Wisconsin's Green Fire Comments on Enbridge Pipeline Line 5 Relocation Project Draft Environmental Impact Statement (EIS)

April 15, 2022

Wisconsin's Green Fire (WGF) appreciates the opportunity to provide comments on the draft Environmental Impact Statement (dEIS) for the Enbridge Line 5 pipeline relocation project. Our mission is to promote the use of sound science in natural resource decision making. Among our guiding principles is our commitment to environmental justice, a critical consideration for this project. Our members have extensive experience in natural resource management, science, education, law, and other fields. Our review team on this project includes members with experience in water resources, Wisconsin Department of Natural Resources permitting, EIS drafting, natural resources and watershed processes in the Lake Superior region, and the oil and natural gas pipeline industry.

Wisconsin's Green Fire recognizes that the Wisconsin Department of Natural Resources (DNR) does not have comprehensive authority over the reroute of Line 5. Rather, DNR authority centers on waterway and wetland crossing permits, erosion control, wastewater discharge permits, endangered resource protection, and air discharges. However, the scope of the EIS, as provided in NR 150 Wis. Admin. Code, may be much broader, so that regulatory decision-making is informed by a comprehensive evaluation of factors that include environmental and social considerations, and so the public is informed of broad ramifications of a proposed project.

The environmental and social considerations of the pipeline reroute are complex, and we recognize the difficulty of producing a comprehensive analysis. Our review identified several areas in the dEIS where the information was incomplete, where information was listed but analysis did not take place, where statements in the EIS were contradictory, or where environmental information was presented as "according to Enbridge" without apparent verification by DNR. Our major concerns fall into these major categories:

- spill prevention and response, including the effect of climate-change fueled storms on vulnerability of the pipeline to spills and difficulty of spill response
- impacts of construction, operation, and spills to high quality resources
- environmental justice
- climate change and energy policy
- waterway and wetland crossings, erosion control, and impacts to water resources, including impacts to drinking water wells

- **public review of permits:**
  As we raised in our 2020 comments, WGF remains concerned about the process followed for the waterway and wetland crossing permits wherein complete plans have not been provided for public review prior to the DNR deeming the permit applications complete. At a minimum the docket should include an exhibit that shows the plans for each of the proposed waterway and wetlands crossings.

For all of these reasons, we encourage the DNR to draft a new version of the EIS to address the gaps we and others identify, and allow the public to review and comment on a second draft of the EIS.

Finally, our comments include suggestions for enhanced pipeline integrity, safety, spill prevention and response, given the world class high-quality resources of the Lake Superior basin, should the project move forward. These suggestions appear at the end of our comments on the dEIS.

Our letter is organized as follows:

A. Summary of our major issues: pages 2-4 of this letter.

B. Specific comments on sections of the dEIS: pages 4-19.

C. Suggestions for enhanced pipeline integrity: pages 19-20.

A. Major issues

1. Climate Change-Fueled Storm Events, Spills, Response, and Impacts to High Quality Resources

The risk of an oil spill in the high-quality watersheds of the Bad River is a significant threat. **The dEIS does not adequately address spill prevention, climate-change fueled storms, spill response, and impact to high quality resources.** The Lake Superior region's steep unstable terrain and soils increase flood severity and the impact and difficulty of responding to spills.

- The EIS should address how intense storms impact pipeline construction, maintenance, operation, and spill response. The floods and infrastructure damage within the last decade in the Lake Superior region are indicators of what should be expected in the future.
- Spill response plans should detail routes, equipment and maps for each stream or wetland where spills could occur

- The assumption stated in the dEIS that spills would not reach the Kakagon Sloughs and Lake Superior is not supported by any evidence. The pipeline operator should follow a protocol that begins with monitoring local and regional weather and includes a list of emergency measures to prevent catastrophic impacts from major weather events based on anticipated rainfall amounts.

2. Environmental Justice

The dEIS should have more in-depth and accurate description around environmental justice, tribal treaty rights, impacts to tribal and rural low-income communities, and economic and land use impacts to ROW property owners. The DNR should look to comments provided by individual tribes and the Great Lakes Indian Fish and Wildlife Commission GLIFWC) to address environmental justice more fully in the dEIS and in the project as a whole.

3. Climate Change, Energy Policy,

Investing in new pipeline infrastructure today helps lock in years of additional reliance on fossil fuels. The dEIS does not clearly present the need for this project along with a "no pipeline" alternative which would mean dismantling the existing line without a re-route. The dEIS gives little analysis of the "no pipeline" option and the overall shift away from fossil fuel use. The dEIS should include data on future demand for oil and gas and petroleum products.

4. Waterway and Wetland Crossings and Impacts to Water Resources

Waterway and wetland permits are the most significant regulatory decisions the DNR has authority to make for the project. As in 2020, we remain concerned about the lack of information provided by Enbridge about crossings. As the permits were deemed "complete" prior to the dEIS review, and at that time there were no site-specific plans in the permit applications, this information should now be provided in a clear and consistent manner. Rather there are a host of conflicting documents that make review challenging, especially when comparisons are made between documents provided to the Army Corps of Engineers and the DNR. The public is entitled to review and comment on specific plans for specific waterway and wetland crossings. It should be made clear in the permit documentation, which information represents a "complete plan" for any particular crossing.

- We are concerned about plans for blasting in waterways and wetlands, and that so much responsibility would be handed to Enbridge contractors, including dealing with impacts to private water wells. DNR permits should be conditioned to protect the rights of landowners and the public.
- A complete Erosion Control / Stormwater plan should include site-specific erosion control details for high quality water bodies and wetlands with standing or shallow subsurface water.

- The plan to trench pipe through streams does not account for the possibility of disrupting subsurface flow contributing to downstream waters, particularly trout waters.
- Enbridge has requested exemptions from seasonal prohibitions of work in streams, meant to protect fish spawning, but no rationale is given other than meeting schedules.
- The EIS should contain more detail on events such as frac-outs, aquifer breaches, or contamination to private wells with plans for prevention and remediation. Plans should include baseline monitoring and follow-up monitoring for a specified time period, especially given the examples of frac-outs from Line 3 construction in Minnesota.
- A general permit (wastewater) for dewatering should be required if a frac-out occurs to meet suspended solids standards. Periodic grab samples should be taken by inspectors at waterways crossings.

B. Specific comments on sections of the dEIS

Section 1. Project Overview and Regulatory Process

Section 1.3 Project Purpose and Need

The Purpose and Need statement are incomplete, only citing Enbridge's views on the need. This section should analyze the need using additional references such as

https://www.michigan.gov/documents/egle/Upper_Peninsula_Energy_Task_Force_Committee_Recommendations_Part_1_Propane_Supply_with_Appendices_687642_7.pdf

https://mipetroleumpipelines.org/document/alternatives-analysis-straits-pipeline-final-report

Section 1.3.1 Lawsuit to Remove Line 5 From Tribal Lands

This section should include the stated concern of the Bad River Band of Lake Superior Chippewa that the pipeline be removed from its watershed, not simply from the Reservation proper.

Section 1.3.2 Current Line 5 Use

This section should include a brief description of the existing easements and Enbridge lapsed easements and subsequent history of trespass.

1.6 Authorities and Required Approvals

Section 1.6.3 Tribal

The section should use the full names of Wisconsin tribes as found on Great Lakes Intertribal or US BIA websites.

The Bad River Band of Lake Superior Chippewa has promulgated water quality standards approved by the U.S. EPA and has Treatment as State (TAS). This section should describe Bad

River Tribal Water Quality Standards and their applicability on and off the Reservation. https://www.epa.gov/wqs-tech/water-quality-standards-regulations-bad-river-band-lake-superior-chippewa-tribe. The EIS should consider the implications to this project of tribal water quality standards for downstream waters for the alternative routes presented in the EIS. For more information see https://www.epa.gov/sites/default/files/2018-10/documents/protection-downstream-wqs-faqs.pdf.

Section 1.6.3.3 Treaty Rights in Ceded Territory

This section should clarify which tribes are parties to the 1842 treaty as later in the document there are inaccurate characterizations and listings. This section should include a statement or clarification regarding Wis Stat. 943.143 and the issues between the ceded territory rights to hunt fish and gather and the criminal trespass law.

Section 1.6.4.2 Local Permits

This section should address Ashland County wetland and shoreline ordinances and the Iron County shoreline ordinance and their applicability.

https://co.ashland.wi.us/index.asp?SEC=D3432259-9AE2-4F13-84C9-E1EB50164D57&DE=A32C8360-6441-4F31-A57B-170627DE61A1&Type=B_BASIC

https://co.ashland.wi.us/vertical/sites/%7B215E4EAC-21AA-4D0B-8377-85A847C0D0ED%7D/uploads/ASHLAND_COUNTY_SHORELAND_PROTECTION_ORDINANCE_-_FINAL.pdf

http://www.co.iron.wi.gov/docview.asp?docid=27036&locid=180

Section 2 Description of the Proposed Project and General Pipeline Practices

Section 2.1.1.2 Associated Facilities Proposed – Mainline Block Valve Sites and Pumping Stations

Enbridge should provide results from the Intelligent Valve Placement (IVP) analysis modeling used to determine the location of block valve sites and to verify there is no need for additional block valve sites. What are the potential locations of new power line easements and associated impacts? This section discusses a drag reducing agent employed in the injection system. What is the chemical composition and toxicity of the agent used?

Section 2.3.1 Additional Temporary Workspace

Siting of additional temporary workspace within wetlands could be problematic and should be avoided to the extent possible. What are the locations of the new permanent access roads to block valve sites?

Section 2.5 Pipe Installation Methods

The list of steps during pipeline installation on page 29 of the dEIS should include erosion control, as well as site monitoring and inspection during pipe installation.

Section 2.5.2.1 Waterbodies

This section describes leaving a 20-foot buffer above the Ordinary High Water Mark (OHWM) for waterbodies. Wisconsin's Best Management Practices for Water Quality cite 35-foot buffers for streams 3 foot and under and 100-foot buffers for streams over 3 foot and all trout streams. How did Enbridge select the 20-foot buffer as appropriate?

https://dnr.wisconsin.gov/topic/forestmanagement/bmp

Section 2.5.2.1 Waterbodies and 2.5.2.2 Wetlands

The dEIS should address the timeline of construction in stream crossings and wetlands to minimize impacts to fisheries, spawning, and other wildlife breeding seasons. Permits should include detailed plans for each crossing.

Section 2.5.2.1.4 Bedrock Crossing Areas

This section states that there are seven water crossings where bedrock excavation would be needed. This section and the Blasting Plan included in Volume 2 of the dEIS describe the general responsibilities of the blasting contractor and the company. It states "Potable water sources within a distance established by the blasting contractor would be tested for water quantity (well yield) and water quality. Enbridge would repair or restore any damage, or Enbridge would compensate the owner for damages." Should the blasting contractor be the only entity determining the zone of potential risk to private wells? The DNR should consider incorporating permit conditions in the waterway crossing permits that would specify Enbridge responsibility to compensate private well owners as set forth in the plan. In addition, blasting at large waterway crossings risks major fish kills. DNR permits should also include conditions for measures to protect fish and aquatic life.

Section 2.5.2.2 Wetlands

This section should describe specifically how the contractors will return wetland subsoil to its preconstruction density.

Section 2.5.2.3.1 Horizontal Directional Drilling Method (HDD) See comments on section 6.8.1.8 – Effects of Directional Drilling (HDD and Direct Bore).

Section 2.6.12.1 Pipeline Decommissioning

In this section there are several statements beginning, "According to Enbridge" that seem to defer to some general statement Enbridge representatives have made rather than a certain

known practice or industry standard. We recommend confirming the best practice and stating whether that will be the practice of choice.

Section 2.6.16.2 Pipeline Removal

At the end of this section the document states, "The owner/operator may be responsible for ensuring that the ROW and any facilities left in place remain free of problems associated with the abandonment." The document should clarify the conditions under which the owner/operator would or would not be responsible so that the public is fully informed of risks not covered that might become a community responsibility.

Section 2.7.3 Stormwater

See our comments under Section 6.

Section 2.7.6 Construction Timing

Enbridge should not be allowed waivers on timing of construction for important habitats and species. But, since Enbridge has applied for waivers from the requirements to restrict activity to protect spawning seasons, the dEIS should evaluate impacts to trout spawning, and spawning of warmwater fishes in Section 6.

Section 2.7.8.1 Upland Restoration

The third paragraph states that Enbridge would assess and approve re-vegetation from Sept. 2 – March 31. They should do this in concert with agency regulators.

Section 2.8.1.1 Preventing Integrity Threats

Under *Public Awareness of Pipelines and Related Facilities*, paragraph 2 discusses streambed downcutting as a significant threat. The dEIS goes on to state, "According to Enbridge, the integrity of channel boundaries and potentials for hydrotechnical geohazards for channel crossings associated with the proposed Project were assessed. The resulting information on the potential for scouring and/or exposure of the proposed pipes was used to design the minimum depths of the proposed pipeline at and on the approaches to proposed stream crossings."

The dEIS should report the data and assessments that Enbridge conducted and the DNR should analyze the design plans for each crossing. This information should be reflected in the permit details as well as summarized in the dEIS.

Section 2.8.4 Leak Detection

This section should also analyze plans for pipeline monitoring and spill response under winter conditions and during extreme storm events. Also see our comments in Section C about options for enhanced leak detection.

Section 3 Project Alternatives

WGF focused review primarily on the company's preferred alternative.

Section 3.1 Relocation with Removal of Existing Pipeline

This section begins with "According to Enbridge, removal of the pipeline is outside the scope of their project." **We assert that Enbridge should not determine the scope of the EIS.**

Sections 3.2 Route Alternatives, 3.3 No Action Alternative, 3.4 System Alternatives

These sections should be revised to include additional information and analysis on alternatives. For example, a recent report from Environmental Defense Canada suggested alternative routes not included in the dEIS. https://environmentaldefence.ca/wp-content/uploads/2022/02/Potential-Enbridge-Line-5-Closure-Meyers-Energy-Consulting-LLC-FINAL.pdf

These sections should also include a more robust analysis of the "no pipeline" alternative and the increasing share of energy provided by green energy.

Section 4 Scope of Analysis

Section 4.2.2 Indirectly Affected Environments

This section is vague and is basically a re-statement of the definition in 4.2 Geographic Scope. The detailed section should provide sidebars or clarification of what was considered in this document to be indirectly affected environments. Biodiversity in the region should be considered in this section.

Section 4.2.4 Watersheds

This section states "Those surface waters that are hydrologically downstream from the proposed route are within the geographic scope of the possible indirect effects." This should also address the direct impacts that a spill would have on the downstream waters.

Section 5 Current Conditions

Section 5.5 Regional Climate

This section should be updated with the most recent data from WICCI.
https://wicci.wisc.edu/2021-assessment-report/

Section 5.8.3 Groundwater and Wells

This section states that the number of pre-1988 private wells is uncertain. Private wells can be estimated by evaluating location of dwellings in the area to supplement the recorded number.

Section 5.14.1 Federally Listed Threatened or Endangered Species

The grey wolf needs to be added to this section.

Section 5.16 ASNRI (High Quality) Resources

High quality resources are addressed in section 5 of the dEIS. Information on Areas of Special Natural Resource Interest (ASNRI) that are especially important include wild rice waters, wild and scenic waters, and ORW waters along with occurrences of threatened or endangered species. Impacts to these resources can be extremely serious, yet sections describing project effects often lack detail such as impacts to springs supplying trout streams, species mortality and reproductive failure linked to spills and a much broader listing of species potentially impacted by spills and contamination. The dEIS does not provide any science-based information to support the conclusion that spills would not reach the Kakagon Sloughs and Lake Superior. Spill impacts on wild rice beds, Lake Superior fisheries, ecology of coastal wetlands, and trout streams should be expanded.

Of particular concern is the request by Enbridge to be granted exemptions for seasonal prohibitions against crossings of perennial streams. No rationale is provided for this request and the dEIS does not evaluate the impacts to trout and warmwater fish spawning. Enbridge should be required to modify their construction calendar to reduce these impacts. Winter construction can help lessen some impacts, but avoiding impacts to other species would need to be considered, such as wood turtle hibernaculum areas.

Section 5.17.3 Indigenous Communities

This section is not accurate and does not correctly list and categorize indigenous communities. The Red Cliff and Bad River Bands of Lake Superior Chippewa are the closest reservations to the project site, followed by Lac Court Oreilles and Lac du Flambeau. However, the route has the potential to impact all Wisconsin tribes with ceded territory rights, which is not addressed in

this section. Instead, the document lists the Forest County Potawatami Community, which was not a party to the treaties with the Chippewa Bands. It should be noted however, that while not holding treaty rights, Forest County Potawatami have and continue to use the project area for traditional hunting and gathering. This section needs to be revised to correct these errors.

Sections 5.18-5.19 Culture Resources, Tribal Treaty Resources

These sections should be revised based on the recommendations of Tribes and the Great Lakes Indian Fish and Wildlife Commission.

Section 6. Effects of Proposed Project and Route Alternatives

Section 6.1.0 Surface Waters

In Table 6.10-1-1 Water body crossings: It is unclear why the crossing length for ephemeral streams are listed as N/A. How can the company be sure that pipeline install will not occur when there is flow? Ephemeral streams can quickly become flowing in this area. In addition, the proposed route would cross 48 designated high quality streams or their tributaries (ORW/ERW, trout waters, ASNARI). 23 of these are perennial tributaries. Waterway crossing maps do not show the location of erosion control measures planned. The erosion and sediment control maps in Appendix B do not provide that level of detail, although they do show areas with greater than 20% slope. A complete erosion control / stormwater plan should include site specific erosion control details for water bodies with high quality designations (e.g. ORW, ERW, trout waters, ASNRI) as well as wetlands with standing or shallow subsurface water present. These details need to include the proposed locations of all erosion control measures to be employed. Third party inspections are a positive feature.

Section 6.4 Greenhouse Gas Emissions

If completed this project will extend the practical lifespan of Line 5. See our comments on GHG emissions in Section 9.

Section 6.6.2 Blasting Bedrock Effects

This section refers to the waterways and wetlands crossing tables provided by Enbridge indicating the waterways and wetlands that would be crossed using blasting and the general blasting plan. The section describes anticipated blasting for crossings of 22 waterways and 117 wetlands. Section 2.5.2.1.4 Bedrock Crossing Areas describes only 7 waterway crossings, which seems to contradict this section. Section 6.6.2 describes changes to hydrology and drainage patterns that could result from blasting. The section should acknowledge that blasting would damage or at least change the stream bed, possibly damage spawning habitat, impede navigation, and could exposure fissures in bedrock and change hydrology. The materials

submitted by Enbridge (Environmental Protection Plan) also note that the blasting contractors would be responsible to address any damage to private wells. How will Enbridge and its contractors evaluate wells and address damage? How will private property owners be compensated for damages? Will they need to undertake legal actions?

We share the concern expressed by other organizations about blasting and fractures to bedrock with possible affects to wells, groundwater, and surface water hydrology. The public should be able to review specific plans for specific waterways that would be crossed by blasting. How will the DNR ensure that public and private rights are protected when waterways and wetlands are subjected to blasting? DNR should pay particular attention to including conditions in Chapter 30 and wetland permits to protect private and public rights.

Section 6.7 Geohazards

We are glad to see an evaluation of geohazards in the dEIS. The geohazard risk ranked profile analysis by Enbridge looked at potential impacts to the pipeline. While this is an important consideration, especially related to potential for spills, the dEIS should also provide an evaluation of overall risks to the environment related to construction and operation in geohazard areas.

Again, we are concerned about the lack of site specific plans, and reliance on "typical" methods and measures for mitigation of effects along steep slopes (Appendix K). We believe that an evaluation of geohazards should also consider the potential for artesian conditions springing from HDD as well as the upstream watershed characteristics that could lead to high energy runoff events. We have also reviewed the letter to DNR from Enbridge dated Oct 4, 2021 WDNR Water Resources Application for Project Permits – Data Request Response." The table in the letter and in this section of the EIS identifies 27 possible geohazard areas. In the discussion of mitigation of geohazards, the letter states "Examples of mitigation designed (sic) that were used include: pipeline reroutes, HDD, increased pipe depth, slope stabilization plans, drainage schemes, erosion and sediment controls." These statements imply the existence of site-specific plans for waterway crossings in geohazard areas that should be included in the permit application materials for public review.

In two instances in this section "according to Enbridge" is used. This makes it sound like this would be their choice rather than a stated and required action. Clarification is needed on this wording.

Geohazard maps 1-8 – We suggest changing the color of areas of 15-20% slope within the Right of Way to a color other than blue as waterways are also blue.

Section 6.8.1.8 Effects of Directional Drilling (HDD and Direct Bore)

Given Wisconsin's limited regulatory authority for oil pipelines, many of the requirements which would make HDD safer and reduce spill risks are outside the DNR purview. However, these risks are significant and need to be clearly assessed, and the public should be fully informed on potential impacts. Releases of drilling fluids during the recent Enbridge Line 3 construction clearly illustrate the impacts to surface waters (Minnesota's Willow River release for example). The Minnesota Pollution Control Agency (MPCA) confirmed 13 inadvertent releases into wetlands, and 12 at river crossings. Additionally, HDD uses significant amounts of water to mix drilling fluids. Water use can increase substantially when frac outs occur. An example is Minnesota Line 3, where water use from high capacity wells increased from the original permit request to pump 510 million gallons, to an amended permit to pump nearly 5 billion gallons of water.

A 2020 report by a USACOE levee safety team documented causes and impacts of frac-outs https://www.swg.usace.army.mil/Portals/26/THOMAS-SWG%20HDD%20-%20Winter%20Stakeholder%20Partnership%20Forum%202020.pdf

This report documents geotechnical, design and construction causes for failure in HDD which result in "unintended discharge." In HDD processes, drilling fluids or mud (bentonite, sodium carbonate or soda ash, and other chemicals) are used during the drilling process. A percentage of drilling fluid (approximately 20%) creates "well cake" around the pipe and is not recovered, however the remainder of fluids are recovered unless a frac out or cave in occurs during drilling. Frac-outs occur when annular pressure is higher than the soil layers can accommodate.

The report suggests that complete geotechnical data is essential in prevention of frac-outs. In particular, soil layers such as gravel are vulnerable to frac-outs. In Minnesota, Enbridge used an averaging formula (Delft Equation) which averages soil layer risks. The report states "The equation (Delft) used for maximum allowable pressure may not be accurate due to different site conditions and assumptions." In other words, this averaging process reduces the potential to identify soil layers where risk of frac-out is high. In a letter to Senator John Marty of Minnesota, Enbridge stated that "The inadvertent release of drilling fluid during HDD crossings is a **generally known and common risk** associated with the HDD crossing method, a method which is typically understood to be the least degrading method for certain crossings, even with these risks."

In a letter to the Wisconsin League of Women Voters relating to HDD regulation on Feb 22, 2022, the DNR stated "Unless a proposed HDD involves disturbance below the ordinary high water mark of (and within) a waterway or the discharge of fill into a wetland, the HDD activity does not require a DNR permit. As such, the DNR does not require submittal of geotechnical data associated with proposed HDDs." **This lack of authority appears to be an area of significant concern in terms of protection of public resources such as ground and surface water and ecosystems that might be impacted by inadvertent release of frac fluids.**

The DNR letter went on to state, "Because HDD has the potential to result in an unintended discharge (or "frac out") of drilling fluid into waterways and wetlands, the DNR does require applicants to submit frac out plans that detail how they intend to prevent an unintended release, how they will minimize impacts associated with a release, and how they will restore areas that are impacted. Applicants are also restricted to using only those drilling fluids approved by the DNR… It would be premature to speculate or further comment on any potential permitting decisions, including those pertaining to HDD, while we are still working through the EIS process." This suggests that the permits for Enbridge Line 5 which were deemed complete by the DNR in 2020, might be changed by comments on the dEIS.

Notwithstanding the limitations of the DNR's authority to regulate HDD, we suggest adding the information to the dEIS to provide the public with a clear understanding of risks from HDD and related risk prevention steps Enbridge could utilize to reduce risks including:

- background on the risks of frac-outs in specific soil types and details on how Enbridge will prevent or remediate these likely occurrences;
- a summary of the Line 3 documented releases of drilling fluids (13 of which entered surface waters, causes for frac outs, and impacts from those events;
- analysis of geological features along the Line 5 route and potential risks related to HDD in the project area.

We understand that Wisconsin is currently reviewing and finalizing its guidance document on HDD. https://socwisconsin.org/wp-content/uploads/2022/02/1072_HDD_BroadReview_021622.pdf

We suggest that discussion of Wisconsin HDD guidelines be added to this section along with a summary of suggested steps in the 2020 report by the USACOE levy safety team for preventing inadvertent releases.

In Section 30.2 of the EPP (Volume II Appendix C), we suggest consideration of the USACE HDD potential failure list with related plans for addressing releases of drill fluids.

In the last paragraph of this section additional information on known HDD releases into wetlands and waterbodies should be cited, including those from Line 3 in Minnesota.

Section 6.8.2 – 6.8.2.4 Groundwater

This section needs to include potential impacts to groundwater resources, citing examples such as the Line 3 groundwater breach, instanced of contamination of groundwater and develop an analysis of why these impacts would or would not occur in the cited aquifers with adequate references.

Section 6.8.3 Effects on Wells

The dEIS should provide an estimate of the number of pre-1988 wells along the proposed route. The area is known to have difficult geological conditions for well drilling, and many homes rely on wells from pre-1988. A survey of homeowners along the route could provide some data to address this issue. The rural population of this region includes many low-income and disadvantaged people who might have significant challenges should the project impact wells. Although the blasting plan in Volume 2 of the dEIS indicates that Enbridge would compensate property owners with impacted wells, suitable alternate well sites may not be found on the property.

Section 6.8.3.3 Artesian Wells

This section takes an optimistic view that the pipeline will not breach aquifers. It should include reference to other situations such as Line 3 Minnesota where significant impacts were encountered. Groundwater dewatering wells could have sufficient discharge to require a high cap well approval. Plans should be developed for discharge areas to prevent erosion during dewatering operation.

Section 6.9.5 Erosion During Construction

This section should address the seasonal timeline for construction and ways that construction would prepare for and prevent erosion during strong storm and runoff events.

Section 6.9.6 Post Construction Erosion

This section tends to downplay the significance of erosion events. It would be more realistic to address the threats of major storms and steps that would be taken to reduce risks.

Section 6.9.6.1.2 Ravines to Section 6.9.6.3 Mitigative Measures

These sections suggest that impacts from erosion will be minimal after revegetation has been completed but acknowledge the possibility of extreme storm events. The mitigation measure section should more specifically address how the project will prevent impacts in their construction planning for increasing storm frequency and strength during the lifespan of the pipeline.

Section 6.10.2 Sediment and Siltation

This section should also describe that the use of HDD needs to consider the possibility of intrusion of artesian conditions and could therefore be damaging to waterways.

Section 6.10.6 Lake Superior

This section should include information/analysis of potential impacts to Lake Superior from a spill upstream, both direct and indirect.

Section 6.10.7 Kakagon -Bad River Sloughs

This section should include information/analysis of potential impacts of a spill upstream that reaches the sloughs as well as impacts from increased sedimentation.

Section 6.10.8.9 Springs and Seeps

As stated in the dEIS, seeps are common in the transition zone between sand and clay. The presence of seeps and springs along the preferred route needs to be determined, and presented in the dEIS. Protection of these features needs to be accounted for in construction plans.

The dEIS should indicate whether the spring in RA3, 50 feet outside the construction zone would likely be impacted by construction. If so, does this spring supply water to a trout stream? Would the construction trench cut through the groundwater supply for this spring, ending its function as a spring?

Section 6.1.1 Wetlands

Section 6.11.5 High Quality wetlands

The dEIS states it can't determine high quality wetland as no surveys have been done. Wetland delineations for the wetland permits should be consulted to determine occurrence of high-quality wetlands.

Section 6.11.6 Wetland Mitigation

The mitigation plan should focus on restoration within the HUC 12 watershed since wetlands are critical to ameliorate flooding in these flashy watersheds, which in turn put the pipeline at greater risk. Wetland banks cited in the plan are not in the watershed. In-lieu-fee based projects in the watershed would be preferable. At the very least, the available of mitigation capacity at the banks cited in the plan should be known, especially given that the wetland permits applications are deemed to be complete.

Section 6.14.1 Federally Listed Threatened and Endangered Species

Add grey wolf (*Canis lupus*) to this list with appropriate analysis.

Section 6.14.2. State Listed Threatened and Endangered Species

This section has numerous typos. There are regular references to measures that could be taken to protect species with no concrete information or indications of whether these measures will be taken or required. There is no reference to construction timelines or which species the timelines would accommodate or prioritize. The statement "According to Enbridge (Enbridge EIR, Revised August 2020a), they will avoid activities March 15 to October 31 to the greatest extent practicable." The bottom of page 215 is not detailed enough to clarify which species would benefit from timing options.

On page 205 of the dEIS a list of surveyed wetlands includes notations for ephemeral (vernal) pools. Section 6.14.2 Ephemeral Pond states that this community is not present. These two statements in the dEIS are contradictory. Overall, the dEIS is inconsistent in its treatment of seeps and ephemeral ponds, both features that are important ecologically and hydrologically, as well as features that may provide challenges to pipeline integrity in terms of hydrological processes. The document denies that seeps and ephemeral pools are found in the project area, but other sections of the document reference these habitat types and possible impacts.

GLIFWC has identified species not listed by the DEIS. This report needs to cross check species and natural community occurrences. In many instances the report cites lack of data, which in cases such as seeps and ephemeral pools, the presence of wetland plants should indicate where additional field work is needed to fill in the knowledge gaps.

Section 6.17.3 Indigenous Communities

This section should include the appropriate tribes with accurate descriptions and names as mentioned in our earlier comments.

Section 6.18.2.1 Tribal Cultural Resources

The dEIS cites major data gaps and an admission by the survey author that "major additions are needed." The statement "The study results and recommendations are acknowledged to be based on limited response and interaction with local tribal communities (Dirt Divers 2020). There was no input from Tribal Historic Preservation Offices (THPO). THPOs would normally be a primary source of information, particularly for reports seeking to meet federal standards. The report is identified as a 'preliminary draft' as of EIS publication." Regardless of the difficult relations between Enbridge and the Tribes, this section should be more fully presented before moving the dEIS into final stages.

Section 6.19.2 Inland and Lake Superior Fisheries

This section should include impacts on stream and lake fisheries should pipeline spills occur in the watershed, including impacts should a spill reach Lake Superior and impact fisheries.

Section 7 Risk and Potential Effects of Pipeline Spills

We suggest revising the spills section of the dEIS using the 2016 Sandpiper EIS treatment of spill prevention, response and impacts, as a model. See https://dnr.wi.gov/files/PDF/pubs/ea/EA0229.pdf.

Section 7.2.1 to 7.2.3. Small to Large Spills

These sections should include major storm runoff events as a potential cause of or contribution to severity of spills, with analysis on the strength and frequency of storms currently and as projected for the region as the climate continues to warm.

Section 7.3 Historical Spills

This section should be reorganized to more clearly differentiate between all spills across Wisconsin, Enbridge spills in Wisconsin, and the Kalamazoo River, Michigan spill. Spills in 2021 on Line 3 in Minnesota should be added.

Section 7.3.3 Spills Since Digs Program

This section should include verification from a public spill volume report, and not solely reference Enbridge "Quick Facts." Readers should have an affirmation that spills requiring a report to WDNR and/or a federal agency are included in the volumes reported in the EIS. The "Quick facts" reported volume should match that in the state or federal database, or there must be some explanation if they do not match.

Section 7.3.4 Potential Types of Spills and Response Actions

Types of spills should be described for construction, operation, and maintenance. There is no mention of spill response in this section.

Section 7.6 Spill Response

This section should include a detailed discussion, with maps, of the routes by which spill response and cleanup equipment would be able to most efficiently reach each stream and wetland that could potentially be impacted by a spill. Spill response plans should acknowledge

the specific challenges of the geology and hydrology of the Lake Superior basin. The likelihood and response challenges for spills caused or exacerbated by flooding as seen in 2012, 2016, and 2018 should be addressed in the plan. Winter response plans should also be addressed. As a matter of public information, it seems essential to allow the affected public to judge whether response plans would be adequate to minimize environmental damage.

Section 7.6.6 Insurance and Liability

Liability and insurance sections should be expanded to include past incidents and options should damages exceed insurance liability.

Section 7.8.5 Spill Impacts to Plants and Animals.

This section is very general, yet specific impacts to wildlife and ecological communities can be extremely serious. We suggest at least adding references (with url links) to oil spill response and cleanup reports that reference species mortality, reproductive impairments, duration of contamination, and other documented harms from oil spills in similar environments over the last 40 years. Also include references to best practices and success rates for rescuing contaminated wildlife and cleaning oil from habitat types along the pipeline route.

In addition to noting potential vulnerability of moose (which by reports are rare and transitory in the Wisconsin portion of Line 5), we suggest listing additional wildlife that would likely suffer far greater impacts, such as mink, beaver, otter, water shrew, turtles and amphibians.

Section 9 No Action System Alternatives

Section 9.5 Climate Change

The general stated climate policy of the current federal and State of Wisconsin governing administrations is to reduce Green House Gas (GHG) emissions in order to contribute to meeting goals of various international climate agreements. While it is true that the combustion of the oil in this pipeline segment relocation project would not add new GHG emissions, a discussion of the GHG emissions represented by this oil should be included. In particular, a No Action Alternative should acknowledge this need to reduce GHGs and note that some variation of a “leave it in the ground” policy could reduce U.S. GHG emissions from transportation by some amount approaching 2.6%. The 2016 Enbridge Sandpiper and Line 3 Replacement EIS could serve as a model for presenting this information. However, we are aware that complex market forces influence whether this potential reduction in GHG emissions would be offset by other means of delivery to existing of expanded markets.

The No Action Alternative section should also note that other nations are making substantial progress in reducing CO2 emissions by achieving remarkable increases in adoption of electric

transportation vehicles. In the U.S., while EV adoption is currently not as robust, numerous vehicle manufacturers are developing and marketing EVs for the general market. Long term, it may be feasible to phase out the volume of petroleum carried by Line 5 from North America's energy supply. The No Action Alternative section should also evaluate options for propane shipment to northern Michigan, and should evaluate Enbridge's position that an existing southerly route pipeline could not be used in the transport of this propane.

The climate change section should also include impacts to cool water aquatic species that are climate sensitive. For example, in northern Wisconsin, walleye are a species of public concern. Trout habitat is declining in many areas so remaining trout habitat in northern Wisconsin is becoming increasingly important. The section should also include impacts on boreal forest habitats which are likely to decline as climate warms and species vulnerable to climate change impacts.

C. Suggestions for enhanced pipeline integrity, safety, spill prevention and response, given the world class high-quality resources of the Lake Superior basin

Given the environmental sensitivity and cultural significance of the area, if the project moves forward, we believe it should be built and operated to higher-than-typical standards.

In terms of environmental justice, it is important to consider which communities bear the risk, especially tribal communities, and which communities of consumers and shareholders benefit most from the pipeline. Risk cannot be completely eliminated from any pipeline project, but there are techniques to reduce it. Wisconsin's Green Fire recognizes the DNR's limited authorities to regulate pipelines. WGF recommends DNR consider the concepts provided below as permit conditions to protect water resources recognizing the DNR's public trust obligations. Ideally, the Corps of Engineers could do the same on related Section 404 permits. WGF recognizes the legal and technical complexity of this recommendation since the boundaries of federal preemption of pipeline safety regulation vs. other legitimate conflicting federal and state concerns are not clear. Actions to reduce risk include:

1. **Establish a higher engineering standard for the pipeline** in justifiable situations to minimize long term spill risk. The proposed pipeline is currently designed to typical (design factor 72) or somewhat better than typical North American liquids pipeline standards for rural areas. The standards could be enhanced for the segments by thicker wall pipe, possibly higher spec steel, deeper burial, padding the ditch (to protect the pipe and its surroundings from hazards such as rock abrasion), and over-designing automated control systems, more akin to what a US gas pipeline might be required to do in a densely populated urban (Class 4) location. Thicker wall pipe would mitigate

common forms of corrosion risk. These techniques would somewhat complicate construction and cost more than usual, but may be justifiable when applied judiciously. Specifics as to the actual crossings should be discussed in the dEIS, including safest and most appropriate crossing methods for particular locations.

2. **Establish a higher-than typical standard for inspection and supervision of construction** of the segment in important locations. Despite current careful inspection of the initially constructed pipeline, damage to pipe and pipe coating during construction has always been an important cause of subsequent (often after many years) pipeline failures. The draft EIS describes a pretty robust program already, but for the short segment it could be improved with redundancy to bolster confidence in the end product. This amounts to inspecting the inspectors.
3. **Establish a higher engineering and inspection standard for river and wetlands crossings**. To help ensure the crossings are done correctly and with permanence, this would amount to engineering to emphasize durability and spill prevention in the cost/benefit analysis of the design of each crossing as well as extra inspection of the implementation to assure longevity. Examples might be deeper boring, concrete coated pipe or a variety of other techniques like pipeline bridging that have been successful in other difficult applications.
4. **Establish long term pipeline protection and spill response programs**. A leading cause of pipeline failures has always been external damage to the pipe or pipe coating subsequent to construction. Patrolling the right-of-way by entities with authority to protect the line against intrusions is the best protection. Enbridge already has a normal patrol program, but given the sensitivities of this project, extra patrols possibly involving some partnership of local and state personnel along with Enbridge, could help prevent damage and aid in prompt spill discovery. A quick, well-staffed and well-equipped local spill response entity might also improve confidence of all concerned. Slow discovery and response were critical issues to the severity of the Enbridge Kalamazoo spill. Frequent patrol and robust local spill response capability could help alleviate risks. Specifics beyond Enbridge's general area-wide plan should be discussed regarding each alternative to identify roles and responsibilities.

In conclusion, the Lake Superior region has incredible, high quality, beautiful resources deserving the utmost protection, which should be more strongly reflected in the dEIS and permits. We encourage the DNR to redraft the dEIS for a more complete environmental, social, economic, and energy policy analysis, and allow public comment on the draft and water resource permit-related information. Please do not hesitate to contact us to follow up on our comments and suggestions.

Thank you for your consideration.

Sincerely,

Fred Clark, Executive Director