



Tamarack Water Alliance Community Zoom Meeting Wednesday, December 4, 2024 10am CT

Everyone is invited to attend our open community virtual Zoom meeting **Wednesday, December 4, 2024 at 10am. Topic: Taking It Personally: Upper Michigan Mining Threats with Kathleen M. Heideman, Environmentalist/Author.**

This presentation will provide an overview of the mining threats in Michigan's Upper Peninsula, illustrated with maps, images, and poetry. As a member of the Mining Action Group of the Upper Peninsula Environmental Coalition, Heideman will share updates on the Eagle Mine, the proposed Revex "battery metals" processing facility, Talon Metals exploration targets, the mineral leases land grab underway in Michigan's Upper Peninsula, and opportunities for concerned citizens to take action.

Kathleen M. Heideman is the author of *A Brief Report on the Human Animal*, *Psalms of the Early Anthropocene*, and *The Caving Grounds* (forthcoming). An environmentalist working in Michigan's Upper Peninsula, she has completed residencies with the National Park Service, watersheds, research stations, foundations, and the National Science Foundation's Antarctic Artists & Writers Program. Heideman serves on the board of the Upper Peninsula Environmental Coalition. A curious woman.

Register for the meeting and receive the Zoom link [here](https://tamarackwateralliance.org/php/eventreg.php?eid=16)
(<https://tamarackwateralliance.org/php/eventreg.php?eid=16>)

Download Tamarack Water Alliance fact sheets/flyers [here](https://tamarackwateralliance.org/resources.html#flyers)
(<https://tamarackwateralliance.org/resources.html#flyers>)

DONATE to Tamarack Water Alliance: In March 2024 Tamarack Water Alliance incorporated as a Minnesota non-profit. We are not certified as a federal non-profit (e.g. 501c3). Our current focus is on providing education about the risks of sulfide mining, narratives to counter the greenwashing and divisiveness that some mining companies promote, as well as forging connections to other communities concerned about sulfide mines in Minnesota, across the Midwest, and around the world.

Your donation goes to support our community educational activities which include tabling at community festivals and parades, participation in other community events, targeted speaking engagements with interested local organizations, monthly informational public Zoom calls and an associated email newsletter, website and social media, letter writing campaigns and articles in local news outlets, interviews with media, and other community outreach and canvassing.

Sign-Up To Receive Updates from the DNR on Talon Metals Environmental Impact Statement here [here](https://www.dnr.state.mn.us/input/environmentalreview/tamarack-nickel-project.html) (https://www.dnr.state.mn.us/input/environmentalreview/tamarack-nickel-project.html)

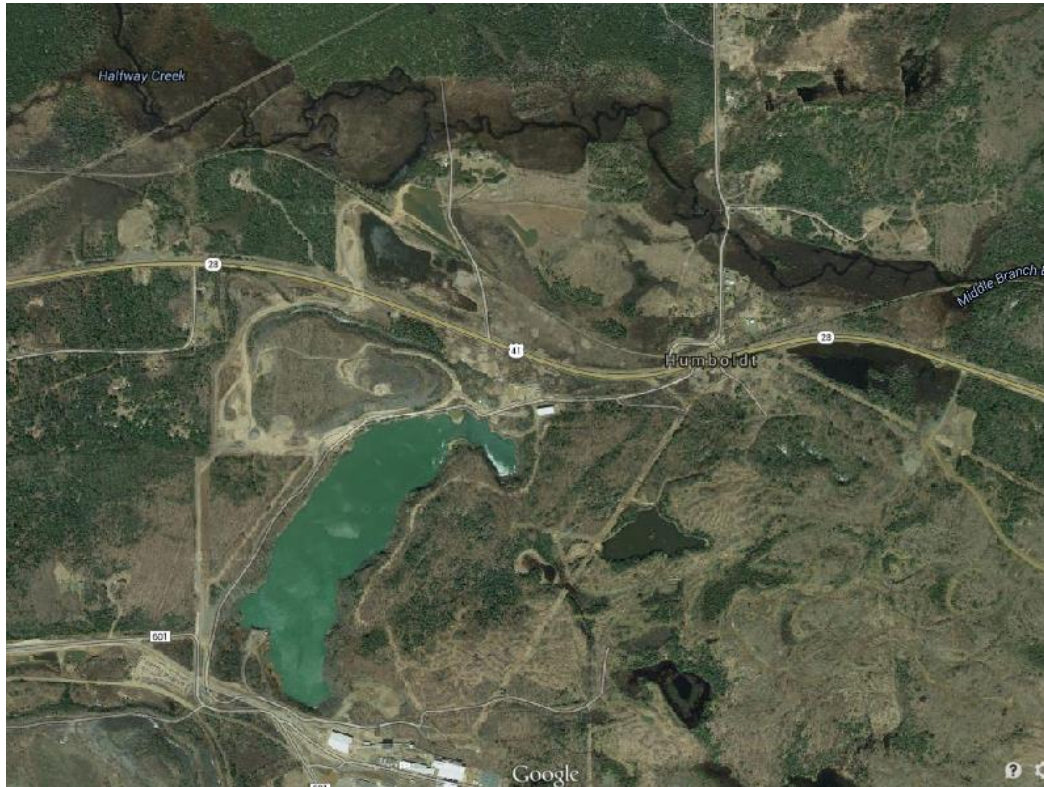
If you believe nickel-sulfide mining is too risky in Aitkin County, Tamarack Water Alliance has yard signs with this messaging available. Your \$6 donation helps defray costs. Email waters@tamarackwateralliance.org to arrange pickup of your sign.

Volunteer with the Tamarack Water Alliance. Send us an [email](mailto:waters@tamarackwateralliance.org) at waters@tamarackwateralliance.org.

Encourage your friends, family and neighbors to [sign up for the monthly Tamarack Water Alliance email](http://eepurl.com/hOboEb) newsletter at <http://eepurl.com/hOboEb>.

How To Greenwash Your Toxic Tailings Pile

Kathleen M. Heideman, UPEC Mining Action Group



Google Screenshot: Humboldt Mill pit lake ("Humboldt Tailings Disposal Facility")

Here in Upper Michigan, recent news stories gushed that Eagle Mine, partnering with unknown start-up company Revex, "has received nearly \$200 million to improve environmental practices by *recycling waste materials, specifically tailings...* a \$145 million federal grant (Dept. of Energy) and \$50 million grant from the state."

Nathan Manser, a mining professor from Michigan Tech elaborated: *"It takes the sulfur reactivity, puts it back underground, and encases it in the backfill operation, which liquefies it back in the subsurface. And where it was found initially, they're trying to make their process zero impact. ... If successful, it will not only boost the mine's profitability but also reduce the environmental impact associated with traditional tailing management.."*

Exciting news, eh? As usual, the next step is to ask an environmentalist for their comment

Here's mine:

It is premature to comment on an Eagle Mine project with Revex, on the basis of press releases (and news stories based on press releases). Where are their permitting applications? Michigan's MiEnviro permitting portal has no listing for Revex. Until permit materials are submitted and made available for public review, the environmental impacts are unknown. *Eagle Mine and Revex intend to suck tailings out of Pit at Humboldt Mill, reprocess the tailings to recover additional nickel-copper, ship the resulting mine waste up to the Yellow Dog Plains, and then pump it underground as Eagle Mine backfill?* Obviously, any number of environmental risks must be considered, but Eagle and Revex are touting federal grants before seeking permits — putting the cart ahead of the horse, to say the least.



Photo credit Chauncey Moran

Photo credit Chauncey Moran

Pit Lake with Tailings Disposal Draining into the Escanaba River

As for whether Eagle Mine's "zero impact" claim is greenwashing: a recent map of the Humboldt Mill site in MiEnviro clearly depicts a new proposed pipeline (Outfall #4) for sending treated mine wastewater directly to the Middle Branch of the Escanaba River, part of their NPDES wastewater discharge permit. If Eagle Mine's "solution to pollution is dilution", as the old saying goes, that's not a technological breakthrough. (See 2024 NPDES map, attached at

end of article.)

Eagle Mine Milling Process Wasteful & Raises Questions About Limits of Pit Lake

As for “recycling” mine waste, Eagle Mine knew from the start that their milling process was wasteful. According to Lundin Mining, only 84% of the nickel in Eagle Mine’s ore was metallurgically recovered. The rest was lost in the tailings slurry they pumped into Humboldt Pit.

Since 2017, when Eagle Mine decided to mine the Eagle East deposit, we have questioned whether the Humboldt Mill’s pit lake had adequate space to contain all of the tailings waste produced by Eagle orebody — plus the Eagle East orebody — and now the additional “Keel” deposit. Even a garbage can has a limit. Because Eagle’s tailings are highly reactive (acid mine waste), environmental plans called for “subaqueous” storage — keeping the tailings isolated under a cap of freshwater. Originally, this protective layer was to be “95 feet of water cover” but the addition of Eagle East created an additional volume of waste, so the water cover was reduced to a “planned 30 feet.” Now the final freshwater cap is anticipated to be only 9 feet!

Regardless of the shrinking water cap, Eagle Mine repeatedly assured the community that their subaqueous tailings solution was an environmentally sound waste management solution which would permanently (post-closure) protect the Middle Branch of the Escanaba River, and that “sufficient capacity” existed in the Humboldt Pit — and regulators agreed with them.

In 2017, Lundin brought tailings specialist Devin Castendyk to Northern Michigan University, where he lectured for four hours on the science of pit lake geochemistry, stratification, limnology and the magic of the subaqueous tailings storage solution. In late 2023, Castendyk (with Eagle Mine staff coauthors) published [Closure modeling of the Eagle Ni-Cu mine, Michigan: Part 2. Limnology and water quality of the Humboldt Tailings Disposal Facility, a pit lake used for sub-aqueous tailings disposal](#) " in which they report running a modeling program, to simulate post-closure water quality. They determined that several years of water treatment would be necessary, after closure, but modeling found the pit lake (filled with tailings under a freshwater cap) would naturally drain without degrading water quality in the Escanaba River. Sounds great!

What changed? Why should mine waste tailings now be removed from the Pit, and shipped back to Eagle Mine for underground disposal? This option was considered in the past. Lundin conducted a "trade-off study" to consider precisely what Eagle Mine and Revex are proposing, but "*...it was determined that the plan to add (keep adding) additional tailings to the HTDF (Humboldt Pit) is the better option, both financially and environmentally.*"

Lundin Reverts to Rejected Plan Of Pulling Mine Waste from Pit

Here's what changed: with a regional mineral exploration boom underway, Lundin's new preferred closure option is to SELL the Humboldt Mill rather than to remove structures and restore the site: "Option 1: Sell the Mill property to a mining company or other industry that wishes to use the existing Mill, HTDF and Mill WTP for ore processing and disposal of tailings or other wastes. **Achieving this objective requires a prospective buyer plus available room within the HTDF for the storage of additional tailings or other wastes.**"

After a decade of sulfide mining, it is alarming to learn that Eagle Mine is switching to a previously rejected tailings management solution — pulling mine waste from the pit — to facilitate a future sale of Humboldt Mill.

"We'll see a lot of permitting evolving, permitting regulations evolve based upon the experience with Eagle," predicts Manser. "I'm guessing they'll have quite a big voice in terms of what future mining looks like because of the success that they've had, at least here in Michigan."

Underground Disposal of Tailings Raises Environmental Concerns of Acid mine Drainage for Hundreds of Years

Again, we haven't seen any new permit applications. But underground disposal of tailings waste at Eagle Mine raises new environmental concerns. Eagle Mine will be flooded, post-closure, creating "mine pools" in the backfilled voids. Over time, this water will dissolve metals, salts, and sulfides. Then, according to Lundin, "water from the flooded mine workings is expected to slowly migrate to the north through the upper bedrock... **this water will ultimately discharge to the Salmon Trout River hundreds of years in the future.**"

When mining experts say "this innovative approach could transform the (toxic tailings) waste stream into something economically viable and less harmful," they mean the **economic benefits** (selling Humboldt Mill, recovering some their wasted nickel) can be realized in the short term, whereas the **risks (contamination of groundwater, acid mine drainage to the Salmon Trout River) are postponed a couple centuries.**

If that's the case, Lundin won't be around for the environmental consequences



Risky Tamarack Mine Not Worth Its Minimal Impact

"Nickel from a Talon Metals/Rio Tinto mine would likely only provide less than 0.5% of the worldwide demand for nickel and would have no impact on the Indonesia nickel market...Indonesian nickel is primarily found as laterite ore, which contains iron or other oxides rather than the highly toxic sulfide ores in Minnesota... In fact, lateritic nickel ore deposits account for 73% of the continental world nickel resources and will be, in the future, the dominant source for the mining of nickel..."

Why should we mine toxic, high-sulfide nickel in northern Minnesota when other areas of the world have nickel that is not in toxic, high-sulfide deposits?"

...The fact is, the lithium-ion batteries for electric vehicles that Talon Metals/Rio Tinto says it needs to produce with nickel also use cobalt. Thus, Talon's support of nickel also supports the use of slave labor in the mining of African cobalt. It appears this marketing campaign to "mine here and not in countries with poor labor practices" is just that: marketing spin that ignores a bigger picture

Local View: [Risky Tamarack Mine Not Worth Its Minimal Impact](https://www.duluthnewstribune.com/opinion/columns/local-view-risky-tamarack-mine-just-not-worth-its-minimal-impact), Duluth News Tribune, November 21, 2025, Allen Richardson
<https://www.duluthnewstribune.com/opinion/columns/local-view-risky-tamarack-mine-just-not-worth-its-minimal-impact>

Who We Are

Tamarack Water Alliance is a group of local residents and landowners working together with others from across Minnesota to protect water and community health from the dangers of sulfide mining near our beloved lakes and wild rice beds, at the headwaters of the Kettle River and in the Mississippi River watershed. Visit our website [here](https://tamarackwateralliance.org/index.html) (<https://tamarackwateralliance.org/index.html>)

A proposal by a foreign owned mining company, Talon Metals/Rio Tinto to mine nickel and other metals near Tamarack in Aitkin County threatens the health of our communities. This kind of sulfide mining, especially in water-rich environments, has never been done without severe impacts to water and the health of those downstream. Mining here is also a threat to environmental justice and the long-term economic security of nearby native and rural communities.

Review our [community slide presentation](https://tamarackwateralliance.org/docs/TamarackMineConcerns-Consolidated.pdf) (tamarackwateralliance.org/docs/TamarackMineConcerns-Consolidated.pdf) and download [informative flyers](https://tamarackwateralliance.org/resources.html) (tamarackwateralliance.org/resources.html):

- Talon Mine Risks,
- Geology of Aitkin County,
- High Sulfide Mines Create Acid Mine Drainage,
- Nickel Not Needed for Future EV Batteries,
- Minnesota's Prime Wild Rice Lakes Under Threat,
- Minnesota Regulators Poor Record In Protecting The Environment,
- Eagle Mine Environmental Report & Saving Our Meager Nickel Reserves
- Prove It First! (The AFL-CIO Has Its Facts Wrong!)

We will be sending this monthly newsletter to keep you informed about this project, to share information and opportunities to act, and to invite you to gatherings where you can connect

with others who share a passion for clean water and community health.



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