



DATE/TIME Tuesday, April 27, 2010, 4:00 PM to 6:00 PM

LOCATION Scandia Community Center, Scandia, Minnesota

ATTENDEES

PAC Members Michael White (Community Representative), Tom Krinke (Scandia Planning Commission), Lisa Schlingerman (Community Representative), Kristin Tuenge (Community Representative), Karen Kromar (Minnesota Pollution Control Agency), Freya Themman (Metropolitan Council), Bill Clapp (Community Representative), Jill Medland (National Park Service), Jed Chesnut (Community Representative), Jim Shaver (Carnelian-Marine-St. Croix Watershed District), Amy Carolan (Washington Conservation District), and Jyneen Thatcher (Washington Conservation District)

City of Scandia Anne Hurlburt, City Administrator, Sherri Buss, City Planner (TKDA)

AECOM Team Leslie Knapp, Mark Rothfork (AECOM), and Trudy Richter (Richardson, Richter & Assoc. Inc.)

Tiller Corporation Mike Caron, Christina Morrison (Tiller Corporation), Kirsten Pauly (Sunde Engineering), Ken Arndt and Jason Husveth (Critical Connections)

Public Pam Arnold, Craig Christensen, Sue Lundgren, Barbra Booth, Becky Gleske, Chris Ness, and Leila Denecke

MEETING NOTES

1. Introductions

Trudy Richter had the attendees introduce themselves. Trudy also asked PAC members and any other attendees to remember to sign-in.

Items 2-3 are included in the PowerPoint presentation. Copies of the presentation are attached and are available on the City of Scandia Zavoral Mine and Reclamation Project EIS website at: <http://www.ci.scandia.mn.us/vertical/Sites/%7B2F1D9A41-1D4D-4195-A3E4-159328E3F399%7D/uploads/%7B89A403F3-EB48-4F99-A6EE-733B0CA567BA%7D.PDF>

2. Approval of PAC #1 Meeting Minutes

- The meeting minutes from the first PAC meeting were approved.



3. Revised Project Scope

a. Project Update

- See attached PowerPoint presentation.

b. Proposed Pump Test

- See attached PowerPoint presentation. Questions and comments from the PAC are summarized below.
- It strikes the PAC as odd that such a limited number of wells that will be monitored. Why limit the wells being monitored to just Zavoral's well?
 - The two closest wells were selected because they are most likely to be affected by pumping than more distant wells, and will be used to extrapolate data.
- Does Dr. Rzepecki have experience with this type of project?
 - Yes. Dr. Rzepecki has extensive experience with this type of project and performing pump tests.
- Does the well on the Zavoral Mine Site go down to the Mount Simon Aquifer? Is the aquifer protected?
 - Yes. In the metro counties, the DNR will not issue new permits for high volume use of water from this aquifer unless there are no practical alternatives and a water conservation plan is incorporated with the permit, but Tiller's use will fall below permitting thresholds.
- Will monitoring wells be installed to monitor seeps?
 - Several site visits have been completed and water levels have been recorded for Zavoral Creek. No Zavoral Site affect is anticipated because a different aquifer feeds the seeps versus the well. However, Zavoral Creek will be monitored to address the seeps.
- The west side of the railroad tracks has a lot of springs and streams. How will they be monitored?
 - A culvert on Zavoral Creek where all sources of water come together (seeps, springs, and streams) will be monitored during the pump test.
- Will the edge of the black ash seeps be monitored?
 - That is not currently planned. This will be addressed by the Zavoral Creek monitoring.
- Will there be long term effects from the project?
 - The pump test will be an order of magnitude larger than the actual water usage. If there is no short term effect, no long term effect is anticipated.
- How does climate change affect long term impacts?
 - Climate change would affect the region. It would affect aquifers on a large-scale.
- Is there current water level data?
 - The USGS has some baseline data. The water level is known within a few feet. The proposed pump test will determine any impacts.
- How deep are the seeps?
 - The shallow aquifers are discharging at the bedrock faces along the St. Croix River valley.
- Will Tiller mine into the seeps?
 - No. Tiller will not mine into the water table.
- What happens after the pump test?
 - The results of the pump test will be incorporated into the EIS.



- Can it be provided to the PAC?
 - Yes. It will be discussed at a future PAC meeting.
- What if the pump test shows impacts?
 - The impacts will be discussed in the EIS along with appropriate mitigation.
 - Does the PAC have any additional thoughts or concerns regarding the proposed pump test?
- Can the 1,200 gpm be put into perspective for the PAC?
 - Yes. A comparison can be provided comparing the 1,200 gpm to a typical residence. A typical house uses approximately 275-300 gallons per day. Peter will include a comparison in future discussions.
- Is there historical flow data for Zavoral Creek?
 - The watershed has this data and we will get it. During our site visits the Zavoral Creek flow was measured using a simple float and bucket method.
- Where will water from pump test go?
 - Originally it was planned that the water would be trucked away or discharged into an on-site depression to minimize the potential for erosion. However, with the longer pump test on-site discharge will be the only option due to the volume of water.
- The Zavoral Project is not a good idea. There is a lot of stuff going on in the ravine.
 - The water will be piped away from the ravine to an existing depression along the west side of the Zavoral Site. The water will be allowed to infiltrate the ground similar to what happens after a rainfall event (artificial rainfall event). We will provide the rainfall (in inches) that it would take to fill the existing depression.
 - The water infiltrating the ground will not affect our measurements because it would take several hours using high infiltration rates.

c. Agencies' Roles

- See attached PowerPoint presentation.

d. Role of Mitigation

- Sherri Buss (TKDA), the City Planner, gave a brief discussion of the City of Scandia's Tree Ordinance.
 - The City of Scandia's Tree Ordinance does not apply to mining operations. However, the Ordinance can be used as a good starting point for mitigation discussions. Mitigation is negotiated between the proposer and the City with input from the agencies and other interested stakeholders.

4. Biological Assessment

Copies of the Critical Connections Ecological Services (CCES) presentation are attached and are available on the City of Scandia Zavoral Mine and Reclamation Project EIS website at:

<http://www.ci.scandia.mn.us/vertical/Sites/%7B2F1D9A41-1D4D-4195-A3E4-159328E3F399%7D/uploads/%7B524BC1F9-11A2-4DA5-B4F3-E59AEFFB4D12%7D.PDF>.

Questions and comments by the PAC are summarized below.

Why is ginseng declining?

- Human harvesting, deer, earth worms, and leaf litter.
- When will Red-shouldered hawk surveys happen?
 - May 2010.



- Certain times for monitoring Red-shouldered hawks may not be accurate. They are in the area.
 - The hawks prefer forest type land with wetlands.
- Can Butternut Canker be treated?
 - No. Once the Butternut tree becomes infected it is a fatal disease.
- Can you point out the natural communities?
 - Yes. The areas were reviewed on the map.
- Were mussels surveyed?
 - No.
- Were any Blandings turtles found?
 - No. No evidence (nesting, tracks, or other signs) was found.
- Can the Butternut tree not affected by the canker be immune?
 - That is possible.
- Harvest the nuts from unaffected Butternut tree and use for re-planting.
- Where is the eight-acre undisturbed area?
 - The areas were reviewed on the map.
- Will hundreds of trees along Highway 95 be removed?
 - No. The DNR land cover classification system was used and the area shown in brown along Highway 95 is not forest.
- Substantial numbers of young White pine are located along Highway 95.
 - CCES is currently working with Tiller on a Forest Management Plan. Tiller has coordinated with the DNR regarding using smaller White pine trees. Trees can't be mined around.
- What tree species were found on the Zavoral Site?
 - White pine, Elm trees, etc. (see list on PowerPoint presentation slides).
- The Red-shouldered hawks like big, old trees. There will be a loss of old trees.
 - The Forest Management Plan can be used as possible mitigation to help promote the overall forest health.
- Another mitigation method – Don't dig there.
 - Don't dig there is the No Build Alternative
- Plan is good but what about when the site is subdivided and sold?
 - Not in the scope of this EIS. The City's zoning and subdivision standards will apply if the property is subdivided or developed in the future.

5. Issues and Dates for Subsequent Meetings

- Technical Issues: pump test results, traffic studies, visual assessment, mitigation measures, and noise study.
- Can there be another field visit?
 - Yes. Once the Reclamation Plan is drafted would be a good time frame. This could be a voluntary meeting either before or after PAC meeting.
- Is the noise in the canyons magnified? Are there standards?
 - The NPS will look into whether there are specific noise standards that may apply.
- Post reclamation uses of the "Hole"?
 - This will be covered in the Reclamation Plan.
- Will the 5-year and 10-year plan be analyzed?
 - Yes, in the EIS.
- Watershed responsibilities: Jim Shaver offered to have an engineer from the District discuss their stormwater requirements.



- It was decided that that would use too much PAC time with limited number of meetings. PAC members and other interested parties could attend watershed district meetings that are held on the 1st Monday of every month.
- Water is a huge issue here. Not everyone will be at watershed meeting.
- Research watershed setback distances and provide them to the US Army Corps of Engineers and the Wetland Conservation Act.
- Is the Tree Ordinance easy to find?
 - Will be put on the City website.

6. Public Questions

- Pam Arnold talked with USGS hydrologist. Could the water in the holding pond be monitored as water recedes?
 - That is something we could consider.
- Can the spring north of the Zavoral site be monitored?
 - That could also be evaluated by the team.
- Chris Ness: How would we address mining or not mining four acres of the eight acres of undisturbed area?
 - Mining the wooded area could be discussed as part of the mitigation process and reclamation plan (eg. forest management plan previously discussed). Not mining the undisturbed wooded 4 acres will be addressed in the No Build Alternative to be studied in the EIS.
- Also, see attached scanned public comment card.



PAC Meeting 2

Zavoral Mine & Reclamation Project EIS

April 27, 2010

Agenda

- Approval of Minutes
- Revised Project Scope
 - Update
 - Proposed Pump Test
 - Agencies' Roles
 - Role of Mitigation
- Biological Assessment
 - Methods/Standards Used
 - What Results Mean
 - Follow-Up Work
 - Q&A
- Issues and Dates for Subsequent Meetings
- Public Questions



Approval of Minutes

Approval of December 8, 2009
Meeting Minutes



Revised Project Scope



Update

Tiller's Revised Proposal

- Recent additional characterization of Zavoral site deposit indicated use as add-rock for Scandia Mine site & to other markets
- Re-initiating use of Zavoral Site Well at levels suitable for washing gravel would require significant investment to address DNR water appropriation requirements

(continued)

Tiller's Revised Proposal

- No washing, processing, or stockpiling at Zavoral site
- Load aggregate into trucks & haul to Scandia Mine site & other markets for use as add-rock
- Reduces impacts at Zavoral site
- Add-rock is rock of certain size ranges or quality not available at a facility, but needed to meet specifications for products produced there
- Add-rock is currently brought to Scandia Mine site from other locations

Revised EIS Scope & Work Plan

- City staff contacted EQB & reviewed state's rules regarding process to amend scope of EIS
- EQB provided guidance that EIS consider potential impacts at Zavoral & Scandia Mine sites
- City Council adopted Revised Scoping Decision Document (RSDD) on January 6, 2010
- Noticed in EQB Monitor
- AECOM modified work plan & contract to comply with RSDD

(Minnesota Rules 4410.2100 § 8)

EIS Items Modified

- Project description modifications- add-rock & timeframe, including alternatives
- Item 13 – Water Use
- Item 17 – Surface Water Quality & Quantity
- Item 21 – Traffic
- Item 23 – Stationary Source Air Emissions
- Item 24 – Odors, Noise, & Dust
- Item 26 – Visual Impacts

Alternatives

- #1 - Applicant's Preferred Alternative (10 years or less)
- #2 - No Build Alternative
- #3 - Reduced Mining Timeframe (5 years or less)
- Deleted: Impacts of Washing Scenarios
- Deleted: Impacts of Seasonal Scheduling of Processing Activities

Water Use – Zavoral Site

- Water use for dust control only - lower usage
- Reduces water use from up to 1,200 gpm (864,000 gpd) to < 10,000 gpd & <1mgd
- No water appropriation permit required
- Comparison nursery well is permitted to use up to 7.2 mgd (420 gpm)
- Evaluate any identified impacts & identify mitigation measures

Water Use-Scandia Mine Site

- Currently permitted 18 mgd for washing, two mgd for dust control
- Actual usage < two mgd
- Add-rock is currently processed at Scandia Mine site
- EIS will identify & evaluate potential changes in water use & determine if will remain consistent EAWs & current water appropriation permit

Water Use Monitoring

- Impacts of current water appropriation levels at Scandia Mine site were addressed in Scandia EAW & as part of DNR water appropriation permit process
- Annual water use at Scandia is reported to DNR
 - Dust control (daily)
 - Hours operating washing plant & amount of water used (daily)
 - Zavoral annual water use reported to City as part of Annual Operating Permit

Surface Water Quality & Quantity – Scandia Mine Site

- Review historic operational data for Scandia Mine site
- Determine if potential for additional impacts, including areas of disturbance impacts to downstream water resources
- Evaluate any identified impacts & identify mitigation measures

Surface Water Quality & Quantity - Zavoral Site

- Identify & map groundwater & groundwater-dependent resources
- Identify surface waters that would receive runoff & their quality using existing information
- Describe proposed surface water controls
- Assess potential impacts of runoff to
 - Surface & groundwater quantity & quality
 - Waters of Special Concern, including St. Croix River & Zavoral Creek

Traffic

- Analysis of existing & alternative traffic operation impacts to key roadway network serving Zavoral & Scandia sites
- Assess impacts of mining only – Zavoral site
- Review historic operational data for Scandia Mine site
- Identify potential impacts at Scandia Mine site (traffic, safety, & infrastructure)
- Evaluate any identified impacts & identify mitigation measures

Stationary Source Air Emissions

- Assess impacts of mining only - Zavoral site
- Review historic operation data for Scandia Mine site to determine if proposed operation is consistent with EAWs & current permits
- Determine potential for additional air impacts at Scandia Mine site
- Evaluate any identified impacts & identify mitigation measures

Odors, Noise, & Dust

- Assess potential noise & dust impacts of mining only at Zavoral site for each alternative
- Evaluate potential for additional noise & dust impacts at Scandia Mine site
- Evaluate any identified impacts & identify mitigation measures

Visual

- Assess visual impacts of mining only at the Zavoral site
- Evaluate potential for additional visual impacts at Scandia Mine site
- Evaluate any identified impacts & identify mitigation measures



Proposed Pump
Test

Zavoral Water Use Dust Control Only

- Dust control only
- <10,000 gpd based on discussions with Tiller – seasonal use, also < mgy permit threshold
- Pumped from Zavoral Site Well at 1,200 gpm for a few minutes a couple of times a day, or lesser rate for up to eight minutes

Modeled Simulation

- AECOM simulated lowering of water levels around Zavoral Site Well
 - Pumping at 1,200 gpm - 10-minute period
- Numerical program PT1 - Walton (1989)
 - Zavoral Site Well construction diagram
 - Hydraulic properties of aquifers based on available regional data (Runker et al. 2003)

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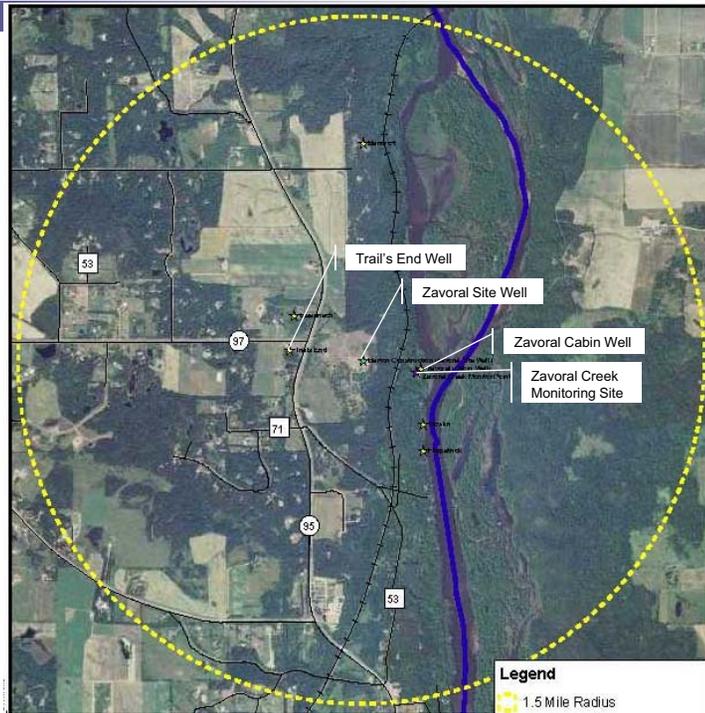
Modeled Simulation

- Results indicated after 10 minutes of pumping Zavoral Site Well at a rate of 1,200 gpm
 - Water levels may drop by 0.2 ft at 670 ft
 - No drawdown at a distance of 1,682 ft
- Simulation based on several assumptions
- AECOM proposes pump test to provide direct evidence of effect of pumping on area wells & surrounding environment

Pump Test

- Propose two, 10-min pump tests - second test following first after two-hour recovery
- Water levels monitored at
 - Zavoral Cabin Well - about 1,300 ft east of Zavoral Site Well
 - Trail's End Bar & Grill 1 - about 1,700 ft west of Zavoral Site Well
 - Zavoral Creek at culvert
- Plan to conduct in May

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Pump Test

- Pre-pumping monitoring is aimed at detecting trends in water levels that may be present
- Knowledge of such trends may be important for interpreting pump test data
- Post-pumping data will be inspected for possible presence of delayed effects of pumping from Zavoral Site Well

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Pre & Post Pumping Monitoring

- Two selected wells initiated three hours prior to pumping & terminated two hours after pump is turned off (after the end of the second 10-minute pump test).
- Zavoral Creek initiated three hours prior to start of pumping & terminated three hours after pump is turned off

Coordination with DNR

- Although no DNR is permit required, continue to coordinate with DNR to facilitate their ongoing involvement with EIS process
- DNR agreed proposed tests technically represent actual water use scenarios
- Suggested longer test to help address public perceptions related to water use
- Looking at extending the test accordingly



Agencies' Roles

Environmental Impact Statement

- Provides information to evaluate proposed projects with potential for significant environmental effects
- Considers alternatives
- Explores methods to reduce adverse environmental effects (mitigation measures)

Minnesota Rules 4410.2000

(continued)

Environmental Impact Statement

- Not an approval process
- Information gathering process to help governmental units with permitting authority over a project make better-informed decisions
- Has no authority to enforce measures
 - Is a source of information - must be integrated with permitting & approval processes
 - Regulatory agencies carry out protection measures identified in environmental review

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Environmental Impact Statement

- Agency representatives on PAC to provide early input
- Agencies have opportunity to provide comments on draft EIS
- Regulatory agencies carry out protection measures identified in environmental review & other relevant measures as part of permitting processes



Role of Mitigation

Mitigation

- A key purpose of an EIS is to provide information about potential environmental effects & how to avoid or minimize those effects to each of governmental units that approve or conduct project
- Mitigation may be meeting permit requirements or other methods developed as part of EIS process

(continued)

Mitigation

- Reason all decisions approving project are prohibited until EIS completed
- Does not preclude governmental units from reviewing permit applications, working on permits, preparing draft permits, etc.

City Tree & Woodland Preservation Standards

- Review
- Relationship to proposed project



Biological Assessment



Q & A



PAC Meetings

PAC Schedule

March 23, 2009	Record of Decision & Positive Declaration for EIS published in EQB Monitor
April 7, 2009	Public Scoping Meeting
April 21, 2009	Document
Jan-May 2010	Final Scoping Decision
Jan 2009	Revise Scoping Decision
May 26 (?)	Reviewing Technical Issues
June 29 (?)	Reviewing Technical Issues
August –Sept	Review of Draft EIS



Public Questions



PAC Meeting 2

Zavoral Mine & Reclamation
Project EIS

April 27, 2010



Biological Assessment



Jason Husveth, Principal Ecologist

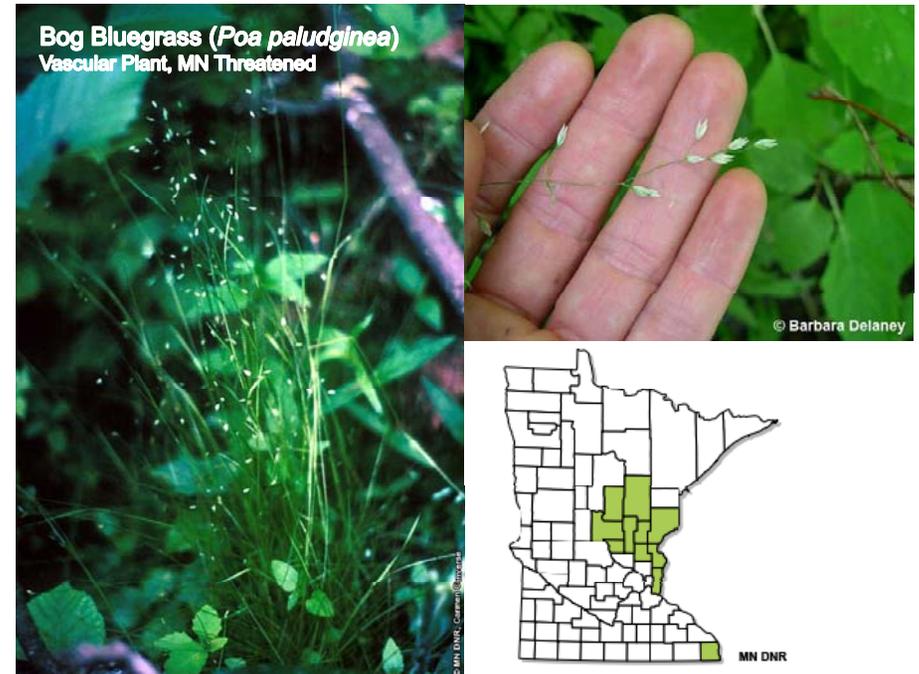
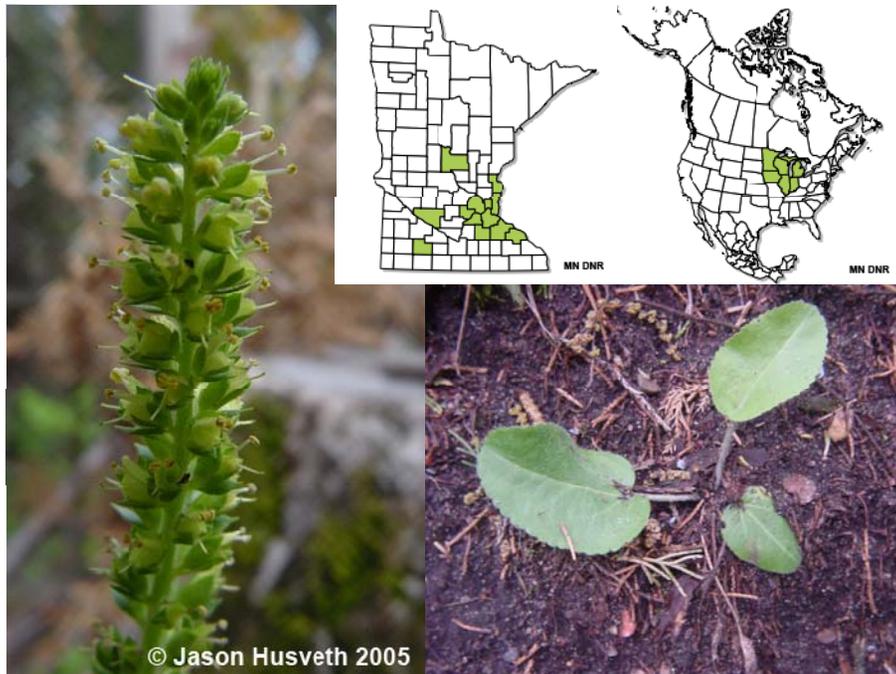
- 15 years professional and research experience conducting rare species surveys, biological and ecological assessments
- Minnesota DNR Approved Surveyor
- Office in Scandia, conduct surveys throughout the Upper Midwestern States and elsewhere in the continental US, having surveyed hundreds of thousands of acres for rare features
- Have completed surveys for dozens of mining sites throughout Minnesota

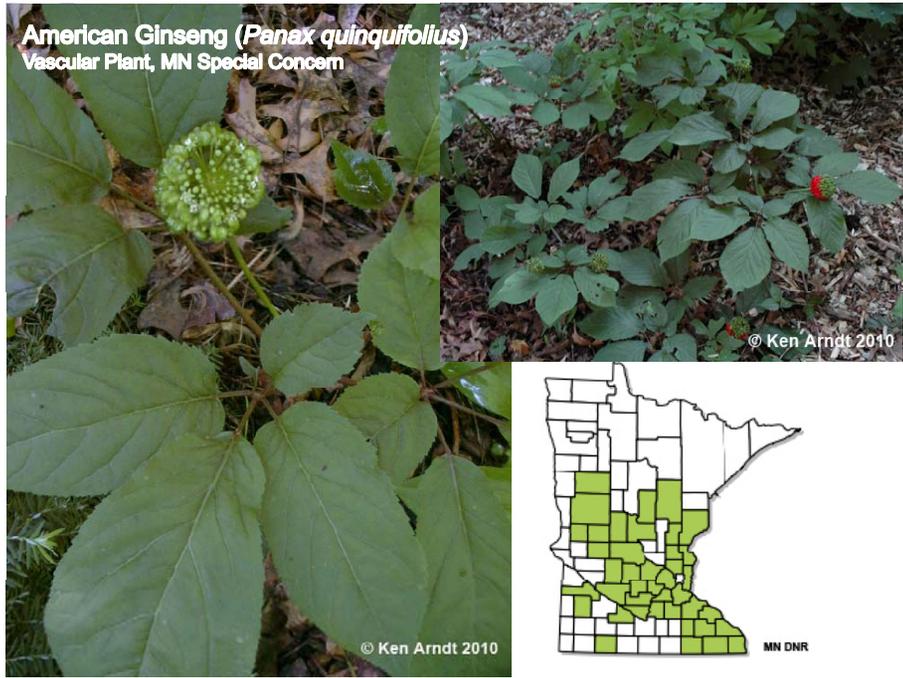
Biological Assessment

- At the request of the Minnesota DNR, a biological assessment of the Zavoral property was completed
- Based on historic records of rare species occurrences within the area, the DNR requested that biological field surveys for five species be conducted
- This list was generated by the DNR from a query of the MN DNR NHIS Biotics database, and a cursory analysis of the Zavoral Property's landscape
- If potential habitat was present for additional rare species, CCES surveyed for these species that were not included in the MN DNR's database query or letter

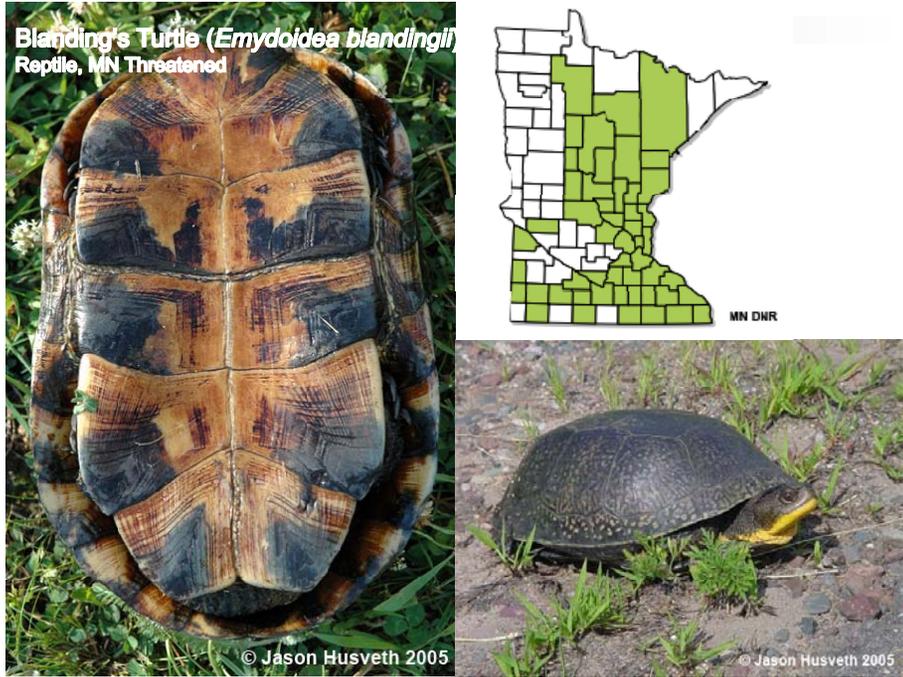
At the request of the Minnesota DNR, rare species that were specifically surveyed for at the Zavoral Property included:

- Kitten Tails (*Besseyia bullii*)
Vascular Plant, MN Threatened
- Bog Bluegrass (*Poa paludginea*)
Vascular Plant, MN Threatened
- American Ginseng (*Panax quinquefolius*)
Vascular Plant, MN Special Concern
- Red Shouldered Hawk (*Buteo lineatus*)
Bird/Raptor MN Special Concern
- Blanding's Turtle (*Emydoidea blandingii*)
Reptile, MN Threatened
- When present, potential habitats for other rare species populations were also surveyed





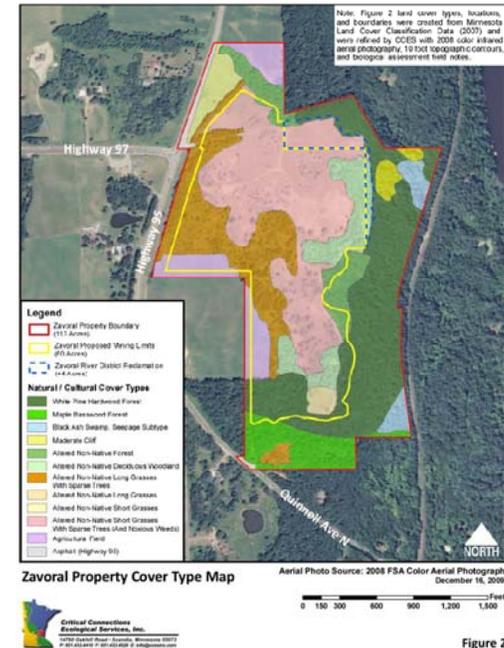
Red Shouldered Hawk (*Buteo lineatus*)
Bird/Raptor MN Special Concern



Methods & Standards Used

Survey Methods and Standards

- Methods and standards for the biological assessment of the Zavoral Property follow methods and standards developed by and used by the Minnesota DNR, Ecological Services, and County Biological Survey
- Pre-Survey Preparation (e.g. research and remote sensing)
- Proper phenology and knowledge of life history requirements and species autecology is critical
- Vascular plant surveys described
- Blanding's turtle surveys described
- Red shoulder hawk surveys described
- CCES surveyed for other listed / rare species when potential habitat is present within a site



Results

- Rare species detected: none of the DNR target species were detected, however, CCES detected a population of Butternut (*Juglans cinerea*) on the property.
 - Vascular Plant, Deciduous Tree, MN Special Concern
 - 33 Individuals, Show Location Map and Photographs
 - All but one showed signs of disease due to Butternut Canker
- Endangered, Threatened, Special Concern species and status explained, and level of legal protection in MN
- Results of Additional Ecological Assessment
 - Zavoral Property Land Cover
 - Zavoral Property Natural Community Types

MN Endangered Species Statute

84.0895 PROTECTION OF THREATENED AND ENDANGERED SPECIES

- Endangered:**

A species is considered **endangered** if the species is threatened with extinction throughout all or a significant portion of its range within Minnesota. Protected by statute.

- Threatened:**

A species is considered **threatened** if the species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range within Minnesota. Protected by statute.

- Special Concern:**

A species is considered a species of **special concern** if, although the species is not endangered or threatened, it is extremely uncommon in Minnesota, or has unique or highly specific habitat requirements and deserves careful monitoring of its status. Species on the periphery of their range that are not listed as threatened may be included in this category along with those species that were once threatened or endangered but now have increasing or protected, stable populations. Not protected by statute.

Zavoral Rare Species Report Photos 2009

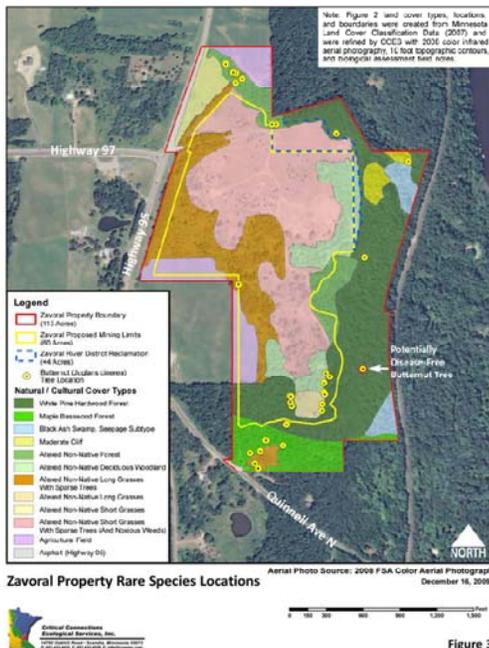
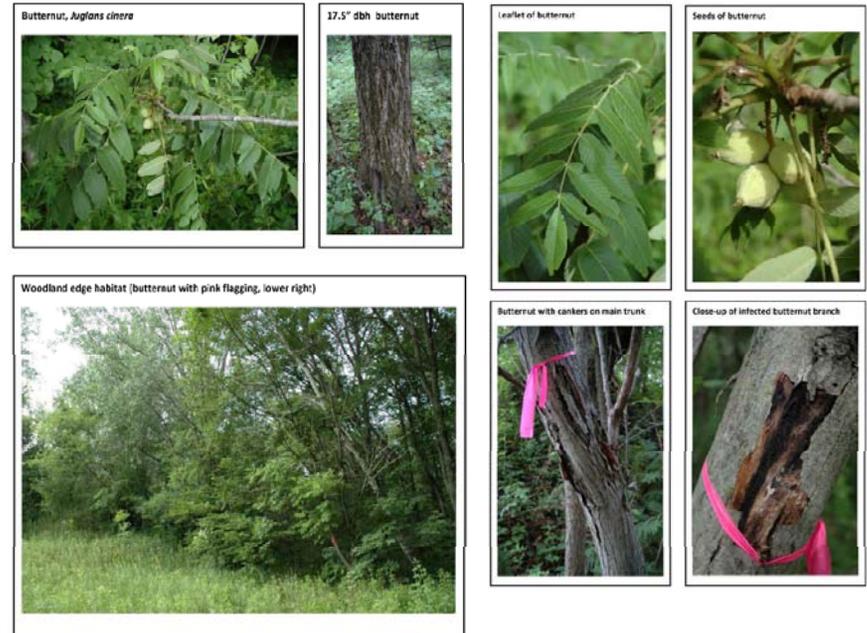


Figure 3

Follow Up Work



Follow Up Work

- Call back surveys for Red Shoulder Hawks, May 2010
- Development of a forest stewardship plan
 - Management and improvement of forest resources outside/adjacent to proposed mining areas,
 - Stewardship plan would dovetail with reclamation plan for proposed mining areas
 - Management of Butternut Canker to salvage and protect remaining healthy population of Butternut trees
- Results of biological and ecological assessments will be used as the basis for the design and development of the mining reclamation plan (e.g. invasive species management) and forest stewardship plan

We want to hear from you!

Please feel free to use this card to share any comments or concerns you have related to the Zavoral Mining and Reclamation Project EIS.

Name SUE LUNDGREN
Address _____
Phone 763-521-3150
Email Suzanne.lundgren@mpls.mn.us



For more information about the Zavoral Mining and Reclamation Project EIS:
Project Website: www.ci.scandia.mn.us/
Project Email: a.hurlburt@ci.scandia.mn.us
Project Contact: Anne Hurlburt, (651) 433-2274

Comments:

I HAVE PROPERTY ON THE RIVER N. OF ZAVALAL (APP. 1500'). THERE ARE 2 MAJOR CREEKS THAT FLOW INTO THE RIVER FROM SEEPAGES THROUGHOUT THESE BLUFFS. IN ADDITION THERE ARE NUMEROUS SEEPAGES ALL OVER. THESE SEEPAGES CHANGE FREQUENTLY AS THE GEOLOGICAL FEATURES CHANGE DUE TO SHIFTS OF BEDROCK, WATER FLOW ETC. WATER AS WE ALL KNOW WILL FIND WAYS & DIRECTIONS OF MOVEMENT. YOU HAVE NOT ADDRESSED THE IMPACTS OR SEEPAGES NORTH OF THE ZAVALAL SITE DUE TO SHIFTING BEDROCK & H₂O. ≡ Thank you for your time and interest!

3 FAMILIES USE THE H₂O THAT COME FROM THESE SEEPAGES AND CREEKS FOR CLEANING, COOKING ETC. YOU HAVE ADDRESSED WELLS BUT NOT NATURAL

WELL LIKE THESE H₂O SOURCES

W₂ SOURCES THAT HAVE BEEN USED FOR 100'S OF YEARS!