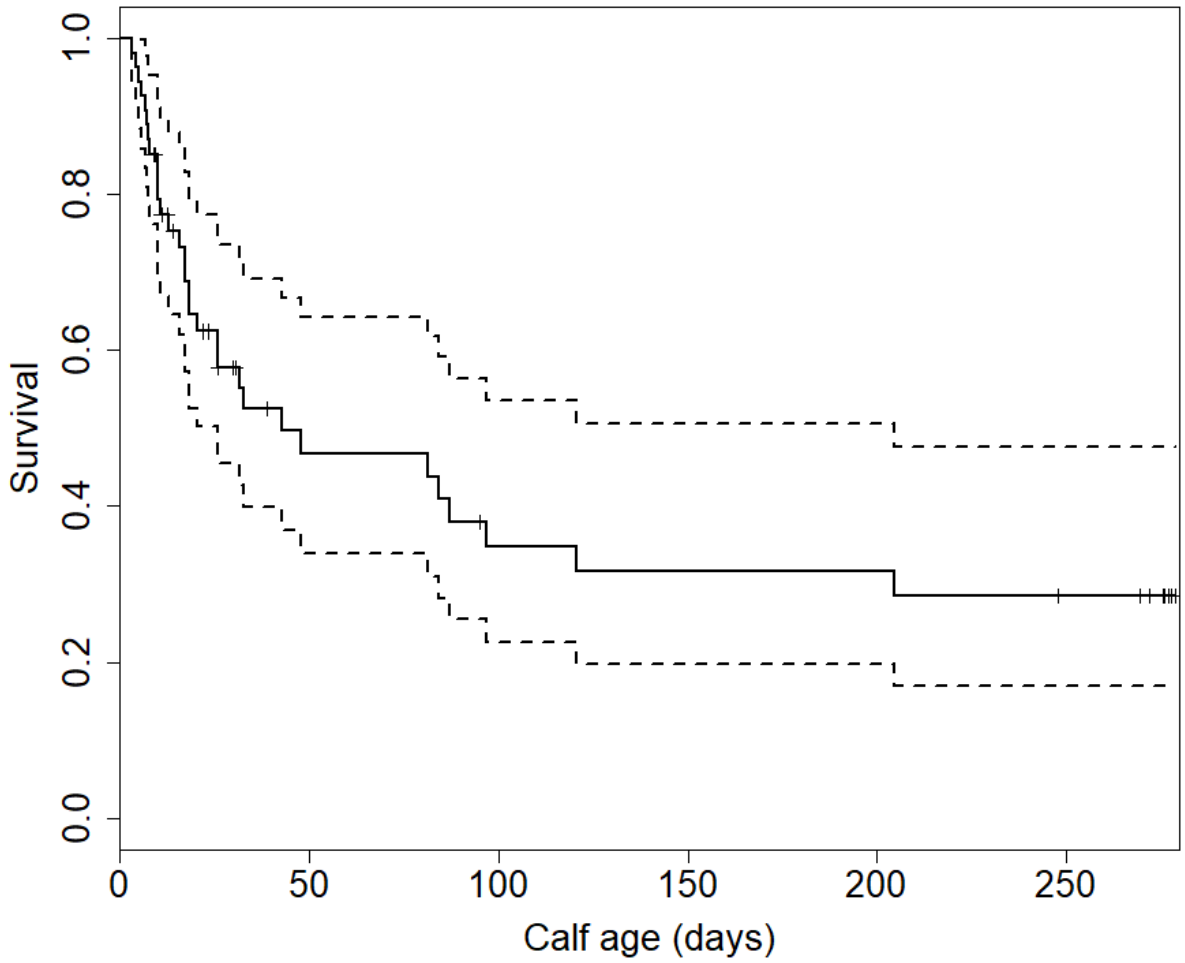


Figure 3. Kaplan-Meier 250-day survival for known moose calf mortalities (*n* = 54 calves), northeastern Minnesota, May–February 2013–2015. Tick marks indicate individuals censored due to slipped or removed collars. Dashed lines represent 95% confidence intervals.

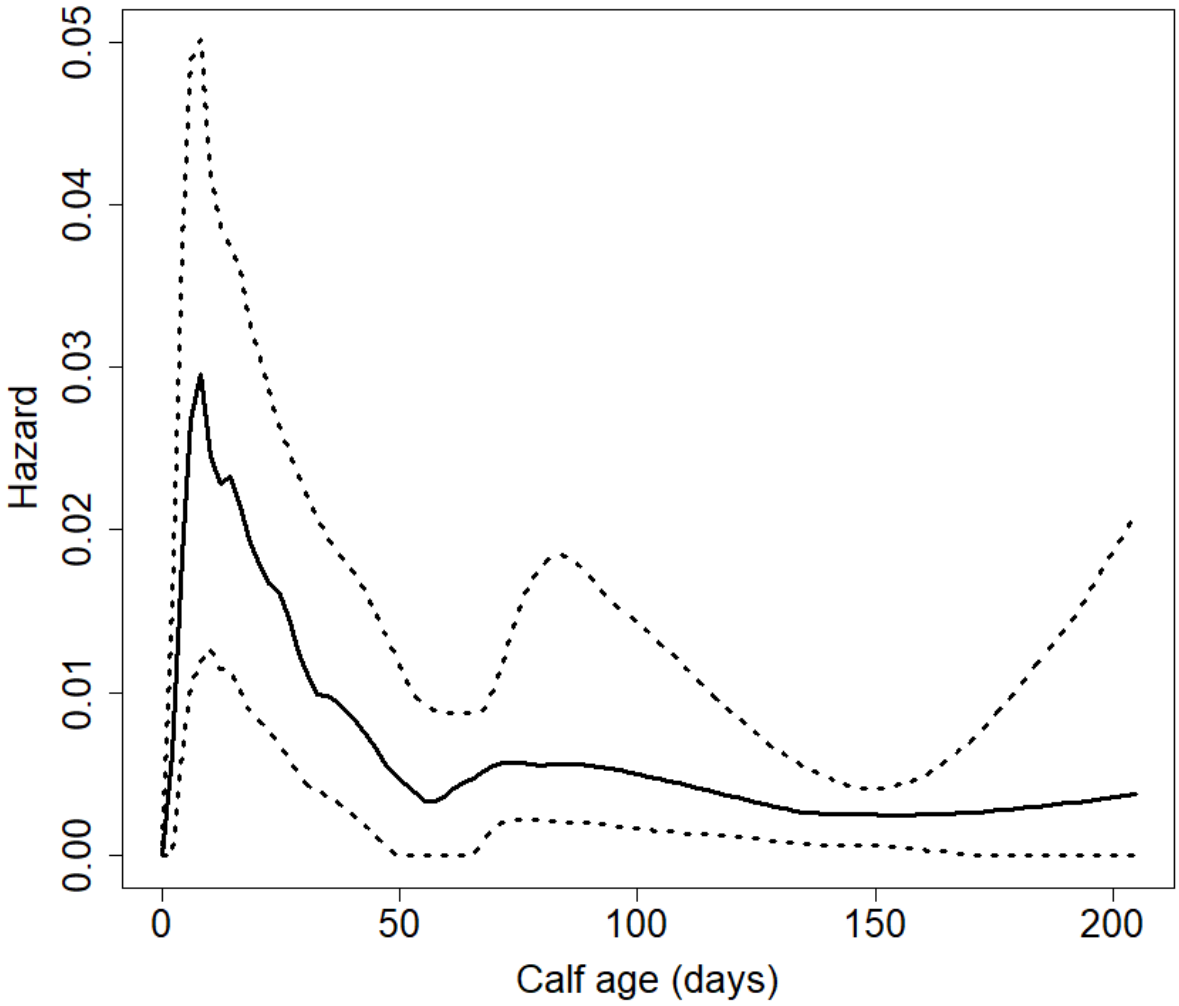


Figure 4. Empirical hazard function for known moose calf mortalities (*n* = 31 calves), northeastern Minnesota, May–February 2013–2015. Dashed lines represent 95% confidence intervals.

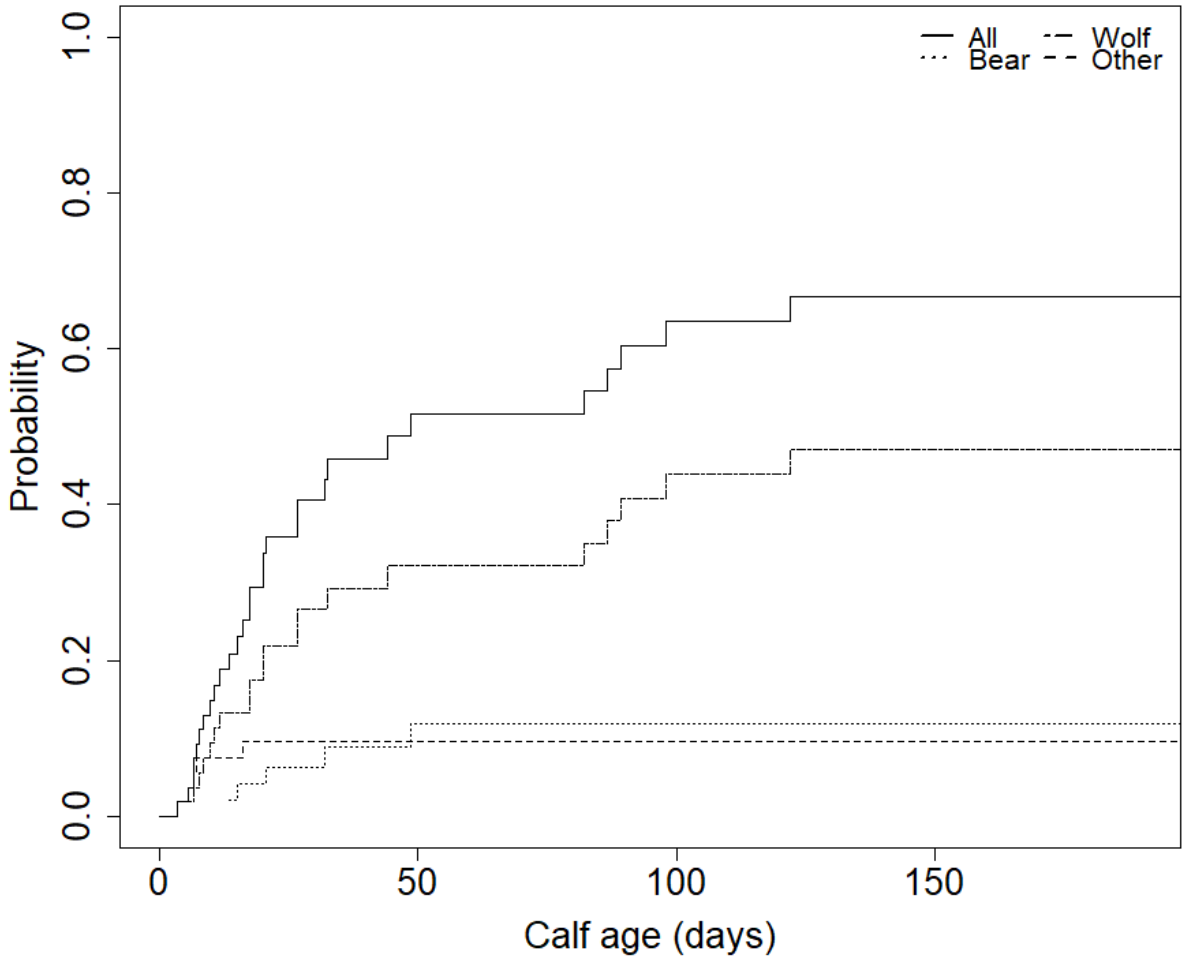


Figure 5. Cumulative incidence function for cause-specific mortality of moose calves in northeastern Minnesota (*n* = 40 calves), May–February 2013–2015. Causes of mortality were wolf predation (20), black bear predation (5), and other [natural abandonment (2), drowning (1), abandonment of unknown cause (1), unknown predator (1), and infection resulting from wolf attack (1)].

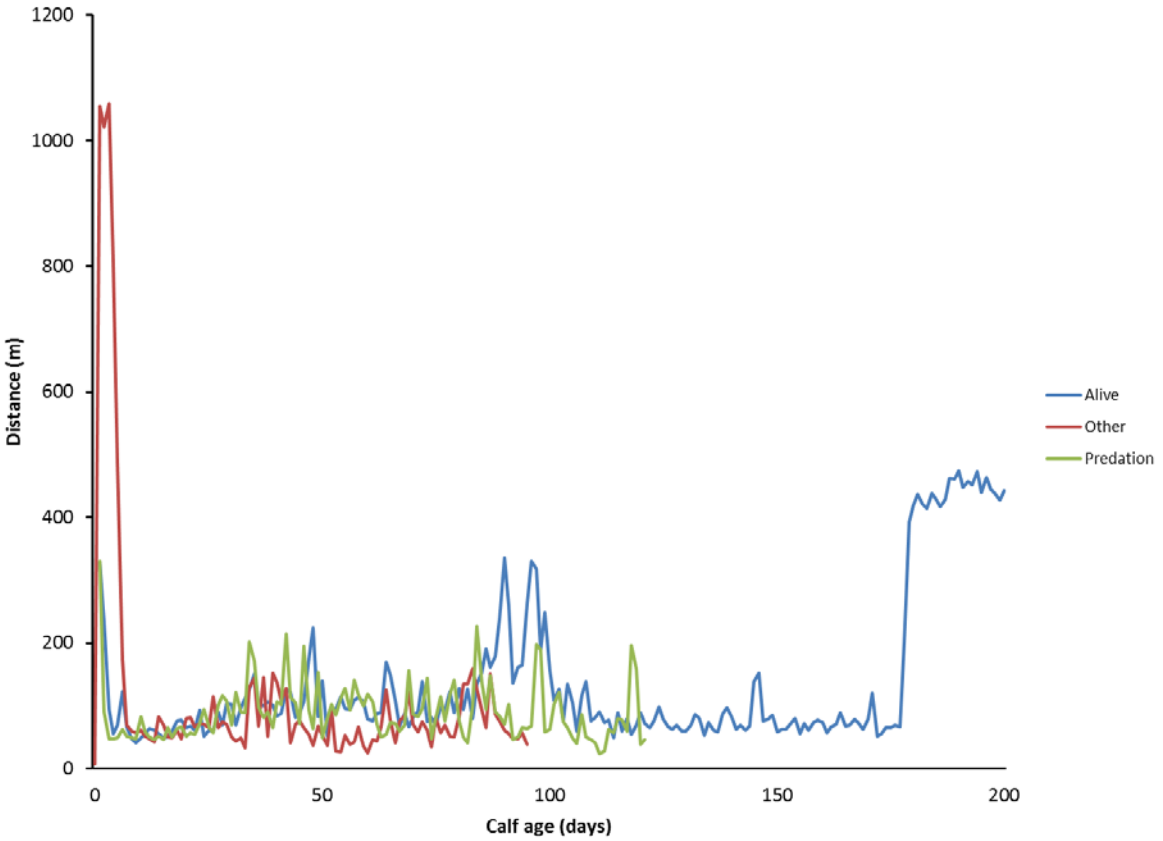


Figure 6. Mean daily distance between moose dams and their calves, excluding an outlier calf that moved up to 28,595 m from its dam, by calf age (up to 200 days old) and fate type (alive, other [non-predation mortality], and predation), northeastern Minnesota, May–February 2013–2015. Spikes in distance during the first 5 days were due to capture and handling.

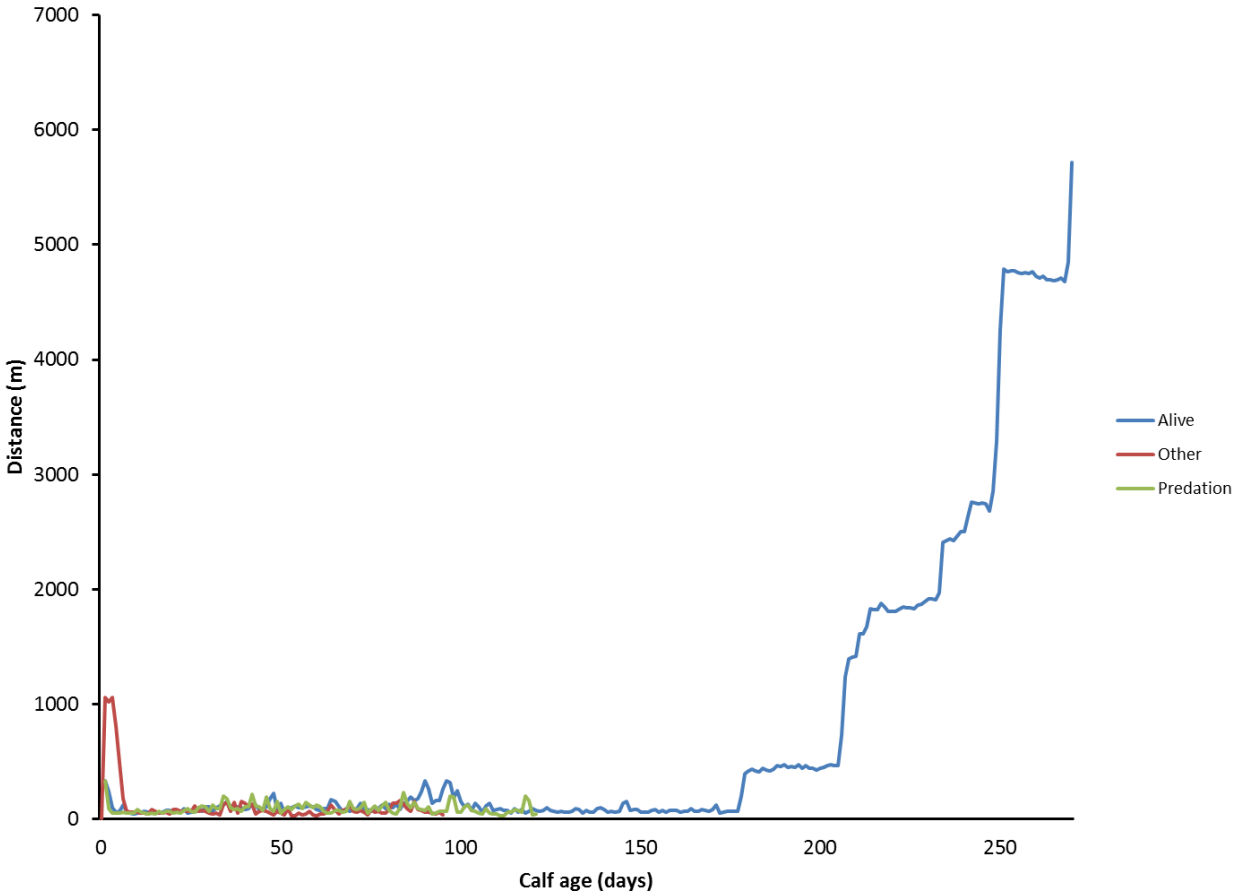


Figure 7. Mean daily distance between moose dams and their calves, including an outlier calf that moved much further from its dam than any other collared calf (up to 28,595 m), by calf age (up to 270 days old) and fate type (alive, other [non-predation mortality], and predation), northeastern Minnesota, May–February 2013–2015.

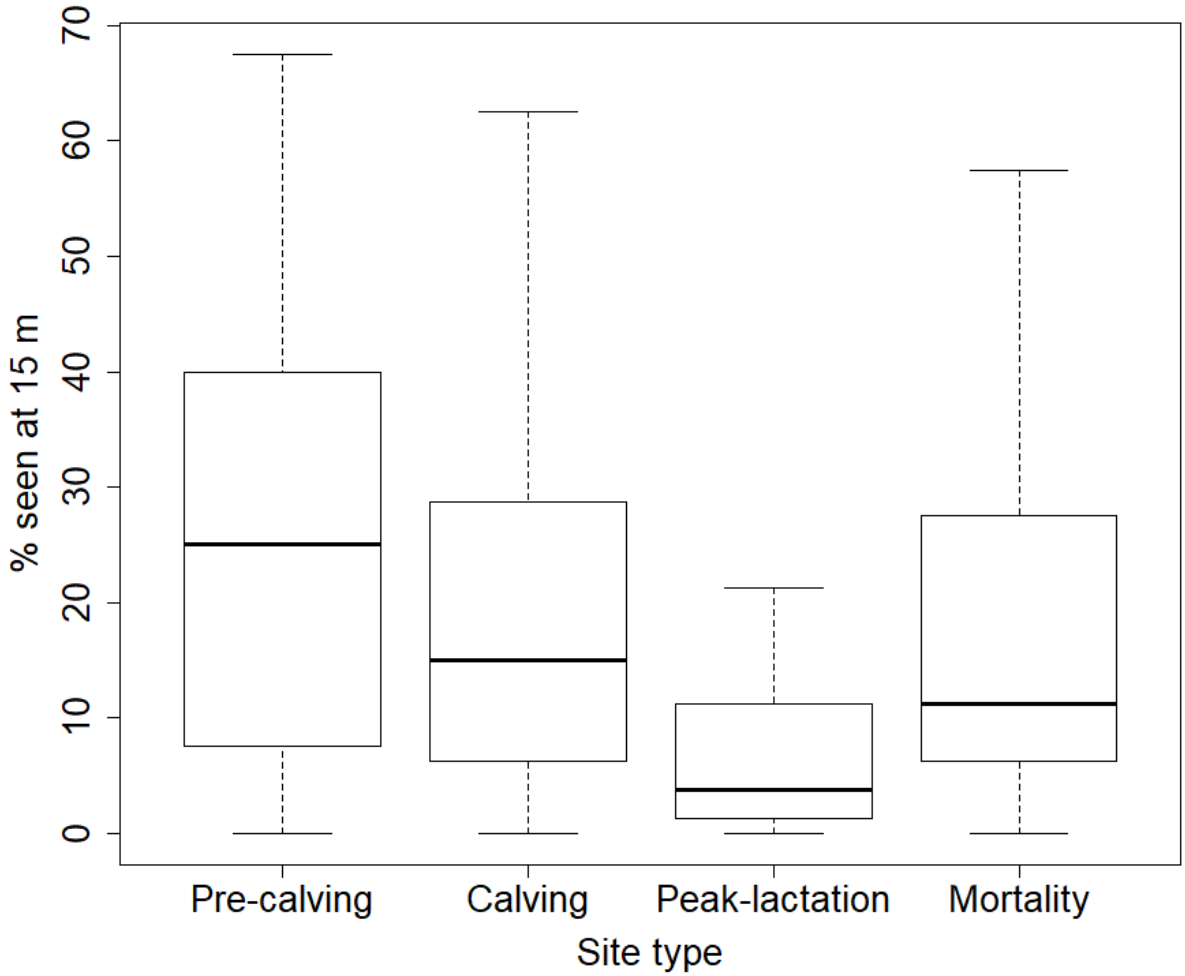


Figure 8. Percentage of calf silhouette visible from 15 m at pre-calving, calving, peak-lactation, and mortality sites (*n* = 34, 37, 25, and 5, respectively) of moose calves in northeastern Minnesota, May–July 2015. Boxes depict interquartile range and dark lines are median values.

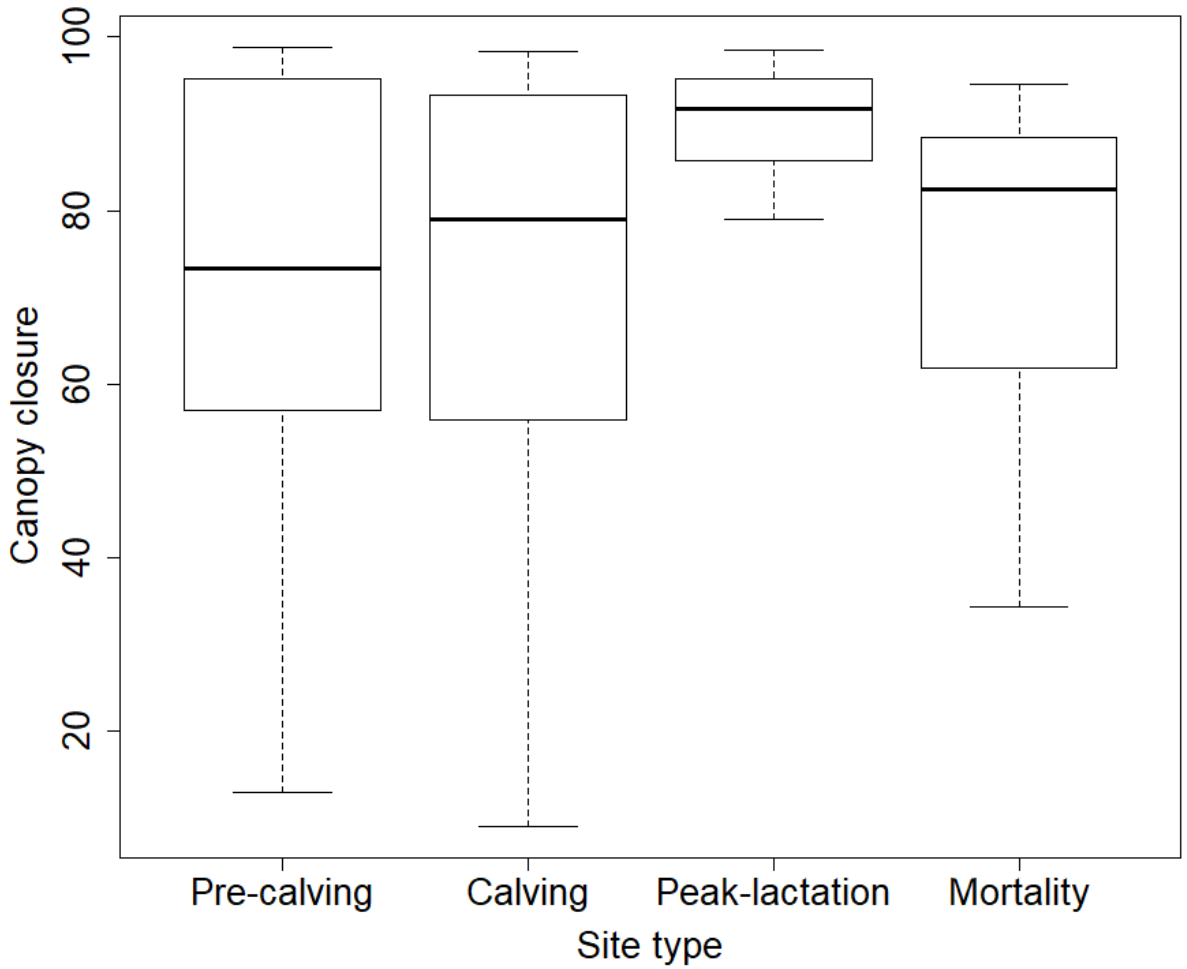


Figure 9. Canopy closure at pre-calving, calving, peak-lactation, and mortality sites (*n* = 34, 37, 25, and 5, respectively) of moose calves in northeastern Minnesota, May–July 2015. Boxes depict interquartile range and dark lines are median values.

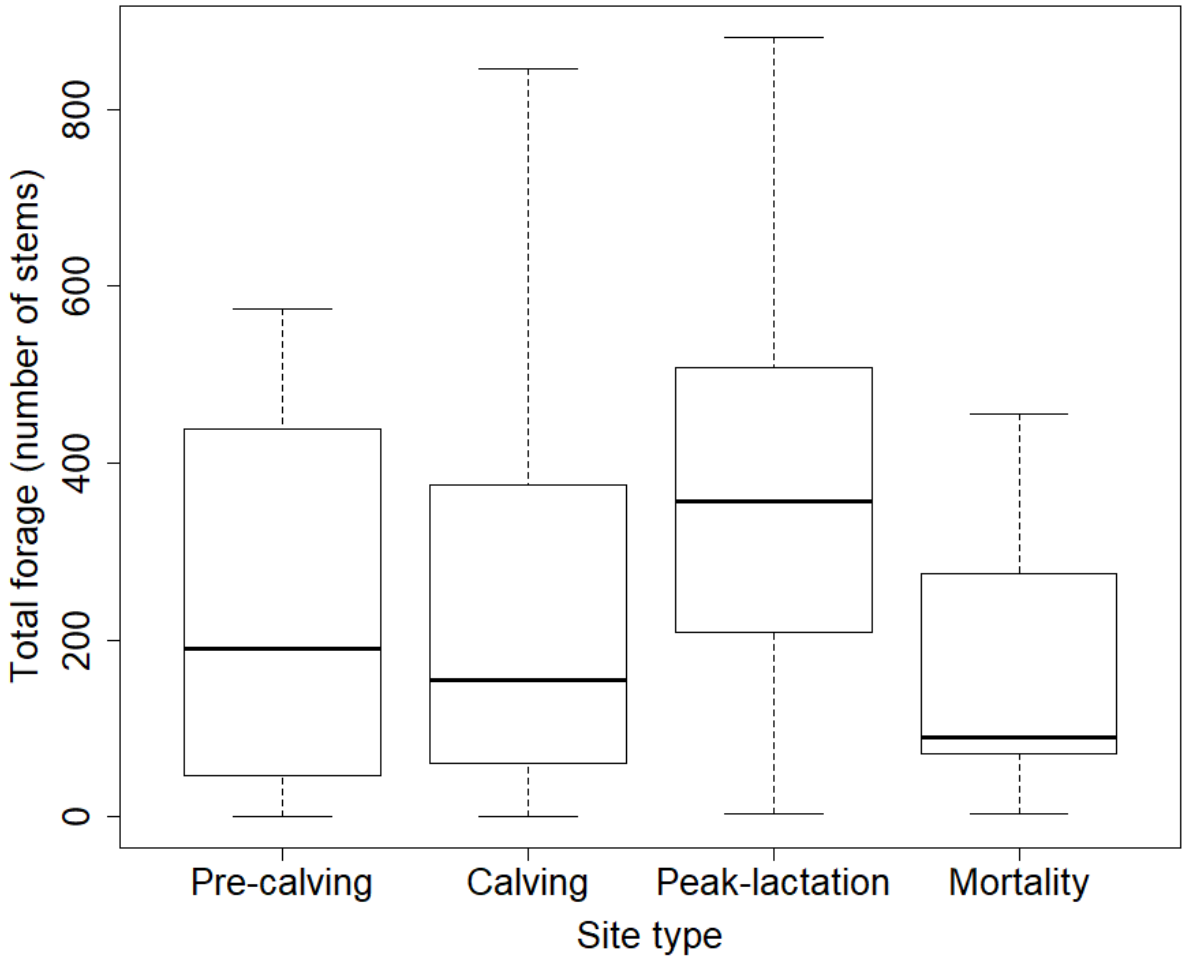


Figure 10. Number of forage stems at pre-calving, calving, peak-lactation, and mortality sites (*n* = 34, 37, 25, and 5, respectively) of moose calves in northeastern Minnesota, May–July 2015. Boxes depict interquartile range and dark lines are median values.

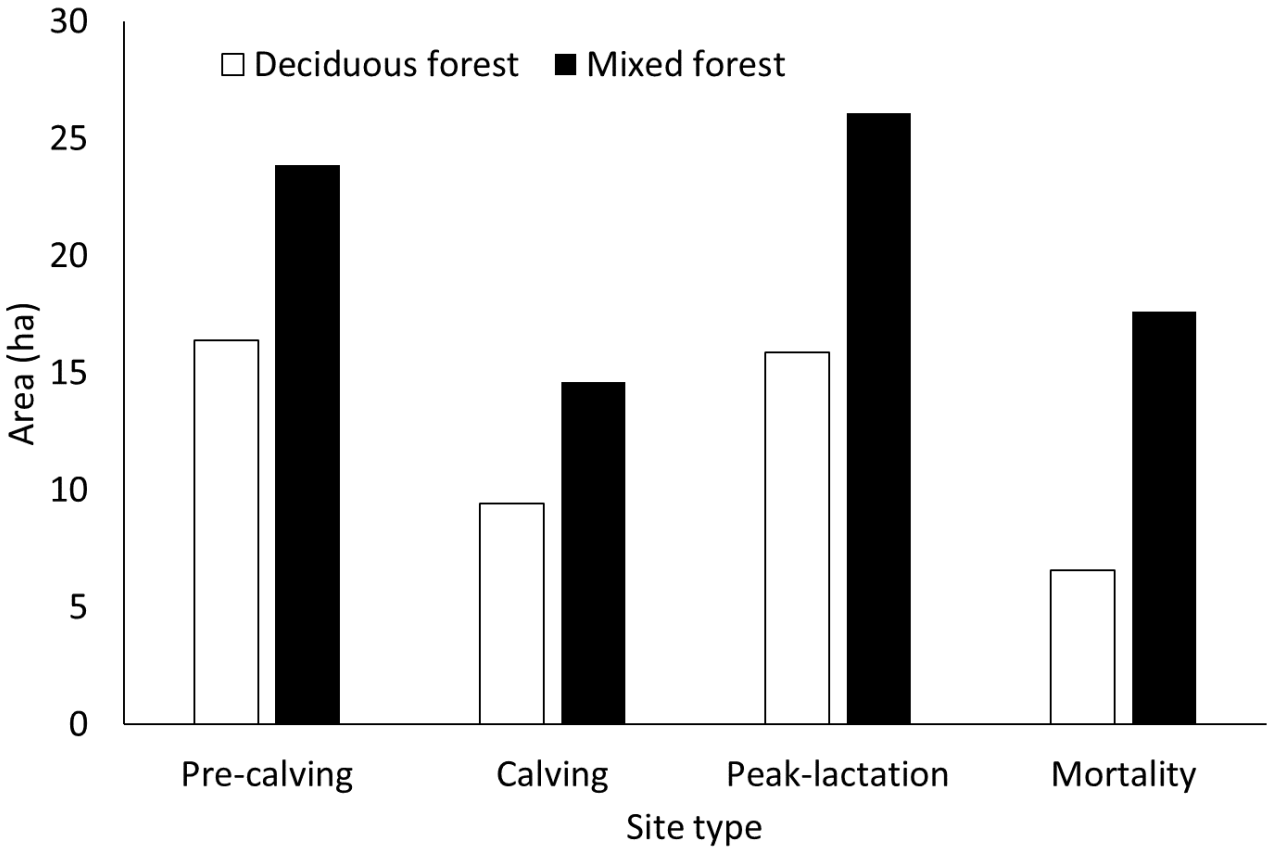


Figure 11. Amount (area in hectares) of deciduous forest (white) and mixed forest (black) within 100-ha buffers around pre-calving, calving, peak-lactation, and mortality sites of moose calves in northeastern Minnesota, May–July 2013–2015.

April 29, 2023

2023 Environment, Natural Resources, Climate and Energy Conference Committee (HF2310)
Representatives Hansen, Acomb, Hollins, Jordan, Kraft
Senators Hawj, Frentz, McEwen, Xiong, Coleman

Dear Conferees:

I write to urge you to delete the language purporting to transfer the state's Upper Sioux Agency State Park to Tribal ownership, which is contained in the Omnibus Environment and Natural Resources bill, page R-34 of the HF2310-3 side by side, so this land is preserved for all Minnesotans.

I earned a Ph.D. in History at Rutgers University and taught Minnesota History at the University of Minnesota and believe this transfer is wrong and potentially irreversible. This land is a living piece of history for the descendants of settlers involved in the Dakota War, no less than for Native Americans, and is important to all Minnesotans. It should not be alienated in this permanent fashion. Please remove the transfer language. Many generations of Minnesotans will thank you.

Sincerely,
Douglas Seaton
5601 Dewey Hill Rd, Unit 204
Edina, MN 55439

952-854-1317 PO Box 22262, St. Paul, MN 55122 www.mnlakesandrivers.org

March 13, 2023

TO: Chair Hawj & members of the Environment, Climate and Legacy Committee
RE: Legislative Water Commission reestablished, and appointments provided.

Greetings,

The Minnesota Lakes and Rivers Advocates, MLR is writing in support of SF 1918,Legislative Water Commission reestablished, and appointments provided.

MLR has had numerous occasions to present to the Legislative Water Commission over the last few years. There is no more important resource than water. Not only is water the basis for all life. Climate change is increasing, year by year, the value and importance of water will grow. As climate change impacts water in the atmosphere and across the landscape, water will become Minnesota;'s most valuable resource.

The Legislative Water Commission provides the consistent and ongoing focus on the many complex water issues that are emerging as climate impacts accelerate. The Legislative Water Commission serves a vital function providing continuity among the many organizations and agencies whose work involves protecting or enhancing water resources.

Sincerely,

Jeff Forester, E.D. MLR

minnesota
well owners organization

PO Box 6275

Rochester, MN 55903

507-273-4961

March 19, 2023

Chairman Hawj

Senate Environment, Climate, and Legacy Committee

Minnesota Senate

St. Paul, MN 55155

RE: MNWOO Supports HF 1338/SF1918

The Minnesota Well Owners Organization (MNWOO) is a statewide advocacy group working to assure safe drinking water at the kitchen sink for Private Well Users (PWUS). We are writing today in strong support of the re-establishment of the Legislative Water Commission as proposed in HF 1338.

Water connects everything. In Minnesota clean, healthy water helps define our culture, infrastructure, recreation, health, and our economy. The connections seem complex and therefore MNWOO believes that the focus on water coming from a new Legislative Water Commission would be a powerful way for the Legislature to recognize the connections and to assure sustainable water for our future.

Sincerely:

Jeffrey S. Broberg, LPG, Director: Minnesota Well Owners Organization

April 26, 2023

Rep. Rick Hansen
407 State Office Building
St. Paul, MN 55155

Rep. Patty Acomb
593 State Office Building
St. Paul, MN 55155

Rep. Athena Hollins
471 State Office Building
St. Paul, MN 55155

Rep. Sydney Jordan
553 State Office Building
St. Paul, MN 55155

Rep. Larry Kraft
515 State Office Building
St. Paul, MN 55155

Sen. Foung Hawj
Minnesota Senate Building, Room 3231
St. Paul, MN 55155

Sen. Nick Frentz
Minnesota Senate Building, Room 3109
St. Paul, MN 55155

Sen. Jennifer McEwen
Minnesota Senate Building, Room 3217
St. Paul, MN 55155

Sen. Tou Xiong
Minnesota Senate Building, Room 3203
St. Paul, MN 55155

Sen. Julia E. Coleman
Minnesota Senate Building, Room 2303
St. Paul, MN 55155

cc: Sen. Jeremy Miller, Rep. Gene Pelowski

RE: Seeking Targeted Changes to HF 2310

Dear House and Senate Conferees of HF 2310:

Solvay is a global leader in advanced materials and specialty chemicals. Our tailor-made products are critical for creating lighter-weight aircraft, electric vehicles, renewable energy installations, semiconductors, consumer goods, healthcare, and other essential products for a more sustainable society. In the United States, Solvay employs over 5,600 people working in 35 sites across 25 states.

I am the site director at our composite materials manufacturing site in Winona, Minnesota where we have 265 employees, including union members from Teamsters Union, Local 120.

We support all measures to keep the public safe, and our air and water resources clean for generations to come. We applaud the Legislature's actions to find ways to appropriately regulate PFAS in our state. Further, we are encouraged by many of the specific steps in the bill that would address some of the more common and higher-risk routes of potential environmental and human health exposure.

However, for the reasons below, we respectfully request your support to amend HF 2310 to remove Section 62, Subsection 5(c). As currently written, Sec. 62(5)(c) is overly broad, and will undermine U.S. competitiveness in key critical products that are vital to achieving the country's climate goals, preserving national security, and cost-effectively meeting the needs of Minnesota consumers.

At Solvay, we are proud of our role in enabling U.S. industry and manufacturing, and helping the decarbonization of the global economy. We take the subject of PFAS very seriously, as health and safety are Solvay's top priorities. In this vein, over the last several years, Solvay invested hundreds of millions of dollars to advance our technology so that in the United States we now produce all of our fluoropolymers – a specialty plastic that meets the broad definition of PFAS – without the use of fluorosurfactants. Fluorosurfactants are process aids that help ingredients work together in manufacturing some fluoropolymers and these are the PFAS substances under the most intense spotlight. Solvay was able to invent a next generation, more sustainable range of specialized fluoropolymers without the use of fluorosurfactants while keeping the unique properties of these products, as required for special applications.

As written, Section 62(5)(c) provides that, beginning Jan. 1, 2032, "a person may not sell, offer for sale, or distribute for sale in this state any product that contains intentionally added PFAS, unless the commissioner has determined by rule that the use of PFAS in the product is a currently unavoidable use." Some of the most important uses of fluoropolymers that Solvay provides include:

- Critical solutions in electronic and hydraulic systems, exterior coatings and o-rings and gaskets for aerospace and defense applications.
- Cathode binders and separators in high-capacity lithium-ion batteries for electric vehicle applications. All lithium-ion batteries need PVDF in order to operate safely and effectively.
- Solar panels, hydrogen membranes, wind turbines and semiconductors, all of which rely on these products' specific properties.

In the U.S., Solvay's fluorochemistries serve the key markets of aerospace and defense, electric vehicles and semiconductor manufacturing. The 2032 "unavoidable use restriction" results in a significant chilling effect for much-needed domestic investment in critical products like defense, semiconductors and EV batteries. The regulatory uncertainty associated with securing timely essential use designations for dozens, if not hundreds, of applications could seriously undermine our ability to confidently make these extremely large capital investments. Obviously, if adequate domestic supply is not available, our customers will be forced to rely on Chinese suppliers, which would threaten U.S. national security and economic competitiveness.

As such, removing Section 62(5)(c) before passage of HF 2310 is crucial for ensuring the viability of our Winona facility, and our nation's defense, critical product and clean energy supply chains. If you have any questions please feel free to contact David Cetola at dave.cetola@solvay.com.

Very truly yours,

Eric Siegfried
Solvay Winona Site Director

Solvay Winona Employees:

David Ybarra , President
353 W 7th Street – Room 106
St. Paul MN 55102
(651) 291-5001

Jason Quiggin, Secy.-Treas.
353 W 7th St. – Room 106
St. Paul, MN 55102
(651) 291-5001

MINNESOTA PIPE TRADES ASSOCIATION

Affiliate of the United Association
Composed of Journeyman and Apprentices of the Plumbing and Pipe Fitting Industry
Of the United States and Canada
State Federation of Labor – A.F.L.-C.I.O.

April 28, 2023

Energy and Environment Conference Committee

Dear Chairs Frentz, Hawj, Acomb, Hansen and members of the Conference Committee,

On behalf of the Minnesota Pipe Trades Association, I write in support of legislation that promotes the economic viability of renewable biomass power generation in the State of Minnesota, specifically in the management of tree waste by the state's largest biomass-fired combined heating and power plant, (St. Paul Cogeneration (SPC).

The management of roughly 250,000 tons of tree waste by SPC contributes approximately $15 million annually to the local economy in the form of jobs, contractors, and equipment while simultaneously managing the flood of wood waste in the region resulting from the spread of Emerald Ash Borer (EAB). SPC is the only practical disposal outlet for increasing volumes of ash tree waste, which will continue to rise as EAB spreads throughout the region.

Tree waste is utilized by SPC to produce renewable electricity and hot water for district heating. SPC accepts regional wood waste at no cost, from sources such as forest management, EAB infested tree removals, storm damage, etc.

Without SPC acting as the last stop for otherwise unusable tree waste, our cities and businesses will be left to contend with the influx of EAB-infested wood, leaving the material to be openly burned, adversely impacting surrounding communities.

Accordingly, we encourage the Conference Committee to adopt the House language relative to the issue, so SPC can continue to operate and maintain its vital role as critical infrastructure for the disposal of tree waste.

Sincerely

David M. Ybarra, President
Minnesota Pipe Trades Assn

ST PAUL
AREA CHAMBER

401 N Robert Street, Suite 150
St. Paul, MN 55101

MAKING CONNECTIONS THAT COUNT

April 27, 2023

Rep. Rick Hansen
407 State Office Building
St. Paul, MN 55155

Sen. Foung Hawj
3231 Minnesota Senate Building
St. Paul, MN 55155

Dear Chairs Hansen and Hawj and Conference Committee Members:

On behalf of the 1,700+ members and affiliates of the St. Paul Area Chamber, who together represent more than 3 million employees and their families, I'd like to request your support for financial solutions to enable continued operation of District Energy's St. Paul cogeneration facility. Specifically, we urge the adoption of the House provision that would provide a $28 million grant to District Energy St. Paul (lines 33.26-33.29).

District Energy processes 250,000 tons of wood waste per year for cities and counties throughout the metropolitan region. As Emerald ash borer (EAB) continues to spread, local government efforts to remove diseased trees will continue to increase demand for wood waste processing.

Unfortunately, District Energy's ability to continue to process this tree waste is uncertain after 2024, when its power purchase agreement expires. Without a customer to sell the power generated by the facility, District Energy simply cannot absorb the $5 million annual cost to process this wood waste and continue to provide this essential service for the region. The cessation of operations at District Energy would likely result in significant cost increases for the public to properly dispose of their diseased trees and/or the use of inadequate disposal methods that would have negative environmental consequences.

A new public-private partnership model is needed to ensure that the metropolitan region does not lose this critical facility. District Energy St. Paul is not a resource our state can afford to lose as we continue to battle EAB, so we ask that the conference committee adopt the funding included in the House bill.

Respectfully,

Brenda K. Kyle

B Kyle
President & CEO
St. Paul Area Chamber

Stephanie Chappell
2401 14th Street E
Glencoe MN 55336

MN 2023 Environment, Climate and Legacy Conference Committee

April 29, 2023

Dear Conference Committee Members:

Please remove all language related to the Upper Sioux Agency State Park listed on the April 27th side by side on page R-34. Upper Sioux Agency State Park (USASP) was created to preserve and protect one of the most significant sites related to the U.S. – Dakota War of 1862. All people of all colors, creed, and heritages need access to USASP to learn, grow and reflect on the events that took place there. Public inclusion and transparency is absent from this plan to give away public assets and property.

DNR estimates over 30,000 people visit the park heritage, history or recreation purposes. 2021 legislation created free park passes to Minnesota's 11 tribes in addition to other programs for Indian ceremony and 7 day free passes available to anyone via public libraries. These options will stop if the transfer is passed. Transfer will exclude 30,000 people from the park including descendants of Euro-American victims of the 1862 War who now have access for commemorative and religious ceremony.

The Consolidated Fiscal Note does not include any financial impact to local communities from loss of 30,000 visitors who contribute more than $60,000 to the DNR's revenue.

Bill language includes appropriations for state asset demolition, however the DNR has not stated why demolition is required or if the historic Agency duplex will be demolished pictured at left. Demolition estimates are $350,000 to $600,000.

Total transfer related costs per the Consolidated Fiscal Note are $6,781,000 including a $250,000 request for defeasance that has yet to be appropriated from General Funds.

Specifics are "unknown." Examples: it is unknown if $250,000 will cover the defeasance as there may be future required interest payments; there is no estimate of statutes presenting barriers to transfer; federal conservation fund revenue amounts are not given nor is it guaranteed LAWCON will be removed; no transfer date is set; public park and campground closure is not set according to DNR testimony. Calendar deadlines have changed from 2023 to 2033 (HF2388/2310 and SF2250/2438).

House Research does not correspond with bill language. Research identifies specific nonprofit involvement without addressing why a nonprofit is being used instead of nonpartisan state administration offices (Archaeologist and Historic Preservation). Bill language does not mention appropriations to or involvement of a nonprofit for services provided. The Minnesota Historical Society is a 501 c 3 nonprofit private organization.

The DNR's 2023 legislative initiatives do not mention the $6 million transfer. Equally irrational is a $139,000 to $188,000 expenditure (DNR estimate) to end future federal conservation funding (LAWCON).

Discussions between Governor Walz, National Park Service, Upper Sioux Community, and DNR officials excluded local government and descendants of 1862 massacre victims and captives. There has been no transparency and no attempt to involve the general public.

Few people realize Upper Sioux Agency carries generational pain for descendants of Euro-American heritage. Heroes to some were labeled traitors and survivors were blamed for their own rapes and mistreatment. 30,000 visitors deserve to know their struggles: John Otherday/Ampatutokacha, Sarah Wakefield, the Kochendorfer orphans, Mary Schwandt, Snana, Harriett Adams, Lillian Everett, Julia Wright, Benedict Juni, Jr., Mary Prescott/Spirit of the Moon, Thomas Williamson, Joel Whitney and Little Paul/Mazakutemani..

HF2388/SF2250's lack of organization, public inclusion, and transparency triggers need for investigation and review by legislative commission, the State Historic Preservation Office, Office of the State Archaeologist (protection of National Register Places and historic artifacts), the Attorney General's Office (nonprofit/agency partnership misconduct), and by the Legislative Auditor (State asset protection, the $250,000 defeasance, outdoor recreation system unit sales/transfers, public use, access, and master planning of USASP and the MN River State Trail).

Thank you,

Stephanie Chappell

Resources:
2023 DNR Legislative Initiatives Public Information Page with links to fact sheets.
Review of USA Historic Site by historian John LaBatte, a descendant of Dakota and Euro Americans involved in the U.S. – Dakota War of 1862.
Dissertation Essay by historian John LaBatte.
Upper Sioux Agency State Park Management Plan. Minnesota Department of Natural Resources Division of Parks and Trails. July 2009. Emphasis to pages 34-39, 48, 53, 58-62, 70-73.

Enclosure: StarTribune commentary, Dec. 26, 2022 Counterpoint We Should Also Remember Other Victims of 1862 by historian Curtis Dahlin.

Counterpoint: We should also remember other victims of 1862

The 650 men, women and children deserve our thoughts, too.

By Curtis Dahlin

DECEMBER 29, 2022 — 5:45PM

Opinion editor's note: *Star Tribune Opinion publishes a mix of national and local commentaries online and in print each day. To contribute, click here.*

•••

In "Riders share history's burden" (Dec. 27) the Star Tribune reported about Dakota Indians riding to Mankato and gathering there on Dec. 26, the anniversary of the hanging of 38 Dakota in 1862. Gov. Tim Walz was in attendance, and he apologized to the Dakota for the hanging of the 38 and for the removal of Dakota from Minnesota. But there is more to the story, as Walz, a former teacher, knows.

In 1862, the Dakota were unhappy and angry over their situation for a variety of reasons. By 1862, they had sold most of their land to the U.S. government. By mid-August, grievances came to a head among the Dakota, and some decided to wage war on settlers along the Minnesota River valley.

Early in the morning of Aug. 18, 1862, Dakota attacked the Lower Sioux Agency and then settlers who were living near them in Renville and Brown Counties. The Dakota's attacks that day were devastating, resulting in the killing of about 265 mostly unarmed men, women and children. Five Dakota warriors were killed. In the following days, the Dakota attacked Fort Ridgely twice and the town of New Ulm twice, but they were unable to take either place.

Ultimately, 650 whites were killed. Among them were 40 adult women and 100 children age 10 or under, including infants. Some were killed with great brutality, which particularly enraged the white population. In addition, the Dakota took about 150 white women and children captive, along with many mixed-bloods.

By the end of the conflict some 100 Dakota warriors were killed, but no Dakota women or children.

Gov. Alexander Ramsey learned of the attacks on the settlers on Aug. 19, and he selected Henry Sibley to lead the military response and stop the killing. Things got off to a rocky start for Sibley when on Sept. 2 and 3, a large burial party he had by then dispatched was badly mauled by the Dakota at the battle of Birch Coulee. Sibley continued to gather his force, and on Sept. 23 he defeated the Dakota at the Battle of Wood Lake. Three days later, he freed the captives at what became known as Camp Release.

Sibley established a military commission to try those Dakota who were accused of crimes. Nearly 400 were tried, with just over 300 being convicted of capital offenses. The trials were brief and the Dakota were not represented by counsel. But neither were Civil War soldiers accused of crimes. It was a different time. White settlers were clamoring for justice, and after the war ended, had made several attacks on Dakota prisoners, killing three.

President Abraham Lincoln had his staff review all the trial transcripts. He cut the number to be executed to 39, and one late reprieve brought the number to 38. Lincoln spared the lives of 265 convicted Dakota.

The 38 were hanged at Mankato on Dec. 26, 1862. It was the largest mass execution in U.S. history, in response to the deadliest Indian uprising in U.S. history.

In November 1862, about 1,600 Dakota dependents were taken to a camp at Fort Snelling. Here they were humanely treated, fed soldier's rations and protected from revenge-minded whites, of whom there were many. While at least 100 Dakota died in the camp from disease that winter, the same type of disease toll was taking place in the white community. The following spring, many but not all Dakota were shipped out of the state, to ensure none could resume killing settlers.

The war was the most significant and tragic event in Minnesota's history. If violence were to erupt today killing the same proportion of the state's population, there would be some 18,000 dead.

So governor, we know your feelings about the 38. What are your feelings about the 650 who were murdered? Are they worthy of being mentioned and remembered? Since this is now a public issue, I would request that you respond in a public setting.

Curtis Dahlin lives in Roseville.

Senators Frentz, Hawj, McEwen, Xiong, and Coleman
Representatives Acomb, R. Hansen, Hollins, Jordan, and Kraft

Dear members of the HF 2310 Conference Committee,

We write to highlight the **broad and deep support** among the labor and clean energy communities for Minnesota Power's **HVDC Modernization transmission line project** (HVDC = High-Voltage Direct Current), to greatly expand the transmission capacity of our HVDC line between Duluth, MN and Center, ND. The organizations that have expressed strong support for this project include:

- **MN AFL-CIO**
- **IBEW Local #31**
- **IBEW State Council**
- **Laborers' International Union of North America**
- **North Central States Regional Council of Carpenters**
- **International Union of Operating Engineers**
- **Minnesota Tribal Contractors Council**
- **Clean Grid Alliance**
- **Center for Energy and Environment**
- **Fresh Energy**
- **Minnesota Center for Environmental Advocacy**

The $17.5 million proposed by the Minnesota Senate to support this project will help realize significant benefits for Minnesotans:

- Strengthen our application to the U.S. Department of Energy for $50 million in Infrastructure Investment and Jobs Act funds
- Significantly increase the capacity of the line from 550 to 900 MW
- Leverage up to $25 million in project funding from North Dakota
- Improve grid reliability in the Upper Midwest
- Lower the overall cost of the project on Minnesota customers
- Assist the state in achieving 100% carbon-free electricity by 2040
- Provide an estimated 150-175 high-paying, union construction jobs
- Relieve significant transmission congestion in the region, flagged as a top priority in studies released by MISO and the U.S. Department of Energy.

This appropriation for the HVDC Modernization Project will strengthen Minnesota's electric grid, support our labor communities, and help provide reliable and affordable energy to Minnesotans. We urge you to include robust funding for this project in the committee's conference report. Thank you!

Zach Martin, Manager of Gov't Affairs
ALLETE, MN Power, NEE

Mike Bull, Senior Policy Advisor
ALLETE, MN Power, NEE

SIERRA CLUB
NORTH STAR CHAPTER

North Star Chapter
2300 Myrtle Avenue Suite 260
Saint Paul, MN 55114

April 28, 2023

Testimony on HF2310 – Boater Education Language

We support the bill's goal of educating more boaters to improve public safety, but we are concerned it will harm our aquatic ecosystems. The operation of certain boats in sensitive areas can cause substantial damage to lakes and the organisms that inhabit them.

The bill states that the course curriculum for how boaters should protect the environment will be based on "*best management practices*" determined by a working group of "*interested parties*" formed by the commissioner of the Minnesota Department of Natural Resources (MNDNR). This language does not require the MNDNR to recruit recognized environmentalists to be members of the group, leaving environmental protection to a group without any defined credentials.

The bill declares that "*The course must be approved by the National Association of State Boating Law Administrators* [NASBLA] ..." a nationally recognized authority on water safety and boater skills, but with no expertise for protecting aquatic ecosystems. Moreover, NASBLA states that, "…*members of the association have the right to voice concerns, contributions and objections to product development, professional standards and association leadership.*"

These potentially influential associate members are primarily from the boating industry, law enforcement, boater training, and public safety organizations. This list of NASBLA's associate members offers little comfort to those of us who want the course content based on sound scientific peer-reviewed studies for what boaters need to do to protect our aquatic ecosystems.

The bill is obviously focused on water safety, which is laudable. However, in addition to educating boaters about protecting other persons and properties, the course should also include information about sensitive aquatic environments and how to operate your watercraft in a way that does not cause damage to them. Minnesota experts should have the final say about protecting Minnesota's environment. Therefore, we are asking the bill's language to be revised to include an equally recognized Minnesota-based authority with credentials for developing curriculum that adequately protects our aquatic ecosystems, like NASBLA is for water safety.

Draft amendments were submitted in testimony for Senate bill SF553 on February 28, 2023.

Mark Strand
Member, Water and Wetlands Stewards Group
North Star Chapter of the Sierra Club

The Nature Conservancy in Minnesota,
North Dakota, South Dakota
1101 West River Parkway, Suite 200
Minneapolis, MN 55415-1291

tel (612) 331.0700
fax (612) 331.0770
nature. org

Representative Rick Hansen
Environment and Natural Resources Policy and Finance Committee
407 State Office Building
75 Rev. Dr. Martin Luther King Jr. Blvd.
St. Paul, MN 55155

Senator Foung Hawj
Senate Environment, Climate and Legacy Committee
3231 Minnesota Senate Building
95 University Ave. W.
St. Paul, MN 55155

Representative Patty Acomb
House Climate and Energy Finance and Policy Committee
593 State Office Building
75 Rev. Dr. Martin Luther King Jr. Blvd.
St. Paul, MN 55155

Senator Nick Frentz
Senate Energy, Utilities, Environment, and Climate Committee
3109 Minnesota Senate Building
95 University Ave. W.
St. Paul, MN 55155

RE: Environment and Climate Finance and Policy Omnibus Bill – HF2310 May 1, 2023

Dear Chair Hansen, Hawj, Acomb, Frentz, and Members of the Conference Committee:

As Conference Committee works to produce a final Environment and Climate omnibus bill, we would like to express our gratitude for considering a set of key programs and investments that will benefit nature and Minnesotans.

We would like to highlight several investments discussed by both committees that we recommend the conference committee include in the final version of the bill because they will help provide carbon sequestration, water quality and quantity benefits, and ensure resilience in the face of climate change for communities and wildlife across the state.

House and Senate Article 1, Environment and Natural Resources Appropriations:

First, we would like to thank the committees for including the following investments that have been included in both versions of the bill:

- $17,000,000 for Climate Adaptation – Accelerated Water Storage & Treatment (BWSR) *(SBS R50, House language 51.33-52.14, Senate language 45.23-45.31)*
- $4,172,000 for Private Forest Landowner Technical Assistance, Cost Share, and Inventory (DNR) *(SBS R30, House language 32.14-32.18, Senate language 29.28-29.32)*
- $1,566,000 for Protect and Restore Carbon Storage in Peatlands (DNR) *(SBS R26, House language 29.7-29.14, Senate language 24.24-24.28)*
- $4,000,000 for the Habitat Enhancement Landscape Program (BWSR) *(SBS R48, House Language 49.27-49.32, Senate Language 44.11-44.16)*
- $2,300,000 for Nongame wildlife management (DNR) *(SBS R25, House language 27.21-27.29, Senate language 23.7-23.15)*

The Nature Conservancy
Protecting nature. Preserving life.™

The Nature Conservancy in Minnesota,
North Dakota, South Dakota
1101 West River Parkway, Suite 200
Minneapolis, MN 55415-1291

tel (612) 331.0700
fax (612) 331.0770
nature. org

We are glad to see the continuous collaborative effort on the following investments, and we encourage the committee to prioritize the following appropriations that maximize the implementation of natural climate solutions:

- **Resilient Communities Grants and Technical Assistance (MPCA)** - $173,800,000 as proposed in the Senate version (For reference, $40,546,000 is proposed in the House version) *(SBS R4, House language 6.6-6.19, Senate language 5.14-6.3)*
- **Planting Tomorrow's Forests Today, or Reforestation and Forest Stand Improvement (DNR) -** $6,000,000 as proposed in the House version (For reference, $3,000,000 is proposed in the Senate version) *(SBS R30, House language 33.4-33.9, Senate language 30.17-30.22)*
- **Accelerated Tree Seed Collection (DNR)** - $1,600,000 as proposed in the House version (For reference, $800,000 is proposed in the Senate version) *(SBS R30, House language 32.19-32.24, Senate language 29.33-30.3)*
- **Enhancing Community Forests through the MN ReLeaf Program (DNR)** - $20,800,000 one-time and $400,000 ongoing per year as proposed in the House version (For reference, $17,800,000 one-time and $400,000 ongoing per year is proposed in the Senate version) *(SBS R30, House language 32.25-33.3, Senate language 30.4-30.16)*
- **Enhancing Grasslands and Restoring Wetlands on Wildlife Management Areas (DNR)** - $15,000,000 as proposed in the House version (For reference, $5,134,000 is proposed in the Senate version) *(SBS R36, House language 38.28-38.33, Senate language 35.12-35.17)*
- **Climate – Private Lands Grasslands/Working Land Restoration Easements (BWSR**) - $17,000,000 as proposed in the House version (For reference, $16,000,000 is proposed in the Senate version) *(SBS R48, House Language 50.7-50.27, Senate Language 44.32-45.9)*
- **Climate – Private Lands Peatland Restoration for Carbon Sequestration (BWSR)** - $15,000,000 as proposed in the Senate version (For reference, $7,500,000 is proposed in the House version) *(SBS R49, House Language 50.28-51.13, Senate Language 45.10-45.22)*

Additionally, we write to highlight investments that appear in one of the House or Senate versions of the bill, and we urge the committee to incorporate appropriations for these programs in the final bill:

- $7,100,000 for Climate - Mitigation and Resiliency for Reinvest in Minnesota (RIM) Easements (BWSR) – House only *(SBS R49, House language 51.14-51.32)*
- $6,000,000 for Scientific and Natural Areas Funding for improved maintenance (DNR) – House only *(SBS R27, House language 30.12-30.20)*
- $395,000 for Invasive Carp Removal and Surveys (DNR) – Senate only *(SBS R27, Senate language 26.4-26.9)*
- $325,000 for Invasive Carp Study (DNR) – Senate only *(SBS R28, Senate language 26.10-26.15)*
- $1,000,000 for Habitat-Friendly Utilities (BWSR) – Senate only *(SBS R52, Senate language 44.6-44.10)*

The following program was not included in the bills, but we offer it for your attention should there be an opportunity to further consider this program:

- **Investing in Minnesota's Wildlife and Aquatic Management Areas (DNR)**: $3,000,000 as included in the Governor's budget proposal for the protection of Wildlife Management Areas

The Nature Conservancy
Protecting nature. Preserving life.™

The Nature Conservancy in Minnesota,
North Dakota, South Dakota
1101 West River Parkway, Suite 200
Minneapolis, MN 55415-1291

tel (612) 331.0700
fax (612) 331.0770
nature. org

(WMAs) and Aquatic Management Areas (AMAs), which provide multiple benefits for wildlife and aquatic habitat, water quality, biodiversity, and carbon sequestration and remain accessible for public recreation.

Senate Article 2, Energy Finance; House Article 9, Climate and Energy Finance:

Second, we thank the committee for its work to help people and nature respond and adapt to climate change and make Minnesota more resilient. There are many appropriations in the proposed bills that will address challenges facing the state.

As the conference committee considers energy and climate appropriations, we recommend the final bill include a $1,000,000 base appropriation, as proposed by the House *(SBS R12, House language 292.7-292.17)*, for the University of Minnesota Extension Service to enhance the capacity for Minnesota's agricultural sector, working lands, and communities to respond to climate change impacts. This program - as was first proposed in HF1853/SF2547 authored by Chairs Acomb and Frentz, respectively - would build critical scientific capacity and establish a strong foundation for extension and outreach services to support climate preparedness and adaptation across the state.

Science affirms that nature is a significant tool to be leveraged to meet the state's carbon sequestration goals and build community resiliency. This program would provide outreach and technical assistance to farmers and private landowners that support their operations as working lands face more frequent and extreme weather events such as droughts and floods. This would be the first program of its kind nationally and will position the state to leverage federal funding through the Infrastructure Investment and Jobs Act (IIJA), Inflation Reduction Act (IRA), and other federal programs.

We appreciate the committee's further consideration of these investments. Thank you for your efforts on behalf of nature in Minnesota.

Sincerely,

Stephanie Pinkalla
Government Relations Director
The Nature Conservancy in Minnesota

Mariam Mikayelyan
Capitol Pathways Intern
The Nature Conservancy in Minnesota

Molly Jansen
Government Relations Specialist
The Nature Conservancy in Minnesota

Union of Concerned Scientists
ucsusa.org Two Brattle Square, Cambridge, MA 02138-3780 t 617.547.5552 f 617.864.9405
1825 K Street NW, Suite 800, Washington, DC 20006-1232 t 202.223.6133 f 202.223.6162
500 12th Street, Suite 340, Oakland, CA 94607-4087 t 510.843.1872 f 510.843.3785
One North LaSalle Street, Suite 1904, Chicago, IL 60602-4064 t 312.578.1750 f 312.578.1751

April 28, 2023
Environment, Natural Resources, Climate and Energy Conference Committee
Minnesota House of Representatives
100 Rev. Dr. Martin Luther King Jr. Blvd.
Saint Paul, MN 55155

Dear Chair Hansen and the Environment, Natural Resources, Climate and Energy Conference Committee:

Thank you for the opportunity to provide testimony regarding the important policies pending before the Conference Committee. The Union of Concerned Scientists (UCS) is a national nonprofit organization dedicated to advancing science-based policy solutions. UCS has more than 500,000 supporters, including over 6,400 in Minnesota.

We strongly encourage you to support the following climate and energy priorities in your deliberations:

- Support the House position that includes the Next Generation Climate Act.
- Support the House position on the Minnesota Climate Innovation Finance Authority and recommend increasing the amount of funding for it.
- Support the House position for electric vehicle (EV) rebates and electric school buses.

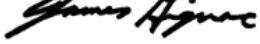
As the recent Intergovernmental Panel on Climate Change Sixth Assessment Report concluded, we are currently on a trajectory to exceed 1.5°C in global average temperature increase above pre-industrial levels within the next 10 to 15 years. Even at about 1.1°C now, we are already in a dangerous and deeply inequitable climate crisis. Which only reaffirms, with greater urgency, what we must do to address climate change: phase down fossil fuels sharply and quickly while transitioning to clean energy, make deep cuts in heat-trapping emissions, and rapidly shore up resilience to worsening climate impacts.

Minnesota can do its part to address global warming pollution by passing common sense clean energy and transportation legislation to help achieve its emission reduction goals and display the ambitious climate leadership that Minnesotans are calling for.

* * * *

Thank you for your consideration of these comments and for supporting a clean, equitable energy future for all Minnesotans.

Sincerely,



James Gignac
Midwest Senior Policy Manager
Climate & Energy Program
Union of Concerned Scientists
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Alyssa Tsuchiya
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To: Kara.Josephson@senate.mn
Peter.Strohmeier@house.mn.gov

From: Richard Hahn
419 Schilling Circle NW
Forest Lake, MN 55025
651-366-7771 (cell)
amadeus.rlh@gmail.com

Date: 28 April 2023

Good Day

I am writing regarding the bill including language to repatriate the Upper Sioux Agency State Park land to the Dakota. I urge the REMOVAL of all references to the transfer of Upper Sioux Agency State Park, policy reviews, changes and financial earmarks stricken from the bill.

Passing a bill to repatriate the Agency land at this time does not serve all parties of interest. Improved and thorough COMMUNICATION, LISTENING and STUDY must be elements of this very important decision for Minnesota.

This is a time for WISDOM as opposed to any degree of political expediency. If all parties are well-served, is not a site that is sacred to Dakota AND descendants of murdered settlers, best owned, maintained, and managed by the state acting as a neutral party?

The large attendance at the informational meeting in Granite Falls on April 6 is evidence that improved communication and listening would be very desirable. In my view, area residents and descendants of 1862 settler victims are equal stakeholders in this effort. I further urge listening to, and consideration of, the information held and available from additional scholarly and published Minnesota historians.

Minnesota citizens living near the Agency clearly do not embrace a feeling of inclusion in the process and lobbying currently taking place in St. Paul. Descendants of early Minnesota settlers in the Minnesota River Valley are also equal victims of Minnesota's greatest tragedy and deserve your consideration.

Furthermore, I urge a comparative study of the approach to Civil War battlefields. The lands of the Wilderness, Fredericksburg, Gettysburg, Antietam, and many other Civil War sites are also uniquely sacred. In these cases, as well as others, the National Park Service approach of management has demonstrated a commitment to education and reconciliation. The events of 1862 in Minnesota deserve a similar approach, as opposed to any degree of exclusion.

Accordingly, the belief here is that it is desirable for the site of the Upper Sioux Agency to host as many visitors as allowable to better understand, and eventually value, the significance of this site.

Thank you,

Richard Hahn
419 Schilling Circle NW
Forest Lake, MN 55025
651-366-7771 (cell)
amadeus.rlh@gmail.com

From: Riverbottombeagles
To: Kara Josephson; Peter Strohmeier
Subject: Wolves
Date: Sunday, April 30, 2023 8:59:06 AM

I raise beagles for rabbit hunting in Minnesota and I have had seven dogs killed by wolves over the last few years. Three of them were killed near my home. Words cannot describe how it feels to find a dog that you raised and loved after a couple wolves got done with it, or the sound they make as they are dying in your arms after a wolf has crushed their chest.
I have no desire to hunt or trap wolves but to totally eliminate this option for wildlife managers to use in reducing conflict between wolves and the people that live near them is reckless to say the least. The only result that can come from this extreme frustration from the people that continue to suffer losses from wolves.
Please reconsider this ill advised approach.
Thank you for taking the time to listen.
Tom O'Connor

MINNESOTA ADVOCATES FOR NUCLEAR ENERGY
2837 SUNSET BLVD
MINNEAPOLIS. MN 55416

Dear Chair Hansen and Senate and House Conferees:

I submit this written testimony in support of the Senates Advanced Nuclear Energy (ANE) Study (SF 2427 Sec 43) on behalf of Minnesota Advocates for Nuclear Energy (MANE).

After 29 years of banning expansion of nuclear power in Minnesota, we believe it's past time for the State to look at the science and actual data, and put aside the fears, politics and myths which froze its utilization in decarbonating our State to only two nuclear plants built in the early '70's.[i]

We support and embrace the Senate's ANE Study. We are informed there is no House-side parallel bill.

After the 29 year moratorium and decades of contentious debate in the Legislature, we see the ANE Study as an opportunity, to finally professionally, scientifically and objectively study all the pros and cons, risks and opportunities, new advanced technologies, the applicable science and data, and evaluate the significant contribution expanded clean, carbon free advanced nuclear energy will make in reaching the recently enacted Clean Energy Act's laudable and ambitious requirement of providing electricity from 100% carbon free sources by 2040 (2040 NCZ).

The Senate ANE Study is supported by Xcel and the other statewide utilities, the Minnesota Chamber of Commerce, nearly all the State's unions, small and larger businesses, various clean energy and pro-nuclear organizations and Governor Walz, as well as MANE and Generation Atomic.

On a national level, the Democratic Biden administration has supported advanced nuclear energy as a necessary contributor to reaching the Nation's NCZ goal. As DOE Secretary Granholm has noted: Nuclear power is going to play a critical role in America's clean energy future, which means it's more important than ever that we invest in developing the brain trust.

The Citizens Climate Lobby, International Energy Agency and increasingly, many environmental organizations recognize the need for reliable, carbon free nuclear energy.

We agree with the experts that the 2023 Minnesota Clean Energy Act's laudable and ambitious 2040 requirement of zero carbon in all sources of the State's electricity cannot be met by the increase of solar cells and wind turbines alone. Expanded ANE is essential to give Minnesota a reasonable chance of reaching its 2040 NCZ. Prominent and reliable national experts agree:|

> "By focusing on the development of advanced nuclear technologies, NE supports the Administration's goals of providing domestic sources of secure energy, reducing greenhouse gases, and enhancing national security." US Department of Energy.

> "If we're serious about solving climate change, and quite frankly we have to be, the first thing we should do is keep safe reactors operating." But "even then, just maintaining that status quo is not enough. **We need more nuclear power to zero out emissions in America and to prevent a climate disaster."**
> **Bill Gates** (building the TerraPower nuclear plant in Wyoming).

"The only answer can be the development and deployment of modern nuclear power…Otherwise, gas will be the required complement to intermittent renewable energy for electricity generation...Modern nuclear power, in contrast, has the smallest environmental footprint of the potential energies because of its high energy density and the small volume of its waste, which is well-contained, unlike wastes of other energy sources."
Dr. James Hansen, former head of the NASA Goddard Institute for Space Studies

"Cost-optimized energy modeling reveals that nuclear power must ramp up for emissions to approach zero." **Dr. James Hansen**

Please also see the below cited authority[ii]

Even for those who harbor genuine and sincere concerns about advanced nuclear energy, the ANE Study has great value: It is designed precisely to research and address those very concerns, as well as an overall evaluation of ANE, providing an opportunity for informed decision-making based on scientific evidence and expert insights.

We thus respectfully ask you to support the Senate's ANE Study, because it foster a scientific, comprehensive and unbiased understanding of advanced nuclear energy for the benefit of all Minnesotans.

Respectively Submitted,

Seymour J. Mansfield
Founder & Chair
Minnesotans for Nuclear Energy

Dated: April 28, 2023

seymourmansfield2837@gmail.com
(612) 701-4295

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[i] These two 50 year old plants have operated safely and reliably. In fact, while they produce only 24% of Minnesota's total clean and dirty energy, the plants produce an impressive 44.9% of the State's clean, carbon free energy. Because of the moratorium, however, major technological advances in virtually every aspect of nuclear reactors have not been exploited by Minnesota.

[ii] Eric's Slides; Eric's 2023 MN Moratorium Brief; Fareed Zakaria's Last Word in support of Nuclear Energy; Why renewables can't save the planet | Michael Shellenberger | TEDxDanubia; Monticello Leak, Eric's Letter (no big deal). **And regarding the safety of spent fuel waste in dry casts:**
Dry Cask storage is the safest activity one can do in America. The risks are too small to be measured, although we try to assign numbers. But the risks are below any other activity humans engage in, making the relative risks not statistically different from zero. Crossing the street in any big city is 5,000 times more dangerous than nuclear waste disposal or storage. Nuclear waste has never claimed even a single life. It's too easy to shield, too easy to handle, too easy to store in dry casks, and too easy to monitor. The waste is solid and cannot leak.
James Conca, Trustee, Herbert M. Parker Foundation.
To be clear, regardless of the high safety of dry casts, we support the consensual siting of such casts at locations which agree for various considerations, economic returns, and compensation, unlike what had originally and unfairly occurred with regard to the Prairie Island Indian Community.

Minnesota House of Representatives and Senate Conferees
Environment, Natural Resources, Climate, and Energy Finance and Policy

Written Testimony Regarding Omnibus Environment Finance and Policy Bill (HF2310/SF2438), April 30, 2023

Rosemary Malfi, Ph.D., Pesticide Program Specialist
The Xerces Society for Invertebrate Conservation

Dear Chairs Hansen and Hawj, and Honorable Members of the Conference Committee:

My name is Dr. Rosemary Malfi; I am writing on behalf of **the Xerces Society for Invertebrate Conservation**. The Xerces Society is an international nonprofit organization that uses science-driven methods to protect invertebrate wildlife and their habitat and is recognized as a global leader in pollinator conservation by organizations such as the U.N. Food and Agriculture Organization, the U.S.D.A.'s Natural Resources Conservation Service, the organic and natural foods industry, and farmers and farm organizations across the U.S. and abroad.

First, **we at Xerces want to thank the Senate and House for incorporating language and funding for the *Lawns to Legumes* program in both versions of the bill (Senate: 43.32, 86.12; House: 49.18, 256.7)**. This popular program is an innovative solution for educating MN residents about pollinator conservation and supporting them in creating habitat. Lawn conversion offers an enormous opportunity to create human-occupied landscapes that are supportive of pollinator populations. Minnesota offers a strong example for other states to follow.

We are also writing to express our support of the following provisions in the House version of the omnibus bill, which would have strong positive impacts on pollinator health and beneficial invertebrate populations:

- **Proper use and disposal of treated seed** (129.27, 142.30, 171.22, 274.7, 274.12, 275.25, 276.13, 277.3).

  There is overwhelming evidence that the class of pesticides known as neonicotinoids ("neonics") - the most widely used systemic insecticides - are contributing to dramatic pollinator declines and are having negative impacts on aquatic ecosystems [1, 2]. Improper disposal of treated seed can have devastating consequences. In Nebraska, for example, treated seeds processed into ethanol resulted in highly contaminated wastewater and distilled grain byproducts with neonic concentrations far exceeding those that cause harm to pollinators or aquatic species [3]. In spite of known harms, the EPA has declined to regulate seed treatments under FIFRA. **Developing a program to regulate treated seeds would make Minnesota a leader in taking responsibility for overseeing the appropriate use and disposal of treated seeds.**

  This said, **we strongly advise the Conference Committee to incorporate language into the final bill that would impose a timeline on the Pollution Control Agency and MDA** for adopting rules that provide for the safe and lawful disposal of waste treated seed. Oversight is a critical need and deadlines will help to ensure the timely implementation of regulations - we are all aware that that lack of transparent timeframes can lead to long delays in fulfilling mandates.

- **DNR Pesticide Restrictions** (195.8).

  The Department's mission is to safeguard and steward Minnesota's natural resources, which include the pollination and ecosystem services provided by pollinating insects. This is a common-sense provision that protects the state's conserved and natural areas from the known negative human health and environmental impacts of chlorpyrifos and the harmful effects of neonicotinoid insecticides on pollinators and other beneficial invertebrates.

- **Municipal option for local control of certain pesticides** (274.17; 275.1).

  It is well-established that systemic pesticides are contributing to pollinator declines and harming other beneficial and economically important invertebrates, such as freshwater mussels [1, 2]. In its 15-year review of neonics, the EPA acknowledged these negative impacts [4], yet failed to appropriately restrict their use. The House version of the bill includes a sensible provision giving municipalities the authority to enact stronger restrictions for pollinator-lethal pesticides (as designated by the label).

  Cities and towns should have the right to make choices about pesticide use in accordance with the best and most current science and without input from special interests that benefit from the continued purchase and reliance on pesticide products. And we know that pesticides applied to one property do not stay on that property - this is a community-level issue.

North America's wild pollinators are facing precipitous declines. Roughly 17% of North American butterflies are at risk of extinction, including the well-known monarch butterfly, and 28% of our bumble bee species are at risk of extinction, most notably the rusty-patched bumble bee - formerly one of Minnesota's most common bumble bees and now lost from 87% of its range. Recent evidence demonstrates that global pollinator declines are negatively affecting human health [5]. **Pesticides are a known contributor to these alarming trends. Keeping the above provisions in the final bill would make Minnesota a national leader when it comes to pollinator health and protection.**

We appreciate the consideration given to pollinators by Minnesota's legislators, and we hope to see Lawns to Legumes and the specified House provisions preserved, or even improved, in the final bill put forth by this committee.

Sincerely,

Rosemary Malfi, Ph.D., Pesticide Program Specialist
Aimee Code, Pesticide Program Director
on behalf of the Xerces Society for Invertebrate Conservation

References:[1] Hopwood et al. (2018) "How Neonicotinoids Can Kill Bees: The Science Behind the Role These Insecticides Play in Harming Bees." *The Xerces Society*, Link; [2] Barmentlo et al. (2021) Experimental evidence for neonicotinoid driven decline in aquatic emerging insects." *Proceedings of the National Academy of Sciences*, 118 (44) e2105692118, doi: 10.1073/pnas.2105692118 [3] Gillam, C. "'There's a red flag here': how an ethanol plant is dangerously polluting a US village." The Guardian, Jan 10 2021. Link. [4] US Environmental Protection Agency. "EPA Finalizes Biological Evaluations Assessing Potential Impact of Three Neonicotinoid Pesticides on Endangered Species." June 16 2022. Link.[5] Smith M.R. et al. (2022) "Pollinator Deficits, Food Consumption, and Consequences for Human Health: A Modeling Study." Environmental Health Perspectives 130(12), doi: 10.1289/EHP10947.

Minnesota House of Representatives and Senate Conferees
Environment, Natural Resources, Climate, and Energy Finance and Policy

Written Testimony Regarding Omnibus Environment Finance and Policy Bill (HF2310/SF2438), April 30, 2023

Rosemary Malfi, Ph.D., Pesticide Program Specialist
The Xerces Society for Invertebrate Conservation

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Sincerely,

Rosemary Malfi, Ph.D., Pesticide Program Specialist
Aimee Code, Pesticide Program Director
on behalf of the Xerces Society for Invertebrate Conservation

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