NOMINATION OF LESTER - AMITY - HAWK RIDGE NATURAL AREA TO THE

Duluth Natural Areas Program

DATE: APRIL 2025

Nominated by:

Hawk Ridge Bird Observatory

Minnesota Land Trust

South St. Louis Soil and Water Conservation District

Minnesota Trout Unlimited

Table of Contents

List of Figures

List of Tables

Preface

The Duluth Natural Areas Program (DNAP) has recognized and protected high functioning natural ecosystems within the City of Duluth since 2002. Four conservation organizations active within the City of Duluth have committed to supporting the long-term protection and restoration of the Lester – Amity – Hawk Ridge Natural Area. They have teamed up to provide the justification for inclusion of over 1,183 acres of wild space into the DNAP and consider how they will collectively assist the City of Duluth to delist Amity Creek and East Amity Creek from the impaired waters list, improve fish habitat and riparian forests, and remove invasive species that threaten the integrity of the plant communities, maintaining these high-quality resources for generations to come.

Hawk Ridge Bird Observatory (HRBO) is the management entity of the 365-acre Hawk Ridge Nature Reserve (HRNR). The mission of HRBO is to promote conservation of raptors and other birds in the Western Lake Superior Region through research, education, and stewardship. Since 1972 when the city of Duluth purchased the highest part of the ridge as the "core area", HRBO has fulfilled that mission and is internationally known as one of the best places to view the fall bird migration for the vast diversity and numbers of birds and over 50 years of raptor research and education. Tens of thousands of visitors from all 50 states and over 40 foreign countries come to HRNR during the fall bird migration.

Minnesota Land Trust (MLT) has been working with landowners and communities since 1991 to protect threatened lands and waters. The mission of the MLT is to protect and restore Minnesota's vital lands to provide wildlife habitat, clean water, outdoor experiences, and scenic beauty for generations to come. MLT has worked with the City of Duluth on protection and restoration of its open space for over 10 years. Accomplishments in partnership with the city include designation of two natural areas within the DNAP, acquisition of thousands of acres of task forfeit lands for open space protection, completion of the city's first ever Natural Resources Management Program Plan, and restoration of over 200 acres of important avian habitat.

The South St. Louis Soil and Water Conservation District (SWCD), pursues dedicated funding to restore and enhance sensitive and ecologically significant public waters. The mission of the SWCD is to provide technical, educational, and financial resources to land occupiers in order to implement practices and projects that preserve, protect, and enhance water quality and other natural resources. For over 50 years, the SWCD has been a public resource for land conservation and stewardship and has partnered with the city to restore over one hundred acres of city land and improve the habitat along four miles of stream channels.

Minnesota Trout Unlimited (MNTU) has a history of restoration and enhancement projects focusing on state registered public trout waters. The mission of MNTU is to conserve, protect, and sustain Minnesota's coldwater fisheries and their watersheds. MNTU has a history of restoring habitat across the state, including over 100 miles of trout streams in Minnesota. MNTU aims to support high quality stream trout fishing that is accessible to residents of all socio-economic strata to support local economics through sustainable tourism and outdoor recreation.

HRBO, MLT, SWCD, and MNTU, in cooperation with the City of Duluth, are committed to developing a management plan for the Lester - Amity - Hawk Ridge Natural Area. Additional supporting entities include, but are not limited to:

- Arrowhead Fly Fishers Association
- Arrowhead Native Plant Explorers
- 1854 Treaty Authority
- Minnesota Department of Natural Resources
- Minnesota Pollution Control Agency
- University of Minnesota Duluth Natural Resources Research Institute
- Izaak Walton League – W. J. McCabe Chapter

Letters of support are provided in Appendix A.

Executive Summary

The following collaborating partners, Hawk Ridge Bird Observatory (HRBO), South St. Louis Soil and Water Conservation District (SWCD), Minnesota Land Trust (MLT), and Minnesota Trout Unlimited (MNTU), developed this nomination for 1,183 acres of land to be included as the Lester – Amity – Hawk Ridge Natural Area and requests submission to the Planning Commission and City Council for review under Duluth City Code, Chapter 2, Article XXIX, Sect 2-152 known as the Duluth Natural Area Program (DNAP).

These nominated lands are renowned globally as a prominent bird migration observation area along with its significant geologic landforms and native plant communities that all contribute to the health of the Amity Creek and Lester River Watersheds. These lands are tied to important open spaces bound by Lake Superior and associated with the habitat diversity needed for migratory raptors and passerines as well as birds that live here seasonally or year-round along with unique bedrock plant communities that support sensitive plant species. Amity Creek is a registered cold-water trout stream and remains one of the most well-preserved areas from urban impact within the City of Duluth, ranking number five in terms of brook trout abundance among all trout streams along Minnesota's North Shore of Lake Superior. These lands are also important for protecting the wetlands in the watershed which provide significant groundwater contributions that help maintain the cold temperatures necessary for coldwater fish assemblages in Amity Creek and its tributaries. The uninterrupted forested woodlands between Lester River and Amity Creek provide vital groundwater recharge and nesting habitat. The river ravines for both Amity and Lester support known populations of the state listed buffaloberry (*Shepherdia canadensis*). In all, these lands are among the best remaining examples of viable natural areas representative of the Duluth area in the five categories defined in the eligibility requirements for a Duluth Natural Area.

In 2002, the City of Duluth created the Duluth Natural Area Program (DNAP) to protect and preserve Duluth's highest quality ecological features utilizing qualification criteria. Significant habitats and features that meet these criteria thresholds are eligible for a DNAP nomination in an effort to protect them from future development and exploitation. This nomination submits the following justification of significant features, pursuant to the city ordinance (Chapter 2, Article XXIX) and its complementary guidelines:

- Important bird congregation area – Over 200 bird species are documented annually in the natural area for nesting, foraging, and migratory habitat including raptors and passerines. Hawk Ridge Nature Reserve was the first Important Bird Area designated in the state of Minnesota.
- Special species area – The state listed special concern species, Canada buffaloberry (*Shepherdia canadensis*) has been documented in approximately six unique locations throughout the proposed natural area. Furthermore, 60% of the MN Bird Species in Greatest

Conservation Need have been recorded at Hawk Ridge during count and banding research efforts.

- Significant native plant community areas – Nine noted native plant communities accepted into the natural areas program criteria are documented within the proposed natural area.
- Natural water feature area – Amity Creek, East Amity Creek, and Lester River are designated trout streams with significant coldwater groundwater contributions.
- Geologic landform area – The geologic formation of Duluth is represented by landforms in the nominated natural area from two dramatic events in geologic history entailing the Mid-Continent Rift and the Great Ice Age Glaciation.

Introduction

The lands that nourish Amity Creek, Lester River, and the Hawk Ridge Nature Reserve provide vital habitat for the charismatic Brook Trout that spawn in the cold waters of Amity and Lester and the transient raptors that hunt along Hawk Ridge during their spring and fall migrations. With tens of thousands of visitors from all 50 states and over 40 countries, Hawk Ridge is a global destination with more accessible terrain and educational programming. With so many visitors, HRBO would benefit from the management plan that accompanies a DNAP designation and is committed to fulfilling items pertaining to the 365 acres under current trust agreement. Newly acquired forest lands nestled between Lester and Amity provide vital groundwater recharge for the creeks and with so many local trail users, would also benefit from the guidance a management plan offers. With limited trail access and inhospitable ravines, Amity Creek maintains its reputation as a rugged but fruitful gem within the city by local anglers and environmental stewards. Amity Creek and East Amity Creek have been listed as impaired waters but still maintain their brook trout population despite high turbidity. The Minnesota Pollution Control Agency (MPCA) has identified them as high priorities for restoration to eliminate their turbidity impairments, and as the landowner of much of the watershed, the City of Duluth is responsible for initiating conservation and restoration activities to delist them as impaired waters. The South St. Louis SWCD has partnered with MNTU to ultimately bring in over $2 million in grant funding to address these impairments and improve brook trout habitat. The Duluth Natural Area designation would demonstrate good faith in this project and ensure that public funding isn't spent on unprotected lands.

Eligibility

Eligibility of a tract for nomination under the DNAP requires both land ownership and scientific criteria to be satisfied. This section of the nomination provides detailed documentation for the Lester-Amity - Hawk Ridge Natural Area that satisfies both types of criteria.

LAND OWNERSHIP

The Lester – Amity – Hawk Ridge Natural Area nomination includes 82 parcels totaling approximately 1,183 acres in the northeast portion of the City of Duluth. Figure 1 shows the parcels proposed for the natural area. Table 1 provides the parcel numbers, areas, and ownership.

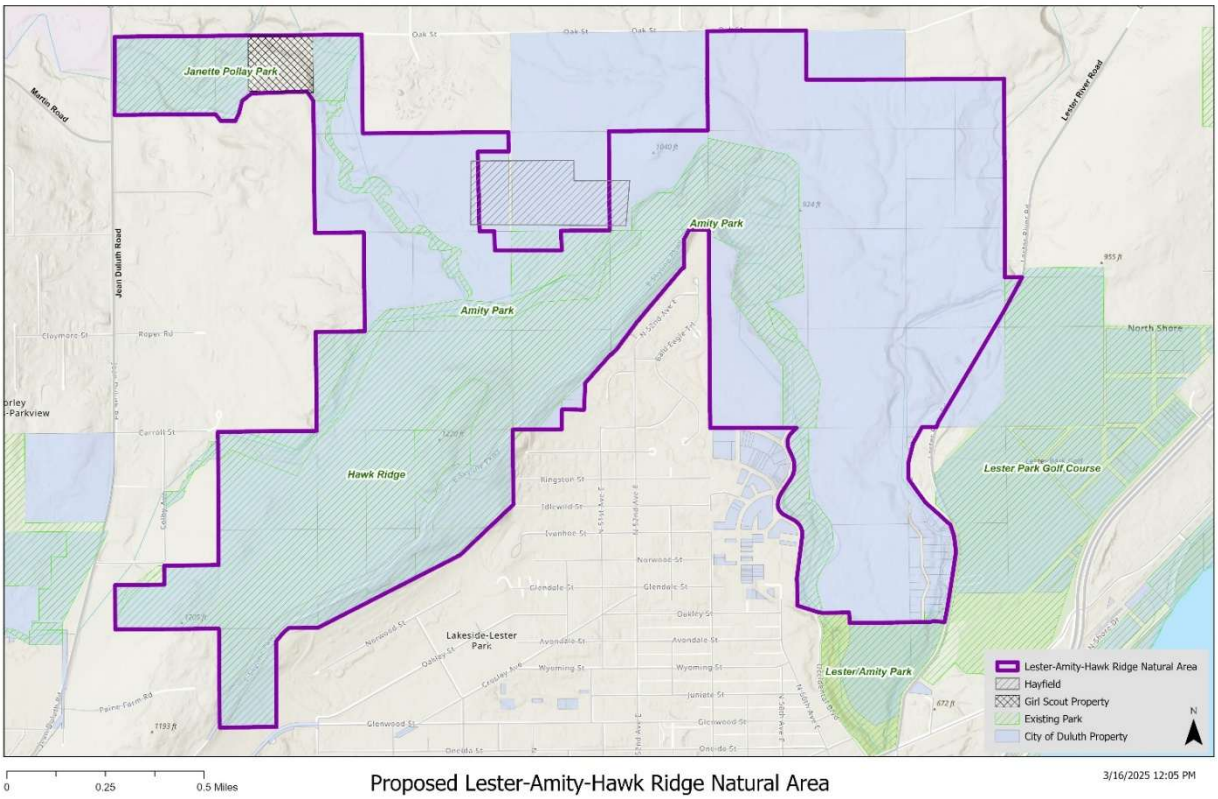

Figure 1. Proposed Lester-Amity-Hawk Ridge Natural Area in relation to city land ownership.

Table 1. Parcels for inclusion in the proposed Lester-Amity - Hawk Ridge Natural Area.

PARCEL	Title Holder	Acres
010-0090-00010	CITY OF DULUTH	1.5
010-0090-00040	CITY OF DULUTH	0.9
010-0090-00050	CITY OF DULUTH	0.8
010-1390-02130	CITY OF DULUTH	18.9
010-1410-00040	CITY OF DULUTH	37.8
010-1410-00050	CITY OF DULUTH	33.2
010-2119-00690	CITY OF DULUTH	5.6
010-2680-00080	CITY OF DULUTH	19.8
010-2680-00085	CITY OF DULUTH	19.8
010-2680-00090	CITY OF DULUTH	19.2
010-2680-00100	CITY OF DULUTH	8.6
010-2680-00105	CITY OF DULUTH	14.4
010-2680-00110	CITY OF DULUTH	7.3
010-2680-00120	CITY OF DULUTH	27.3
010-2680-00130	CITY OF DULUTH	40.0
010-2680-00280	CITY OF DULUTH	23.3
010-2680-00310	CITY OF DULUTH	37.5
010-2680-00320	CITY OF DULUTH	8.7
010-2680-00340	CITY OF DULUTH	17.3
010-2690-00720	CITY OF DULUTH	0.4
010-2690-00730	CITY OF DULUTH	9.6
010-2690-00740	CITY OF DULUTH	69.3
010-2690-00990	CITY OF DULUTH	38.7
010-2690-00997	CITY OF DULUTH	20.0
010-2690-01000	CITY OF DULUTH	79.8
010-2690-01020	CITY OF DULUTH	10.0
010-2690-01040	CITY OF DULUTH	10.7
010-2690-01050	CITY OF DULUTH	32.4
010-2690-01060	CITY OF DULUTH	60.7
010-2690-01070	CITY OF DULUTH	50.4
010-2690-01090	CITY OF DULUTH	40.4
010-2690-01100	CITY OF DULUTH	2.7
010-2690-01110	CITY OF DULUTH	16.2
010-2690-01130	CITY OF DULUTH	36.4
010-2690-01140	CITY OF DULUTH	28.6
010-2690-01150	CITY OF DULUTH	40.2
010-2690-01155	CITY OF DULUTH	5.7
010-2690-01160	CITY OF DULUTH	37.6
010-2690-01165	CITY OF DULUTH	0.9
010-2690-01180	CITY OF DULUTH	106.6
010-2690-01310	CITY OF DULUTH	10.1
010-2690-01320	CITY OF DULUTH	10.1
010-2690-01330	CITY OF DULUTH	10.1
010-2690-01340	CITY OF DULUTH	10.1
010-2690-01350	CITY OF DULUTH	10.1
010-2690-01360	CITY OF DULUTH	10.1
010-2690-01410	CITY OF DULUTH	39.9
010-2690-01420	CITY OF DULUTH	23.9
010-3790-00010	CITY OF DULUTH	0.3
010-3790-00020	CITY OF DULUTH	0.3
010-3790-00030	CITY OF DULUTH	0.4
010-3790-00040	CITY OF DULUTH	0.4
010-3790-00050	CITY OF DULUTH	0.5
010-3790-00060	CITY OF DULUTH	0.5
010-3790-00070	CITY OF DULUTH	0.4
010-3790-00080	CITY OF DULUTH	1.4
010-3790-00120	CITY OF DULUTH	0.4
010-3790-00130	CITY OF DULUTH	0.5
010-3790-00140	CITY OF DULUTH	0.5
010-3790-00150	CITY OF DULUTH	0.6
010-3790-00160	CITY OF DULUTH	0.6

010-3790-00170	CITY OF DULUTH	0.9
010-3790-00190	CITY OF DULUTH	0.5
010-3790-00200	CITY OF DULUTH	0.7
010-3790-00210	CITY OF DULUTH	0.8
010-3790-00220	CITY OF DULUTH	0.8
010-3790-00230	CITY OF DULUTH	0.8
010-3790-00240	CITY OF DULUTH	0.8
010-3790-00250	CITY OF DULUTH	0.5
010-3790-00260	CITY OF DULUTH	2.0
010-3790-00290	CITY OF DULUTH	0.6
010-3790-00300	CITY OF DULUTH	0.5
010-3790-00310	CITY OF DULUTH	0.4
010-3790-00320	CITY OF DULUTH	0.3
010-3790-00330	CITY OF DULUTH	0.5
010-3790-00340	CITY OF DULUTH	0.6
010-3790-00345	CITY OF DULUTH	0.1
010-3790-00350	CITY OF DULUTH	0.4
010-3790-00370	CITY OF DULUTH	0.4
010-3790-00380	CITY OF DULUTH	0.5
010-3790-00390	CITY OF DULUTH	0.5
010-3790-00400	CITY OF DULUTH	0.5

*Note: The City GIS layer was used to calculate parcel acreage. There may be discrepancies between the GIS area calculations and the deeded acreage (i.e., roads and right of ways included).

SCIENTIFIC CRITERIA

The DNAP Guidelines (City of Duluth, 2002) require natural area nominations to support one or more of the following scientific criteria:

- Important bird congregation area
- Special species area
- Significant native plant communities
- Natural water feature area
- Geological landform area

The Lester – Amity – Hawk Ridge Natural Area is being nominated under all five scientific criteria.

Important Bird Congregation Area

One of nature's remarkable spectacles can be witnessed each fall at Hawk Ridge Nature Reserve (HRNR) when migrating raptors and other birds concentrate in impressive numbers at the western tip of Lake Superior. Migrating birds originate from summer breeding areas as far north as the Arctic and have winter destinations as far south as South America. Reluctant to cross a large body of water, birds funnel down the North Shore of Lake Superior. Raptors ride updrafts formed above the rocky outcrops parallel to the lakeshore and efficiently soar for miles, as they migrate past HRNR.

Before 1950, local gunners used passing raptors for target practice. The killing stopped through the efforts of the Duluth Bird Club (now the Duluth Audubon Society). The Club publicized the illegal shooting and had the prohibition against shooting in the city limits enforced. Raptors were counted sporadically from the 1950s until 1971; as the magnitude of the migration became apparent, monitoring increased from a few days in mid-September to daily observation from August through November.

Since 1972, a systematic count of migrating raptors has been conducted annually from August to November, totaling approximately 1,000 hours of coverage per year. More than 60,000 raptors and over 200,000 other birds are counted at HRNR annually (one of the longest running and highest counts in the continent). The highest single species count for a single day at HRNR was tallied on September 1, 2003, with 101,698 Broad-winged Hawks recorded! Raptor species regularly recorded during the fall bird migration include: Bald Eagle, Northern Harrier, Sharp-shinned Hawk, Cooper's Hawk, American Goshawk, Short-eared Owl, Red-Shouldered Hawk, Broad-winged Hawk, Swainson's Hawk, Red-tailed Hawk, Turkey Vulture, Rough-legged Hawk, Osprey, Golden Eagle, American Kestrel, Merlin, Peregrine Falcon, and Mississippi Kite. The record season total stands at 201,826 raptors counted in 2003!

HRNR bird counts are contributed to collective published research datasets, such as the Raptor Population Index, Hawk Migration Association of Association's HawkCount, and Cornell Lab of Ornithology's eBird. These long-term datasets are an important research tool in bird conservation efforts and environmental management decisions, such as health of bird populations and habitat.

According to the DNAP criteria for Important Bird Congregation Areas, the concentrations of raptors more than exceeds the recommended 5,000 to 10,000 seasonal totals. Figure 2 shows the annual total raptor counts since 1972.

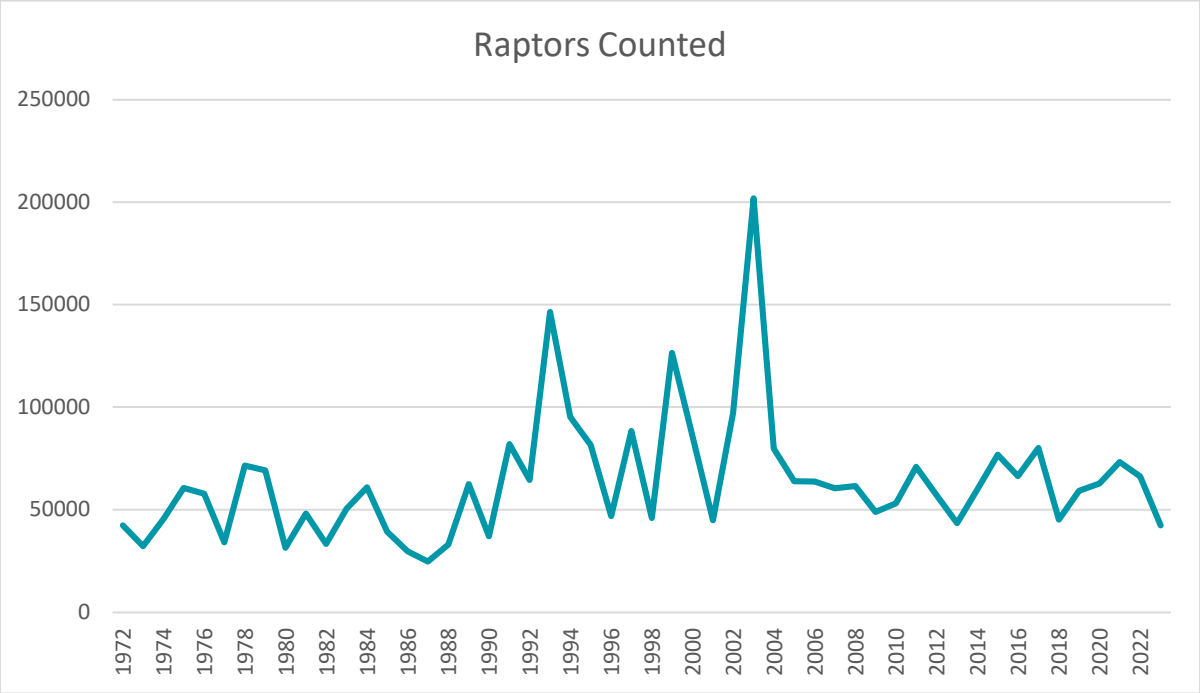

Figure 2. Raptor migration counts at HRNR, 1972-2023.

Bird banding research is also conducted at HRNR during the fall bird migration for diurnal raptors and passerines (e.g., songbirds, perching birds) and nocturnal owls. The fall raptor banding research station has been in operation since 1972 and the passerine banding program since 1996. The research station is one of the few on top in terms of the total numbers of banded raptors and largest station for numbers of owls on the continent. An average of 3,000 raptors (including owls) and 1,200 passerines are banded each season. Regular owl species banded are Northern Saw-whet Owls, Long-eared Owls, Barred Owls, and Great-Horned Owls. Other owls that have been banded at HRNR include Boreal Owl, Snowy Owl, Great Gray Owl, and Eastern Screech Owl. HRNR and the banding research station has also been important as a training ground for field assistants whose careers have taken them into various educational and wildlife management fields. Focusing on conserving diverse bird communities when developing habitat management plans helps ensure resilient and stable ecosystems. A list of the birds of greatest conservation need that have been counted and/or banded at HRNR is provided in Appendix B.

Monitoring bird populations is important because changes in bird populations can signal ecosystem health and degradation. To document breeding bird communities, habitat-use, and trends at HRNR, a standardized breeding bird monitoring program was established by Dr. Jerry Niemi (University of Minnesota, Duluth) and Dr. Matt Etterson (Environmental Protection Agency) in 2010. This monitoring effort consists of 13-point count locations that were systematically located across the reserve. Ten-minute point counts are conducted annually during the peak of the breeding season (June) by trained observers. In addition to the point count surveys, HRBO became an established Monitoring Avian Productivity and Survivorship Program (MAPS) banding station in 2015. The MAPS Program utilizes

standardized, constant-effort mist netting and banding during the breeding season to collect data that can be used to estimate key demographic parameters such as productivity, recruitment, and survival of individual bird species. More than 25 species have been documented as breeding birds through the MAPS project, including the 12 species listed below that have been confirmed as regular resident breeding birds each year of MAPS 2015-2023. Together, these breeding bird monitoring programs provide important information that allow us to track changes in population and determine potential underlying causes of observed trends. The information can be used in various impactful ways including documenting changes in diversity and informing habitat management plans. Overall, these data can help inform the creation of a coordinated, holistic, and landscape-scale approach to long-term conservation and management of the proposed Lester – Amity – Hawk Ridge Natural Area.

Confirmed regular resident breeding songbirds at Hawk Ridge (MAPS 2015-2023)

American Goldfinch
American Redstart
Black and White Warbler
Black-capped Chickadee
Common Yellowthroat
Chestnut-sided Warbler
Mourning Warbler
Nashville Warbler
Ovenbird
Song Sparrow
Red-eyed Vireo
Veery
White-throated Sparrow

Special Species Area

Within the proposed natural area, the state listed special concern species, Canada buffaloberry (*Shepherdia canadensis*) has been documented historically since the 1940s (Figure 3). Listed as special concern in 2013, the Minnesota Department of Natural Resources searched suitable habitats across the state and found many fewer populations than expected. Recent populations have been documented between 2018 – 2024, confirming an established and viable population that has maintained its presence since at least the 1940s. This species is likely to be found in greater abundance throughout this area, preferring the rocky outcrops in full to part sun in many difficult to access eroding cliffs or scrubby upland habitats. The proposed natural area contains many of these conditions that have not been fully explored and documented due to limited access, particularly along the Amity Creek and Lester River gorges. This species has a very narrow range, occurring within only seven counties in the northern third of the state, close to the Canadian border, within a handful of locations in the Boundary Waters Canoe Area Wilderness, and along the bedrock outcrops of Lake Superior. The occurrences in the proposed natural area (Figure 4) represent a higher density of this special concern species than has been found elsewhere in the state. This nomination would place a higher level of protection on one of the very few documented stated listed species within the City of Duluth.

Figure 3. Special concern species Canada buffaloberry (*Shepherdia canadensis)* along Amity Creek within the nomination area.

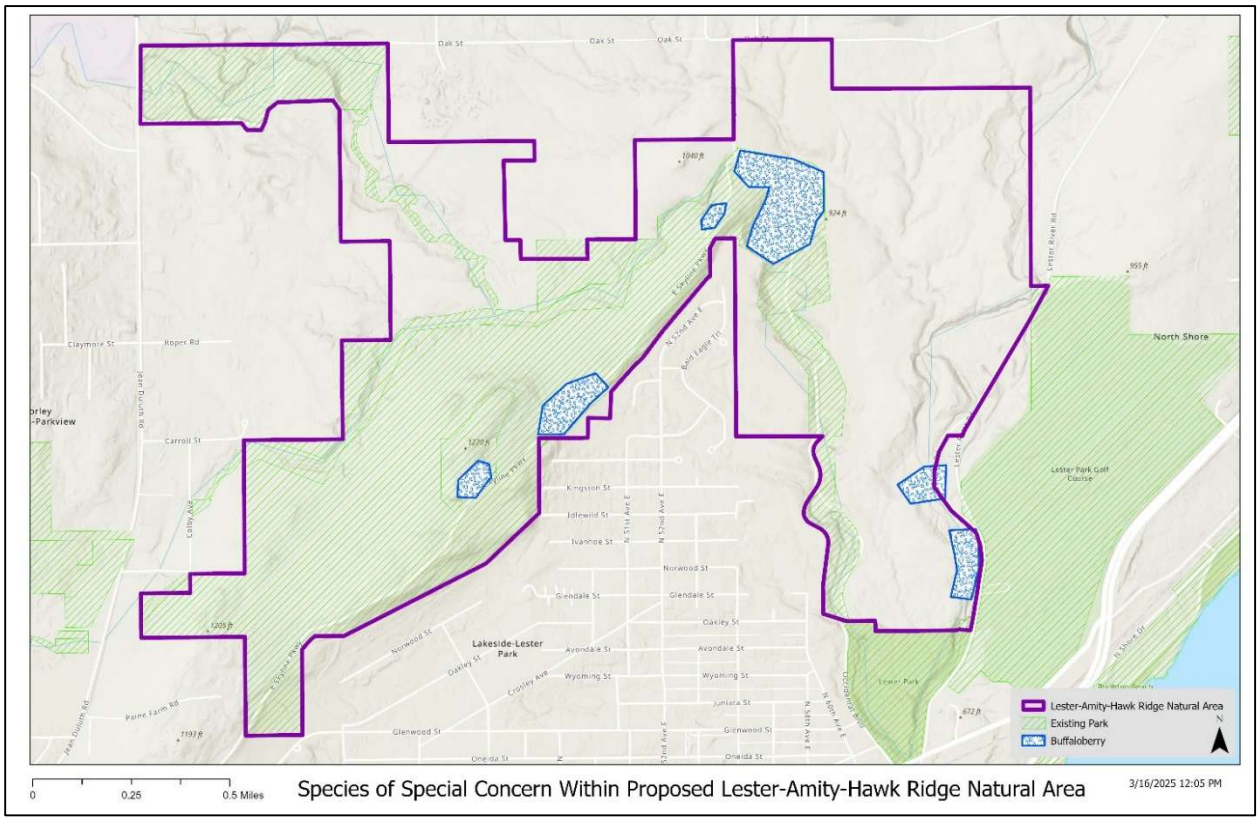

Figure 4. Generalized locational polygons denoting species of special concern.

Furthermore, the vegetation within the HRNR was sampled in 2014 and found to contain the following nine viable native plant communities in accordance with the DNAP Guidelines (Table 2 and Figure 5): Northern Alder Swamp, Northern Floodplain Forest, Northern Rich Maple-Basswood Forest, Northern Rock Outcrop, Northern Sedge Meadow, Poor Dry-mesic Bedrock Aspen-Birch-Fir Woodland, Poor Dry-mesic Great Lakes Pine Woodland, Wet Black Ash Swamp, and Wet-mesic Black Ash - Sugar Maple Forest (Delany, B., 2014). Of these plant communities, the Northern Rich Maple – Basswood Forest is in the northern edge of its range, making these occurrences at the proposed Amity-Hawk Ridge Natural Area, Hartley Natural Area, and Magney-Snively Natural Area rare outliers within the state of Minnesota. Furthermore, a relatively high abundance of oak has been observed within the Northern Rich Maple – Basswood Forest and are colloquially noted as increasing in density. Oaks are considered to have greater genetic adaptability, increasing the resiliency of the documented high quality Northern Rich Maple – Basswood Forest when faced with the impacts of climate change.

The Northern Rock Outcrop community is in high to moderate quality condition and comprises much of the habitat for the special concern species, Canada buffaloberry (*Shepherdia canadensis*) along with other lesser common species such as three toed cinquefoil (*Potentilla tridentata*), pale corydalis (*Corydalis sempervirens*), poverty grass (*Danthonia spicata*), bearberry (*Arctostaphylos uva-ursi),* and

rusty woodsia (*Woodsia ilvensis*). This habitat is found primarily within the HRNR but is also fairly common along the canyon walls and near adjacent stream corridors of the lower reaches of both Amity Creek and Lester River. Although Northern Rock Outcrops are not an uncommon community within Duluth, Canada buffaloberry is not found much beyond the HRNR and Amity Creek and Lester River gorges.

Table 2. Plant communities present in Hawk Ridge Nature Reserve that meet Significant Plant Community criteria based on 2014 vegetation surveys (Delany, B. 2014).

Hawk Ridge Plant Community Survey 2014			
DNRCODE	**DNAP Code**	**Plant Community Name in DNAP**	**Acres**
FPn73a	CPn79a	Northern Alder Swamp	32.56
FFn57a	FFn67	Northern Floodplain Forst	15.38
MHn35b	MHn5b	Northern Rich Maple-Basswood Forest	23.9
ROn23a	ROn1a	Northern Rock Outcrop	63.38
WMn82b	WMn1a	Northern Sedge Meadow	0.06
FDn33b	FDn2d	Poor Dry-mesic Bedrock Aspen-Birch-Fir Woodland	107.72
FDn33a	FDn2f	Poor Dry-mesic Great Lakes Pine Woodland	10.43
WFn55a	WFn71c	Wet Black Ash Swamp	52.9
MHn46b	MHn62b	Wet-mesic Black Ash - Sugar Maple Forest	43.21

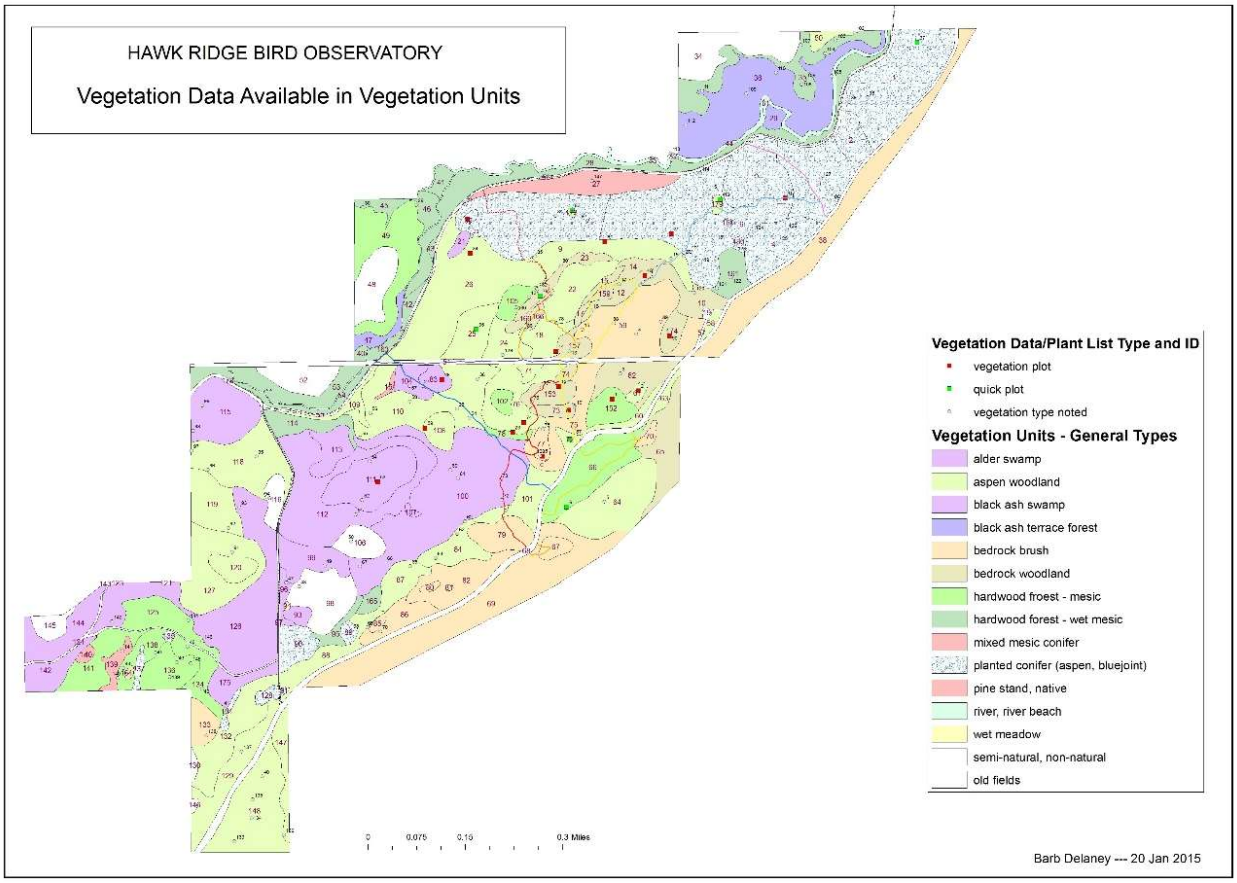

Figure 5. Mapped plant communities (HRNR, 2014). Plant communities were later classified into MNDNR Native Plant Communities and cross-referenced with the Duluth Natural Areas Significant Plant Communities Criteria.

The wetland plant communities found in the proposed natural area, Northern Alder Swamp, Northern Sedge Meadow, Wet Black Ash Swamp, and Northern Floodplain Forest all contribute to groundwater recharge and water quality, preserving the native Brook Trout population and aquatic macroinvertebrates in Amity Creek. Some of the Black Ash Swamps are fairly large and noted to be of high to moderate quality with noted floodplain species in the understory, such as ostrich fern (*Matteuchia strutheropteris*) and mesic species such as bluebead lily (*Clintonia borealis*), bunchberry (*Cornus* canadensis), and nodding trillium (*Trillium cernuum*). Both the wetland communities and the upland communities, including Northern Rich Maple – Basswood Forest, Northern Rock Outcrop, Poor Dry – Mesic Bedrock Aspen – Birch – Fir Woodland, and Poor Dry – Mesic Great Lakes Pine Woodland all offer vital foraging and hunting habitat for the migrating and nesting bird species as well as other fauna such as squirrels and bear, especially in such a large, undeveloped area. This continuous canopy of mixed upland and wetland habitats provides a crucial wildlife corridor that links to the Lester River and Lakewood Township on the east side and connects the forests adjacent to Amity Creek and Tischer Creek as they flow through wooded neighborhoods and City of Duluth property on the west side.

The plant community survey conducted in 2014 did not sample the plant communities adjacent to Amity Creek nor were the plant communities within the newly acquired Lester River forest surveyed. These areas are suspected or known to harbor more of those communities found in the HRNR along with some possible cliff communities in the Amity Creek and Lester River gorges, mesic hardwoods and mixed conifer forests in between the Amity Creek and Lester River gorges, and forested wetlands along the upper reaches of Amity Creek.

Another suspected intact and valuable native plant community that is likely to be contributing to the cold groundwater is the northern mesic hardwood forest (MHn35) which is indicative of well-drained, loamy soils that contain small depressions that create ideal spring ephemeral ponds or vernal pools. Vernal pools are biodiversity hotspots and provide important habitat for sensitive species such as wood frogs, fairy shrimp, and blue spotted salamanders, which need seasonally wet and dry periods to complete their reproductive cycles.

Natural Water Feature Area

Amity Creek is one of the least urbanized streams within the city, due in part to the large parcels of undeveloped land within the watershed with only 3% of the Amity Creek watershed land use categorized as developed, rural, or urban. The lower reaches of this designated cold-water trout stream was included in the proposed natural area which includes approximately 1.23 square miles (7.4%) of the watershed of the east and main stem branches of the creek. A stretch of the creek also flows through a rhyolite canyon.

The Amity Creek Watershed is widely recognized as one of the highest quality trout fisheries in the City of Duluth. Both the main stem and the East Branch of Amity Creek are listed as impaired by state of Minnesota for turbidity. The “Amity Creek Stressor Identification Report” produced by Jennings and Geenen (2016) documented sources of sediment loading along with recommended stream restoration projects in these areas. Several reaches of East Branch and main stem of Amity Creek within the proposed natural area were identified as major sediment sources, and areas of degraded physical habitat were observed due to channel and bluff instability. The U.S. Environmental Protection Agency, Minnesota Pollution Control Agency, and SWCD recently completed the “Amity Creek Watershed Nine Key Element Plan” which addresses the sediment impairments. Now that the plan is complete, the SWCD is eligible to receive federal grants over the next fifteen years to implement sediment reduction projects in the watershed.

The East Branch offers the coldest water temperatures and provides much of the baseflow to the system due to significant groundwater upwelling and wetland storage (Jasperson, 2015). The following is an excerpt from the Lake Superior South Stressor Identification Report (MPCA, 2017):

“The East Branch of Amity Creek Watershed is a productive coldwater stream with a robust population of naturally reproducing native brook trout. Water temperatures and brook trout numbers in this stream are comparable or superior to many of the highest quality streams in less developed areas of the North Shore and surrounding area (Figure 6. Results of Amity Creek/East Amity Creek brook trout

spawning assessment completed in fall of 2014. Source: Lake Superior South Stressor Identification Report (Jasperson et al, 2017).

Table 3). A brook trout spawning assessment was completed in the fall of 2014 along approximately three miles of the East Branch, where 186 areas of spawning activity (clusters of “redds” i.e. nests) were observed, a density of 62 per mile, compared to nine per mile on the main stem of Amity Creek (Figure 6). Several of the spawning areas observed on the main stem of Amity Creek were located at its confluence with the East Branch, likely due to the coldwater inputs from this tributary. The results of the spawning assessment clearly illustrate the importance of the East Branch as a spawning and rearing area for wild brook trout.”

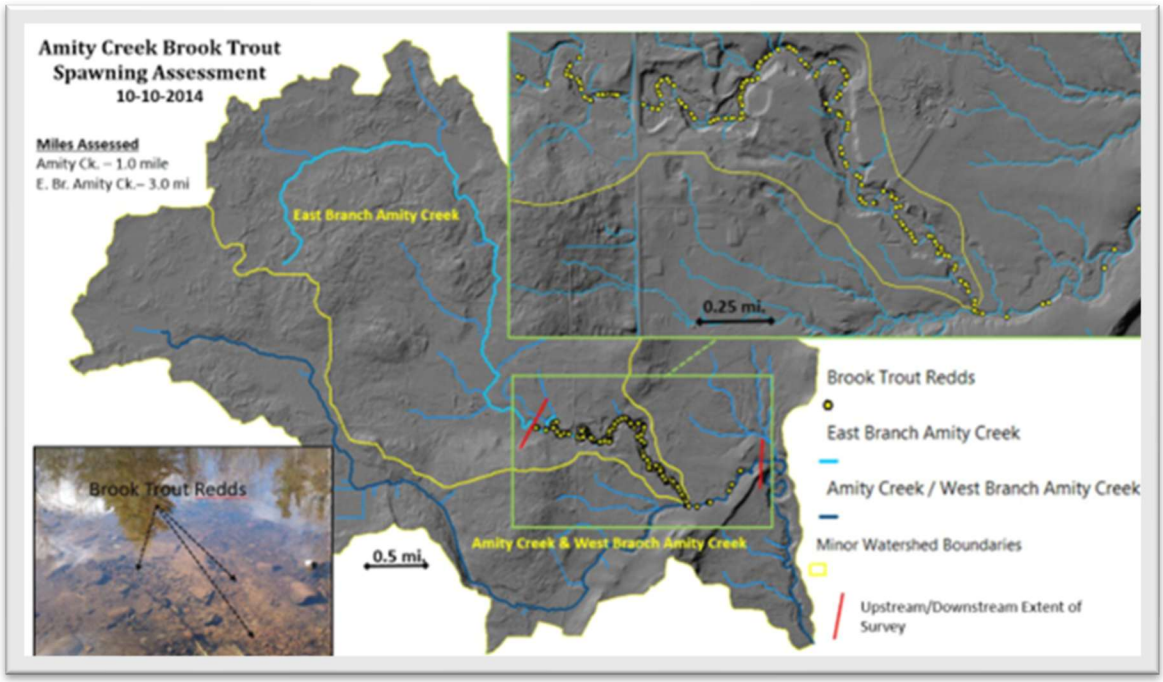

Figure 6. Results of Amity Creek/East Amity Creek brook trout spawning assessment completed in fall of 2014. Source: Lake Superior South Stressor Identification Report (Jasperson et al, 2017).

Table 3. Ranking of East Branch Amity Creek among north shore streams based on number of Brook Trout sampled. Source: Lake Superior South Stressor Identification Report (Jasperson et al, 2017)

Rank (n=95)	Stream name	Station	Visit date	Distance sampled (m)	# Brook Trout sampled	BKT/meter	Batch weight (g)
1	Kadunce River	13LS050	8/27/2013	221	214	0.968	4006
2	McCarthy Creek	11LS007	8/9/2011	150	112	0.747	3222
3	Cascade River	13LS013	9/4/2013	350	175	0.500	6279
4	Devil Track River	13LS046	9/4/2013	280	116	0.414	5247
5	**Amity Creek, East Branch**	**97LS038**	**6/20/2011**	**158**	**55**	**0.348**	**3124**
6	Little Devil Track River	97LS073	9/17/2013	150	50	0.333	1765
7	Big Sucker Creek	97LS089	8/31/2011	262	86	0.328	3038
8	Junco Creek	13LS006	8/22/2013	175	47	0.269	2059
9	Kimball Creek	13LS011	8/13/2013	134	33	0.246	471
10	Heartbreak Creek	97LS075	8/15/2013	220	52	0.236	1551
11	Elbow Creek	05LS005	8/7/2013	175	41	0.234	1824
12	Captain Jacobson Creek	11LS017	7/28/2011	150	31	0.207	902
13	Brophy Creek	10EM141	6/22/2010	157	30	0.191	763
14	Manitou River	98LS030	9/19/2013	420	79	0.188	2797
15	Cascade River	95LS013	9/5/2013	420	76	0.181	3200

The 2017 Lake Superior South Stressor Identification Report stresses the importance of protecting the Amity Creek Watershed:

"Protection planning for Duluth's twelve trout streams should be a priority under the [DNAP]. Many of the trout streams that course through city lands are negatively impacted by urban runoff, fragmented by road crossings, and offer marginal physical habitat and temperate regimes for coldwater fish. East Branch Amity Creek is an exception to this in many regards:

- Large corridors of undeveloped public land
- Priority protection area is already in public ownership, and located upstream of densely developed urbanized areas
- Significant groundwater sources and wetlands maintain cold temperatures and suitable stream flows (Jasperson, 2015)

Based on available data, East Branch Amity Creek represents one of the best remaining habitats for wild brook trout within Duluth. This stream segment warrants protection under the DNAP based on these attributes and the abundance of public land and recreational interests in the watershed. A partnership of state and local agencies could provide the monitoring and management support required under the DNAP guidelines."

The easiest and least expensive option to protect the cold-water habitat of this designated trout stream is to preserve the stream and its vegetated corridor where it will continue to provide water storage, reduce storm flow, streambank erosion, and downstream flooding. Preserving significant portions of the Amity Creek Watershed also contributes to the protection of the nearshore waters of Lake Superior, where Amity Creek discharges shortly after its confluence with Lester River just outside of the proposed natural area. The nominated natural area provides "green infrastructure" that helps minimize the loading of excess phosphorus, nitrogen, and even road salt into these streams and eventually the oligotrophic Lake Superior. Maintaining large, forested tracts of land that provide crucial water storage within this watershed contributes to the future resilience of this cold-water stream as it faces increasing temperatures, greater intensity storms and higher associated rainfalls.

Finally, with more extreme weather events contributing to higher rainfall and downstream flooding, it is crucial to protect the existing habitat that currently mitigates some of the highest impacts to the fragile stream bluffs (Figure 7), water quality, and fauna of this cold-water trout stream.

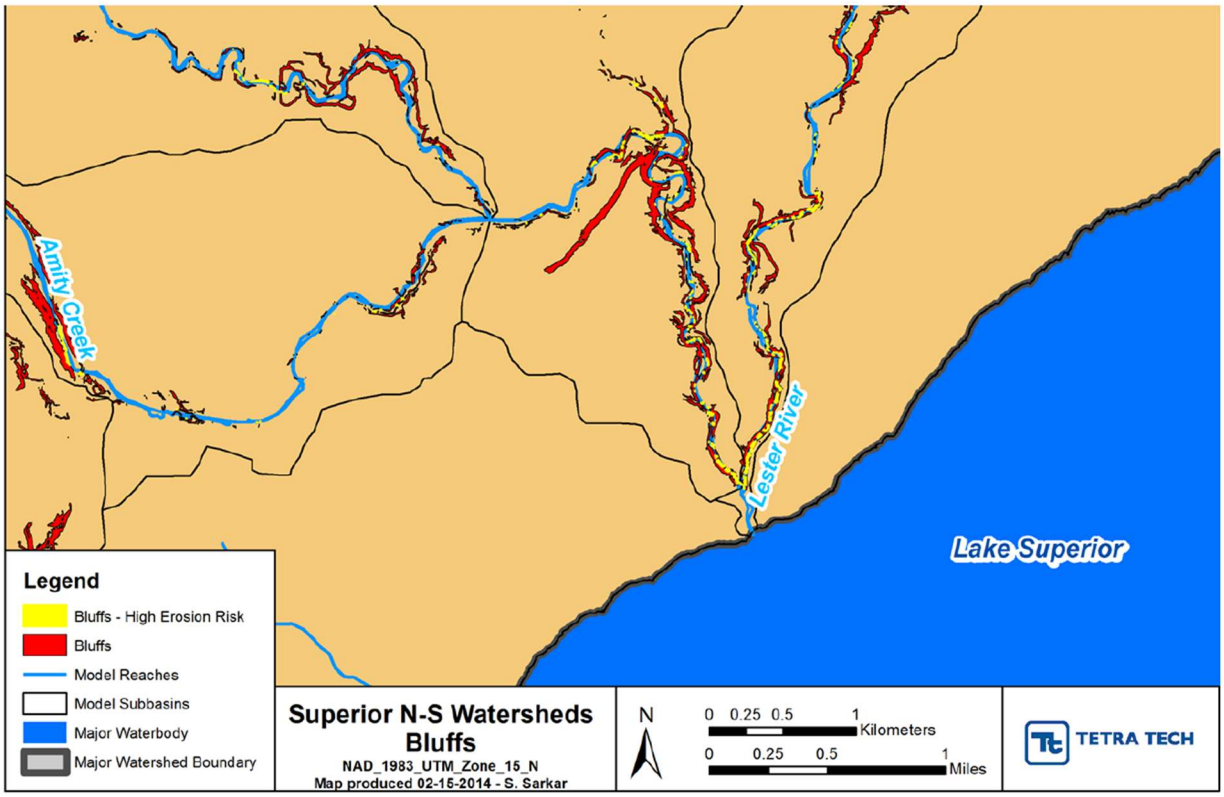

Figure 7. Areas at high risk of bluff collapse in Amity Creek and Lester River Watersheds. Source: Duluth Urban WRAPS HSPF Model Report (Revised, MPCA, 2019)

Geologic Landform Area

The prominent, northeast-trending ridge on which the HRNR sits is higher than the surrounding landscape because it is made of a rock called diabase that is more resistant to weathering and erosion than the rocks to the northwest or southeast (Figure 8). This feature traces its origin to two dramatic events in its geologic history entailing the Mid-Continent Rift (about 1.1 billion years ago) and the Great Ice Age Glaciation (over the last 2.5 million years ago). Both of these events produced evidence of geologic formations included in the DNAP Geological Landform Area criteria.

Figure 8. Photo of Hawk Ridge, courtesy Dr. John Green.

All of the rocks in the Duluth area were formed approximately 1.1 billion years ago (late Precambrian times, or more specifically the mid-Proterozoic). At this time, the earlier crust of the Earth started to stretch apart and split up along a great, arcuate trend centered beneath present Lake Superior and reaching to about Detroit to the southeast and to northeastern Kansas to the southwest. This rifting (Midcontinent Rift System or MRS) was apparently caused by a huge upwelling of hot rock from deep in the Earth's mantle (thick layer beneath the crust). As this "plume" of buoyant, hot rock approached the surface, it began to melt and produce immense volumes of magma (molten rock material) of basaltic composition. This basaltic magma passed upward toward the surface along fissures caused by the stretching and rifting. Most of this magma erupted as hundreds of great lava flows, which now make up most of the North Shore. Some of the magma never reached the surface, however, but instead squeezed into and between the already-erupted lavas. These "intrusions" then cooled more slowly than the volcanic rocks and formed coarser-grained rock of similar composition called diabase or gabbro. These diabase layers or sills developed fewer fractures as they cooled and proved to be more resistant to weathering and erosion, once they were exposed at the surface, than the nearby volcanic rocks. This is why Duluth's main high areas are made of diabase and gabbro, in contrast to the lava flows that underlie the lower areas downtown and in the Lakeside neighborhood.

As the rifting, stretching, and lava eruption continued, the central part of the MRS subsided, leaving the rock layers on its flanks tilted toward the rift axis. The lower reaches of Amity Creek and Lester River cut into rhyolite (light) and basalt (dark) lava flows to form gorges as they cascade down the Duluth hillside and join just before entering Lake Superior at the bridge. This exposed volcanic rock are further evidence of the Mid-Continent Rift.

Thus, in Duluth, the layers trend north to northeast and are tilted from about 10 to 20 degrees to the east. Slow uplift and erosion over the billion years or so since the rifting and volcanism ceased have "etched out" these harder layers. This has resulted in our landscape's prominent high areas: Duluth Heights to Spirit Mountain and Bardon's Peak, "held up" by the Duluth (gabbro) Complex; Mount Royal, held up by the Endion sill; Hawk Ridge, held up by the Northland sill; and Moose Mountain, held up by the Lester River sill. All these sills are made of diabase.

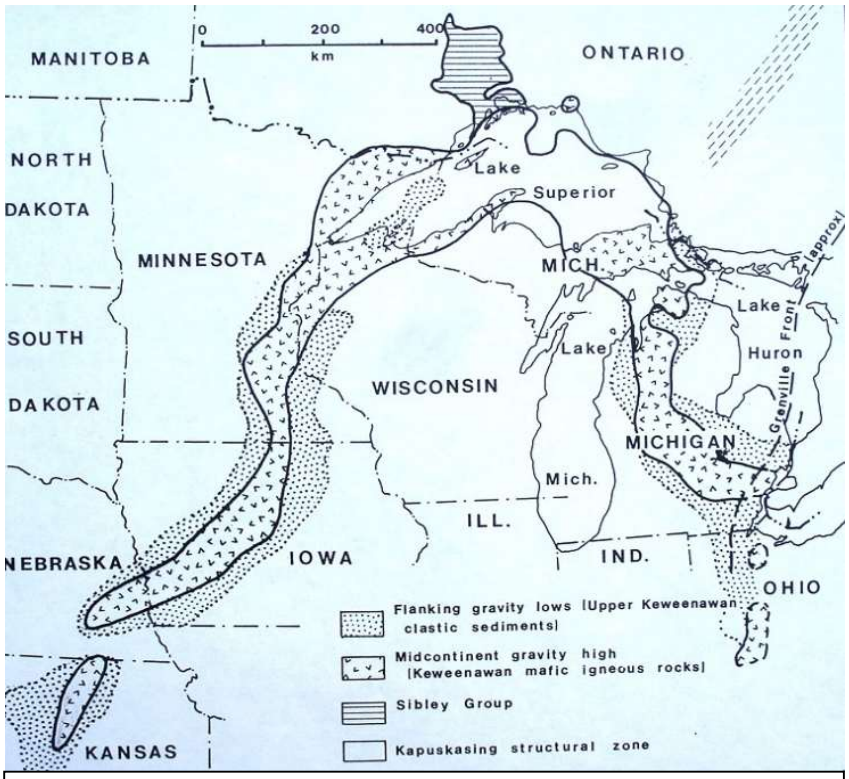

Figure 9. Map of Mid-Continental Rift.

The last major geologic event that has helped give Hawk Ridge its present character was the great Pleistocene Ice Age. Starting about 2.5 million years ago, several huge, mile-thick ice sheets spread out from east-central Canada and covered this area, again eroding the softer rocks more readily than the harder ones. The easiest to erode were the thick sandstones that had been deposited on top of the lava flows after volcanism waned at the close of the Midcontinent rifting. The glaciers preferentially gouged out these sandstones and formed the basin that Lake Superior has since occupied. The ice sheet eroded off most of the deeply-weathered igneous rocks too, leaving scratches or striations on the surface of the remaining fresh bedrock. These can be seen at several places along the Hawk Ridge trails. The last glacier also deposited till, a mix of very fine, medium, and coarse particles of varying thickness, on top of the bedrock. On the high points, including Hawk Ridge, there was little if any glacial sediment deposited. The minimal soil on this resistant, rocky ridge has inhibited human development over the years, allowing it to remain in public ownership, and the rocky character provides habitat for special rock-adapted plants. In a nutshell, the special topography here in Duluth, with prominent ridges next to the Lake Superior basin, is what concentrates the huge bird migration through this area. This topographic relief is the product of dramatic geologic processes and events over the last 1.1 billion years.

References

Beaster, Kelly. (2024). Plant Ecologist. Correspondence, personal documentation, and written section: Special Species Area.

City of Duluth (2002). Duluth Natura Areas Program Guidelines with Appendices: Guidelines for the Permanent Protection of Ecologically Significant Lands in Duluth, MN.

Delaney, Barb. (2014). Vegetation Cover at Hawk Ridge Bird Observatory. Field Report.

Green, John. (2024). Geologist. Correspondence and written section: Geologic Landform Area.

Jasperson, Jeff., Jasperson, Jenny., and Beaster, Tim. (2017). Lake Superior South Watershed Stressor Identification Report. Minnesota Pollution Control Agency. Document number: wq-ws5-04010102a. https://www.pca.state.mn.us/watershed-information/lake-superior-south

Minnesota Department of Natural Resources (2003). Field Guide to the Native Plant Communities of Minnesota: the Laurentian Mixed Forest Province. Ecological Land Classification Program, Minnesota County Biological Survey, and Natural Heritage and Nongame Research Program. MNDNR St. Paul, MN.

Minnesota Department of Natural Resources (2024). Rare Species Guide: *Shepherdia canadensis*. https://www.dnr.state.mn.us/rsg/profile.html?action=elementDetail&selectedElement=PDELG03020

Minnesota Pollution Control Agency (2019). Duluth Urban WRAPS HSPF Model Report (REVISED). Document number: wq-iw10-11f.

Appendix A - Letters of Support

Hawk Ridge Bird Observatory Resolution in Support of Nomination of the Amity/Hawk Ridge Natural Area to the Duluth Natural Areas Program

November 21, 2024

WHEREAS, the Duluth Natural Areas Program (DNAP) was established under Duluth City Code Chapter 2, Article XXIX, Section 2-152 to protect and preserve natural areas of special ecological significance within the City of Duluth; and

WHEREAS, the mission of the Hawk Ridge Bird Observatory is to promote conservation of raptors and other birds in the Western Lake Superior Region through research, education, and stewardship of the 365-acre Hawk Ridge Nature Reserve; and

WHEREAS, the Amity/Hawk Ridge Natural Area has been identified as an ecologically significant area due to its unique geological formations, native plant communities, and its role in protecting critical habitats for bird species, particularly in the Amity Creek watershed; and

WHEREAS, the 365-acre Hawk Ridge Nature Reserve managed by the Hawk Ridge Bird Observatory is a critically important international bird migration corridor. It is also a national & international attraction for birdwatching with a unique designation as an Audubon Important Bird Area, one of only four such designated sites in the United States; and

WHEREAS, the nomination of the Amity/Hawk Ridge Natural Area under DNAP aligns with the mission of the HRBO to promote conservation of raptors and other birds in the Western Lake Superior Region; and

WHEREAS, the protection of the Amity/Hawk Ridge Natural Area will provide long-term ecological, education, and recreational benefits to the community, as well as maintain the integrity of critical habitats within the 365-acrea Hawk Ridge Nature Reserve;

NOW THEREFORE, BE IT RESOLVED, by the Hawk Ridge Bird Observatory Board of Directors that:

1. The HRBO fully supports the nomination of the Amity/Hawk Ridge Natural Area to the Duluth Natural Areas Program.
2. The HRBO shall serve as a nominating partner in the application to include Amity/Hawk Ridge Natural Area Program.
3. The HRBO commits to collaborating with other partners and stakeholders, including the City of Duluth and other conservational organizations, to ensure the long-term preservation and management of the Amity/Hawk Ridge Natural Area.
4. The HRBO Board of Directors authorizes Janelle Long, Executive Director, to act on its behalf in all matters related to this nomination, including the submission of formal letters of support.

BE IT FURTHER RESOLVED, that this resolution shall take effect immediately upon adoption.

Adopted by the HRBO Board of Directors on November 21, 2024.

James W Sellers

Board Chairperson

South St. Louis Soil and Water Conservation District Resolution to Support Nomination of the Lester-Amity-Hawk Ridge Natural Area to the Duluth Natural Areas Program

---

Date: 4/16/2025

WHEREAS, the Duluth Natural Areas Program (DNAP) was established under Duluth City Code Chapter 2, Article XXIX, Section 2-152 to protect and preserve natural areas of special ecological significance within the City of Duluth; and

WHEREAS, the Lester-Amity-Hawk Ridge Natural Area has been identified as an ecologically significant area due to its unique geological formations, native plant communities, and its role in protecting critical habitats for bird species, particularly in the Amity Creek watershed; and

WHEREAS, Amity Creek, a designated trout stream, is one of the best-preserved natural water features within the City, supporting a population of brook trout and providing essential coldwater habitat due to its groundwater contributions; and

WHEREAS, the South St. Louis Soil and Water Conservation District (SWCD) has been a key partner in conservation efforts within the region, including the implementation of sediment reduction projects in the Amity Creek watershed as part of the "Amity Creek Watershed Nine Key Element Plan" and other conservation initiatives; and

WHEREAS, the nomination of the Lester-Amity-Hawk Ridge Natural Area under DNAP aligns with the mission of the SWCD to promote sustainable land use and protect natural resources in the region; and

WHEREAS, the protection of the Lester-Amity-Hawk Ridge Natural Area will provide long-term ecological, educational, and recreational benefits to the community, as well as maintain the integrity of critical habitats within the watershed;

NOW, THEREFORE, BE IT RESOLVED by the Board of Supervisors of the South St. Louis Soil and Water Conservation District that:

1. The South St. Louis Soil and Water Conservation District fully supports the nomination of the 1,202-acre Lester-Amity-Hawk Ridge Natural Area to the Duluth Natural Areas Program.
2. The South St. Louis Soil and Water Conservation District shall serve as a nominating partner in the application to include Lester-Amity-Hawk Ridge Natural Area in the Duluth Natural Areas Program.
3. The South St. Louis Soil and Water Conservation District commits to collaborating with other partners and stakeholders, including the City of Duluth and other conservation

organizations, to ensure the long-term preservation and management of the Lester-Amity-Hawk Ridge Natural Area.

4. The District authorizes Tim Beaster, Conservation Specialist, to act on its behalf in all matters related to this nomination, including the submission of formal letters of support.

BE IT FURTHER RESOLVED, that this resolution shall take effect immediately upon adoption.

Adopted by the Board of Supervisors of the South St. Louis Soil and Water Conservation District on April 16, 2025.

Board Chairperson

4/8/2025

Jim Filby Williams
Director, Department of Property, Parks and Libraries

City of Duluth
411 West First Street
Duluth, MN 55802

South St. Louis
SOIL & WATER CONSERVATION DISTRICT

Dear Mr. Williams,

I am writing on behalf of the South St. Louis Soil and Water Conservation District (SWCD) to express our enthusiastic support for the nomination of the Lester-Amity-Hawk Ridge Natural Area into the Duluth Natural Areas Program (DNAP)). The designation of the Hawk Ridge Natural Area, encompassing almost 1,200 acres of land, including a portion of the Amity Creek watershed, aligns with our mission to conserve and restore natural resources in our region.

The Amity Creek watershed holds significant ecological value and the East Branch of Amity Creek in particular is renowned as one of the premier trout fisheries within the City of Duluth. Despite its esteemed status, both the main stem Amity Creek and the East Branch face challenges, particularly regarding sediment impairments. Multiple watershed assessments in recent years have all recommended restoration and protection activities within the area being nominated for DNAP inclusion. The completion of the "Amity Creek Watershed Nine Key Element Plan" by the Environmental Protection Agency (EPA), Minnesota Pollution Control Agency (MPCA), and our organization positions the SWCD to secure federal EPA grants for implementing vital habitat restoration and sediment reduction projects over the next decade.

The SWCD has already secured the first of four $291,000 EPA grants (totaling $1.2 million) that will be phased over the next 15 years. We are partnering with MN Trout Unlimited to leverage these federal resources and obtain an additional $800,000 in State funding, with the goal to fully restore the portions of East Amity Creek that are on City of Duluth-owned property. The inclusion of these portions of the Amity Creek watershed into the DNAP would represent a crucial step towards safeguarding our significant taxpayer-funded investment in this invaluable natural resource and preserving it for future generations.

The SWCD is a nominating partner in this endeavor and is committed to collaborating with other partners and stakeholders to ensure the long-term preservation and management of this natural area, including in the development and implementation of the Lester-Amity-Hawk Ridge Natural Area management plan. The collaborative endeavors of the City of Duluth, Hawk Ridge Bird Observatory, MN Trout Unlimited, SWCD, and various stakeholders exemplify the spirit of conservation and stewardship that defines our community. By formally recognizing the ecological significance of the Lester-Amity-Hawk Ridge Natural Area, we demonstrate our collective commitment to preserving the integrity of our local ecosystems and ensuring the long-term sustainability of our watersheds. Thank you for considering this nomination.

Sincerely,

Tim Beaster
Conservation Specialist
South St. Louis Soil and Water Conservation District
4215 Enterprise Circle, Duluth MN 55811

4215 Enterprise Circle • Duluth, MN 55811 • P: 218.723.4867 • www.southstlouisswcd.org

MINNESOTA LAND TRUST

April 15, 2025

Jim Filby Williams
Director of Parks, Properties, and Libraries
City of Duluth - Department of Public Administration
411 West First Street
Duluth, MN 55802

Dear Jim:

The Minnesota Land Trust (MLT) supports the proposed nomination of the approximately 1200-acre Lester-Amity-Hawk Ridge Natural Area to the Duluth Natural Areas Program. We are pleased to be among the nominating partners for this important effort to protect and subsequently restore the lands and waters in the Amity Creek watershed for our community.

As you are aware, MLT has been a strong partner to the City of Duluth regarding preservation of the city's open space for over ten years. Our work has supported acquisition of important tax forfeit lands, designation of two natural areas to the DNAP, restoration of important habitat at numerous sites within the city and the St. Louis River estuary, and development of the City's first Natural Resources Management Program Plan. These efforts not only support the preservation of important ecological habitats but secures these spaces for the recreational and well-being benefits of our residents and visitors.

The nominating partners are excited to focus resources within the natural area to support restoration and preservation of the ecological integrity of Amity Creek, a premier trout fishery within the city, and the surrounding forested lands, including the Hawk Ridge Nature Reserve, a location of global importance for raptor migration designated as an Important Bird Area by Audubon. MLT will collaborate with the City, our nominating partners, and other interested parties to develop and implement the natural area's management plan. MLT has secured grant funding to complete native plant community classifications within the proposed natural area. This data is foundational to development of the management plan and identification of management actions. With the resources already secured for this watershed and those that will come because of the natural area nomination, we are poised to make a significant difference in the long-term viability of these resources for our community.

Thank you for your thoughtful consideration of this nomination.

Sincerely,

Kris Larson
Chief Executive Officer

Minnesota Trout Unlimited
PO Box 845
Chanhassen, MN 55317
612.670.1629

April 8, 2025

Jim Filby Williams
Director, Department of Property, Parks and Libraries
City of Duluth
411 West First Street
Duluth, MN 55802

Re: Nomination of Lester-Amity-Hawk Ridge Natural Area

Dear Mr. Williams:

Minnesota Trout Unlimited (MNTU) is writing in support of the nomination of the Lester-Amity-Hawk Ridge Natural Area into the Duluth Natural Areas Program (DNAP). DNAP's mission of preserving natural places to protect natural resources and provide human sanctuary aligns with the mission of MNTU and its Gitche Gumee Chapter to conserve, protect, and restore coldwater resources. Furthermore, the inclusion of the Lester-Amity-Hawk Ridge Natural Area within DNAP provides a timely and significant value-added boost to the forthcoming Amity Creek restoration project. MNTU has partnered with the South Saint Louis Soil and Water Conservation District (SSLSWCD), the Minnesota Department of Natural Resources (MNDNR), and the Minnesota Pollution Control Agency (MPCA), to design and implement restoration of 9,400 feet of Amity Creek by 2029. We seek the City's partnership as well.

Amity Creek is Duluth's top wild brook trout fishery. However, the watershed has been impacted by decades of urbanization and trout habitat was severely damaged by the June 2012 flood. The stream has become incised and disconnected from its floodplain. As a result, during floods the streambanks crumble, filling in critical pool habitats, smothering the gravel where trout spawn, and clouding the water. All these factors diminish the health and productivity of the brook trout fishery.

Extensive assessments conducted by the SSLSWCD, MNDNR, and MPCA documented these ecological impairments and produced a detailed restoration roadmap to guide improvements on five key components of watershed health: hydrology, geomorphology, connectivity, biology, and water quality. Following completion of the watershed plan in January 2023, SSLSWCD secured a renewable Federal Section 319 grant for design work and construction over the next 15 years. To meet the required match for this federal grant, MNTU will secure approximately $800,000 from the Lessard Sams Outdoor Heritage Fund to support restoration of Amity Creek.

The Amity Creek stream restoration project and protection of this land in perpetuity will ensure social, recreational, ecological, and economic benefits to the Duluth community for generations. This project will create opportunities for high quality trout fishing that is easily accessible to residents of all socio-economic strata in the City of Duluth. It will also draw anglers from around the region and state who visit the area for its outdoor recreational opportunities.

The inclusion of these nominated lands into the Duluth Natural Areas Program will ensure the health and productivity of the Amity Creek watershed and its biodiversity, support the diversification of Duluth's economy, promote the social wellbeing of the local community, and boost resilience of this watershed to the impacts of climate change. Minnesota Trout Unlimited is a committed and steadfast supporter of this effort.

Thank you for your consideration of this nomination.

Sincerely,

John P. Lenczewski, Executive Director

Jennifer L. C. Biederman, Habitat Program Director

DEPARTMENT OF NATURAL RESOURCES

December 3rd, 2024

Jim Filby Williams
Director, Department of Property, Parks and Libraries
City of Duluth
411 West First Street
Duluth, MN 55802

Dear Director Filby Williams,

I am the Regional Clean Water Legacy Specialist for the Minnesota Department of Natural Resources (DNR), Division of Ecological and Water Resources, and am writing to express strong support for the inclusion of the Amity - Hawk Ridge Natural Area into the Duluth Natural Areas Program (DNAP), as nominated by the Hawk Ridge Bird Observatory, South St. Louis Soil and Water Conservation District, MN Trout Unlimited, and MN Land Trust. The proposed Amity - Hawk Ridge Natural Area, encompassing over 800 acres of ecologically significant land, including portions of the Amity Creek watershed, is a critical step towards preserving the natural heritage and ecological integrity of this region.

The Amity Creek watershed is recognized as one of Duluth's highest quality trout fisheries, supporting a robust population of naturally reproducing native Brook Trout. Despite this, both the main stem and the East Branch of Amity Creek are currently listed as impaired due to turbidity. The 2016 "Amity Creek Stressor Identification Report" by Jennings and Geenen identified major sediment sources and outlined potential stream restoration projects crucial for mitigating sedimentation and restoring habitat quality. The recent completion of the "Amity Creek Watershed Nine Key Element Plan" by the Environmental Protection Agency (EPA), Minnesota Pollution Control Agency (MPCA), and the South St. Louis Soil and Water Conservation District (SWCD) represents a comprehensive approach to addressing sediment impairments. This plan positions the SWCD to receive federal grants to implement essential sediment reduction projects, further enhancing the ecological health of the watershed.

Particularly noteworthy is the East Branch of Amity Creek, which provides the coldest water temperatures in the watershed and is a vital spawning and rearing habitat for Brook Trout. The Lake Superior South Stressor Identification Report published by the MN Pollution Control Agency in 2017 highlights the importance of this tributary, with Brook Trout spawning densities significantly higher in the East Branch compared to the main stem of Amity Creek. This underscores the critical role of the East Branch in sustaining healthy Brook Trout populations, making its preservation through DNAP designation essential.

The designation of the Amity - Hawk Ridge Natural Area within the DNAP will provide robust protection for these vital ecological assets, preventing development and exploitation, and ensuring that the Amity Creek watershed remains a thriving habitat for native species. This aligns with the DNR's mission to conserve and manage the state's natural resources for the benefit of all.

Thank you for considering our endorsement. We look forward to supporting this nomination and collaborating on future conservation efforts.

Sincerely,

Karl Koller

Karl Koller
Regional Clean Water Legacy Specialist
Division of Ecological and Water Resources
Minnesota Department of Natural Resources
DNR Grand Rapids Headquarters
1201 E HWY 2
Grand Rapids, MN 55744
Phone: (218)328-8816
Email: karl.koller@state.mn.us

MINNESOTA POLLUTION CONTROL AGENCY

Duluth Office | 525 Lake Avenue South | Suite 400 | Duluth, MN 55802 | 218-723-4660
800-657-3864 | Use your preferred relay service | info.pca@state.mn.us | Equal Opportunity Employer

December 19, 2024

VIA EMAIL

Jim Filby Williams
Director, Department of Property, Parks and Libraries
City of Duluth
411 West First Street
Duluth, MN 55802

Dear Jim Filby Williams:

RE: Letter of Support for Amity – Hawk Ridge Natural Area nomination

The Minnesota Pollution Control Agency (MPCA) is pleased to support the Amity – Hawk Ridge Natural Area nomination to the Duluth Natural Areas Program (DNAP). The proposed area includes a significant portion of Amity Creek Watershed (Amity Creek and East Branch Amity Creek), a coldwater ecosystem. The nomination proposal by Hawk Ridge Bird Observatory, South St. Louis Soil and Water Conservation District (SWCD), Minnesota Trout Unlimited, and Minnesota Land Trust is an important step to maintaining the long-term ecological integrity of this vulnerable habitat in Duluth.

Amity Creek Watershed has long been a keystone watershed in developing a better understanding of those factors that contribute to good water quality. Numerous studies have been conducted to better understand land uses and land covers that may be influencing water quality. Studies have focused on water chemistry, habitat, hydrology (including groundwater inputs), and geomorphology. This information has then been used to inform restoration projects within the watershed. Amity Creek and East Branch Amity Creek, both designated trout streams, have existing water quality impairments due to excess sediment in the stream. Formal studies were completed in 2020 and approved by U.S. Environmental Protection Agency. This milestone provides access to state funds to implement protection and restoration projects and activities. Amity Creek Watershed was recently selected for long term funding (16 years) through MPCA to address non-point source pollution within the watershed.

This proposal complements work that MPCA is doing to restore impaired waters and protect unimpaired waters, including high quality and sensitive waters such as trout streams. The MPCA uses a watershed approach to restoring and protecting Minnesota's rivers, lakes, and wetlands through the development of Watershed Restoration and Protection Strategies (WRAPS). We accomplish this important work through partnerships, collaboration, and building local capacity. While MPCA's Watershed Division focuses on water quality, we recognize the value and importance of an intact ecosystem, providing riparian and terrestrial connectivity that can benefit a broad spectrum of species throughout their life cycle needs.

In addition to achieving local environmental goals, such as those of the City of Duluth Comprehensive Land Use Plan, Imagine Duluth 2035, and water quality goals of the St. Louis River One Watershed, One Plan (comprehensive watershed management plan) and statewide water quality goals, the project also

achieves broader objectives, including priorities of the Lake Superior Lakewide Action and Management Plan (LAMP) and Great Lakes Restoration Initiative Action Plan III. Amity Creek is a vital coldwater tributary to Lester River that then flows to Lake Superior. Establishing the Amity – Hawk Ridge Natural Area will create the necessary, long term land controls to ensure the longevity and success of projects and actions taken in the watershed, which in turn contributes to the overall success of the DNAP program.

Thank you for your consideration on this proposal. If we can be of further assistance to further explain our support for this project, please let us know. You can reach Tom Estabrooks of my staff by phone at 218-302-6608, or by email at tom.estabrooks@state.mn.us.

Sincerely,

Amy Adrihan

This document has been electronically signed.

Amy Adrihan
Supervisor
Northeast Unit
Watershed Division

GS/AA/TE:nld

W.J. McCABE (DULUTH) CHAPTER
IZAAK WALTON LEAGUE OF AMERICA
P. O. Box 3063 • DULUTH, MN 55803

April 17, 2025

Jim Filby Williams
Director, Department of Property, Parks and Libraries
City of Duluth
411 West First Street
Duluth, MN 55802

Dear Director Filby-Williams,

The W.J. McCabe Chapter of the Izaak Walton League of America, located in Duluth, is pleased to support the nomination of 1,183 acres of the Lester-Amity-Hawk Ridge Natural Area to be added to the Duluth Natural Areas Program (DNAP). The League is a "big picture" organization, working to protect whole watersheds, including the air and water quality, the fish and wildlife habitat, and to provide the opportunity for nature centered outdoor activities, especially for youth. The McCabe Chapter has been a strong supporter of projects to protect and restore natural areas in the City of Duluth and provide recreational opportunities on public land. The Hawk Ridge Bird Observatory and surrounding lands, including the Amity Creek watershed, is an ecologically and recreationally significant area and we strongly support its protection as part of the DNAP.

Amity Creek is a cold-water trout stream, but is impaired for sediments due to development pressures and the resulting erosion in the watershed. In spite of this, Amity remains one of the highest quality trout streams in the City, retaining natural forests along its banks and significant native plant species in the watershed. Some restoration activities have taken place in the watershed in the past (through the Weber Stream Initiative and state and federally funded projects) and the McCabe Chapter has supported these and spoken out about our concerns with proposed activities that would increase sedimentation, erosion, and warming in the stream. The DNAP designation provides an opportunity to build on the early restoration work and ensure this resource and the habitat it includes are protected for the long term.

The Hawk Ridge migration corridor holds global significance well beyond the Duluth area and northeastern Minnesota. Adding it to the DNAP recognizes its' importance and the obligation we have to protect this unique and irreplaceable resource - not only for use by Duluth residents and visitors, but for the greater birding community, future generations, and for the sake of the birds themselves. The McCabe Chapter enthusiastically supports this nomination.

Sincerely,

Julie O'Leary

Julie O'Leary
President
W.J. McCabe Chapter IWLA

December 20, 2024

TO: Jim Filby Williams
Director, Department of property, Parks and Libraries

City of Duluth
411 W 1st Street
Duluth, MN 55802

RE: Proposal for Hawk Ridge

The Arrowhead Fly Fishers (AFF), an affiliate chapter of Fly Fishers International (FFI), is writing to express support for a proposal to include the Hawk Ridge Nature Reserve (HRNR) in the Duluth Natural Area Program (DNAP). The area consists of 822 acres of contiguous land that is highly prized for its natural state as a recreational attraction, contained within the city limits of Duluth. The primary reason for the inclusion of HRNR in the DNAP is the strong commitment of Duluth over the past 50 years to preserve the bird migration habitat and promote observation and conservation of migratory birds the HRNR provides. The area strongly supports other habitats, one of which is a large segment of Amity Creek, a high-quality trout stream currently accessible to residents of Duluth. Large portions of the Amity Creek watershed are undeveloped and this DNAP designation would secure a significant area of the watershed and riparian areas to protect this cold-water ecosystem for future generations as an additional bonus.

The AFF see this opportunity as a win for many diverse outdoor interests. We in AFF participate in numerous activities along this corridor; bird watching, hiking, exploring, fishing, etc. These activities and opportunities are reasons we love living in Duluth.

The mission of FFI through its various chapters such as AFF is to support diverse interests to protect and care for rivers and streams so our children can experience the joy of all fishes wild and native. We have an opportunity here to support multiple interests in protecting our natural environment, not only for migratory birds but also challenges our native brook trout face in Duluth's trout streams and for the interconnected environment that provides the opportunity to enjoy all elements of our ecological landscape. We support efforts to protect habitat for many species and the opportunities to enjoy wildlife in their native environment within our city. The quality of life is greatly enhanced with local opportunities.

Sincerely,

Laurie Arndt

Laurie Arndt (Acting President AFF)
Larndt423@charter.net

Peder M Yurista

Peder Yurista (Conservation & Education AFF)
woollybugger@charter.net

Arrowhead Native Plant EXPLORERS

April 7, 2025

Jim Filby Williams
Director, Department of property, Parks and Libraries

City of Duluth
411 W 1st Street
Duluth, MN 55802

Dear Director Filby Williams,

I am writing to express our enthusiastic support for the nomination of Lester – Amity - Hawk Ridge into the City of Duluth's Natural Areas Program (DNAP) on behalf of Arrowhead Native Plant Explorers (ANPE). As an organization dedicated to the conservation and promotion of native plant communities in the Arrowhead Region of Minnesota, we recognize the paramount importance of preserving these invaluable ecosystems for future generations.

Hawk Ridge Nature Reserve, the Amity Creek and Lester River corridors, and the woodlands between encompass 1,183.6 acres of land renowned for their globally significant bird migration observation sites and remarkable geological formations. However, it is the diverse native plant communities thriving within these landscapes that are of particular interest to ANPE. These communities, shaped by the unique geologic history of the area, provide vital habitats for migrating bird species and other wildlife and water recharging opportunities for native brook trout and macroinvertebrates.

At ANPE, our mission is to support and advocate for the conservation of native plant species in the Arrowhead Region. We firmly believe that the protection of these native plant communities is essential for maintaining the ecological integrity and biodiversity of the region. The presence of state-listed special concern species such as the Canada buffaloberry (*Shepherdia canadensis*) within the proposed natural area underscores the importance of safeguarding these habitats.

Moreover, the designation of Lester – Amity – Hawk Ridge as a natural area aligns seamlessly with our commitment to environmental education and community engagement. By preserving these landscapes, we not only protect their inherent natural beauty but also provide opportunities to continue scientific research and public outreach initiatives.

We commend the efforts of all involved in championing the conservation of these invaluable landscapes and look forward to the positive impact of their inclusion in the City of Duluth's Natural Areas Program.

Sincerely,

KO Beaster

Kelly Beaster, President, Arrowhead Native Plant Explorers
218-590-4933, president@arrowheadnativeplants.org

Appendix B

Birds of Greatest Conservation Need - Counted and/or Banded at Hawk Ridge Nature Reserve
List adapted from Minnesota Ornithologists' Union list of Species at Risk
https://moumn.org/concern.html

Common Name	Scientific Name	State Status	Federal Status	Rationale for listing
Trumpeter Swan	*Cygnus buccinator*	Threatened		MN Threatened
American Black Duck	*Anas rubripes*			Continental population declining, MN population low (<1,000) based on 1991-93 Black Duck Survey.
Northern Pintail	*Anas acuta*			Continental population stable since 1985, but significant long-term decline dating to the 1950s; MN population low and declining since 1986.
Lesser Scaup	*Aythya affinis*			Continental population declining since 1985 and long-term (Lesser and Greater combined), MN population stable but survey poorly timed for breeding scaup.
Common Loon	*Gavia immer*			High priority in several Bird Conservation Regions of Waterbird plans
Horned Grebe	*Podiceps auritus*	Threatened		MN Threatened, Moderate concern in several Bird Conservation Regions (BCRs) of Waterbird Plans

Red-necked Grebe	*Podiceps grisegena*			High and medium priority in Waterbird Plans, uncommon, wetland habitat declining. Threatened in WI.
American White Pelican	*Pelecanus erythrorhynchos*	Special Concern		MN Special Concern
Bald Eagle	*Haliaeetus leucocephalus*	Special Concern	Threatened	Federally Threatened, MN Special Concern
Northern Harrier	*Circus cyaneus*			High Partners in Flight Priority (PIF 2) in several Bird Conservation Regions (BCRs)
American Goshawk	*Accipiter gentilis*			On USFS sensitive species list - vulnerable habitat (large patches of mature forest), may be regionally declining, tracked by MN DNR Heritage.
Red-shouldered Hawk	*Buteo lineatus*	Special Concern		MN Special Concern
Swainson's Hawk	*Buteo swainsoni*			Partners in Flight Continental Watchlist
Peregrine Falcon	*Falco peregrinus*	Threatened		MN Threatened
American Golden-Plover	*Pluvialis dominica*			High Priority (4) in the Prairie Pothole (BCR11) Shorebird Plan
Greater Yellowlegs	*Tringa melanoleuca*			High Priority (4) in several Bird Conservation Regions of Shorebird Plans

Upland Sandpiper	*Bartramia longicauda*			High Priority (4) in all Bird Conservation Regions of Shorebird Plans
Ruddy Turnstone	*Arenaria interpres*			High Priority (4) in the Prairie Pothole (BCR11) Shorebird Plan
Semipalmated Sandpiper	*Calidris pusilla*			High Priority (4) in the Prairie Pothole (BCR11) Shorebird Plan
White-rumped Sandpiper	*Calidris fuscicollis*			High Priority (4) in the Prairie Pothole (BCR11) Shorebird Plan
Dunlin	*Calidris alpina*			High Priority (4) in the Prairie Pothole (BCR11) Shorebird Plan
Buff-breasted Sandpiper	*Tryngites subruficollis*			High priority (4) in all Bird Conservation Regions of Shorebird Plans
Short-billed Dowitcher	*Limnodromus griseus*			High Priority (4) in several Bird Conservation Regions of Shorebird Plans
American Woodcock	*Scolopax minor*			High Priority (4) in all Bird Conservation Regions of Shorebird Plans
Franklin's Gull	*Larus pipixcan*	Special Concern		MN Special Concern
Common Name	**Scientific Name**	**State Status**	**Federal Status**	**Rationale for listing**
Common Tern	*Sterna hirundo*	Threatened		MN Threatened, High priority in all Bird Conservation Regions (BCRs) of Waterbird plans

Black-billed Cuckoo	*Coccyzus erythropthalmus*			Highest Partners in Flight Priority (PIF 1) in several Bird Conservation Regions (BCRs)
Short-eared Owl	*Asio flammeus*	Special Concern		MN Special Concern
Boreal Owl	*Aegolius funereus*			Meets several criteria - declining habitat, rare and declining in MN, not adequately surveyed by breeding bird survey, tracked by MN DNR heritage.
Common Nighthawk	*Chordeiles minor*			Not well monitored by breeding bird surveys. Declining populations, insectivore and aerial feeder - special resource needs.
Whip-poor-will	*Caprimulgus vociferus*			Not well monitored by breeding bird surveys. Declining populations, insectivore and aerial feeder - special resource needs. Id'd on USFWS reg. 3 concern list.
Red-headed Woodpecker	*Melanerpes erythrocephalus*			Partners in Flight Continental Watchlist
Yellow-bellied Sapsucker	*Sphyrapicus varius*			High Partners in Flight Priority (PIF 2A) in the Boreal Hardwood Transition plan (BCR12). Also significant regional declines in NRRI Forest Brid Monitoring.
Black-backed Woodpecker	*Picoides arcticus*			High Partners in Flight Priority (PIF 2C) in the Boreal Hardwood Transition plan (BCR12). Range more extensive in MN than N 3-toed woodpecker and also has high regional threats (habitat needs of large burned areas).

Olive-sided Flycatcher	*Contopus cooperi*			Partners in Flight Continental Watchlist
Eastern Wood-Pewee	*Contopus virens*			High Partners in Flight Priority (PIF 2A) in the Boreal Hardwood Transition plan (BCR12). Also shows one of the most significant declines in the NRRI forest bird monitoring.
Least Flycatcher	*Empidonax minimus*			High Partners in Flight Priority (PIF 2A) in the Boreal Hardwood Transition plan (BCR12)
Northern Rough-winged Swallow	*Stelgidopteryx serripennis*			High Partners in Flight Priority (PIF 2) in several Bird Conservation Regions (BCRs)
Boreal Chickadee	*Poecile hudsonica*			Suggested addition by feedback team. Sharp continental population decline (PIF=5), threatened habitat.
Winter Wren	*Troglodytes troglodytes*			Highly significant population declines in NRRI Forest Bird Monitoring.
Sedge Wren	*Cistothorus platensis*			Highest Partners in Flight Priority (PIF 1) in several Bird Conservation Regions (BCRs)
Veery	*Catharus fuscescens*			Highest Partners in Flight Priority (PIF 1) in the Boreal Hardwood Transition plan (BCR12)
Wood Thrush	*Hylocichla mustelina*			Partners in Flight Continental Watchlist
Brown Thrasher	*Toxostoma rufum*			Highest Partners in Flight Priority (PIF 2A) in several Bird Conservation Regions (BCRs)

Golden-winged Warbler	*Vermivora chrysoptera*			Partners in Flight Continental Watchlist
Cape May Warbler	*Dendroica tigrina*			Highest Partners in Flight Priority (PIF 1) in the Boreal Hardwood Transition plan (BCR12)
Black-throated Blue Warbler	*Dendroica caerulescens*			Highest Partners in Flight Priority (PIF 1) in the Boreal Hardwood Transition plan (BCR12)
Bay-breasted Warbler	*Dendroica castanea*			Partners in Flight Continental Watchlist
Ovenbird	*Seiurus aurocapillus*			While does not meet PIF priority (2B), the NRRI Forest Bird monitoring shows highly significant regional declines. Also vulnerable habitat (forest interior).
Connecticut Warbler	*Oporornis agilis*			Highest Partners in Flight Priority (PIF 1) in the Boreal Hardwood Transition plan (BCR12)
Canada Warbler	*Wilsonia canadensis*			Partners in Flight Continental Watchlist
Le Conte's Sparrow	*Ammodramus leconteii*			Highest Partners in Flight Priority (PIF 1) in the Boreal Hardwood Transition plan (BCR12).
Swamp Sparrow	*Melospiza georgiana*			High Partners in Flight Priority (PIF 2A) in the Prairie Hardwood Transition plan (BCR 23). Partners in Flight shows rangewide declines and also a continental stewardship species.

White-throated Sparrow	*Zonotrichia albicollis*			Suggested addition. Highly significant regional population declines in NRRI Forest Bird Monitoring.
Rose-breasted Grosbeak	*Pheucticus ludovicianus*			High Partners in Flight Priority (PIF 2A) in the Boreal Hardwood Transition plan (BCR12) and also significant regional declines indicated in NRRI Forest Bird monitoring.
Dickcissel	*Spiza americana*			Partners in Flight Continental Watchlist
Bobolink	*Dolichonyx oryzivorus*			Highest Partners in Flight Priority (PIF 1) in several Bird Conservation Regions (BCRs)
Eastern Meadowlark	*Sturnella magna*			On USFWS Region 3 concern list. Suggested addition. Precipitous continental population decline, habitat inperiled.
Rusty Blackbird	*Euphagus carolinus*			Partners in Flight Continental Watchlist

Criteria for adding species to the set of Minnesota Species in Greatest Conservation Need:

a. Species identified on formal lists:

- species listed under the **Federal Endangered Species Act.**
- **Minnesota's List of Endangered, Threatened, or Special Concern** species
- **Partners in Flight (PIF) Continental Watch List** bird species that breed in Minnesota.
- **Partners in Flight (PIF) Landbird Regional Plans:** Tier 1, 2A, and 2C species in at least one of Physiographic areas 16, 20, 32, and 40 and breed in Minnesota. (PA32 covers only a small portion of Minnesota and species were individually reviewed to determine if they meet the SGCN definition for Minnesota).

• **Regional Shorebird Conservation Plans:** Species identified as Highly Imperiled (5) or High Concern (4) in at least one of bird conservation regions (BCR) 11, 12, 22, 23, and either breed or are significant migrants in Minnesota.

• **Minnesota Waterbird Conservation Plan:** species identified as high or moderate concern in at least one of bird conservation regions (BCR) 11, 12, 22, 23 and breed in Minnesota.

• **NRRI Breeding Bird Monitoring:** Bird species showing significant ($P \leq 0.05$) declines in all 4 sample areas (Superior, Chippewa, Chequamegon/Nicolet National Forests and the St. Croix Region of E. Central MN) as well as overall regionally, and are supported by corroborative information from other regional surveys (e.g. PIF regional or continental plans).

b. Species, other than those on the above lists, identified through an expert review process to meet the CWCS Species in Greatest Conservation Need definition.

For more information on the lists, please see the following websites:

-Federal Endangered Species Act: http://endangered.fws.gov/

-Minnesota Endangered, Threatened & Special Concern Species: http://www.dnr.state.mn.us/ets/index.html

-Partners in Flight Regional Landbird Plans: http://www.blm.gov/wildlife/pifplans.htm

-Waterbird Conservation Plan: http://www.waterbirdconservation.org/

-US Fish and Wildlife Service Region 3 Resource Conservation Priorities: http://midwest.fws.gov/Endangered/lists/concern.html

-U.S. Shorebird Conservation Plan: http://shorebirdplan.fws.gov/

-NRRI Breeding Bird Monitoring: HYPERLINK "http://www.nrri.umn.edu/mnbirds/default.htm" http://www.nrri.umn.edu/mnbirds/default.htm

Material adapted from: Minnesota Department of Natural Resources. 2006.


DULUTH NATURAL AREAS PROGRAM