



United States Department of the Interior

NATIONAL PARK SERVICE
St. Croix National Scenic Riverway
401 Hamilton Street
St. Croix Falls, Wisconsin 54024-0708

IN REPLY REFER TO:

December 1, 2011

L7615 (SACN)

City of Scandia
Attention: Anne Hurlburt, City Administrator
14717 209th St. N.
Scandia, Minnesota 55073

Dear Ms. Hurlburt:

Thank you for providing the National Park Service (NPS) with the Preliminary Draft Environmental Impact Statement (PDEIS) for the proposed Zavoral Mining and Reclamation Project. The proposed mine is adjacent to the Lower St. Croix National Scenic Riverway (Riverway), which is managed by the NPS. The NPS is concerned about the potential impacts of the mine on the Riverway. We accepted a position on the Project Advisory Committee (PAC) to help ensure that the EIS provides the City of Scandia with accurate and complete information on which to base their decision on the permit application. We offer the following comments to strengthen the overall clarity and environmental analysis presented in the document.

1. Page ES-1, para. 3, Line 1 and 2: Change to "Lower St. Croix National Scenic Riverway (Riverway) as designated under the Wild and Scenic Rivers Act (Public Law 92-542 as amended; 16 U.S.C. 1271-1287; WSRA) and Minnesota Statute 103F.351.
2. Figure 2: Add the Riverway boundary to the map.
3. Page ES-1, para. 3, Line 5 and 6. Protection of resources under the Cooperative Management Plan (CMP) is not limited to scenic resources. It is not necessary to include mention of the EIS for the CMP. Please revise, include a citation for the CMP as DOI/NPS et al., 2002.
4. Page ES-4, para. 2: Please include a description of the size of and the existing vegetation on the portion of the site within the Riverway that is proposed for reclamation. Change last sentence to "Lower St. Croix National Scenic Riverway."
5. Page ES-11, para. 1: Please include a definition of "maderate" cliffs.
6. Page ES-12, para. 1: Please provide rationale for the statement that indicates that the mine is not expected to affect native mussels in the St. Croix River. The rationale should consider the likelihood of a blow-out occurring, as well as the cumulative effects of any increased sediment input via streams and settling of air-borne particulates from the mine. The rationale should consider the greatest rainfall event that could be expected over the life of the mine until such a time as soils are stabilized.

7. Section ES 2.8: The proposal to reclaim 4 acres of previously mined area within the Riverway boundary should be closely coordinated with the NPS. We are concerned about the stability of this area, given its location between the mine and the steep slope that goes down to the river. Please change "...located within the St. Croix River District Zone and scenic easement area" to "located in the St. Croix River District Zone and within the Riverway boundary on privately-owned land on which the NPS holds a scenic easement" here and elsewhere where the statement appears in the document.
8. Page ES-24, para. 3: There are several other important parks and recreational areas, besides William O'Brien, that are accessed via Trunk Highway (TH) 95 and TH 97 that should be mentioned here. They include the Riverway, Interstate State Parks, Trollhaugen, and TH 95 itself is a State Scenic Byway.
9. Page ES-27, bullet 2: Clarify what is meant by "maximum deposition conditions only occur on 1 day per year."
10. Page ES-29, bullet 6: Change to "Lower St. Croix National Scenic Riverway."
11. Page ES-29, bullet 6: The NPS questions whether state noise rules should be applied to a unit of the National Park System (see noise comments below). The statement here indicates that noise levels would be 0 to 3.8 A-weighted decibels above ambient for worst-case mining operations. Please provide the current ambient noise levels in decibels.
12. Page ES-35: Add a statement to the effect that "The major issue to be resolved is whether the City of Scandia should permit the mine, given its potential environmental impacts."
13. Please include a table summarizing the major elements of each alternative such as hours of operation, months of operation, equipment used, water use, traffic volumes, reclamation plan etc. A table would greatly enhance public understanding of what is being considered under each alternative and the differences between them. The end of the Executive Summary would be a good location for the table.
14. Please include a table summarizing the impacts of each alternative. The table should have a line for each resource (land use, property values, vegetation, fish and wildlife, traffic, etc) that would be impacted by the proposed mine. The end of the Executive Summary would be a good location for the table.
15. Page 2.3: To "Areas of Controversy," add the potential impacts to soundscapes, traffic, and slope stability.
16. Chapter 3, Proposed Project and Alternatives: Please develop a sub-alternative that would change the phasing of mining to start in the northwest portion of the site and progressing in a clockwise (not counter-clockwise direction). Such an alternative could lessen noise impacts by leaving the wooded area on the south end of the site as a buffer until last.
17. Chapter 3, Proposed Project and Alternatives: Please add a map showing the approximate depth of mining throughout the site. The current statement that the average mining depth will be 15 feet is not very descriptive. It could mean 5 feet in some areas and 30 feet in other places.
18. Chapter 3, Proposed Project and Alternatives: The scale of the contour maps provided in the document that show current and post-reclamation topography make them very difficult to read and make computations. Please provide maps at a more readable scale in the revised document.

19. Chapter 3, Proposed Project and Alternatives: Please provide a legible map showing the distance from the top of the bluff to the extent of the previous mining. In addition, provide a legible map showing the distance between the top of the river bluff and the extent of the proposed mining. Label the planned distance for the buffer/setback from the proposed mining to the top of the bluff. The distance should include a substantial buffer zone.
20. Page 3-1, bullet 4 states that “transporting mined aggregate materials (add-rock and/or pit-run gravel); the majority of which would likely be delivered to the Scandia Mine near Manning Trail...” Much of the environmental analysis is based on the presumption that the majority of material would be delivered to the Scandia Mine. Please describe under what circumstances the material would be delivered elsewhere. Also, please explain whether there is potential that the material could be transported by rail.
21. Section 4.6, Fish, Wildlife and Ecologically Sensitive Resources and Threatened and Endangered Species: This section currently acknowledges that some wildlife would be displaced during mining activities. However, the impact of noise from the mine to wildlife should also be considered. The preservation of an area’s acoustical environment is vitally important to overall ecosystem health. Peer reviewed literature widely documents that sound plays a critical role in intra-species communication, courtship and mating, predation and predator avoidance, and effective use of habitat. Other studies have shown that wildlife can be adversely affected by sounds and sound characteristics that intrude on their habitats. While the severity of the impacts varies depending on the species being studied and other conditions, research strongly supports the fact that wildlife can suffer adverse behavioral and physiological changes from intrusive sounds (noise) and other human disturbances. Documented responses of wildlife to noise include increased heart rate, startle responses, flight, disruption of behavior, and separation of mothers and young (Selye 1956, Clough 1982, National Park Service 1994, US Department of Agriculture 1992, Anderssen et al. 1993). The noise analysis included in the EIS discusses potential changes in sound level up to 3 dBA. This has the potential to cause a 50% loss in listening area for wildlife. Listening area is the area of circle whose radius is the alerting distance. Listening area is the same as the “active space” of vocalization, with a listener replacing the signaler as the focus, and is pertinent for organisms that are searching for sounds (Barber, Crooks, & Fristrup, 2010).
22. Section 4.7, Water Quality: The indirect impacts of mining the soil down to groundwater should be discussed somewhere in this section. As pointed out during the November 16 PAC meeting, mining down to groundwater could essentially eliminate the filtering capacity of soils on the site. Future land uses that could introduce herbicides, fertilizers or pesticides on the site could, therefore, have a much greater impact on the shallow aquifers that feed the nearby seeps and streams. These seeps and streams are within the Riverway boundary and feed the St. Croix River. The NPS is very concerned about these indirect water quality impacts.
23. Page 4-39, para. 4: The NPS is very concerned about the geologic hazards acknowledged here. The “wall” that would be created between the mine and the steep slope to the east that goes down to the river would seem to be very vulnerable to collapse. The NPS recommends that mining plans include a substantial buffer to insure stability. Reclamation grades should be planned to further reinforce the area.
24. Section 4.7.1.1: There is a study of Zavoral’s Creek that could provide useful information for this section. Please see the enclosed 2003 study entitled *Lower St. Croix River Spring Creek Stewardship Plan*.

25. The document should be revised to include a Section on “Nearby Resources” as shown in the Minnesota Pollution Control Agency (MPCA) guidance on preparing environmental documents. The section should describe all designated parks, recreation areas and trails; and should describe the potential impacts of each alternative on those resources. The NPS provides the following information about the Lower St. Croix National Scenic Riverway for use in this and other appropriate sections of the document:

“The proposed mine abuts the Lower St. Croix National Scenic Riverway (Riverway). The Riverway was created by Congress in 1972 by amendment to the Wild and Scenic Rivers Act (Public Law 92-542 as amended; 16 U.S.C. 1271-1287; WSRA). The purpose of establishing the Riverway under the WSRA is to protect its free-flowing character, water quality, and scenic, recreational, and geologic values for this and future generations. The Riverway is managed by the NPS and is a unit of the National Park System.

The Riverway is a narrow corridor that runs for 52 miles along the boundary of Minnesota and Wisconsin, from St. Croix Falls/Taylor Falls to the confluence of the Mississippi River at Prescott/Point Douglas. Minnesota municipalities within the Riverway boundary include Taylor Falls, Scandia, Marine-on-St. Croix, Stillwater, and Oak Park Heights. Much of the land within the Riverway boundary, particularly within municipalities, is privately-owned. Development on private lands within the boundary is managed by scenic easements acquired by the NPS and/or by local Riverway ordinances. The Minnesota Department of Natural Resources has adopted State rules that form the basis for local Riverway ordinances. Local governments are required to adopt and enforce ordinances based on the State’s rules (local ordinances can be more restrictive than State rules, but not less). The City of Scandia’s “St. Croix River District” includes the lands within the city limits that are also within the Riverway boundary.

The Riverway has a natural appearance for long stretches despite the fact that it is adjacent to the Minneapolis/St. Paul Metropolitan Area. The Riverway’s scenery, plentiful fish and wildlife, largely unpolluted and free-flowing character, numerous access points, and closeness to a metropolitan area attract many people, particularly in the spring, summer, and fall. Users participate in a wide range of activities including motor-boating, canoeing, swimming, camping, picnicking, and otherwise enjoying nature (DOI/NPS et al., 2002).”

26. The impact analysis in the document must be expanded to acknowledge the purpose of establishing and protecting these “Nearby Resources” and how the proposed mine could affect those purposes.
27. A map showing the “Nearby Resources” should be included in the document. In addition to the Riverway, other parks, recreation areas, and trails in the affected area include, but may not be limited to State Scenic Byway TH 95, the bicycle trail along the byway, Falls Creek State Natural Area to the north, and Rustrum Wildlife Management Area within the Riverway boundary.
28. The document should be revised to also include a section on “Compatibility with Plans and Land Use Regulations” as shown in the Minnesota Pollution Control Agency (MPCA) guidance on preparing environmental documents. The section should describe the relevant guidance from the City of Scandia’s Comprehensive Plan, both the one in effect at the time the mine application was filed and the one in effect now. The CMP for the Riverway should also be mentioned. The document should go on to describe the compatibility of the proposed mine with the plans and explain how any conflicts would be resolved.
29. Section 4.3 Reclamation Plan: This information would seem to fit better in Chapter 3: Alternatives since the reclamation plan is an integral part of both action alternatives.

30. Section 4.6, Fish, Wildlife and Ecologically Sensitive Resources and Threatened and Endangered Species: Currently the document only references displacement of wildlife that could result from the presence of the mine. The impact of noise from the mine to wildlife, in terms of disturbance or avoidance, should also be considered.

The preservation of an area's acoustical environment is vitally important to overall ecosystem health. The peer reviewed literature widely documents that sound plays a critical role in intra-species communication, courtship and mating, predation and predator avoidance, and effective use of habitat. Studies have shown that wildlife can be adversely affected by sounds and sound characteristics that intrude on their habitats. While the severity of the impacts varies depending on the species being studied and other conditions, research strongly supports the fact that wildlife can suffer adverse behavioral and physiological changes from intrusive sounds (noise) and other human disturbances. Documented responses of wildlife to noise include increased heart rate, startle responses, flight, disruption of behavior, and separation of mothers and young (Selye 1956, Clough 1982, National Park Service 1994, US Department of Agriculture 1992, Anderssen et al. 1993). The noise analysis included in the EIS discusses potential changes in sound level up to 3 dBA. This has the potential to cause a 50% loss in listening area for wildlife. Listening area is the area of circle whose radius is the alerting distance. Listening area is the same as the 'active space' of vocalization, with a listener replacing the signaler as the focus, and is pertinent for organisms that are searching for sounds (Barber, Crooks, & Fristrup, 2010).

31. Section 4.15.1.2.3: This section models the air quality impacts that could arise from the mine. It indicates that if emissions were uncontrolled, National Ambient Air Quality Standards (NAAQS) for particulate matter of less than 2.5 microns and less than 10 microns would be exceeded. It goes on to say though that when controlled (as we believe is proposed by the applicant) NAAQS would not be exceeded at off-site locations. The NPS suggests that, if state EIS rules allow, the control measures become a required, integral part of the alternative and the impact analysis be based on the emission control measures being in place. This approach is less alarming to the reader and is used in Federal-level EIS's.
32. Section 4.16, Noise Analysis: Noise is a highly technical subject and EIS's are to be written so as to be understandable by the general public. Therefore, this section should be expanded to include an explanation of sound so that reviewers can better understand the terminology and metrics used. An introduction should be included that provides the fundamentals of sound, including a definition of sound vs. noise, an explanation of the logarithmic nature of the decibel unit, A-weighting, an explanation of the metrics used through the document (i.e., L01, L10, L50, L90, L99), and an explanation of why these particular metrics were used over others. A table showing the decibel levels of common noise sources should be included and is critical to public understanding of the potential impacts.
33. Section 4.16, Noise Analysis: This section must also be expanded to describe the methods used for sound level monitoring, including the equipment used (Type 1 or Type 2), measures taken to assure proper calibration of the equipment, and the standards followed for noise source measurement (distance to noise, duration of measurement).
34. Section 4.16.1.1.1 State of Minnesota Noise Regulations: Please consider moving the discussion of these regulations to an earlier part of this section. Currently, these regulations are discussed in the paragraphs preceding the section that explains what they are.

35. Section 4.16.1.1.1 State of Minnesota Noise Regulations: This section states that impacts to St. Croix River users would be compared to Noise Area Classification 2 (NAC-2) standards. The NPS believes that NAC-2, a “commercial” classification, is completely inappropriate for use in a unit of the National Park System. Visitors to national parks often indicate that an important reason for visiting the parks is to enjoy the relative quiet that parks can offer. In a 1998 survey of the American public, 72% of people identified opportunities to experience natural quiet and the sounds of nature as an important reason for having national parks (Haas & Wakefield, 1998). Additionally, 91% of NPS visitors “consider enjoyment of natural quiet and the sounds of nature as compelling reasons for visiting national parks” (McDonald, Baumgartner, & Iachan, 1995). A unit of the National Park System, like the Riverway, should be held to a much quieter standard than that of a “commercial” area with an L_{50} of 65 dBA (which represents a level that could mask normal conversational speech). Applying the L_{50} standard of 65 dBA would allow for more than a 25 dBA deviation from ambient conditions at the Riverway (see below). The NPS noise policies described below should be applied to the Riverway, rather than state noise standards.
36. Section 4.16.1.1.2 Wild and Scenic Rivers Noise Policy: Please change the title of this section to “NPS Noise Policy.” The Riverway is a unit of the National Park System. The applicable policies are NPS Management Policies. The NPS is required by Section 4.9 of our Management Policies to “preserve, to the greatest extent possible, the natural soundscapes of parks...and protect natural soundscapes from degradation due to noise (undesirable human-caused sound)” (DOI/NPS, 2006).

Long-term acoustical monitoring has been conducted at one site within the Riverway. The monitoring site was near Receptors 11 and 12, as shown on the enclosed map. Preliminary analysis of the acoustical data has been completed and is included for your reference and possible use in the EIS (see Acoustical Monitoring Snapshot). Our 30-day ambient measurements resulted in a median L_{50} of 39.4 dBA (12.5-20,000 Hz) between the hours of 7 am and 7 pm. The standard applied to the Riverway should be in keeping with NPS noise policies; or no perceptible increase.

37. Section 4.16.1.1.2: The management objectives for the affected land management areas and water management areas should be included in this section. The applicable management areas and objectives area as follows:

Minnesota side: “Rural Residential Land Management Area,” wildlife viewing opportunities are to be abundant and noise moderate; “Quiet Waters Management Area,” noise is to be consistently low.

Wisconsin side: “Conservation Land Management Area” wildlife viewing opportunities are to be abundant (to the greatest opportunity) and noise is to be moderate to very low. “Natural Waters Management Area” noise is to be consistently low.

38. Page 4-93, para., 3: Please remove the last sentence that states “It can be seen that, with homes and docks on one side of the river, the two objectives are inconsistent.” This statement is an opinion and not relevant to the analysis.
39. Section 4.16.1.2: This section should be revised to include a discussion of the whether the potential noise impacts of the mine are consistent with NPS Management Policies and the management objectives from the CMP.
40. The NPS recommends an overall edit of the document to improve readability. In particular, some of the organization in the document is awkward. Examples are noted in comments 29 and 34 above.

Thank you for the opportunity to provide comment. References for the studies and documents cited above are enclosed. We look forward to reviewing a more complete Draft EIS and continuing to work with the City of Scandia to protect the Riverway. If you have any questions, please call Jill Medland of my staff at 715-483-2284.

Sincerely,

Robin M. Marklein
Acting Superintendent

Christopher E. Stein
Superintendent

Enclosures (4)

cc:

jill_medland@nps.gov

