

Mining Action Group

Attn: Upper Peninsula Environmental Coalition
P. O. Box 673
Houghton MI 49931



STATE LAND REVIEW COMMENTS

Regarding Parcel 2043823, Marquette County, Michigan

Deadline For Comments: February 6, 2022.

Submitted: February 4, 2022

DNR-StateLandReview@Michigan.gov

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Introduction

We are writing to express our strong disagreement with the Michigan DNR's classification of Parcel 2043823 in north central Marquette County, Michigan as "dispose". This 61-acre parcel encompasses an area of undeveloped, rugged terrain less than a mile south of Rocking Chair State Natural Area. **We believe that Parcel 2043823 should be classified as "retain" and that the DNR should continue to manage this parcel as conservation and recreational land.**

Parcel 2043823 is Publicly Accessible

During the January 27, 2022 online public land review meeting held by the DNR, DNR staff member Kerry Heckman told one of us (Steve Garske) that one reason Parcel 2043823 was being slated for “disposal” was that it was not accessible to the public. This is clearly incorrect. A very driveable 2-lane public road (the Red Road, or County Road AAT) runs from the Dead River Basin area through the southwestern side of this parcel, before joining up with Silver Lake Road to the west. The North Country Trail also follows the Red Road across this parcel before continuing north-northeast around the east and north side of Silver Lake Basin. So public access to this parcel is obviously not a problem.

The fact that the North Country Trail crosses the parcel should be reason enough to retain it in public ownership. Even though the trail coincides with the road, if the parcel is sold and developed, the hiking experience along this section of trail will be diminished.

DNR staff also told us that Parcel 2043823 was problematic for the DNR because the deed relied partly on elevation in describing the parcel boundaries. This also seems like a minor issue to resolve. With highly accurate USGS National Elevation Data and LIDAR technology available today, the boundaries could be pinned down quite accurately based on elevation. Besides, if the DNR is unable to describe where the exact boundary is, how can they sell the land? Who would buy land where the exact boundary is unknown? **If a DNR GIS specialist has to first determine where the boundary is in order to sell the land, then this problem will have been solved, and the perceived need to dispose of the land for this reason will have been eliminated.**

Another concern of the DNR staff was that in their view the parcel didn’t extend to Mulligan Creek. However, our GIS overlay map below shows the western edge of the parcel extending to the creek and beyond, at least along the northern half of the parcel. (The assertion that this parcel didn’t reach Mulligan Creek was also a bit curious, given the DNR’s assertion that they couldn’t tell exactly where the boundary was.)

Public Access Serves Recreation

As the DNR is well aware, a nearby access site at Silver Lake Basin (accessed by traveling along the road in Parcel 2043823) has grown increasingly popular:

When the DNR acquired the site in 2015, it announced they would keep it undeveloped. However, a recent popularity spike caused problems with litter, erosion, and illegal camping. "The water levels are controlled partially by UPPCO because of the dam and stuff that's there. It's a very quiet sort of location, I've heard a few people refer to it as it's kind of what it looks like when you fish in Canada, so it's a very very pretty spot, kind of a low key spot," says Debra Gill, unit supervisor for Van Riper State Park.¹

“We think a walk-in-only access site will help us curtail these problems while helping to maintain the scenic and quiet character of the Silver Lake Basin,” said George Madison, DNR fisheries manager. “This lake is very well-suited as a quiet-sport recreational fishery for small boats such as canoes, kayaks and other carry-in watercraft.”² (Not) “every situation (has) the qualities that make for a quiet, “wilderness-like” experience people are willing to walk to. Why would you put in a walk-in access site if across the lake people (are) already driving in and launching their bass boats? It doesn’t make sense. But Silver Lake Basin does; it offers a rare opportunity to meet the growing desire that

¹ <https://www.uppermichiganssource.com/content/news/DNR-looks-for-public-input-on-Silver-Lake-Basin-access-567605281.html> Accessed 4 February 2022.

² <https://www.michigantrailmaps.com/drive-in-or-walk/> Accessed 4 February 2022.

Michiganders have clearly shown for quiet, non-motorized outdoor adventures in undeveloped areas. (...) “We get that,” said Gill. “There are some areas you can’t open up to everybody because of the remoteness or ruggedness of them. So we manage them more like a wilderness and that changes the users. That’s good too.”

Through deliberations and public meetings, the DNR clearly heard that the public is increasingly interested in recreational access to public lands in the Mulligan Plains and Silver Lake area.

Parcel 2043823 Could Support a Public Boat landing on Mulligan Creek

A UPEC board member (Jon Saari) is very familiar with this parcel. He points out that the County Road AAT bridge across Mulligan Creek would be a great spot for a simple kayak and canoe landing. This location is only about a hundred yards upstream from the confluence of the Mulligan with the Dead River, and the short stretch of the creek leading to the Dead River is navigable with a small boat. According to Kerry Heckman of the Michigan DNR, the land immediately surrounding the bridge is private land belonging to Dead River Campers Inc. But that may not pose a problem either: the landing could be kept within the road right-of-way; or if not, perhaps Dead River Campers Inc. could be convinced to either sell this land or allow an easement for a small landing. **Such a landing would potentially have high recreation value, especially given the increased recreational interest in the Silver Lake Basin. We think it’s worth a try.**

Mulligan Creek Provides Excellent Cold-Water Fishing

According to our GIS map below, a roughly 360 yard stretch of Mulligan Creek is located within this parcel. Mulligan Creek is a designated trout stream, and referenced as an important component of the Rocking Chair Lakes management plan. A healthy, naturally reproducing brook trout population inhabits this stream, and provides a popular fishery. Parcel 2043823 should be retained to continue to provide a buffer for the creek.

Impacts to Rocking Chair Lakes Natural Area³

According to the DNR, the Rocking Chair Lakes Natural Area contains intact examples of four Ecological Reference Areas (ERAs):

- Northern Shrub Thicket
- Dry Mesic Northern Forest
- Mesic Northern Forest
- Granite Cliff

These ERAs are “located on State Forest Land within the Gwinn Forest Management Area, compartment 304. The ERAs are all within the Peshekee Highlands Management Area, Marquette County; Champion Township, T49N-R28W, Section 10.”

According to the State of Michigan:

“Ecological Reference Areas (ERAs) serve two purposes: as models of ecological reference within the state and/or as areas within which rare natural communities are conserved. The ERAs are one category of High Conservation Value Areas (HCVAs). They are higher-quality examples of functioning ecosystems that are primarily influenced by natural ecological processes. The ERAs are based on the Michigan Natural

³ The Rocking Chair Lakes Natural Area was “Proposed for Legal Dedication” but current status is unclear; according to the 2008 Michigan State Forest Management Plan, Rocking Chair Lakes is included in the list of state forest lands managed as Natural Areas.

Heritage Database of known natural community occurrences, and represent both rare and common natural communities.”⁴

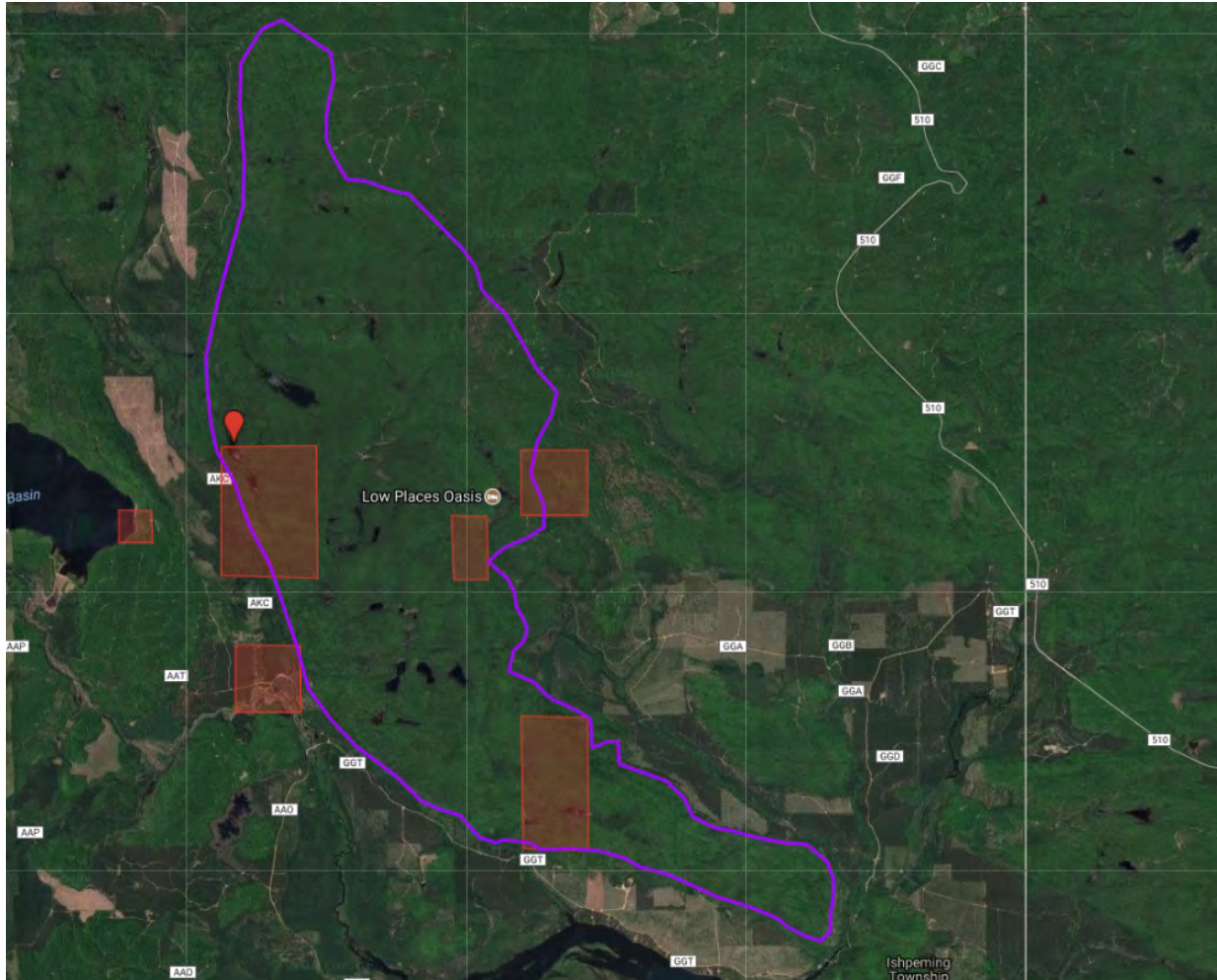
The DNR’s Forestry Division refers to the Rocking Chair Lakes as one of the “jewels of the state forest system... a natural area in a rugged and nearly inaccessible part of Marquette County. Managed for trout, these lakes offer a wilderness fishing experience.”

The DNR Wildlife Division appears to understand the ecological importance of this area: “With very little use over the years, the (Rocking Chair Lakes Natural) area provides the opportunity for solitary recreation. The rugged terrain is covered by dry-mesic northern forests, which includes some old-growth. This surrounds two small lakes that sit 100 feet above the Mulligan River, with a 100-200 foot tall outcrop to the west. After heavy rains and during spring runoff, the lakes overflow and cascade over the outcrop to the river below. The site occurs within an area of primary moose range.”⁵ This description applies in many ways to Parcel 2043823, similarly situated between the Mulligan River and the outcrop (and wild lakes at higher elevations).

This site is located within the larger Rocking Chair Lakes Ecological Reference Area, a biologically diverse and ecologically unique area identified by former MNFI Ecologist Dennis Albert. Dr. Albert originally recommended that *thousands of acres of land in this area be protected as a State Natural Area*. He has provided the following statement of concern, along with a polygon “based on the discussions and maps that I remember recommending” for special environmental protections. Albert’s polygon, the purple area outlined below, identifies the Rocking Chair Lakes parcels, Parcel 2043823, and several other areas of state-owned land and minerals which were previously nominated for mineral lease exploration:

⁴ “Ecological Reference Area Planning Framework - State of Michigan.” https://www.michigan.gov/documents/dnr/ERA_planning_507679_7.pdf. Accessed 4 May 2018.

⁵ Michigan DNR. 2022. Rocking Chair Lakes. https://www.michigan.gov/dnr/0,4570,7-350-79133_79200_31427-54398--,00.html Accessed 4 February 2022.



ABOVE: Original Rocking Chair Lakes Ecological Reference Area, as drawn by Dennis Albert.

Parcel 2043823 is adjacent to a LARGER area originally proposed to be protected as the Rocking Chair Lakes Ecological Reference Area, and it lies due west of “8 Lake” which is considered similar, ecologically, to the Rocking Chair and Island lakes.

Dr. Albert has written:

The landscape was considered significant partially because of its isolation, with no easy access from the west, although in recent years it appears the eastern flank of the area has been accessed for some logging. When I visited it in the late 1990s or the early 2000s, there had been isolated harvesting of red oak from the Dry Mesic Forest, apparently by helicopter, as there were no roads.

The polygon that I drew is approximately 11 square miles in area and contains numerous isolated lakes, including Rocking Chair Lake and Rocking Chair Lake South, Island Lake, Penny Lake, Hill Lakes (5 lakes and 6 ponds and wetlands to the northeast), 8 Lake, 2 Lake, 3 Lake, plus two ponds further south. The polygon is approximately 8 miles north-south, and maximum 2 to 3 miles wide. I think that there has been incomplete survey of most of these lakes due to difficulty of access and the extreme magnetic irregularities that made use of a magnetic compass impossible.

With a magnetic compass and an inflatable boat, two of us spent an entire long day trying to locate the lakes north and east of Rocking Chair Lake, but were only able to find a couple of the Hills Lakes by accident. It was only later that I read the surveyors original notes that said bearings could be greater than 60 degrees in error, and it became clear why my compass had failed me. Now, with GPS as a regular tool, access should be much easier and allow aquatic survey and survey of the bedrock cliffs, glades, and associated dry mesic forests. **High priorities would be Island Lake, 8 Lake, 2 Lake, and 3 Lake. Open bedrock glade is also present about 3/4 of a mile south of 3 Lake.**

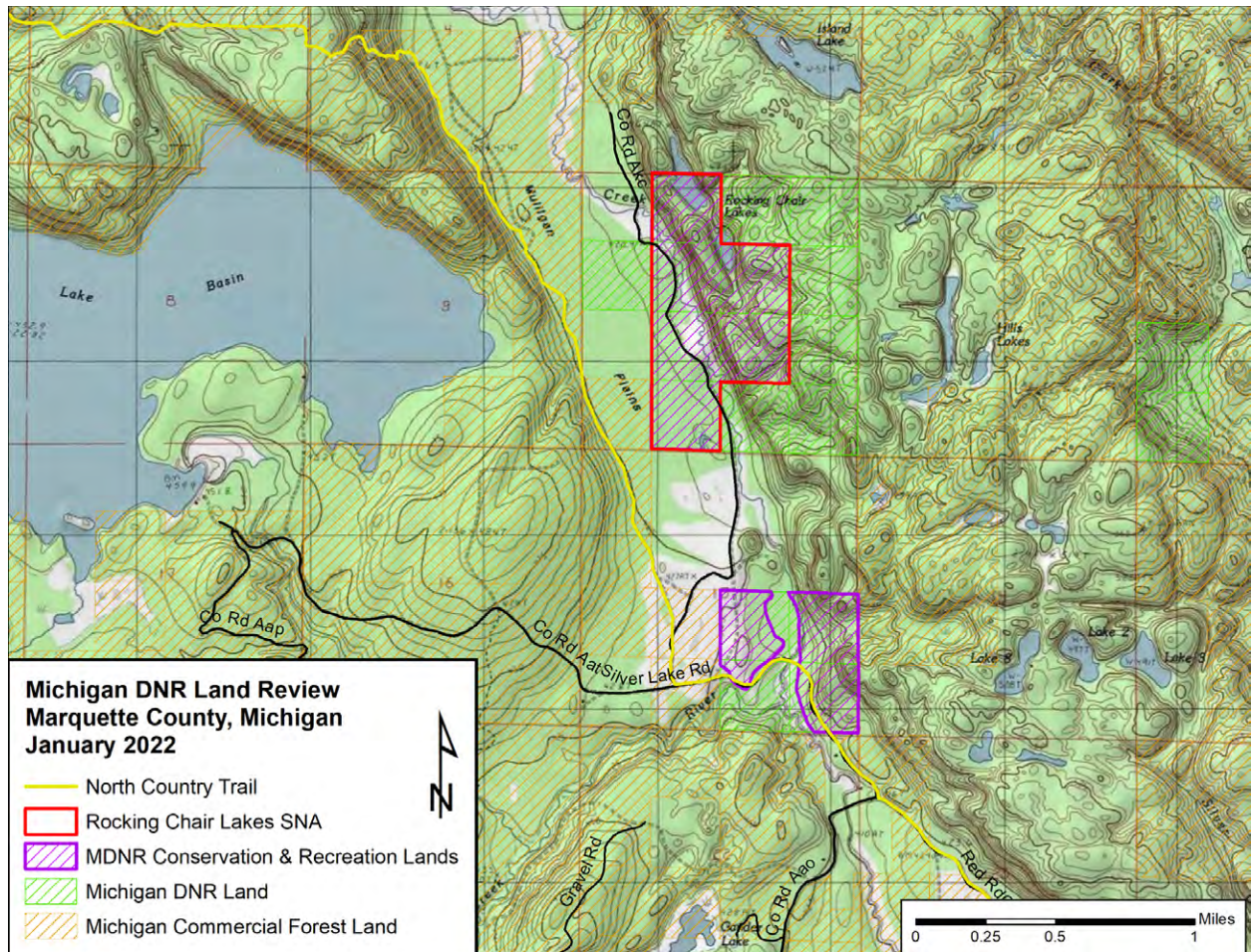
The actual Rocking Chair Lake ERA contains a concentration of rare species and high quality plant communities as noted in the description. But even from a google image one can see Granite or Basaltic Bedrock Glade or Dry Northern Forest and Dry Mesic Northern Forest along the northern edge of 8 Lake, 2 Lake, and 3 Lake and scattered along the lake shore. Similarly Island Lake has Bedrock Glade on the island and Dry Mesic Northern Forest on its southwest facing lake shore.

Part of the reason for the original recommendation of this area was the isolated nature of the landscape, the other the old growth forest and the records for rare softwater lake wetland plants. Since there are numerous glade areas and lakes that have not been surveyed, I would recommend that a more thorough survey be conducted prior to opening the site up for mining.

Hope this helps. I don't know if further surveys have explored more of the large area, but I suspect most inventory (work) focused on the already known biological hot spots along Rocking Chair Lake.

Sincerely,

Dennis Albert, PhD, Senior Research Faculty, Oregon State University
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541-737-7557



The Rocking Chair Lakes ERA includes a recognition by the DNR that disruptive activities such as logging and mining — even on adjacent private lands — may constitute ecological threats to the Natural Area. Therefore the DNR should be looking to acquire land in and around the ERA, not dispose of it. **Cumulative impacts such as habitat fragmentation would result from “disposing” of currently protected state land in this area.**



ABOVE: screenshot from Michigan DNR Land Review map <https://midnr.maps.arcgis.com/apps/webappviewer/> Parcel 2043823 (61 acres) is located on the east half of the (red) larger state-owned parcel. It appears the State owns BOTH surface and minerals in approximately half of Parcel 2043823. This *total ownership* makes the property more important to retain, as it allows the State to better protect fragile natural resources located at the confluence of the Mulligan and the Dead Rivers.

According to the [Rocking Chair Lakes "ERA Plan"](#) ⁶

- Rocking Chair Lakes ERA does not contain any existing infrastructure or facilities.
- High Conservation Value (HCV) Attributes: "Rocking Chair Lakes ERA is a mostly intact and functional landscape" and "contains numerous threatened and endangered plants."
- **A hiking path along Granite Cliff ERA "has limited use due to poor access and extreme terrain."**
- The Dry Mesic Northern Forest ERA is given an element occurrence rank of "A", "noted to be of **very high quality** dry-mesic northern forest occurring with **high quality old growth mesic northern forest** adjacent

⁶ "Rocking Chair Lakes ERA Plan - Department of Natural Resources."
http://www.midnr.com/Publications/pdfs/ForestsLandWater/Cmpt_Reviews/Gwinn/2019/RockingChairLakes.pdf. Accessed 4 February 2022.

to extensive outcropping of granite cliff and **numerous inland lakes** surrounding the complex. **Little human disturbance...**"

- Mesic Northern Forest Community ERA "includes **numerous wetland inclusions which are made up of hardwood-conifer swamps and rich conifer swamps**. The landscape is characterized as **very rugged with granite outcrops throughout the area.** "
- The Granite Cliff ERA is ranked "A"; the area includes the Mulligan Cliffs, "**among the largest expanses of inland cliffs found in the State of Michigan**: they are several miles long and range in height from 60 to 130 feet."
- "**Aerial photographic interpretation and ground-truthing indicate that additional high-quality natural communities occur throughout the Rocking Chair Lakes area. Surveys of natural communities adjacent to Mulligan Cliffs are needed.**"⁷

Since this entire area is remote and relatively undisturbed, mineral exploration was specifically identified in the Plan as a threat to the ERA's integrity: *"long-term threats include mining exploration and development, logging on nearby private lands, ORV, foot traffic, and primitive camping disturbance."*

- In October 2017, the Rocking Chair Lakes ERA Complex was approved during compartment review: *"Approved with the following changes: Replace the Objective: "-Determine additional threats to ERA complex (continuous). Work with climate change specialists to determine threats associated with climate change." With "as new/potential threat(s) to an ERA's integrity are identified, formal monitoring protocols should be developed to measure change and management effectiveness at mitigating identified threat(s)." ⁸*
- While it is relatively easy to document ("measure change") caused by mining activity in the Gwinn Unit of the Escanaba State Forest, the DNR has not explained how the serious and demonstrable threats of metallic mineral exploration in this fragile ERA can be either managed or mitigated.

We believe that the Management Goals for Rocking Chair Lakes would be harmed by the "disposal" of this nearby parcel. Specifically, the goals note the need to address forest fragmentation. Disposal of this parcel would further fragment state-owned forest lands in this area. Several of the Rocking Chair Lakes management goals are of special interest: "MANAGE FOR AN UNFRAGMENTED FOREST" - "REDUCE OTHER THREATS" - "IDENTIFY OPPORTUNITIES FOR ACQUISITION WHERE POSSIBLE." The opposite action is now being proposed, disposal of land that would further fragment the forest. This parcel appears to have an old logging road or ORV trail, which should be blocked, but it could perhaps be better managed with the addition of a small trailhead off the Red Road, providing a valuable gateway into the wild Rocking Chair Lakes area.

Importance to Management Goals

The special qualities of Rocking Chair Lakes Natural Area demand that it be protected in its natural state. Disposing of neighboring protected lands is obviously not compatible with this goal. Management goals for Rocking Chair Lakes are listed on the Michigan DNR website under Natural Areas:

⁷ bit.ly/MNFI-ERA-2008

⁸ "Gwinn 2019 Year of Entry Record of Changes and Decisions."

http://www.midnr.com/Publications/pdfs/ForestsLandWater/Cmpt_Reviews/Gwinn/2019/Gwi_2019_rocd.pdf Accessed 9 May 2018.

Management Goals

- Allow natural processes to operate unhindered.
- Manage for an unfragmented forest.
- Reduce/control current invasive species and prevent new invasive species from becoming established.
- Reduce other threats (alteration of hydrology, ORV use, erosion due to heavy foot traffic, etc).
- Ensure the ERA has a representation of native plants, indicator species, and rare species.

Management Objectives

- Identify and eliminate illegal ORV access points, if they occur.
- If invasive species are found, identify and prioritize treatment to eliminate them.
- Assess EO quality every 10-20 years.
- Allow naturally occurring fires to spread. If suppression action is needed, use Minimal Impact Suppression Techniques (MIST).
- Determine additional threats to the ERA's.
- Work with an adaptation specialist to determine threats associated with climate change.
- Identify areas of excessive foot traffic.
- Identify opportunities for acquisition where applicable.

Management Actions

Suggested actions or series of actions that would help to achieve the above objectives.

(M= Maintenance action, R= Restoration action)

- If current data/knowledge are not available regarding the management goals, actions may address needed assessments (i.e., surveys may be needed) (M,R)
- Identify vectors of invasive species and reduce their introduction to the site. (M,R)
- Remove invasive plants using appropriate control methods for that particular species (hand-pull, herbicide, Rx, etc.) using partnerships where appropriate, develop FTP's and PAP's. (M,R)
- Maintain an intact forested buffer of 100 feet adjacent to the Granite Cliff ERA. (M)
- Remove illegal blind along the river within section 10. (R)
- Close illegal roads and trails. (R)
- Work with MNFI and other experts to update EO inventory. (M,R)
- Update the Plan with additional knowledge as it becomes available. (M)
- Assess pine regeneration and if lacking, consider prescribed fire as a management option in the Dry-Mesic Northern Forest ERA. (M,R)
- Write a wildfire plan to incorporate a "let it burn" policy in the natural communities where safety concerns allow. (M,R)
- In the event of a wildfire or prescribed fire, avoid establishing new fire lines and use existing/natural fire breaks. (M,R)

As a Natural Area, for example, any form of mineral exploration is prohibited in Rocking Chair Lakes: "Natural Area status as provided under Public Act 451 of 1994 Part 351 WILDERNESS AND NATURAL AREAS: Sec. 35105. prohibits the following activities: (...) *Exploration or extraction of minerals.*" Since the [legal designation has already been proposed](#) and four ERAs established, the statutory prohibition regarding "Exploration or extraction of minerals" should continue to protect the 240 acres included in Rocking Chair Lakes Natural Area: "*Any area which has been proposed for dedication is protected under the act, and must be managed as a natural/wild/wilderness area until the dedication is final.*"⁹ But unique and ecologically valuable lands surrounding the Natural Area also need

⁹ https://www.michigan.gov/documents/ConservationAreaMgtGuidelines_162564_7.pdf Accessed 4 February 2022.

protection, in order to buffer the Natural Area. The original recommendation from MNFI was for a Natural Area that would encompass an exponentially larger area of the Mulligan Escarpment. If the DNR cannot resist the urge to sell public lands in this unique and highly significant area, then what do we have a DNR for?

Clearly, the DNR has identified this as an important area.

Rocking Chair Lakes *Dry Mesic Northern Forest*¹⁰ Critical Habitat

“Compartment 304 is found within the Peshekee Highlands Management Area; on a Bedrock Controlled Ground Moraine in east central Baraga and northwestern Marquette County. The dominant Natural Communities are mesic northern forest, poor conifer swamp, and boreal forest. This management area receives significant snowfall and does not offer wintering habitat for deer. As a result, many tree species that do not reliably recruit across the Ecoregion are found in numerous age classes across this management area. **Additionally, three of the largest tracts of mature forest in the Great Lakes (e.g. McCormick Tract, Craig Lake Wilderness State Park, and the Huron Mountain Club) occur within or adjacent to this management area, the best example of a dry mesic northern forest (Rocking Chair Lakes) in the state and two of the top eight examples of Mesic Northern Forest statewide occur here. The current condition and spatial arrangement of these areas provide some of the best opportunities** within the WUP, state, and Great Lakes for area sensitive wildlife requiring large tracts of mature forest, mesic conifer or corridors between such areas. Wildlife management issues in this management area are primarily related to habitat fragmentation.”

Surveys focused on state lands within the Rocking Chair Lakes area. Documented high-quality dry-mesic northern forest and extensive areas of high-quality old-growth mesic northern forest with hemlock-dominated areas as well as sugar maple-dominated forest. The newly documented mesic northern forest can be added to the existing mesic northern forest element occurrence. The larger matrix of old-growth mesic northern forest contains high-quality inclusions of rich conifer swamp with old-growth cedar (including areas with 2-3 ft dbh trees) and hardwood-conifer swamp. High-quality northern shrub thicket was also documented along Mulligan Creek at the base of the granite cliff element occurrence.



Mesic northern forest, Rocking Chair Lakes

¹⁰ <https://mnfi.anr.msu.edu/reports/MNFI-Report-2009-14.pdf> Accessed 4 February 2022.

According to an MNFI review conducted in 2017, the Mesic Northern Forest in the Rocking Chair Lakes area “has a confirmed occurrence element rank of AB” – very high.¹¹

Gwinn Compartment 304

Surveyed Rocking Chair Lakes (Island Lake) mesic northern forest (EO ID 13528). Confirmed element occurrence rank of AB.



Rocking Chair Lakes (Island Lake) mesic northern forest). Photos by Joshua G. Cohen.

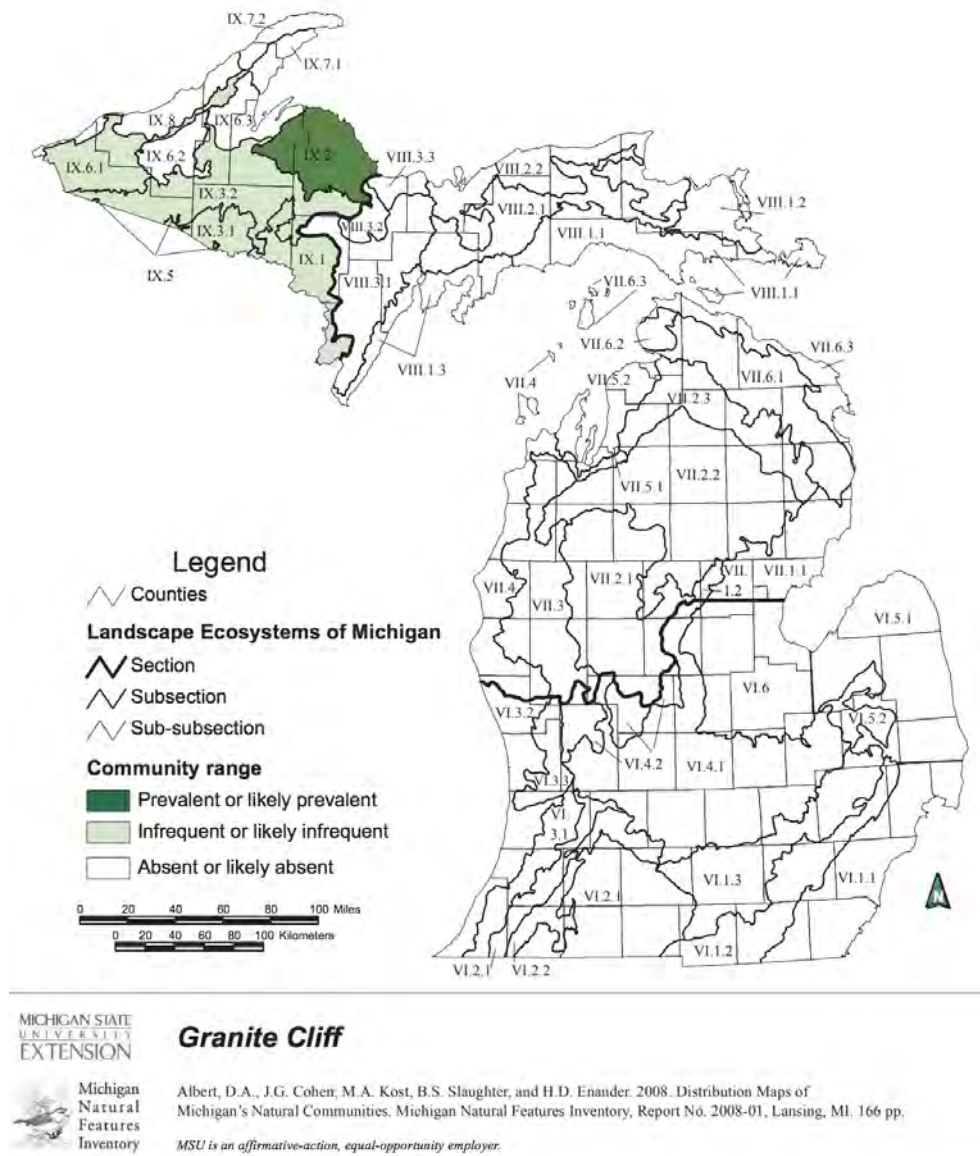
Rocking Chair Lakes *Granite Cliff Community*

This parcel appears to contain “Granite Cliff” habitat, which is found primarily in Marquette County. Important “Granite Cliff” habitat is identified just north of this parcel, and referenced in the Rocking Chair Lakes Natural Area management plan, and the Mulligan Escarpment runs along the eastern edge of the property. Have DNR staff reviewed this parcel for *Granite Cliff habitat*?

The Rocking Chair Lakes region falls within the DNR’s Peshekee Highlands Management Area.¹² This region provides a stronghold for such iconic wildlife as American marten, moose, Blackburnian warbler, gray jay, northern goshawk and pileated woodpecker, all of which depend on mature, intact forest.

¹¹ <https://mnfi.anr.msu.edu/reports/MNFI-Report-2017-09.pdf> Accessed 4 February 2022.

¹² Michigan DNR. 2013. Regional Forest Management Plans. 2013 Western Upper Peninsula plan, 4.29 Peshekee Highlands Management Area. https://www.michigan.gov/dnr/0,4570,7-350-79136_79237_80916_85456---,00.html Accessed 4 February 2022.



The land is rugged and scenic. According to the DNR's Management Plan, characteristics that define this area include:

- Dominated by mesic northern forest, poor conifer swamp, and boreal forest;
- Mid-range in site quality;
- This area has very rugged terrain and limited access;
- Provides multiple benefits including forest products and dispersed recreational activities; and
- Provides a variety of fish and wildlife habitats.

The plan states: "The management priority in this area is to continue to provide these multiple benefits in a sustainable manner while minimizing user conflicts. Habitat management for moose has also been identified as a priority in this area."

Proximity of Parcel to Mineral Exploration Targets

The Rocking Chair Lakes escarpment remains a prime target for mineral exploration, a direct threat to the area's special ecosystems. The Rocking Chair Lakes area has been the target of extensive geological exploration and the risk that mineral development will eventually destroy the pristine character of this area is not minimal.

During the past two decades, mineral lease nominations of state-owned minerals has threatened to expose the wild lands of the Rocking Chair Lakes district to mineral exploration from multiple companies (Aquila Gold, Aquila HudBay Alliance); most recently, applications were made by UPX (2018) and Great Lakes Exploration (2021). The U.S. Geological Survey, and efforts of the Michigan State Geologist, have also targeted this area during mapping and literature review, in their renewed search for "Critical and Strategic Minerals." Previous drilling logs noted high levels of uranium and other metals of environmental concern in the metasedimentary basement rocks. Extreme caution is needed to ensure the Rocking Chair Lakes area is protected, given the high potential for precious metals, commodity metals, rare earth elements, and nonferrous orebodies of volcanogenic origin, as described decades ago in "A Geological Investigation In Vicinity of the Volcanic-Plutonic Contact, Northern Block of the Marquette Greenstone Belt, Michigan"¹³

"During 1988, 14 km² of the northwesternmost portion of the Marquette Greenstone Belt, located approximately 20 miles northwest of the city of Marquette, were geologically mapped at a scale of 1:9000. The geology of this area differs from the previous detailed geologic studies to the south and east in that it includes the contact between the volcanic and the bounding plutonic rocks."

"(...) The volcanic section is intruded by Archean gabbro sill-like bodies and rhyolite dikes. The Archean plutonic section in the Penny Lake area has been divided into four different types. **The oldest two have been subdivided into a gneiss unit based on a distinct gneissic fabric and a massive unit which correlates with the Granodiorite of Rocking Chair Lakes** of Johnson et al (ILSG, 1987). Both the gneiss and massive units are quartz monzonite to granodiorite in composition. The age relationship between these two units is uncertain; in a broad sense, they may represent a single, extended plutonic event (...)"

"Zones of relatively intense alteration and associated anomalous precious metal mineralization are restricted to small areas near faults. Alteration in these mineralized areas is most often characterized by quartz, carbonate, and sericite. Sulfides, including pyrite, chalcopyrite, and sphalerite, are commonly found in the altered rocks as small, disseminated grains. Specular hematite is often found associated with granite dikes located within altered zones. Twenty-two samples from throughout the area were assayed for gold. Eight samples contained anomalous values of greater than ten parts per billion, with a maximum assay value of 274 ppb. This project was funded by the Michigan Geological Survey and Michigan Technological University."

Geological interest in this remote area has included a "systematic interpretation of historical exploration data" and "field programs exploring for orogenic gold, magmatic nickel-copper and sedex-type zinc-copper deposits" within the Mulligan Escarpment. UPX stated that "initial results from this work" were "very encouraging and the Company expects to define drilling targets." Mineral interest in this area is not academic research; mining companies targeting this area have expressed their intent to create a "pipeline" of mining projects in the wild heart of Marquette County. Nearby historic gold and silver prospects in the same Archean intrusive geology are described in

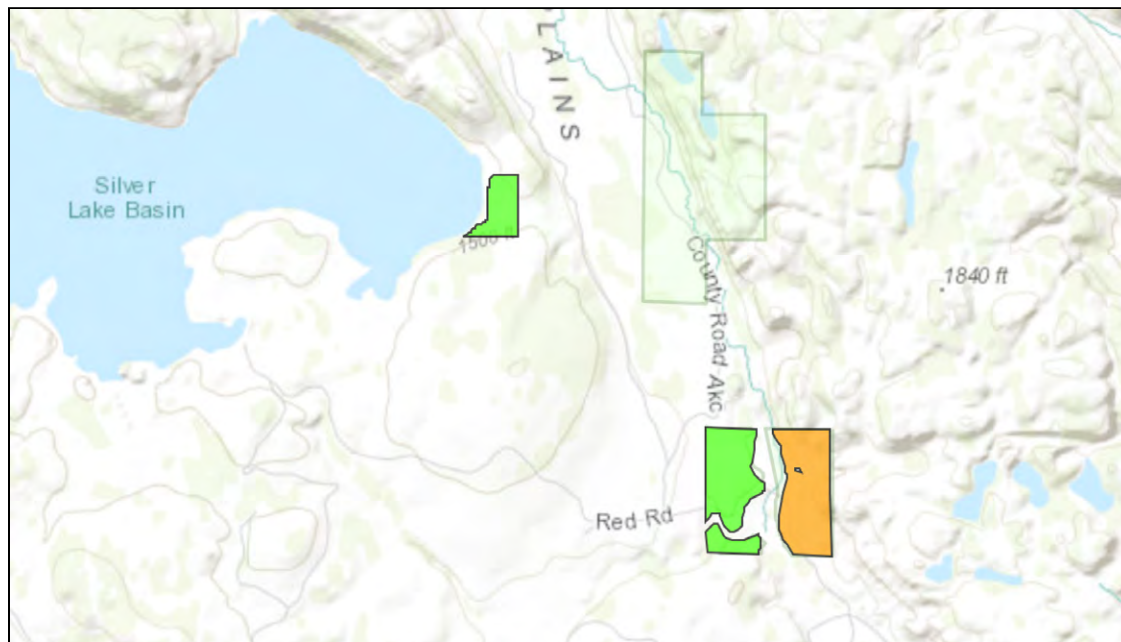
¹³J.R. SMALL, and T.J. BORNHORST, "A Geological Investigation In Vicinity of the Volcanic-Plutonic Contact, Northern Block of the Marquette Greenstone Belt, Michigan" INSTITUTE ON LAKE SUPERIOR GEOLOGY PROCEEDINGS VOLUME 35 MAY 1989.
http://flash.lakeheadu.ca/~pnhollin/ILSGVolumes/ILSG_35_1989_pt1_Duluth.cv.pdf

greater detail in the “Detailed Geological Study of Three Precious Metal Prospects in Marquette County and One in Gogebic County” published by the Michigan Geological Survey (1990)¹⁴.

In the past, mineral lease nominations (by UPX, and Great Lakes Exploration) in the undeveloped area east of Silver Lake Basin would have threatened Rocking Chair Lakes, Mulligan Cliffs, wetlands of the Clark Creek, Silver Creek, and the *confluence of the wild Mulligan Creek and the Dead River*. **The State of Michigan’s recommended *lease classification* for parcels in the Rocking Chair Lakes area was “nondevelopment” or “restricted,” suggesting that the agency does understand the importance of protecting this land.** The current recommendation to “dispose” of land in this area is inconsistent with the DNR’s management plan. Disposal of this parcel would further fragment this fragile area, and threaten the DNR’s stewardship of the Rocking Chair Lakes area, while private ownership of this key parcel, with road access, could enable mining.

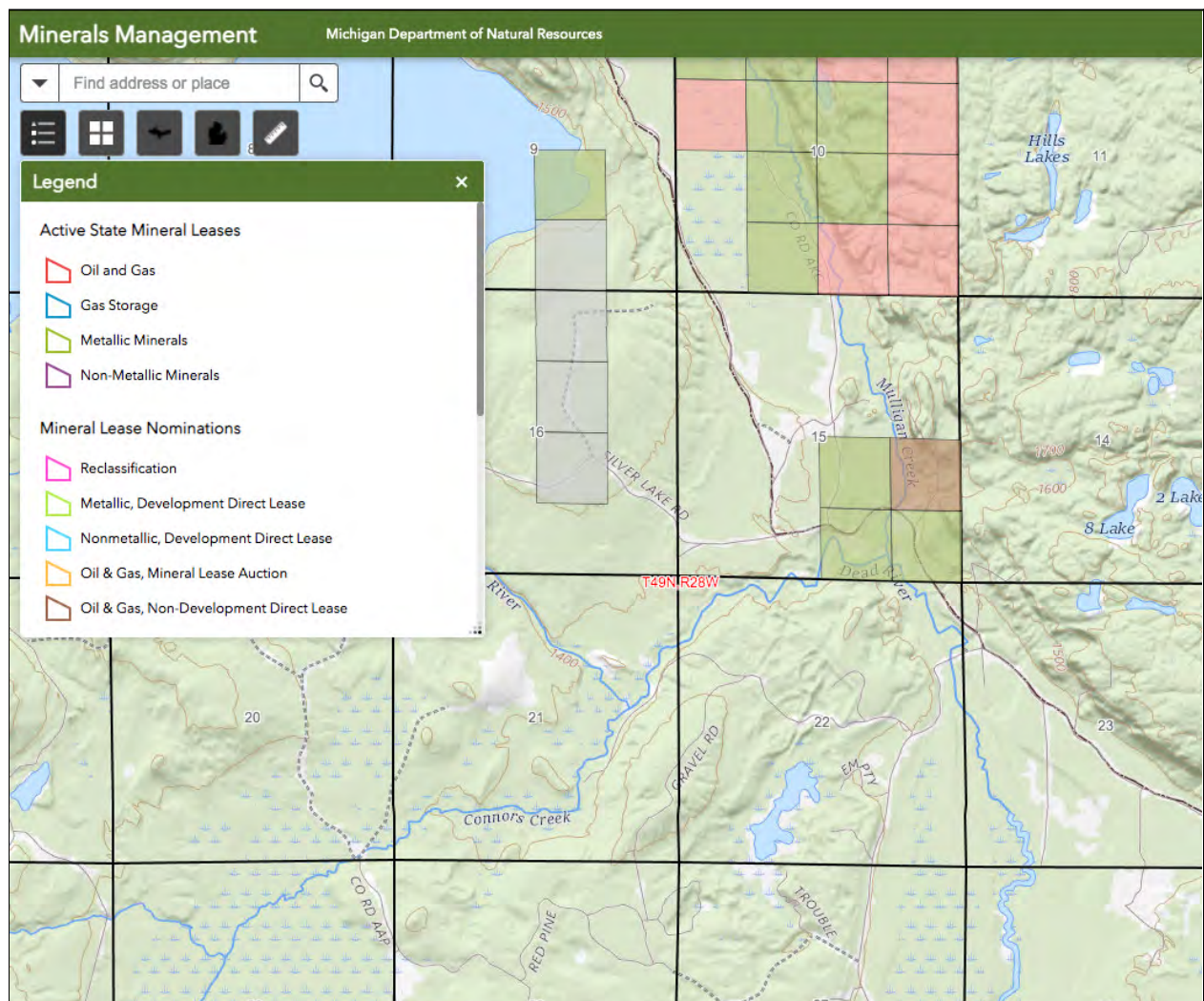
Parcel Location Maps

- **Google Earth view of the location (where Dead River and Mulligan Creek join)**
<https://earth.google.com/web/@46.63940234,-87.78725224,415.05885546a,2350.11697721d,35y,0.00000001h,57.82605329t,0r>
- **DNR’s Minerals Management “interactive map”**
<https://midnr.maps.arcgis.com/apps/webappviewer/index.html>



¹⁴ C. L. Boben, T. J. Bornhorst and J. L. Van Alstein. 1986. Detailed Geological Study of three precious metal prospects in Marquette County and one in Gogebic County. Michigan Geological Survey. Open File Report OFR-86-1.
https://www.michigan.gov/documents/deq/GIMDI-OFR861_302613_7.pdf Accessed 4 February 2022.

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Conclusion

Parcel 2043823 is a valuable piece of public land. It includes rugged terrain, and provides a highly scenic hiking experience along a section of the North Country Trail. The terrain is similar to the Rocking Chair Lakes Natural Area. The cliffs are hot spots for rare plants and invertebrates. **Like the cliffs in the nearby Rocking Chair Lakes Natural Area, this parcel very likely provides habitat for a number of state-listed rare plants including rock whitlow-grass (*Draba arabisans*), pine-drops (*Pterospora andromedeae*) and fragrant wood fern (*Dryopteris fragrans*).** This parcel also appears to include Mulligan Creek, described by MNFI as having a “high quality Northern Shrub Thicket Community” with an occurrence rank of AB.¹⁵

¹⁵ <https://mnfi.anr.msu.edu/reports/MNFI-Report-2009-14.pdf>

The DNR's State Land Review webpage states the DNR is to determine whether these lands contribute to its *mission*: "We are committed to the conservation, protection, management, use and enjoyment of the state's natural and cultural resources for current and future generations. We strive to protect natural and cultural resources, ensure sustainable recreation use and enjoyment, enable strong natural resource-based economies, improve and build strong relationships and partnerships, and foster effective business practices and good governance."

Our review concludes that Parcel 2043823:

- Is accessible to the public
- Provides valuable public recreational opportunities
- Includes or is very close to a healthy designated trout stream
- Includes a section of the North Country Scenic Trail¹⁶
- Includes unique, sensitive terrain and habitats
- Almost certainly supports state-listed rare species
- Protects wild and scenic public land near a unique and remote State Natural Area candidate

All of these factors make clear that this land contributes in many ways to the department's mission, and so should not be "disposed of" or sold off.

On behalf of the Upper Peninsula Environmental Coalition's collective members and supporters, including landowners, other environmental groups, concerned citizens, and on behalf of the watersheds and wild lands we seek to protect, we urge you to reconsider the recommendation for Parcel 2043823.

We strongly object to the disposal of this land, and believe that the State of Michigan must retain it in public ownership, in order to safeguard the larger Rocking Chair Lakes area, and conserve natural resources for *present and future needs*.

SIGNED,

Kathleen Heideman, Mining Action Group, Upper Peninsula Environmental Coalition
Steve Garske, Mining Action Group, Upper Peninsula Environmental Coalition
Jon Saari, Mining Action Group, Upper Peninsula Environmental Coalition
Ryan Leary, Upper Peninsula Environmental Coalition
Connie Julien, Upper Peninsula Environmental Coalition
Horst Schmidt, President, Upper Peninsula Environmental Coalition

¹⁶ North Country Trail (Public) - ArcGIS
<https://nct.maps.arcgis.com/apps/Viewer/index.html?appid=23a2c0d674cb443ea9835af2e8c5f13a>