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Sent: 4/1/2024 2:52:41 PM
To: "McCone, Ryan (EGLE)" <McConeR@michigan.gov>; "Conklin, Kayla (EGLE)" <ConklinK3@michigan.gov>
Subject: FW: EGLE WRD Public Notice HPY-GN8D-M4Y1Z, Ryan Korpela Tilden Mine
Attachments: MI Tilden HPY-GN8D-M4Y1Z EPA 20240401.docx, Enclosure PN HPY-GN8D-M4Y1Z Ryan Korpela Tilden Mine (JAW).pdf

From: Burdick, Melanie <Burdick.Melanie@epa.gov>
Sent: Monday, April 1, 2024 2:48 PM
To: Argiroff, Phil (EGLE) <ARGIROFFP@michigan.gov>
Cc: Garwood, Anne (EGLE) <GarwoodA@michigan.gov>; Wong, Jennifer (Jenny) <jennifer_wong@fws.gov>; Tansy, Carrie L <carrie_tansy@fws.gov>; King, Hunter (EGLE) <KingH@michigan.gov>; Kirkpatrick, Kathryn (EGLE) <KirkpatrickK3@michigan.gov>; Fong, Tera <fong.tera@epa.gov>; Pfeifer, David (he/him/his) <pfeifer.david@epa.gov>; Weaver, Kerryann <weaver.kerryann@epa.gov>; REGMDEQ.LRE_RegMDEQ@usace.army.mil; Hicks, Scott <scott_hicks@fws.gov>
Subject: EGLE WRD Public Notice HPY-GN8D-M4Y1Z, Ryan Korpela Tilden Mine

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Mr. Argiroff,
Please find the attached EPA objection letter in response to the subject public notice along with the U.S. Fish and Wildlife Service letter to the EPA as an enclosure.

Sincerely,
Melanie Burdick
(she/her)
Water Resources Scientist
U.S. Environmental Protection Agency
Region 5
Wetlands Section
312-886-2255
Burdick.melanie@epa.gov

ATTACHMENT NAME:

MI Tilden HPY-GN8D-M4Y1Z EPA 20240401.docx

ATTACHMENT TYPE:

Microsoft Office 12+, Office Open XML (OOXML/OpenXML): document (DOCX)



REGION 5
CHICAGO, IL 60604

April 1, 2024

Mr. Phill Argiroff
Acting Director, Water Resources Division
Michigan Department of Environment, Great Lakes, and Energy
P.O. Box 30473
Lansing, Michigan 48909
Submitted via email to argiroffp@michigan.gov

Re: Public Notice No. HPY-GN8D-M4Y1Z, Ryan Korpela/Tilden Mining Company

Dear Mr. Argiroff:

The United States Environmental Protection Agency appreciates the opportunity to provide comments on the above-referenced Michigan Department of Environment, Great Lakes, and Energy's January 2, 2024, Public Notice, in which Ryan Korpela/Tilden Mining Company (applicant) proposes, in a revised project application, wetland and stream impacts under Section 404 of the Clean Water Act to expand the iron ore pit at Tilden Mine. The expansion of the pit will create a need to stockpile rock. Plans include permanent direct discharges to 77.9 acres of wetlands and 4,661 linear feet of stream in the Escanaba River Watershed to stockpile rock and temporary impacts to 17.4 acres of wetlands as part of its proposed stream mitigation located off-site. The proposed project is located at T46N, R26W, Section 01, Tilden Township, Marquette County, Michigan.

The EPA objects to the discharges associated with the project, as proposed. These comments are pursuant to CWA section 404(j)¹, as further prescribed in the *Memorandum of Agreement between the State of Michigan and EPA for Implementation of the 404 Permit Program*. The following reflect the EPA and U.S. Fish and Wildlife Service's joint review of the proposed project and the EPA finding that the proposed discharges do not comply with the CWA section 404(b)(1) Guidelines (Guidelines).²

¹ 33 U.S.C. §1344 (j)

² 40 CFR § 230

Background

On December 6, 2022, the EPA received an EGLE public notice for a CWA 404 permit for discharges into 99 acres of wetlands and 6,749 linear feet of stream to create a stockpile storage area for the applicant to expand its existing iron ore pit and continue mining iron ore at the aforementioned site. The EPA had significant concerns with the quantity of wetland and stream impacts proposed, the current and potential water quality effects of continued mining and stockpiling, the limited scope of the alternatives analysis, and the proposed compensatory mitigation. FWS had significant concerns regarding impacts to bats listed under the Endangered Species Act that required a bat survey. EGLE shared similar concerns as the federal agencies. In response to both State and federal agency concerns, the applicant withdrew its application on February 24, 2023, just prior to the end of the public notice comment period (March 6, 2023). Our objection set forth below concerns the revised project public noticed by EGLE on January 2, 2024.

Impacts Assessment

Pursuant to the Guidelines, an aquatic resource impacts assessment shall include analyses of all direct, secondary, and cumulative impacts of a proposed project.³ Secondary impacts on an aquatic ecosystem are associated with the discharge of dredged or fill material, but do not result from the actual placement of the dredged or fill material.⁴ Cumulative impacts are defined as the changes in an aquatic ecosystem that are attributable to the collective effect of multiple individual discharges of dredged or fill material.⁵ The Guidelines require consideration of direct, secondary, and cumulative effects when determining the significance of aquatic resource impacts as well as determining whether the proposed alternative is the least environmentally damaging practicable alternative (LEDPA). Although an impact of a particular discharge may be considered minor, the cumulative effect of numerous such piecemeal impacts can result in a major impairment of the water resources and interfere with the productivity and water quality of existing aquatic ecosystems.⁶

Temporary Impacts

There is a discrepancy in the amount of temporary impacts proposed as part of the stream mitigation project described in the Public Notice and stream mitigation plan (i.e., 17.4 acres of wetland) compared to the 404 application (i.e., 17 acres of emergent and 2 acres of forested wetland). Further, the 17.4 acres in the stream mitigation plan is described as a change of wetland type (i.e., permanent conversion), which is different than a temporary impact (i.e., restored to its previous condition).

³ 40 CFR. §230.11

⁴ 40 CFR 230.11(h)

⁵ 40 CFR 230.11(g)

⁶ 40 CFR 230.12

Recommendation: The EPA recommends EGLE verify the impact type and acreage of wetlands required at the stream mitigation project. If permanent conversion is proposed, we recommend EGLE require the applicant accurately describe the impact type and provide additional compensation for any lost functions.

Cumulative Impacts

To address issues brought forward by both the EPA and EGLE as part of the earlier review and public notice comment period referenced above, the applicant augmented the cumulative and secondary impacts assessment submitted as part of the 2022 application to evaluate impacts to the Escanaba River and Carp River watersheds (and subwatersheds) from past, proposed, and foreseeable future Tilden projects and the adjacent Empire Mine project. The updated cumulative impacts assessment (i.e., Table 1, Technical Memorandum, Appendix B) includes a quantitative assessment of loss of wetlands, streams, and lakes prior to 1987 as well as impacts from 1987 to the end of mine-life. These impacts include 333 acres of wetlands and lakes combined and 67,807 linear feet of stream prior to 1987, and 610 acres of wetlands and lakes and 36,546 linear feet of stream from 1987 to the end of mine-life.

The impacts described in the summary paragraph of Appendix B only include mining activities post 1987 and prior to 2022, which are 371.63 wetland acres, 29,300 linear feet of streams, and 94 acres of lakes. The applicant uses these numbers to determine that the overall 1-2% loss of resources is relatively minor. However, the acreages and linear feet of impacts listed in the updated Table 1 of the Technical Memorandum more accurately reflect the cumulative impacts in the watershed and indicate a higher, more significant loss of 5.7% of wetlands and lakes, and 3.9% streams within these subwatersheds.

Recommendation: The EPA recommends the applicant provide a more detailed discussion on the method and rationale the applicant used to determine the significance of a 5.7% loss of wetlands and lakes, and 3.9% loss of streams. For example, a land-use change model would be useful to determine whether the loss of aquatic resources and land-use change from forest to mines, more generally, have increased the flashiness and decreased water quality downstream of the mining operations.

Significant Degradation and water quality (secondary impacts)

The Guidelines state that a discharge of dredged or fill material may not be permitted if it causes or contributes, after consideration of disposal site dilution and dispersion, to violations of applicable State water quality standards or which cause or contribute to significant degradation of the waters of the United States.⁷

The application does not evaluate potential impacts of the proposed discharge to water quality. Ely Creek is on the State of Michigan list of impaired waters due to selenium and PCBs⁸; both pollutants are associated with mining. The application does not denote Ely Creek as impaired,

⁷ 40 CFR 230.10(b)(1),

⁸ <https://mywaterway.epa.gov/waterbody-report/21MICH/MI040301100106-01/2022>

nor does it demonstrate that the proposed discharges will not cause or contribute to violations of applicable State water quality standards in accordance with the Guidelines beyond a commitment that point source discharges will comply with the current CWA Section 402 permit.

Additionally, FWS, in its February 22, 2024, letter to the EPA (attached), expresses concerns that the application does not provide any information regarding the potential for soil and water contamination with potentially toxic elements, such as arsenic, cadmium, chromium, copper, lead, and selenium. FWS notes that the October 2022 North Jackson Company's 2022 *Wetland and Waterbody Assessment Report* included in the application describes several downstream perennial streams affected by selenium drainage. The EPA shares FWS's concerns that the existing mine and stockpile expansion may adversely affect the water quality of the remaining aquatic resources due to hydrology changes, runoff, invasive species, and environmental contaminants.

Recommendation: The EPA recommends the applicant provide additional details on the degree to which the proposed discharges, individually and cumulatively (Appendix B), may or may not introduce, relocate, or increase contamination to wetlands surrounding the proposed expansion area, Ely Creek, and any other downstream impaired waterways. An accurate assessment of the potential impacts to water quality is important given the proposed impact footprint and current water quality issues surrounding the mines. The EPA recommends the assessment consider water quality monitoring results associated with the CWA Section 402 permits as well as other wetland and stream water quality monitoring that has been completed over the decades of mining. Once the applicant has fully assessed the potential water quality effects of the proposed discharge on the aquatic resources, those effects must be avoided and minimized to the extent practicable. The agencies will assess the significance of those effects in the context of that minimization, which should include best management practices (BMPs) to prevent runoff and other edge effects from the expanded stockpiles, water quality monitoring during pre, during, and post-construction (throughout mine-life), and water quality mitigation based on a defined impact threshold.

Significant Degradation and Endangered Species Act.

The Guidelines prohibit a discharge of dredged or fill material if it would jeopardize the continued existence of species listed as endangered or threatened under the Endangered Species Act (ESA) of 1973, as amended, or results in likelihood of the destruction or adverse modification of a critical habitat.⁹

FWS's letter describes the results of its All-Species Michigan Determination Key "May Affect Verification" letter, including potential impacts to endangered northern long-eared bats and proposed endangered tricolored bats.

⁹ 40 CFR 230.10(b)(3)

Additionally, FWS recommends minimizing adverse impacts to Monarchs and other pollinator species by implementing measures that will remove or reduce threats to these species and possibly make listing of Monarchs unnecessary.

Recommendation: The EPA concurs with FWS's recommendation that any permit issued for the proposed discharges include the following conditions to preclude the potential for adverse effects to northern long-eared (and tricolored) bats:

- Within the northeast forested portion of the Project area (where no mist net sites were established during the 2023 summer presence/absence survey), cut any potential northern long-eared and/or tricolored bat roost trees during November 1 - April 14 (avoid cutting potential roost trees during Apr 15 - October 31).
- Throughout the remainder of the Project area, cut any potential northern long-eared and/or tricolored bat roost trees during May 15 - August 15 OR Nov 1 - April 14 (avoid cutting potential roost trees during Aug 16 - Oct 31 AND Apr 15 - May 14).

The EPA also recommends the applicant considers implementing measures to limit affecting Monarchs and other pollinator species (e.g., planting a diverse group of native plant species, limiting the use of pesticides, and leaving areas un-mowed during spring and summer).

Alternatives Analysis

Project purpose

An applicant's stated purpose and need should be an expression of the underlying goals for the proposed project.¹⁰ The project purpose included in the application is to expand the stockpile storage of the mine to facilitate current and future iron ore mining to accommodate the life of mine plan. The proposed expansion includes a stockpiling storage capacity to support mining operations for the next approximately 25 years with the capacity for 544 million long tons (LT) of development rock to mine ore reserve at Tilden.

The amount of storage needed for 25 years of mining has decreased since the December 22, 2022, Public Notice, and the application is unclear how that threshold was calculated and has decreased within the same life of mine. The agencies need detailed information on project purpose and need to adequately evaluate the scope of feasible alternatives.

Recommendation: The EPA recommends EGLE require the applicant provide additional rationale for the volume of stockpile storage required as part of the project purpose in order to adequately evaluate project alternatives.

Avoidance and minimization

The expansion of an iron ore mine is not a water-dependent activity. Therefore, under the Guidelines, an alternative that meets the overall project purpose with no wetland impacts is

¹⁰ 40 CFR 230.10(a)(2)

presumed to exist, and the applicant shall demonstrate that impacts to aquatic resources have been avoided and minimized to the maximum extent practicable.¹¹ The applicant's alternatives analysis describes how direct impacts have been reduced from the original site design impacts of 179 acres of wetland to 77.9 acres (Alternative 5). However, this description of impact avoidance does not include an estimate of secondary or cumulative wetland impact acreage of the original design, nor does it demonstrate further feasible minimization or additional potential avoidance measures are unavailable.

The applicant's alternatives analysis evaluated the feasibility of five alternatives and chose the layout with the fewest wetland impacts as its preferred alternative. The alternatives analysis was augmented by the applicant's December 14, 2023, *Correction Request Response*. The *Correction Request Response* describes the elimination of alternatives due to the height of the spoil pile and the economic viability of trucking material offsite in a fluctuating market. However, neither the alternatives analysis nor the *Correction Request Response* describe the thresholds for determining economic viability. Specifically, the *Correction Request Response* indicates a concern for release of confidential business (CBI) as the reason why it did not include the thresholds; however, EGLE should notify the applicant that the EPA has mechanisms to prevent public disclosure of CBI. While general economic threshold information may address the EPA's concerns regarding the viability of other alternatives, the applicant fails to describe those alternatives in enough economic detail. Further, the application, which includes a stockpile capacity goal of 544 million long tons, which is less than the 575 million long tons from the 2022 application, does not clearly describe the storage capacity threshold needed to extend the life of mine. Without a complete description of the scope of alternatives considered, the agencies are unable to confirm that the preferred or any other alternative is the LEDPA.

The application states in-pit stockpiling at the Empire Mine Pit is not feasible because a third-party owns half of the pit site and is not interested in allowing in-pit stockpiling. The EPA recommends EGLE require additional verification that this alternative is not feasible and would not be the LEDPA (i.e., potential to fill the portion of the pit owned by the applicant).

The alternatives analysis fails to evaluate a phased approach to stockpiling. The application describes a 10-year life of mine without the expanded stockpile, and because the scope of alternatives is contingent on the market, a smaller stockpile may be feasible in the future.

Recommendations: The EPA recommends EGLE require the applicant consider the overall project purpose of the expansion of an iron ore mine stockpile when evaluating whether the applicant has explored the full range of practicable alternatives and require the applicant provide a more detailed description and justification of additional variables, including economic considerations, influencing the project siting and layout that would make the project impracticable. The applicant should expand its explanation of how it determined the infeasibility of alternatives. For example, the applicant should augment its evaluation of the use of on-site pits as storage as part of the life of mine feasibility and additional alternatives

¹¹ 40 CFR 230.1(c)

analysis. The EPA also recommends EGLE require the applicant evaluate an alternative that would phase the stockpile expansion, which may provide additional options, such as moving stockpiles to their destination (e.g., as part of reclamation) in smaller batches rather than expanding into the wetlands and streams.

Minimization and Mitigation of Secondary Impacts

As described above, the applicant has neither demonstrated that Alternative 5 (the preferred alternative) is the LEDPA nor have they assessed the full scope of secondary impacts to aquatic resources, particularly water quality impacts.

Recommendation: Once EGLE determines the applicant has demonstrated the LEDPA, the EPA recommends the applicant also demonstrate minimization and mitigation of secondary impacts, including BMPs and a water quality monitoring, adaptive management, and mitigation plan.

Compensatory Mitigation

Compensatory mitigation requirements must be commensurate with the amount and type of impact associated with the project¹². Permit applicants are responsible for proposing an appropriate compensatory mitigation option to offset avoidable impacts.

The applicant proposes to purchase 126.6 wetland mitigation credits from the Republic Wetland Preserve (Preserve) to compensate for the 77.9 acres of wetland impacts associated with the preferred Alternative 5. The Preserve is an advanced-credit permittee-responsible wetland mitigation site administrated by the applicant to compensate for future wetland impacts associated with the Empire and Tilden Mines. EGLE approved the site in 2005. To compensate for direct and indirect impacts to 4,661 linear feet of stream (4,325 functional feet), the applicant proposes to complete stream restoration projects on 12,551 linear feet of streams (4,632 functional feet) at the Van Damme Creek project within the Escanaba River Watershed using the Michigan Stream Quantification Tool (SQT)¹³.

Compensatory mitigation is intended only for unavoidable impacts to waters after the LEDPA has been determined. Given the project has not demonstrated avoidance and minimization requirements of the Guidelines, we are providing preliminary comments on the proposed compensatory mitigation plan.

Wetland Mitigation

The applicant proposes to compensate for the impacts to forested wetlands at a 2:1 ratio and a 1.5:1 ratio for scrub-shrub and emergent wetland impacts at the Preserve. While the EPA understands that EGLE approved the use of the Preserve as an advanced permittee-responsible mitigation in 2005, the EPA recommends EGLE verify its usage will both compensate for the loss

¹² 40 CFR § 230.93 (a)

¹³ Michigan Stream Quantification Tool Website, <https://www.michigan.gov/egle/about/organization/water-resources/inland-lakes-and-streams/quantification-tool>, last visited 3-28-2024.

of wetland functions proposed by the stockpile expansion and meet current mitigation standards (Subpart J of the Guidelines)¹⁴. The Preserve may not meet current compensatory mitigation requirements and standards as it is outside the Escanaba River Watershed. We recommend EGLE verify that a watershed approach to compensatory mitigation is used to compensate for the significant direct and cumulative loss of wetlands proposed for the stockpile expansion. More specifically, the compensatory mitigation proposed as part of the project should support the improvement of, and offsets losses of, aquatic resource functions and services within the watershed of impact.

Recommendation: The EPA recommends EGLE verify that the Preserve is consistent with the requirements of and complies with current compensatory mitigation standards outlined in Subpart J of the Guidelines and will adequately compensate for the loss of wetland resources proposed by the project. If EGLE finds that current requirements and standards cannot be met by deducting credits from the Preserve, the EPA recommends EGLE require additional compensatory mitigation within the Escanaba River Watershed.

Stream Mitigation

The amount of stream mitigation proposed is based on the applicant's use of Michigan's Stream Quantification Tool (SQT). The SQT is an appropriate method to determine the proposed loss of stream functions as well as the amount of stream restoration needed. The EPA understands that scores have been adjusted to reflect declines in functions due to the existing stockpiles that have not yet been mitigated. The stream restoration project proposed will temporarily impact 17.4 acres (or 19 acres) of wetland, which is significant, and those wetland areas will require additional monitoring and wetland performance standards beyond what is normally required for stream mitigation projects to verify successful wetland restoration post-stream realignment.

Recommendation: The EPA recommends EGLE require the applicant compensate for the cumulative stream functional loss previously described in this letter. The EPA also recommends EGLE require the final stream mitigation plan address all the mitigation plan requirements outlined in Subpart J of the Guidelines, including both stream and wetland monitoring, performance standards, adaptive management, and long-term management and stewardship.

Tribal Treaty Rights

In addressing the provisions set forth in the *2021 Memorandum of Understanding Regarding Interagency Coordination and Collaboration for the Protection of Tribal Treaty and Reserved Rights*²⁰ (2021 MOU) and the *EPA Policy on Environmental Justice for Working with Federally Recognized Tribes and Indigenous Peoples*,²¹ the EPA is committed to providing federally recognized tribes and indigenous peoples fair and meaningful involvement in the EPA decisions that may affect their health or environment. Multiple Tribes and tribal organizations shared their comments to EGLE on the proposed expansion with the EPA. Tribal concerns include the

¹⁴ 40 CFR 230.94(c)

lack of information on potential impacts to ceded territory, tribal culture, and treaty rights, including archeological surveying.

Recommendation: The EPA recommends EGLE engage with interested Tribes to address their concerns, including completing archeological surveys, prior to making a permit decision.

Summary

The EPA has concerns that the discharges associated with the project, as currently proposed, do not comply with the Guidelines; specifically, this letter outlines concerns regarding the aquatic resource impacts assessment, the significance of the impacts (including those related to water quality, endangered species, and Tribal treaty rights), the alternatives analysis, and compensatory mitigation. We recommend EGLE address the following:

- Verify the impact type (i.e., temporary or permanent conversion) and acreage of wetlands proposed for impact at the stream mitigation project.
- Identify the method used to determine that the cumulative loss of wetlands and streams within the subwatershed, including water quality effects.
- Verify the storage capacity needs for the life of mine stated in the application.
- Augment the alternatives analysis to consider the full range of alternatives that would meet the project purpose, verifying thresholds for feasibility (i.e., cost, storage capacity need, etc.).
- Verify secondary impacts are adequately minimized once the LEDPA is chosen.
- Verify that the Republic Wetland Preserve complies with current compensatory mitigation standards outlined in Subpart J of the CWA Section 404(b)(1) Guidelines and will adequately compensate for the loss of wetland resources proposed. EGLE may need to consider requiring additional in-watershed wetland mitigation.
- Require a final stream mitigation plan that addresses all the requirements of a mitigation plan outlined in Subpart J of the Guidelines, including both stream and wetland monitoring, performance standards, adaptive management, and long-term management and stewardship.
- Verify the applicant considers implementing measures to limit impacts affecting Monarchs and other pollinator species.
- Verify meaningful engagement with interested Tribes to address their concerns, including completing archeological surveys.
- If a permit is issued, include the aforementioned permit conditions provided by FWS to preclude the potential for adverse effects to northern long-eared (and tricolored) bats

Pursuant to CWA § 404(j) and the CWA 404 MOA Section 5(d)-(e), the EGLE has 90 days from the date of this letter to work with the applicant to resolve the issues raised above or deny the permit. The EGLE may request a public hearing on the EPA's objection. If the State does not satisfactorily resolve this objection within 90 days after the date of this letter, or within 30 days

after the completion of the hearing if one is held, authority to issue the CWA Section 404 permit transfers to the U.S. Army Corps of Engineers.

Thank you for the opportunity to provide comments on this application. We look forward to working with EGLE and the applicant to resolve the issues discussed in this letter. Please contact Melanie Burdick at burdick.melanie@epa.gov or 312-886-2255 if you have any questions or concerns.

Sincerely,

4/1/2024

X 

Signed by: TERA FONG

Tera L. Fong
Division Director, Water Division

Enclosure

ATTACHMENT NAME:

Enclosure PN HPY-GN8D-M4Y1Z Ryan Korpela Tilden Mine (JAW).pdf

ATTACHMENT TYPE:

Adobe Portable Document Format (PDF) compound image



United States Department of the Interior
FISH AND WILDLIFE SERVICE

2651 Coolidge Road, Suite 101
East Lansing, Michigan 48823-6360



February 22, 2024

Ms. Melanie Burdick
U.S. Environmental Protection Agency
Wetlands and Watersheds Branch (WW-16J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3507

RE: EGLE WRD Public Notice HPY-GN8D-M4Y1Z, Ryan Korpela Tilden Mine

Dear Ms. Burdick:

We have reviewed the above-referenced file concerning an application for a Michigan Department of Environment, Great Lakes, and Energy (EGLE) permit under the Regulatory Authority under NREPA: Part 31, Water Resources Protection; Part 301, Inland Lakes and Streams and Part 303, Wetlands Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA). These comments are provided pursuant to the Endangered Species Act (ESA) (87 Stat. 884; 16 U.S.C. 1531 *et seq.*), the Clean Water Act section 404(j) (as amended; 33 U.S.C. 1251 *et seq.*), the Fish and Wildlife Coordination Act (FWCA) (48 Stat. 401; 16 U.S.C. 661 *et seq.*) the United States Fish and Wildlife Mitigation Policy (16 U.S.C. 742(a)-754) and the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c).

The Applicant proposes to expand the iron ore pit at Tilden Mine to extend the life of the Tilden Mine (Project). Expansion of the pit will create a stockpile of rock that will permanently fill 32.4 acres of emergent wetland, 19.2 acres of forested wetland, 26.3 acres of scrub-shrub wetlands, and 4,661 linear feet of stream in the Escanaba River Watershed. The 77.9 total acres of wetland impact will be mitigated using credits at the established Republic Wetland Preserve. The Applicant also proposes to mitigate 12,551 linear feet within the Escanaba River Watershed. The proposed stream mitigation site will temporarily impact 17.4 acres of wetland, and, as proposed, convert emergent wetland type to scrub-shrub and forested wetlands. The Project is located in T46N, R26W, Section 01, Tilden Township, Marquette County, Michigan.

Endangered Species Act Comments

On November 30, 2023, SWCA Environmental Consultants, on behalf of the Applicant, completed the All-Species Michigan Determination Key (DKey), available through our Information for Planning and Consultation (IPaC) web site, and received an automated “May Affect Verification” letter (see Enclosure). As indicated in the letter, the DKey autogenerated “not likely to adversely affect” (NLAA) consistency determinations for the threatened Canada lynx (*Lynx canadensis*), endangered gray wolf (*Canis lupus*), and proposed endangered tricolored bat (*Perimyotis subflavus*). “No effect” (NE) consistency determinations were generated for the endangered northern long-eared bat (*Myotis septentrionalis*) and threatened rufa red knot (*Calidris canutus rufa*); and a “may affect” determination was generated for the candidate monarch butterfly (*Danaus plexippus*). We agree with the Dkey determinations for Canada lynx, gray wolf, and rufa red knot, and do not recommend permit conditions for these species. However, as indicated in a December 1, 2023 email to EGLE (Hunter King), we do not agree with the “no effect” determination for northern long-eared bat because of the species’ potential presence during the fall and spring swarming/staging periods. Following this correspondence with EGLE, our office engaged in additional conversations with EGLE and the Applicant during which we recommended that the Applicant consider northern long-eared and tricolored bats potentially present within the Project area during the swarming and staging periods and avoid impacts to suitable habitat during these periods. The Applicant agreed to implement this conservation measure.

Northern Long-eared Bat and Tricolored Bat

Based on SWCA’s August 2023 Bat Survey Report, the Project area was assessed for potential northern long-eared bat habitat between June 5, 2023, and July 16, 2023, and determined to contain a total of 208 acres of potential habitat. The commensurate survey level of effort (LOE) recommended by the Service’s 2023 Range-wide Indiana Bat and Northern Long-eared Bat Survey Guidelines (USFWS 2023; Guidelines) for 208 acres of suitable habitat is 20 net nights. SWCA requested and received approval from this office to survey the Project area at this LOE.

Although the survey met the required LOE to demonstrate summer presence or probable absence of northern long-eared bats (as well as the accepted LOE to demonstrate summer presence or probable absence of tricolored bats in 2023), these species may still be present within the Project area during the fall and spring swarming/staging periods, as the Project is located within 5 miles (typical fall/spring home range) of multiple known hibernacula for northern long-eared and tricolored bats. Additionally, since no net sites were established within the small amount of suitable forested habitat located in the northeastern portion of the Project area, avoiding habitat impacts to this area during the entire bat active season will help to ensure no adverse effects to summer resident and/or swarming/staging bats that may utilize the habitat.

Recommended Permit Conditions

We recommend the following permit conditions to preclude the potential for adverse effects to northern long-eared (and tricolored) bats:

- Within the northeast forested portion of the Project area (where no mist net sites were established during the 2023 summer presence/absence survey), cut any potential northern long-eared and/or tricolored bat roost trees during November 1 - April 14 (avoid cutting potential roost trees during Apr 15 - October 31).
- Throughout the remainder of the Project area, cut any potential northern long-eared and/or tricolored bat roost trees during May 15 - August 15 OR Nov 1 - April 14 (avoid cutting potential roost trees during Aug 16 - Oct 31 AND Apr 15 - May 14).

Monarchs and Pollinators

In December 2020, after an extensive status assessment of the monarch butterfly, the Service determined that listing the monarch under the Endangered Species Act is warranted but precluded by higher priority actions to amend the Lists of Endangered and Threatened Wildlife and Plants. Therefore, the Service added the monarch butterfly to the candidate list. The Service will review its status each year until we are able to begin developing a proposal to list the monarch. The Endangered Species Act does not establish protections or consultation requirements for candidate species. Some Federal and State agencies may have policy requirements to consider candidate species in planning. We encourage implementing measures that will remove or reduce threats to these species and possibly make listing unnecessary.

We recommend that the Applicant consider monarch and other pollinators during Project implementation. Many pollinators are declining, including species that pollinate key agricultural crops and help maintain natural plant communities. Planting a diverse group of native plant species will help support the nutritional needs of Michigan's pollinators. We recommend a mix of flowering trees, shrubs, and herbaceous plants so that something is always blooming and pollen is available during the active periods of the pollinators, roughly early spring through fall (mid-March to mid-October). To benefit a wide variety of pollinators, choose a wide range of flowers with diverse colors, heights, structure, and flower shape. It is important to provide host plants for any known butterfly species at your site, including native milkweed for monarch butterfly. Incorporating a water source (e.g., ephemeral pool or low area) and basking areas (rocks or bare ground) will provide additional resources for pollinators. Many pollinators need a safe place to build their nests and overwinter. During spring and summer, leave some areas unmowed or minimize the impacts from mowing (e.g., decrease frequency, increase vegetation height). In fall, leave areas unraked and leave plant stems standing. Leave patches of bare soil for ground nesting pollinators. Avoid or limit pesticide use. Pesticides can kill more than the target pest. Some pesticide residues can kill pollinators for several days after the pesticide is applied. Pesticides can also kill natural predators, which can lead to even worse pest problems. Planting native wildflowers can also reduce the need to mow and water, improve bank stabilization by reducing erosion, and improve groundwater recharge and water quality.

Wetland/Stream Comments

Total permanent wetland impacts for the Project are 32.4 acres of emergent wetland, 19.2 acres of forested wetland, 26.3 acres of scrub-shrub wetlands, and 4,661 linear feet of stream in the Escanaba River Watershed. The 77.9 total acres of wetland impact will be mitigated using credits at the established Republic Wetland Preserve. The Applicant also proposes to mitigate 12,551 linear feet within the Escanaba River Watershed. The proposed stream mitigation site will

temporarily impact 17.4 acres of wetland, and, as proposed, convert emergent wetland type to scrub-shrub and forested wetlands. While we appreciate the Applicant's efforts to reduce their impacts to wetland communities, the Project will result in significant impacts to wetlands that, despite past major anthropogenic disturbance and heterogeneity, are described by EGLE as moderately high-quality, recovered wetlands (Keto Gyekis, personal communication 2/12/24).

Wetlands provide valuable habitat for fish and wildlife resources, and the filtering capacity of wetlands helps to improve water quality. Naturally vegetated buffers surrounding these systems are also important in preserving their wildlife habitat and water quality enhancement properties. We recommend reseeding disturbed areas with native vegetation, including pollinator-dependent species. In an effort to reduce the potential for the transfer of invasive species into wetland areas, we recommend the Applicant clean all equipment following established guidelines to remove exotic or invasive species before entering a watershed. It is important to follow these guidelines since, once introduced into a watershed, invasive species can move and eventually affect wetland species diversity.

Environmental Contaminants

We are concerned with the lack of information provided in the application materials regarding the potential for soil and water contamination with potentially toxic elements, such as arsenic, cadmium, chromium, copper, lead, and selenium (Se). Mine tailings contain large amounts of metals, and their interactions and combined effects can influence their mobility, bioavailability, leaching, and toxicity (Marques 2021). Several perennial streams surveyed in North Jackson Company's 2022 Wetland and Waterbody Assessment Report are described as previously impacted from Se stormwater seepage collection; however, details on previous and ongoing Se control efforts are not included in the application materials.

According to a 2009 Assessment of Environmental Selenium Levels around Empire and Tilden Mines, Marquette County, Michigan, concerns about Se detections in facility effluents, waste rock seeps, and nearby surface waters prompted the Michigan Department of Environmental Quality (MDEQ) to form an internal work group in 2008 to assess Se levels and the extent and severity of water quality impacts. This assessment revealed Se water concentrations exceeding the Michigan Water Quality Standard from several sampled stream sites as well as high sediment concentrations and potentially toxic accumulations in fish and invertebrate tissues. Although the potential for acute aquatic life toxicity appeared limited/localized, data suggested a potential for bioaccumulative chronic toxicity to both aquatic and terrestrial life. Additional studies were recommended to improve understanding of biological, chemical, and physical conditions in waste rock piles, tailings basins, and ore processing activities to allow for better assessment of Se sources and control/treatment efforts. Subsequently, a July 2016 newsletter entitled, "Update on Selenium Projects at Tilden and Empire Mines" provided an update on Se reduction efforts at Tilden Mine, including development of a water management plan and control system and evaluation of various technologies to inform a treatment approach to meet water quality standards.

We recommend that the Applicant provide details on how the expanded stormwater collection and wastewater treatment systems at Tilden Mine will prevent, minimize, and/or monitor the

potential for increased Se effluent as well as surface runoff or seepage of other environmental contaminants into surrounding sediments and waterbodies.

Conclusion

Adhering to the permit conditions recommended above is necessary for the Project to be reasonably certain of avoiding take of federally listed bats. The proposed alternative will have significant adverse impacts to several high-quality wetlands. We have concerns about the potential for long-term indirect impacts due to hydrology changes, runoff, invasive species, and environmental contaminants. Historical reports and newsletters indicate that selenium contamination was previously a concern associated with the operation of Tilden Mine, requiring extensive remediation measures. We recommend that the Applicant provide details on how expansion of the mine will sufficiently control and monitor for potentially toxic effluent.

We appreciate the opportunity to provide our resource protection recommendations. If you have any questions regarding these comments, please contact Jenny Wong, of this office, at (517) 351-7261 or Jennifer_Wong@fws.gov.

Sincerely,

Scott Hicks
Field Supervisor

cc: Hunter King, EGLE
John DePue, MDNR
Amy Bleisch, MDNR

Citations

Marques, E. 2021. Ecological risk assessment of trace metals in soils affected by mine tailings. *Journal of Hazardous Materials*.

Michigan Department of Environmental Quality Selenium Monitoring Work Group. 2009. An Assessment of Environmental Selenium Levels around Empire and Tilden Mines, Marquette County, Michigan. Available at <https://www.michigan.gov/egle/about/Organization/Water-Resources/npdes/selenium-projects-at-empire-and-tilden-mines>

Empire and Tilden Newsletter- Volume 5. Update on Selenium Projects at Tilden and Empire Mines. 6 pp. Available at <https://www.michigan.gov/egle/about/Organization/Water-Resources/npdes/selenium-projects-at-empire-and-tilden-mines>