Here are my comments on the Mesaba Energy Project, PUC Docket No. E6472/GS-06-668 DOE Draft EIS for the Mesaba Energy Project (DOE/EIS-0382D) Comments on Draft EIS.

Thanks for reviewing these

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DEIS Measba project

Page #

4 8 2 1 Changing forestland to grassland will only benefit edge species. We have an abundance of these already. What is declining are forest interior species, species which need larger patches of intact mature forest, and ground nesting birds. These corridors will provide easy hunting well into the fragments of forests Studies show these edge effects go well into the forests – at least 200 meters.
Changing forestland to grassland will also be a loss of a Carbon Sequestration sink and loss of biodiversity Righelato and Spracklen, Science 317:902)
There should be a GIS study buffering the amount of forest habitat that would be lost from ecologically functioning as a forest. Just the amount of land is one thing, weather the land base functions as a mature forest patch is another – especially with the creation of permanent hard edge.

Last graph How are these areas going to be restored? Need to be specific here. Using native genotypes is expensive and the plant material is not readily available. How much native seed will be used? Are they using non-native grasses and hay? Using hay as a ground cover spreads weed seeds. Native grass seeds will have to be maintained with some burning. Is this feasible on these locations?.

The weed seeds will spread into the forest as has been documented in rural road construction. Invasive species control than becomes a multimillion dollar control issue and tax burden and forest health issue. As noted in the DEIS, these invasive plants establish easy and are little used by wildlife. A further degradation of our forest environment.

So what about the maintenance of this changed ecosystem? This has not been answered adequately – both ecologically and economically.

Fauna

Graph 2 What Habitat type is so abundant? It is never stated. "Comparably habitats are abundant" has no business being in an ecological document. I think the wording ABUNDANT needs to be defined. This is arbitrary and

for those species which require these NPC, they need to be large, spatial patches, common, and of various age classes across the landscape. Not fragmented small parcels, less abundant and dominate by one or two age classes. What about the organisms which have large spatial area requirements in mature forests?
Document goes back and forth from using the wording of habitat type (Kotar) to listing natural plant communities (DNR) for Ecological Classification Systems. The actual NPC is not listed until several pages later. Very confusing and poorly written.

Graph 3, s 1 Good statement about dispersal and migration.

- These corridors will create barriers to movement
- Many of these forest birds are important in maintaining forest health by feeding primarily feeding on butterfly and moth larvae which would strip our trees of their leaves.

4 8 3 1 s1 **We do not have Turkey in Itasca County** or at the Eastern location of the plant. Why was this written in? Has there been any local research on these ecosyrtems?

4 8 3 2 This statement is incorrect in Northern Minnesota. See research by Natural Resource Research Institute in Duluth and other Lake States wildlife authors. This needs citation. Seeding Transportation lines and utility corridors WILL NOT "BENEFIT" native north central wildlife, as most species in decline in Minnesota are not edge species.
Cow bird should be one word.

4 8 3 3 A basic animal ecological principal is that populations cannot pick-up and move to the next woodlot. It may not have the same elements as the destroyed forest patch. There are already individuals that are occupying those niches and know the territory and food sites and territories are established. Even if you could get to a new patch, other individuals of that species are there occupying the site. There is only a decline in numbers of that species in that region of that animal community.

This is way to broad a statement as these species vary dramatically in habitats in which they occur for all 60 species of land vertebrates that can be hunted or trapped in Northern Minnesota. Needs much more research here.

An impact **of habitat loss** is pretty darn serious to wildlife. In fact it means the end. Why does this seem to be taken so lightly and buried in the middle for the p-graph?

Protected species

4 8 4

They Canadian Lynx range is retreating to the north as climate change will decrease lynx numbers, and as forest decreases. Forests are important in CO2 sequestration, so as we decrease forest area with this power plant and associated ROW's, we will only contribute to the decline of the Lynx habitat, its climate conditions, and the requirements of its chief prey – the snowshoe hare. Another reason to not build this power plant in relation to ETS species.

Impacts of operation

4 8 5 What about noise and human activity in the area -- in relation to wildlife behavior and stress?
Particulate pollution from the gasification plant will add to leaf deterioration and hasten plant decline, growth, and death.

4 8 2 2 graph 4

What about mercury and heavy metals in fish? "… would not be expected to…" This is vague and needs scientific citation.

Power plant foot print

4 8 3 1 gr 2 Needs to be stated the MHn 35b is at the NW edge of its range in the US. It is important to keep this type because of this climate change. It also has and important oak component for wildlife. Red Oak is also at the edge of its range here in Itasca Co.

MHn 44 This is one of the most productive NPC's for aspen, white spruce, and balsam fir forest. Forest industry cannot afford to loose this NPC.
This P graph is innacurate and exaggerated.

Fauna

- **It is important to realize that we made a similar statement about the passenger pigeon**. They were very abundant and with in 60 years this species was extinct through habitat destruction and market hunting. It can happen again.
- Non native populations of flora will increase with human disturbance and landscaping of site
- The statements 'we can do it cause it is abundant' is a sign of an ignorant ecologist We can't keep chipping away at ecosystems and think they can keep their integrity.

If we remove 1230 acres here, 89 aces there, 42 acres there and finally the ecosystems function falls apart. There are no large patches left of intact MHn 44 or MHn 35 any where

- And what about $$$ from tourism industry: especially biking and birding in the region. These are not considered.

Protected species

4 8 3 pg 7 See previous comments on Lynx and climate change and forest removal

Summary

The Biological component of the DEIS is flawed in many areas. First, it does not coincide with the goals of the Minnesota Forest Resource Council North Central Landscape plan. In fact, this wasn't even mentioned in the DEIS. The 3 main objectives of the plan which was developed by regional citizens and scientist are as follows

DESIRED FUTURE FOREST CONDITION of North Central Landscape www.frc.state.mn.us

The future forest of the NC landscape will have the following characteristics when Compared to the current forests of the year 2000:

1. There will be an increased component of red, white and jack pine, cedar, tamarack, spruce and fir.

2. The forest will have a range of species, patch sizes, and age classes that more closely resemble natural patterns and functions within this landscape.

3. The amount of forestland and timberland will not decrease using FIA definitions for timberland and forestland. Large blocks of contiguous forest land that have minimal inclusion of conflicting land uses will be created and/or retained for natural resource and ecological benefits and to minimize

Obviously, The 1300 acre proposed power plant does not fit the FRC Landscape Plan in many ways by eliminating forest cover, reducing conifer component, reducing the commercial forest area on productive Natural Plant Community Types (NPC), severely fragmenting the forest with the transmission and transportation and plant site foot print, and reducing the integrity and functions of the forest landscape.

Wildlife populations of many species will be negatively effected by fragmentation and the very real threat of introduction of invasive, non-native species.

Soil compaction on the equipment staging sites will render the sites impractical for growing plants again.

Wildlife cannot just '*get up and move*' to the next site. Those niches and territories are already filled. The populations of already stressed populations of Neotropical and ground nesting birds will continue to decline. The fragmentation and introduction of non- native grasslands into a forested ecosystem will only hasten their decline. Research has shown edge specialist predators have increased and have high predation success hunting along these edge corridors and the viability of forest interior species is short-lived. Over time, these fragmented areas are population sinks and they blink-out and vanish. Edge effects are known to effect forest interior species at least 200 meters from the forest edge.

The invasive non-native plants issue will almost certainly negatively affect the integrity of the forests along the ROW corridors for transportation and energy transmission lines.

Finally, I find the Biological section of this document (section 4.8) needs a great deal of re-vamping and literature review. New information over the last 15 – 20 years is not included in this document. We are trading the wildlife and forest integrity off for a short term power plant. Forests and wildlife populations are renewable if we maintain the integrity of the forest ecosystem. This power plant will have a negative impact on this ecosystem and much more homework needs to be done by the authors of this study before this process goes on.

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