

2014 Project Abstract

For the Period Ending June 30, 2017

PROJECT TITLE: Scientific and Natural Area Acquisition, Restoration, Improvement and Citizen Engagement

PROJECT MANAGER: Margaret (Peggy) Booth

AFFILIATION: Minnesota Department of Natural Resources, Division of Ecological & Water Resources

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FUNDING SOURCE: Environment and Natural Resources Trust Fund)

LEGAL CITATION: M.L. 2014, Chp. 226, Sec. 2, Subd. 07a

APPROPRIATION AMOUNT: \$2,540,000

AMOUNT SPENT: \$2,471,001

AMOUNT REMAINING: \$68,999

Overall Project Outcomes and Results

Four parcels totaling 395 acres (238 acres pro-rated to this appropriation) were acquired and designated as SNA: two parcels totaling 286 acres (225 prorated acres) became the new **Brownsville Bluff SNA** (Houston Co); 37 acre (10 prorated acres) new **Crystal Spring SNA** (Washington Co); and 72 acre (4 pro-rated acres) new **Lawrence Creek SNA** (Chisago Co).

Habitat restoration and enhancement project activities on over 1100 acres were completed including: construction of a 31-acre deer enclosure for a woodland restoration project; invasive species treatment on 442 acres at 46 SNAs; prescribed burns on 687 acres at 14 SNAs and prescribed haying on 120 acres at 2 SNAs; and site development work at 38 SNAs, plus new interpretive signs for 8 SNAs. Adaptive Management Plans were written for 9 SNAs and staff collaborated on 9 partner-led projects. Ecological inventory/monitoring of key species/ features was completed on 16 SNAs to inform or evaluate restoration and enhancement projects.

The SNA Facebook page achieved over 4,150 page likes. The SNA Flickr social media channel was launched with 42 members sharing over 675 high quality photos. *Nature Notes* e-newsletter was delivered to over 3,900 subscribers. Improvements to the SNA webpage included improved usability on mobile device, fully revised and Visiting Guidelines section of the SNA webpage and new/enhanced site descriptions. A series of three native lady's-slippers posters were developed (2000 each) and distributed to promote SNAs and Minnesota's native wildflowers. About 180 educational and natural resource management events were held involving over 1670 people. One or more volunteer site stewards help monitor and care for 131 SNAs (79% of SNAs – with a total of 165 site stewards). Regular communications are made with the stewards and SNA staff have provided site stewards (and other volunteers) with personal protective equipment to use during SNA events.

Project Results Use and Dissemination

The SNA program uses multiple media to engage the people of Minnesota in SNAs and to inform them about work done with support from ENRTF. The extent of outreach supported by this appropriation include the following. The SNA [Facebook \(https://www.facebook.com/MinnesotaSNAs\)](https://www.facebook.com/MinnesotaSNAs) page has achieved over 4,150 page likes by June 2017. The SNA [Flickr \(https://www.flickr.com/groups/minnesota_snas/\)](https://www.flickr.com/groups/minnesota_snas/) social media channel was launched in February 2015; the site allows high quality photo sharing and with 42 members sharing over 675 photos. The 16th (Winter 2015) issue of the [Nature Notes](http://www.dnr.state.mn.us/snas/enews.html) e-newsletter (<http://www.dnr.state.mn.us/snas/enews.html>) was delivered to over 3,900 subscribers. Improvements to the SNA [webpage](#)

<http://www.dnr.state.mn.us/snas/index.html>) include conversion of slideshows for each site from Flash to Javascript in order to improve usability on mobile device and the Visiting Guidelines section of the SNA webpage was fully revised and new/enhanced site descriptions have been written. Acquisitions acquired with this ENRTF appropriation are also featured on the website: [Brownsville Bluff](http://www.dnr.state.mn.us/snas/detail.html?id=sna02067) (<http://www.dnr.state.mn.us/snas/detail.html?id=sna02067>), [Crystal Spring](http://www.dnr.state.mn.us/snas/detail.html?id=sna02068) (<http://www.dnr.state.mn.us/snas/detail.html?id=sna02068>), and [Lawrence Creek](http://www.dnr.state.mn.us/snas/detail.html?id=sna02065) (<http://www.dnr.state.mn.us/snas/detail.html?id=sna02065>). A series of three native lady's-slippers posters were designed, printed (2000 each), and mostly distributed in order to promote SNAs ("Visit the Wild Places") and Minnesota's native wildflowers. Data and feedback were obtained from people seeking the first released copies of the 1st poster.



Environment and Natural Resources Trust Fund (ENRTF) M.L. 2014 Final Report

Date of Report: August 30, 2017
Date of Next Status Update Report: Final Report
Date of Work Plan Approval: June 4, 2014
Project Completion Date: June 30, 2017

PROJECT TITLE: Scientific and Natural Area Acquisition, Restoration, Improvement and Citizen Engagement

Project Manager: Margaret (Peggy) Booth
Organization: Minnesota Department of Natural Resources, Division of Ecological & Water Resources
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Email Address: peggy.booth@state.mn.us
Web Address: mndnr.gov/snas

Location: statewide

Total ENRTF Project Budget:	ENRTF Appropriation:	\$2,540,000
	Amount Spent:	<u>\$2,471,001</u>
	Balance:	<u>\$68,999</u>

Legal Citation: M.L. 2014, Chp. 226, Sec. 2, Subd. 07a

Appropriation Language:

\$2,540,000 the second year is from the trust fund to the commissioner of natural resources to acquire lands with high-quality native plant communities and rare features to be established as scientific and natural areas as provided in Minnesota Statutes, section 86A.05, subdivision 5, restore and improve parts of scientific and natural areas, and provide technical assistance and outreach. A list of proposed acquisitions must be provided as part of the required work program. Land acquired with this appropriation must be sufficiently improved to meet at least minimum management standards, as determined by the commissioner of natural resources. This appropriation is available until June 30, 2017, by which time the project must be completed and final products delivered.

I. PROJECT TITLE: SNA Acquisition, Restoration, Improvement & Citizen Engagement

II. PROJECT STATEMENT:

Sites of biodiversity significance identified by the Minnesota Biological Survey (MBS) and the new SNA Strategic Plan will be permanently protected as state Scientific and Natural Areas (SNAs), their quality improved, and public support for and involvement in their conservation will be increased by a suite of tools through the DNR SNA Program. About 240 acres of at risk, high quality native plant communities and wildlife habitat of state significance would be acquired and designated as SNAs. Native habitat restoration and site improvement activities would be implemented on about 700 acres of SNAs threatened by human impacts, invasives, and lack of natural disturbance regimes. Furthermore, to address gaps in support for SNAs and to increase citizen and student knowledge and skills about biodiversity conservation, the SNA outreach initiative would achieve about 50 naturalist-led events and sustain a network of SNA site stewards at about 110 SNAs. In addition, new or refined electronic/social media communications tools (including SNA website and e-guidebook improvements) will be developed and disseminated to increase and enhance recreationist's use of SNAs and effectiveness of site steward recruitment and retention, expansion of participation in SNA events, and other SNA outreach tools will be evaluated.

III. PROJECT STATUS UPDATES:

Project Status as of November 14, 2014:

An offer has been made and accepted by the landowner to acquire the first 80 acre parcel of the proposed **Brownsville Bluff SNA** (Houston Co); acquisition is in progress on two additional parcels. Habitat restoration and enhancement project activities completed to date include: invasive species treatment has been completed on 130 acres at 13 SNAs; 2.4 miles of burn breaks have been prepared at 4 SNAs; and site development work (e.g. entry and boundary signs and site cleanup) has been done at 17 SNAs.

Project Status as of March 12, 2015:

Acquisition of first 83.76 acre parcel of the proposed **Brownsville Bluff SNA** (Houston Co) is expected to close in late March 2015 to be acquired in full with this appropriation. The DNR has optioned the adjoining 206-acre parcel at this same site to be acquired in part or in full with this appropriation. An appraisal has been completed the 36.5 acre parcel that is proposed to become the new Crystal Springs SNA (Washington Co) that is proposed to be acquired in part with this appropriation; sources to fully fund this acquisition are being determined.

Habitat restoration and enhancement project activities completed to date include: invasive species treatment has been completed on 137 acres at 13 SNAs; 2.4 miles of burn breaks have been prepared at 4 SNAs; and site development work (e.g. entry and boundary signs and site cleanup) has been done at 18 SNAs.

Project Status as of May 5, 2015:

Note: only budget and acquisition related changes are noted in this update. Acquisition of first 83.76 acre parcel of the proposed **Brownsville Bluff SNA** (Houston Co) closed in late March 2015 to be acquired in full with this appropriation. The DNR has optioned the adjoining 206-acre parcel at this same site to be acquired in part or in full with this appropriation. An appraisal has been completed the 36.5 acre parcel that is proposed to become the new Crystal Spring SNA (Washington Co) that is proposed to be acquired in part with this appropriation; the project is expected to be acquired in FY16 in cooperation with The Trust for Public Land.

Habitat restoration and enhancement project activities completed to date include: invasive species treatment has been completed on 137 acres at 13 SNAs; 2.4 miles of burn breaks have been prepared at 4 SNAs; and site development work (e.g. entry and boundary signs and site cleanup) has been done at 18 SNAs.

Project Status as of September 15, 2015 – cumulative results to date (since July 2014):

Acquisition of first 83.76 acre parcel of the proposed **Brownsville Bluff SNA** (Houston Co) closed in late March 2015 to be acquired in full with this appropriation. The DNR has optioned the adjoining 206-acre parcel at this same site to be acquired in part with this appropriation. The DNR has optioned the 36.5 acre parcel that is proposed to become the new Crystal Spring SNA (Washington Co) that is proposed to be acquired in part with this appropriation; the project is expected to be acquired in calendar year 2015 in cooperation with The Trust for Public Land.

Habitat restoration and enhancement project activities completed to date include: invasive species treatment has been completed on 154 acres at 20 SNAs; prescribed burns have been completed on 32 acres at 6 SNAs; and site development work (e.g. entry and boundary signs and site cleanup) has been done at 20 SNAs.

The SNA Facebook page has achieved over 2,100 page likes and total reach of 34,000 as of September 2015. The SNA Flickr social media channel was launched in February 2015; the site allows high quality photo sharing and with 23 members sharing over 265 photos to date. The 14th (Summer 2014) issue of the *Nature Notes* e-newsletter was delivered to over 3,500 subscribers. As of September 2015, 129 SNAs (80% of SNAs) have one or more volunteer stewards who submit regular reports on their work and findings. Regular communications are made with the stewards and SNA staff have provided site stewards (and other volunteers) with personal protective equipment to use during SNA events.

Project Status as of March 30, 2016: – cumulative results to date (since July 2014) with changes since September underlined:

Three parcels totaling 324 acres (235 acres pro-rated to this appropriation) were acquired and designated as SNA: two parcels totaling 286 acres (prorated as 225 acres for this appropriation) which became the new **Brownsville Bluff SNA** (Houston Co) and the 37 acres (prorated as 10 acres for this appropriation) which became the new **Crystal Spring SNA** (Washington Co).

Habitat restoration and enhancement project activities completed to date include: invasive species treatment has been completed on 177 acres at 27 SNAs; prescribed burns have been completed on 51 acres at 7 SNAs; and site development work (e.g. entry and boundary signs and site cleanup) has been done at 20 SNAs.

The SNA Facebook page has achieved over 2,700 page likes and total reach of over 45,200 as of January 2016. The SNA Flickr social media channel was launched in February 2015; the site allows high quality photo sharing and with 26 members sharing over 330 photos to date. The 16th (Winter 2015) issue of the *Nature Notes* e-newsletter was delivered to over 3,900 subscribers. A series of three native lady's-slippers posters were produced (2000 each), and distribution has been initiated in order to promote SNAs ("Visit the Wild Places") and Minnesota's native wildflowers. With ENRTF support from July 1, 2015 through March 15, 2015, about 82 events were held involving over 320 people. As of February 2016, 127 SNAs (78% of SNAs) have one or more volunteer stewards who submit regular reports on their work and findings. Regular communications are made with the stewards and SNA staff have provided site stewards (and other volunteers) with personal protective equipment to use during SNA events.

Project Status as of September 15, 2016 – cumulative results to date (since July 2014) with changes since March underlined:

Three parcels totaling 324 acres (240 acres pro-rated to this appropriation) were acquired and designated as SNA: two parcels totaling 286 acres (prorated as 230 acres for this appropriation) which became the new **Brownsville Bluff SNA** (Houston Co) and the 37 acres (prorated as 10 acres for this appropriation) which became the new **Crystal Spring SNA** (Washington Co).

Habitat restoration and enhancement project activities completed to date include: invasive species treatment has been completed on 215 acres at 35 SNAs; prescribed burns have been completed on 199 acres at 12 SNAs and prescribed haying on 120 acres at 2 SNAs; and site development work (e.g. entry and boundary signs and site cleanup) has been done at 27 SNAs.

The SNA Facebook page has achieved over 2,700 page likes and total reach of over 45,200 as of January 2016. The SNA Flickr social media channel was launched in February 2015; the site allows high quality photo sharing and with 26 members sharing over 330 photos to date. The 16th (Winter 2015) issue of the *Nature Notes* e-newsletter was delivered to over 3,900 subscribers. The prototype of the SNA e-guidebook (with 12 SNA sites) was published. (Subsequent electronic communications is funded and reported with the ML15 appropriation.) A series of three native lady's-slippers posters were produced (2000 each), and distribution has been initiated in order to promote SNAs ("Visit the Wild Places") and Minnesota's native wildflowers. With ENRTF support from July 1, 2015 through August 31, 2016, about 110 events were held involving over 570 people. As of September 2016, 128 SNAs (78% of SNAs) have one or more volunteer stewards (a total of 161 site stewards) who submit regular reports on their work and findings. Regular communications are made with the stewards and SNA staff have provided site stewards (and other volunteers) with personal protective equipment to use during SNA events.

Project Status as of March 15, 2017 – cumulative results to date (since July 2014)

Three parcels totaling 324 acres (240 acres pro-rated to this appropriation) were acquired and designated as SNA: two parcels totaling 286 acres (prorated as 230 acres for this appropriation) which became the new **Brownsville Bluff SNA** (Houston Co) and the 37 acres (prorated as 10 acres for this appropriation) which became the new **Crystal Spring SNA** (Washington Co). In addition, this funding contributed modest amounts towards two projects completed through the ENRTF ML15 appropriation: acquisition in fee of an addition to **Blanket Flower Prairie SNA** (Clay Co) and the new proposed **Lawrence Creek SNA** (Chisago Co).

Habitat restoration and enhancement project activities completed to date include: invasive species treatment has been completed on 342 acres at 44 SNAs; prescribed burns have been completed on 199 acres at 12 SNAs and prescribed haying on 120 acres at 2 SNAs; and site development work (e.g. entry and boundary signs and site cleanup) has been done at 37 SNAs.

The SNA Facebook page has achieved over 3,900 page likes as of February 2017. The SNA Flickr social media channel was launched in February 2015; the site allows high quality photo sharing and with 39 members sharing over 640 photos to date. The 16th (Winter 2015) issue of the *Nature Notes* e-newsletter was delivered to over 3,900 subscribers. The prototype of the SNA e-guidebook (with 12 SNA sites) was published. (Subsequent electronic communications is funded and reported with the ML15 appropriation.) A series of three native lady's-slippers posters were produced (2000 each), and distribution has been initiated in order to promote SNAs ("Visit the Wild Places") and Minnesota's native wildflowers. With ENRTF support from July 1, 2015 through February 29, 2017, about 180 events were held involving over 1670 people. As of March 2017, 131 SNAs (79% of SNAs) have one or more volunteer stewards (a total of 165 site stewards) who submit regular reports on their work and findings. Regular communications are made with the stewards and SNA staff have provided site stewards (and other volunteers) with personal protective equipment to use during SNA events.

Overall Project Outcomes and Results:

Four parcels totaling 395 acres (238 acres pro-rated to this appropriation) were acquired and designated as SNA: two parcels totaling 286 acres (225 prorated acres) became the new **Brownsville Bluff SNA** (Houston Co); 37 acre (10 prorated acres) new **Crystal Spring SNA** (Washington Co); and 72 acre (4 pro-rated acres) new **Lawrence Creek SNA** (Chisago Co).

Habitat restoration and enhancement project activities on over 1100 acres were completed including: construction of a 31-acre deer enclosure for a woodland restoration project; invasive species treatment on 442 acres at 46 SNAs; prescribed burns on 687 acres at 14 SNAs and prescribed haying on 120 acres at 2 SNAs; and site development work at 38 SNAs, plus new interpretive signs for 8 SNAs. Adaptive Management Plans were written for 9 SNAs and staff collaborated on 9 partner-led projects. Ecological inventory/monitoring of key species/ features was completed on 16 SNAs to inform or evaluate restoration and enhancement projects.

The SNA Facebook page achieved over 4,150 page likes. The SNA Flickr social media channel was launched with 42 members sharing over 675 high quality photos. *Nature Notes* e-newsletter was delivered to over 3,900 subscribers. Improvements to the SNA webpage included improved usability on mobile device, fully revised and Visiting Guidelines section of the SNA webpage and new/enhanced site descriptions. A series of three native lady's-slippers posters were developed (2000 each) and distributed to promote SNAs and Minnesota's native wildflowers. About 180 educational and natural resource management events were held involving over 1670 people. One or more volunteer site stewards help monitor and care for 131 SNAs (79% of SNAs – with a total of 165 site stewards). Regular communications are made with the stewards and SNA staff have provided site stewards (and other volunteers) with personal protective equipment to use during SNA events.

IV. PROJECT ACTIVITIES AND OUTCOMES:

ACTIVITY 1: Protection of Sites of Biodiversity Significance

Description:

The SNA Program will protect and buffer MBS-recommended sites of biodiversity significance by acquisition and SNA designation of ~240 acres. Proactive landowner contacts will be targeted at 8 high priority Conservation Opportunity Areas identified in the *SNA Strategic Land Protection Plan* (initiated through the ENRTF ML2011 appropriation), including prairie core areas in the *Minnesota Prairie Conservation Plan*, in order to cultivate landowner interest in permanent natural resource protection and SNA designation. The attached ML 2014 Acquisition/Restoration List and ML14 SNA Acquisition map series identify priority project areas for this appropriation. The DNR may request to add other qualifying sites to the list with additional MBS recommendations and changes in landowner interest, acquisition opportunity, or threats. Most acquisition will be of fee title, but if more appropriate for ongoing management and use, acquisition will be of a SNA-administered conservation easement with SNA designation.

To be acquired and designated as SNA, the site must be recommended for SNA designation in an Ecological Evaluation report which serves as the site's baseline assessment for fee acquisitions. All such sites are predominantly MBS-mapped native plant communities and contain habitat for rare species and Species of Greatest Conservation Need. In addition, SNA staff use the "*SNA Candidate Site Evaluation Guide*" (developed through the ENRTF-funded SNA strategic planning process) which incorporates criteria to rate which sites are currently pursued. Criteria include diversity and quality of the native habitat, occurrence of rare species, occurrence of native plant communities under-represented in SNA system, parcel size, location of parcel in relation to biodiversity hotspots (particularly MBS-mapped areas of outstanding and high biodiversity significance) and other conservation lands (including *SNA Strategic Land Protection Plan's* Conservation Opportunity Areas and *Minnesota Prairie Conservation Plan's* Core Areas), potential for long-term management, and additional factors (e.g. landowner readiness, urgency, and willingness to donate; degree of threat, and partnership opportunities),

Conservation easement monitoring will be done on about 9 SNA-held conservation easements. The SNA Program manages 20 conservation easements (protecting over 1510 acres within or adjoining 12 SNAs); the goal of the SNA program is to monitor each easement every 2-3 years, so through this appropriation at least 9 easements would receive a formal on-site monitoring visit with results entered into the department land records, landowners contacted, management opportunities identified, and follow-up visits conducted if needed to address issues discovered.

The SNA Strategic Plan (initiated through the ML2011 ENRTF appropriation) will continue to be updated to incorporate new MBS and other resource data into the GIS-based decision support tool software and will conduct additional scientific analysis and review to refine priorities and increase coordinated rare resource protection with partners and to implement State Wildlife Action Plan (SWAP).

About 15 biodiversity significance sites will gain additional protection and ecological-based natural resource management through establishment of Natural Area Registry (NAR) agreements overseen by the SNA Program. This will allow the Division of Ecological and Water Resources (EWR) staff to negotiate and reach agreements on SNA-like protection to be added to lands owned and managed by other public entities, such as the DNR Division of Forestry and counties who might otherwise utilize traditional timber harvest practices. Through the NAR, the primary land administrator and EWR/SNA Program enter into a NAR memorandum of understanding to manage the site to SNA standards and in coordination with EWR/SNA staff. The status of NAR agreements is confirmed by the SNA Program every 1-2 years.

Summary Budget Information for Activity 1:

ENRTF Budget: \$ 1,293,400
Amount Spent: \$ 1,288,766
Balance: \$ 4,634

Activity Completion Date: June 30, 2017

Outcome	Completion Date	Budget
1a. acquisition as SNA of ~240 acres of high quality habitat	6/30/17	\$ 1,115,400
1b. proactive landowner contact in 8 priority areas for protection	6/30/16	\$ 44,410
1c. monitoring for ~4 <u>3</u> SNA conservation easements	6/30/17	\$ 6,680
1d. SNA/rare resource protection strategic prioritization – Phase 3	6/30/16	\$ 29,750
1e. 15 Natural Area Registry agreements on biodiversity significant sites	6/30/16	\$ 98,130

Note: budget for this Activity includes \$17,420 for direct & necessary services which are prorated across all costs which are prorated across all costs except budgets for landowner payments; no direct & necessary charges are budgeted for the \$1.0M in landowner payments; actual charges will be based on actual expenditures.

Activity Status as of November 14, 2014:

1a. Acquisition: An offer has been made and accepted by the landowner to acquire the first 80 acre parcel of the proposed **Brownsville Bluff SNA** (Houston Co); an appraisal is underway to acquire the adjoining 211-acre parcel at this same site. The site contains steep bluffs covered with Southern Dry-Mesic Oak Hickory Woodland and Southern Mesic Oak-Basswood Forest, provides one of two known habitat locations for the state threatened Western Rat Snake in Minnesota, and also provides habitat for the state special concern peregrine falcon and the natural heritage tracked, but not listed Milksnake. Acquisition has also been initiated on a 38.1 acre parcel that is proposed to become the new Crystal Springs SNA (Washington Co). It contains old-growth mesic hardwood forest, white pine/oak/sugar maple/birch forest, black ash seepage swamp, groundwater seeps, pine/oak openings, dry mesic oak forest, an extensive intact herbaceous layer with special concern species and a deep gorge exposing layers of bedrock including the St. Lawrence formation with at least two seasonal waterfalls.

1b. Proactive Landowner Contacts: Staff have started to use the SNA Strategic Land Protection Plan to identify the Opportunity Areas for proactive outreach to landowners of the highest priority parcels for potential future protection as SNAs. **1c. SNA Conservation Easement Monitoring:** To date, this work is being done with the ML13 ENRTF appropriation. **1d. SNA Strategic Land Protection Plan – Phase 3:** To date, Phase 2 work is being done with the ML13 ENRTF appropriation. **1e. Natural Area Registry:** Potential NAR sites are being identified.

Activity Status as of March 12, 2015 – cumulative results to date (since July 2014):

WORK PLAN AMENDMENT APPROVED by LCCMR on 3-19-15: to move \$40,000 from personnel and \$15,000 from fee acquisition (landowner payments) to professional services for land transactions. This is needed because of much higher than normal land survey and legal description costs – this is largely due to the sites’ extreme terrain and property line and legal boundary issues. Also, expenditures are less than expected on updates to the SNA Strategic Land Protection Plan. Acquisition acreage goals will still be met.

1a. Acquisition: Acquisition of first 83.76 acre parcel of the proposed **Brownsville Bluff SNA** (Houston Co) is expected to close in late March 2015 to be acquired in full with this appropriation. The DNR has optioned the adjoining 206-acre parcel at this same site to be acquired in part or in full with this appropriation. The site contains steep bluffs covered with Southern Dry-Mesic Oak Hickory Woodland and Southern Mesic Oak-Basswood Forest, provides one of two known habitat locations for the state threatened Western Rat Snake in Minnesota, and also provides habitat for the state special concern peregrine falcon and the natural heritage tracked, but not listed Milksnake. An appraisal has been completed the 36.5 acre parcel that is proposed to become the new Crystal Springs SNA (Washington Co) that is proposed to be acquired in part with this appropriation; because of a higher than anticipated certified value for this parcel, additional funding sources are being sought including potential partner contributions and landowner donations. It contains old-growth mesic hardwood forest, white pine/oak/sugar maple/birch forest, black ash seepage swamp, groundwater seeps, pine/oak openings, dry mesic oak forest, an extensive intact herbaceous layer with special concern species and a deep gorge exposing layers of bedrock including the St. Lawrence formation with at least two seasonal waterfalls.

1b. Proactive Landowner Contacts: Staff have started to use the SNA Strategic Land Protection Plan to identify the Opportunity Areas for proactive outreach to landowners of the highest priority parcels for potential future protection as SNAs. **1c. SNA Conservation Easement Monitoring:** To date, this work is being done with the ML13 ENRTF appropriation. **1d. SNA Strategic Land Protection Plan – Phase 3:** To date, Phase 2 work is being done with the ML13 ENRTF appropriation and in conjunction with *Minnesota's Wildlife Action Plan* update. **1e. Natural Area Registry:** Staff have been identifying NAR candidate sites on lands managed by both other divisions within the Department of Natural Resources (DNR) and other government entities. Staff with responsibility for coordinating the researching and writing the NARs are being identified.

Activity Status as of May 5, 2015 *Note: only budget and acquisition related changes are noted in this update – cumulative results to date (since July 2014):*

WORK PLAN AMENDMENT APPROVED by LCCMR on 5-11-15: moved \$30,000 from Activity 3 personnel to professional services for land transactions. This is needed because of much higher than normal land survey and legal description costs first Brownsville Bluff parcel as well as the second parcel (which is proposed to have a survey completed by the low-bid contractor pending the amendment approval – this is largely due to the sites' extreme terrain and property line and legal boundary issues. Acquisition acreage goals will still be met.

1a. Acquisition: Acquisition of first 83.76 acre parcel of the proposed **Brownsville Bluff SNA** (Houston Co) closed in late March 2015 to be acquired in full with this appropriation. The DNR has optioned the adjoining 206-acre parcel at this same site to be acquired in part or in full with this appropriation. The site contains steep bluffs covered with Southern Dry-Mesic Oak Hickory Woodland and Southern Mesic Oak-Basswood Forest, provides one of two known habitat locations for the state threatened Western Rat Snake in Minnesota, and also provides habitat for the state special concern peregrine falcon and the natural heritage tracked, but not listed Milksnake. An appraisal has been completed the 36.5 acre parcel that is proposed to become the new **Crystal Spring SNA** (was previously call Crystal Springs, Washington Co) that is proposed to be acquired in part with this appropriation; because of a higher than anticipated certified value for this parcel, the DNR is partnering with The Trust for Public Land to help provide landowner coordination and funding for this acquisition. It contains old-growth mesic hardwood forest, white pine/oak/sugar maple/birch forest, black ash seepage swamp, groundwater seeps, pine/oak openings, dry mesic oak forest, an extensive intact herbaceous layer with special concern species and a deep gorge exposing layers of bedrock including the St. Lawrence formation with at least two seasonal waterfalls.

Activity Status as of September 15, 2015 – cumulative results to date (since July 2014):

1a. Acquisition: Acquisition of first 83.76 acre parcel of the proposed **Brownsville Bluff SNA** (Houston Co) was completed with designation waiting for the second parcels closing. The DNR has optioned and has county board approval of the adjoining 206-acre parcel at proposed **Brownsville Bluff SNA** (Houston Co) to be acquired by around October 2015 with this appropriation and the ML15 ENRTF appropriation (acres will be prorated). The DNR has optioned and has county board approval to acquire (in part with these funds with final acres prorated) the 36.5 acre parcel that is proposed to become the new **Crystal Spring SNA** (Washington Co; the project is expected to be acquired before the end of calendar year 2015 in cooperation with The Trust for Public Land (TPL). The DNR requested TPL's assistance and without their work resolving acquisition issues the project would not go forward. With non-state funding, TPL is handling various transaction costs and duties and will not be seeking state reimbursement for their costs. TPL has informed the DNR that they are asking for a donation from the landowner which they will report in compliance with statute. The landowner is unwilling to sell for less than full market value. The proposed funding for the landowner payment is ENRTF ML14 \$334,000, ENRTF ML15 \$566,000, and Reinvest in Minnesota (RIM) match \$400,000 – with final accomplishment acres pro-rated by funding source.

1b. Proactive Landowner Contacts: Staff have started to use the SNA Strategic Land Protection Plan to identify the Opportunity Areas for proactive outreach to landowners of the highest priority parcels for potential future protection as SNAs. Among the project areas being initiated are potential SNA on the Littlefork River, the proposed Nopeming Unconformity SNA, and an addition to Myhr Creek Woods SNA. **1c. SNA Conservation Easement Monitoring:** To date, this work is being done with the ML13 ENRTF appropriation. **1d. SNA Strategic Land Protection Plan – Phase 3:** With completion of the *Minnesota's Wildlife Action Plan* update (not funded with this appropriation), work will be resuming on the SNA plan in fall 2015. **1e. Natural Area Registry:** Staff have been identifying NAR candidate sites on lands managed by both other divisions within the Department of Natural Resources (DNR) and other government entities. Staff with responsibility for coordinating the researching and writing the NARs are being identified.

WORK PLAN AMENDMENT APPROVED by LCCMR 4-11-16: Moved \$37,242 from Activity 1 to Activity 2. Within Activity 1 decreased personal by \$34,482, decreased printing by \$1000 (to zero, no state register charges for designation), and decreased fleet/travel by \$1,760. This is because fee title acquisition under this appropriation has been completed. Also, expenditures are less than expected on updates to the SNA Strategic Land Protection Plan.

Activity Status as of March 30, 2016 – cumulative results to date (since July 2014):

1a. Acquisition: Acquisition in fee of first 76.8 acre parcel of the proposed **Brownsville Bluff SNA** (Houston Co) closed in April 2015 paid fully with this appropriation and acquisition in fee of second 209.5 acre parcel of the **Brownsville Bluff SNA** (Houston Co) closed in November 2015 with this appropriation (prorated at 147.8 acres) and the ML15 ENRTF appropriation (prorated at 61.6 acres) – see above for site description. In cooperation with the Trust for Public Land, acquisition in fee of the 38.1 acre parcel of the new **Crystal Spring SNA** (Washington Co) closed in December 2015 with this appropriation (prorated at 9.8 acres), the ML15 ENRTF appropriation (prorated at 16.6 acres), and Reinvest in Minnesota Critical Habitat Match funding (as recommended by The Nature Conservancy – prorated at 11.7 acres) – see above for site description.

1b. Proactive Landowner Contacts: Staff have started to use the SNA Strategic Land Protection Plan to identify the Opportunity Areas for proactive outreach to landowners of the highest priority parcels for potential future protection as SNAs. Among the project areas being initiated are potential SNAs on the Littlefork River, the proposed Nopeming Unconformity SNA, an addition to Myhr Creek Woods SNA, upper Minnesota River valley, Lac Qui Parle prairie area (proposed Ten Mile Prairie SNA), and a potential addition to the Butternut Prairie SNA.

1c. SNA Conservation Easement Monitoring: Monitoring work at 2 SNAs with conservation easements is in progress. The total number of easements to be monitored with this appropriation is proposed to be reduced

to 4 because of DNR policies 1) to monitor conservation easements once every three years and because most easements were monitored in 2013, and 2) to not do formal easement monitoring on easements where the DNR is also the fee title holder since staff and stewards are routinely looking after the site for other purposes, also reducing the need for easement monitoring.

1d. SNA Strategic Land Protection Plan – Phase 3: New preliminary MBS data on areas of biodiversity significance and native plant community mapping were used to complete two interim products to aid the SNA program in prioritizing land acquisition. First, an updated Minnesota Native Plant Community (NPC) Gap Analysis was completed whose products include lists (and associated GIS layers) of all MBS-mapped NPCs that are known to exist in each ecological subsection of the state (including new data in 6 subsections), mapped within SNA boundaries in each subsection, and mapped within other federal, state, and conservancy land ownerships – along their conservation status (S) rankings, biodiversity rankings, and acreage. Second, the GIS-based Marxan decision support tool was used to map priority areas for biodiversity conservation in 6 of the 7 ecological subsections in north central Minnesota missing in the Conservation Prioritization Results map of the 2014 version of the SNA Strategic Land Protection Plan. These two products will be further reviewed by scientists. In the meantime, SNA program staff are using them to evaluate current proposed acquisition projects and to identify area to target for acquisition and related outreach.

1e. Natural Area Registry: Staff have been identifying NAR candidate sites on lands managed by both other divisions within the Department of Natural Resources (DNR) and other government entities. Staff with responsibility for coordinating the researching and writing the NARs are being identified. Drafts of 2 NAR agreements have been completed.

Activity Status as of September 15, 2016 – cumulative results to date (since July 2014):

1a. Acquisition: Acquisition in fee of first 76.8 acre parcel of the **Brownsville Bluff SNA** (Houston Co) closed in April 2015 paid fully with this appropriation and acquisition in fee of second 209.5 acre parcel of the **Brownsville Bluff SNA** (Houston Co) closed in November 2015 with this appropriation (prorated at 153.5 acres) and the ML15 ENRTF appropriation (prorated at 56.0 acres) – see above for site description. In cooperation with the Trust for Public Land, acquisition in fee of the 38.1 acre parcel of the new **Crystal Spring SNA** (Washington Co) closed in December 2015 with this appropriation (prorated at 9.8 acres), the ML15 ENRTF appropriation (prorated at 16.6 acres), and Reinvest in Minnesota Critical Habitat Match funding (as recommended by The Nature Conservancy – prorated at 11.7 acres) – see above for site description.

1b. Proactive Landowner Contacts: Staff have started to use the SNA Strategic Land Protection Plan to identify the Opportunity Areas for proactive outreach to landowners of the highest priority parcels for potential future protection as SNAs. Among the project areas being initiated are potential SNAs on the Littlefork River, on the Mississippi River in northern Minnesota, on Little Mantrap Lake, Hay Creek (Goodhue Co), upper Minnesota River valley, Lac Qui Parle prairie area (proposed Ten Mile Prairie SNA), and the proposed Nopeming Unconformity SNA, as well as possible additions to Myhr Creek Ridge SNA, Butternut Prairie SNA, Cannon River Turtle Preserve SNA and Hastings SNA.

1c. SNA Conservation Easement Monitoring: Monitoring work at SNAs with conservation easements is in progress (Burntside Islands SNA). The total number of easements to be monitored with this appropriation is proposed to be reduced to 4 because of DNR policies 1) to monitor conservation easements once every three years and because most easements were monitored in 2013, and 2) to not do formal easement monitoring on easements where the DNR is also the fee title holder since staff and stewards are routinely looking after the site for other purposes, also reducing the need for easement monitoring.

1d. SNA Strategic Land Protection Plan – Phase 3: New preliminary MBS data on areas of biodiversity significance and native plant community mapping were used to complete two interim products to aid the SNA

program in prioritizing land acquisition. First, an updated Minnesota Native Plant Community (NPC) Gap Analysis was completed whose products include lists (and associated GIS layers) of all MBS-mapped NPCs that are known to exist in each ecological subsection of the state (including new data in 6 subsections), mapped within SNA boundaries in each subsection, and mapped within other federal, state, and conservancy land ownerships – along their conservation status (S) rankings, biodiversity rankings, and acreage. Second, the GIS-based Marxan decision support tool was used to map priority areas for biodiversity conservation in 6 of the 7 ecological subsections in north central Minnesota missing in the Conservation Prioritization Results map of the 2014 version of the SNA Strategic Land Protection Plan. These two products will be further reviewed by scientists. In the meantime, SNA program staff are using them to evaluate current proposed acquisition projects and to identify area to target for acquisition and related outreach.

1e. Natural Area Registry: Staff have been identifying NAR candidate sites on lands managed by both other divisions within the Department of Natural Resources (DNR) and other government entities. Staff with responsibility for coordinating the researching and writing the NARs are being identified.

WORK PLAN AMENDMENT REQUEST approved by LCCMR January 24, 2017: Moved remainder of direct and necessary funds in appropriation from all Activities to Activity 1 (totaling \$57,813) to SNA acquisition and acquisition professional services and add 2 projects to the acquisition list – proposed new Lawrence Creek SNA and proposed addition to Blanket Flower SNA. These proposed projects are already on the approved ML15 ENTRF appropriation list and by adding them to the ML14 list, their costs could be split between the 2 appropriations and accomplishments pro-rated). Acquisition of a portion of the 71.8 acres of the proposed **Lawrence Creek SNA** (Chisago County) in cooperation with the Trust for Public Land (TPL) – primarily to be paid with ML15 ENTRF appropriation, along with \$35,000 landowner donation (bargain sale), and \$35,000 in Reinvest in Minnesota funds with total acres to be pro-rated by appropriation. TPL will be reimbursed by the DNR with ENRTF funds for TPL's out-of-pocket actual professional services cost, (e.g. specifically for the appraisal, Phase 1 environmental assessment, and boundary survey). TPL is not seeking nor receiving a monetary donation to TPL for this. The Lawrence Creek site of MBS High Biodiversity Significance contains red oak-basswood forest (noncalcareous till) and S2 red pine-white pine wood land (east central bedrock) native plant communities, habitat for Louisiana waterthrush and cerulean warbler, as well as about 2.5 miles (both sides) of the Lawrence Creek designated trout stream. The proposed 13.2 acre addition to **Blanket Flower SNA** (Clay County) is predominantly dry sand-gravel prairie and habitat for the special concern species of greater prairie chicken, regal fritillary, Hill's thistle, and blanket flower. The parcel adjoins the existing SNA on 2 sites and will provide a better firebreak and additional access for site management purposes.

Project Status as of March 15, 2017 – cumulative results to date (since July 2014)

1a. Acquisition: Acquisition in fee of first 76.8 acre parcel of the **Brownsville Bluff SNA** (Houston Co) closed in April 2015 paid fully with this appropriation and acquisition in fee of second 209.5 acre parcel of the **Brownsville Bluff SNA** (Houston Co) closed in November 2015 with this appropriation (prorated at 153.5 acres) and the ML15 ENRTF appropriation (prorated at 56.0 acres) – see above for site description. In cooperation with the Trust for Public Land, acquisition in fee of the 38.1 acre parcel of the new **Crystal Spring SNA** (Washington Co) closed in December 2015 with this appropriation (prorated at 9.8 acres), the ML15 ENRTF appropriation (prorated at 16.6 acres), and Reinvest in Minnesota Critical Habitat Match funding (as recommended by The Nature Conservancy – prorated at 11.7 acres) – see above for site description. This appropriation contributed modest amounts of funding to two projects acquired primarily with the ML15 ENRTF. Acquisition in fee of the 13.2 acre addition to **Blanket Flower Prairie SNA** (Clay Co) closed in February 2017. In cooperation with the Trust for Public Land, acquisition in fee of the 71.8 acre new proposed **Lawrence Creek SNA** (Chisago Co) closed in February 2017.

1b. Proactive Landowner Contacts: Staff have used the SNA Strategic Land Protection Plan to identify the Opportunity Areas and other other key sites for proactive outreach to landowners of the highest priority parcels for potential future protection as SNAs. Among the project areas where landowners have been contacted are

potential SNAs in the Chester Hills prairie core area (Polk Co), on the Mississippi River in northern Minnesota (Itasca Co), on Green Lake (Isanti Co), Little Mantrap Lake (Hubbard Co), and Bad Medicine Lake (Becker Co), LaSalle Creek (Hubbard Co) and Hay Creek (Goodhue Co), upper Minnesota River valley, Lac Qui Parle prairie area (proposed Ten Mile Prairie SNA), as well as possible additions to Myhr Creek Ridge SNA, Butternut Prairie SNA, Cannon River Turtle Preserve SNA and Hastings SNA.

1c. SNA Conservation Easement Monitoring: Monitoring work at SNAs with conservation easements is in progress (Burntside Islands SNA, Wykoff-Balsam Fir SNA, and Chamberlain Prairie SNA. Easement monitoring is not due on other SNAs.

1d. SNA Strategic Land Protection Plan – Phase 3: New preliminary MBS data on areas of biodiversity significance and native plant community mapping were used to complete two interim products to aid the SNA program in prioritizing land acquisition. First, an updated Minnesota Native Plant Community (NPC) Gap Analysis was completed whose products include lists (and associated GIS layers) of all MBS-mapped NPCs that are known to exist in each ecological subsection of the state (including new data in 6 subsections), mapped within SNA boundaries in each subsection, and mapped within other federal, state, and conservancy land ownerships – along their conservation status (S) rankings, biodiversity rankings, and acreage. Second, the GIS-based Marxan decision support tool was used to map priority areas for biodiversity conservation in 6 of the 7 ecological subsections in north central Minnesota missing in the Conservation Prioritization Results map of the 2014 version of the SNA Strategic Land Protection Plan. This spring further refinements of these two products is being done (using additional MBS data) and for the GAP analysis additional GIS analysis and decision-making tools are being developed and reviewed. In the meantime, SNA program staff are using them to evaluate current proposed acquisition projects and to identify area to target for acquisition and related outreach.

1e. Natural Area Registry: Staff have prepared or nearly finished preparing 7 Natural Area Registry (NAR) agreements on DNR Forestry or Wildlife-administered lands using this appropriation. The information already compiled documents the site's natural resource and how they will be managed similarly to SNAs in order to conserve their important biodiversity values. At the time the sites were identified and the work was being done, the internal DNR policy was that NARs were the mechanism for the DNR to meet its Representative Sample Area (RSAs) requirements for protecting representative examples of each native plant community type under forest certification. Each of the 7 NARS prepared and the other sites intended to be done with this appropriation were to protect RSAs. In February 2017, DNR leadership decided to not to use NARs for RSAs. Therefore, none of the agreements prepared nor proposed for preparation will be signed. Also, leadership directed staff to halt all work on RSA-related NARs. This is causing the Division to examine the entire role of NARs as a land protection tool. While meaningful work was done with this appropriation which will be useful in conservation of these high quality sites, the DNR will not be able to meet the deliverable of having any signed NARs through this appropriation.

WORK PLAN AMENDMENT Request March 15, 2017: Move \$39,811 from Activity 1 to Activity 2. Within Activity 1 decrease personal by \$32,938, decrease professional services for acquisition by \$833, and decrease fleet/travel by \$16,040. This is because personnel and travel expenditures are less than expected on proactive landowner outreach, conservation easement stewardship monitoring, and natural area registry and because remaining professional services costs will also be less.

Final Report Summary: with changes since September underlined:

1a. Acquisition: Acquisition in fee of first 76.8 acre parcel of the **Brownsville Bluff SNA** (Houston Co) (LCCMR form ID 17-055-001 submitted on 8/23/17) closed in April 2015 paid fully with this appropriation and acquisition in fee of second 209.5 acre parcel of the **Brownsville Bluff SNA** (Houston Co) (LCCMR form ID 17-055-002 submitted on 8/23/17) closed in November 2015 with this appropriation (prorated at 147.8 acres) and the ML15 ENRTF appropriation (prorated at 61.6 acres) – see above for site description. In cooperation with the Trust for Public Land, acquisition in fee of the 38.1 acre parcel of the new **Crystal Spring SNA** (Washington Co) (LCCMR

form ID 17-163-001 submitted on 8/29/17) closed in December 2015 with this appropriation (prorated at 9.8 acres), the ML15 ENRTF appropriation (prorated at 16.6 acres), and Reinvest in Minnesota Critical Habitat Match funding (as recommended by The Nature Conservancy – prorated at 11.7 acres) – see above for site description. This appropriation contributed modest amounts of funding to two projects acquired primarily with the ML15 ENRTF. In cooperation with the Trust for Public Land, acquisition in fee of the 71.8 acre new **Lawrence Creek SNA** (Chisago Co) (LCCMR form ID 17-025-001 submitted on 8/30/17) closed in February 2017 (pro-rated as 3.46 acres for this appropriation). A very small amount of the transaction costs were used towards acquisition in fee of the 13.2 acre addition to **Blanket Flower Prairie SNA** (Clay Co) closed in February 2017 (no acres pro-rated to this appropriation – transaction report will be submitted with the ML15 final report).

1b. Proactive Landowner Contacts: Staff have used the SNA Strategic Land Protection Plan to identify the Opportunity Areas and other other key sites for proactive outreach to landowners of the highest priority parcels for potential future protection as SNAs. Among the project areas where landowners have been contacted are potential SNAs in the Chester Hills prairie core area (Polk Co), on the Mississippi River in northern Minnesota (Itasca Co), on Green Lake (Isanti Co), Little Mantrap Lake (Hubbard Co), and Bad Medicine Lake (Becker Co), LaSalle Creek (Hubbard Co) and Hay Creek (Goodhue Co), upper Minnesota River valley, Lac Qui Parle prairie area (proposed Ten Mile Prairie SNA), as well as possible additions to Myhr Creek Ridge SNA, Butternut Prairie SNA, Cannon River Turtle Preserve SNA, Prairie Coteau SNA, and Hastings SNA.

1c. SNA Conservation Easement Monitoring: Monitoring work at SNAs with 3 associated conservation easements was completed (Burntside Islands SNA, Wykoff-Balsam Fir SNA, and the Chamberlain Prairie adjoining the Chamberlain Woods SNA). Easement monitoring is not due on other SNAs.

1d. SNA Strategic Land Protection Plan – Phase 3: New preliminary MBS data on areas of biodiversity significance and native plant community mapping were used to complete two interim products to aid the SNA program in prioritizing land acquisition. First, an updated Minnesota Native Plant Community (NPC) Gap Analysis was completed whose products include lists (and associated GIS layers) of all MBS-mapped NPCs that are known to exist in each ecological subsection of the state (including new data in 6 subsections), mapped within SNA boundaries in each subsection, and mapped within other federal, state, and conservancy land ownerships – along their conservation status (S) rankings, biodiversity rankings, and acreage. Second, the GIS-based Marxan decision support tool was used to map priority areas for biodiversity conservation in 6 of the 7 ecological subsections in north central Minnesota missing in the Conservation Prioritization Results map of the 2014 version of the SNA Strategic Land Protection Plan. This spring further refinements of these two products was done (using additional MBS data) and for the GAP analysis additional GIS analysis and decision-making tools are being developed and reviewed. In the meantime, SNA program staff are using them to evaluate current proposed acquisition projects and to identify area to target for acquisition and related outreach.

1e. Natural Area Registry: Staff have prepared or nearly finished preparing 7 Natural Area Registry (NAR) agreements on DNR Forestry or Wildlife-administered lands using this appropriation. The information already compiled documents the site's natural resource and how they will be managed similarly to SNAs in order to conserve their important biodiversity values. At the time the sites were identified and the work was being done, the internal DNR policy was that NARs were the mechanism for the DNR to meet its Representative Sample Area (RSAs) requirements for protecting representative examples of each native plant community type under forest certification. Each of the 7 NARS prepared and the other sites intended to be done with this appropriation were to protect RSAs. In February 2017, DNR leadership decided to not to use NARs for RSAs. Therefore, none of the agreements prepared nor proposed for preparation will be signed. Also, leadership directed staff to halt all work on RSA-related NARs. This is causing the Division to examine the entire role of NARs as a land protection tool. While meaningful work was done with this appropriation which will be useful in conservation of these high quality sites, the DNR will not be able to meet the deliverable of having any signed NARs through this appropriation.

ACTIVITY 2: Native Habitat Restoration & Improvements

Description:

Native habitat restoration and site improvement activities will be completed on about 700 acres at ~25 state designated SNAs. Interpretive signs-kiosks will be developed and installed at ~5 SNAs. SNA staff will provide ecological/technical oversight and coordination for ~6 restoration or enhancement projects implemented on SNAs by partner organizations. Adaptive Management Plans will be completed for ~9 SNAs (including sites acquired through these funds).

Restoration projects will be based upon ecological restoration and management plans and/or project plans with goals for reconstructing plant communities that are native to the site based upon soils, topography, geology, and other factors necessary to sustain the plant community. Each plan includes an implementation timetable which summarizes ongoing management needs and funding. Long-term management costs (e.g. invasives treatments, prescribed fire, and monitoring/evaluation) will be covered by a combination funding sources, including, but not limited to, ENRTF, Outdoor Heritage Fund (OHF), federal grants, and other funds as appropriated. Restoration projects will be evaluated in terms of project goals and to ascertain how well the native plants have been established and non-natives controlled.

Management practices at ~12 SNAs will be monitored to identify adaptive management process improvements needed to achieve better habitat for rare species and Species of Greatest Conservation Need (SGCN). In order to facilitate long term ecological and site management monitoring and more robust and accurate accomplishment reporting, the Adaptive Management Spatial Database (AMSD) was launched with ENRTF support. Through this appropriation, another Phase of improving AMSD will be implemented to link adaptive management plans, project planning, accomplishment reporting, and monitoring. This will foster adaptive management and continuous process improvements by integrating the most current ecological and technical information with dynamic management/project plans, implementation, and monitoring.

Practices to be done under Activity 2 of this appropriation will be carried out by DNR staff-SNA crews, Conservation Corps Minnesota (CCM), Sentence to Service (STS), volunteers, and/or contractors. Practices may include seed collection, planting, invasive species control, woody encroachment removal, site clean-up, signing development and installation of interpretive kiosks, fencing (removal or installation as needed for management purposes), unpaved parking areas, visitor access-safety improvements (and associated measures to protect native habitat), prescribed burns (or alternative prescribed disturbance for ecological management purposes, such prescribed haying, mowing, browsing, or grazing, necessary for sites or conditions where use of fire is limited), management plan preparation, monitoring, and coordination-oversight of projects implemented by partners. All restoration will use seeds/plants of a local ecotype, collected from onsite or within 25 miles. Restoration and improvements of degraded and rare land features (particularly native prairie, savanna, and forest) help implement the SWAP and achieve Habitat Recommendation 5 of the SSCP. This activity and its funding will include work needed to bring up to the Department’s minimum standards those SNA parcels acquired through this funding and will include those restoration and improvements of newly acquired sites which are ecologically advisable and feasible within the appropriation period. The attached ML 2014 Acquisition/Restoration List and ML14 SNA Restoration map series identify priority sites for SNA restoration projects (plant community reconstruction) for this appropriation.

Summary Budget Information for Activity 2:

ENRTF Budget: \$ 885,400
Amount Spent: \$ 831,242
Balance: \$ 54,157

Activity Completion Date: June 30, 2017

Outcome	Completion Date	Budget
2a. ~ 1 acres of restoration of forest, prairie, & outcrop sites	6/30/17	\$ 33,300

2b. ~260 acres of woody removal & invasives species treatment	6/30/16	\$ 297,550
2c. ~490 acres of prescribed burns (or prescribed haying, mowing, browsing, or grazing)	6/30/17	\$ 95,360
2d. ~5 SNA interpretive kiosks developed/installed (~\$20K) AND development work (e.g. site clean-up, signs, fencing, unpaved parking, & visitor access-safety) at 20+ sites (~\$131K)	6/30/17	\$ 166,600
2e. ecological/technical oversight & coordination of 6 partner projects (restoration, enhancement, &/or development projects on SNAs led by non-DNR entities)	6/30/16	\$ 24,420
2f. management plans completed for ~9 SNAs	6/30/16	\$ 82,700
2g. adaptive management monitoring on ~12 SNA sites & AMSD database improvements	6/30/17	\$ 94,800

Note: total budget for this Activity includes \$43,474 for direct & necessary services which are prorated across all costs except budgets for CCM contracts; no direct & necessary charges are budgeted for the \$60K in CCM contracts; actual charges will be based on actual expenditures.

Activity Status as of November 14, 2014:

AMENDMENT APPROVED by LCCMR on 11/24/2014: Moved \$15K from Activity 3 (salary) to Activity 2 (travel/fleet) and within Activity 2 moved \$10K from salary to contracts. The increase in contract funds is for additional woody removal/ invasives work by contractors. The increase in funds for travel/fleet is needed to correct the original estimates on cover actual costs for prescribed burning truck and other fleet equipment.

2a. Restoration: Planning and site assessment work has begun for the restoration project at 1 SNA. **2b. Woody removal & Invasive Species Treatment:** Herbaceous invasives treatment has been done on ~83.8 acres at 12 SNAs and woody removal has been done on ~46.7 acres at 2 SNA. **2c. Prescribed Burning/Prescribed Disturbance:** About 2.4 miles of burn breaks were prepared at 4 SNAs and burn plans are being initiated for proposed spring 2015 prescribed burning. **2d. Development:** activities completed included: installation, repair or removal of signs (boundary or entry) at 8 SNAs, site clean-up at 1 SNA and work on parking areas at 7 SNAs. **2e. Partner Project Coordination:** Work is underway with 3 partners doing projects on 4 SNAs. **2f. Management Planning:** Staff are identifying which SNA management plans will be done by staff and which will be included in an RFP to contract their preparation. The RFP will be issued in December 2014. **2g. Ecological Monitoring & AMSD:** To date, this work is being done with the ML13 ENRTF appropriation.

Activity Status as of March 12, 2015 – cumulative results to date (since July 2014):

WORK PLAN AMENDMENT APPROVED by LCCMR on 3-19-15: move \$30,000 from contracts as follows - \$15,500 to personnel, \$5000 to equipment/tools/supplies, and \$9500 to travel (fleet) because the reptile monitoring work on SNAs can be more effectively done with DNR staff than with contractors.

WORK PLAN AMENDMENT APPROVED by LCCMR on 3-19-15: Add Wolsfeld Woods and Wood-Rill SNAs to the approved restoration list. Work on these sites is more urgent due to related erosion problems needing rehabilitation of the native plant community understory that would be done instead of work on Boot Lake.

2a. Restoration: Planning and site assessment work has begun for the restoration project at Blanket Flower Prairie SNA; pending work plan amendment higher priority work at Wolsfeld Woods and Woodrill SNAs will be initiated. **2b. Woody removal & Invasive Species Treatment:** Herbaceous invasives treatment has been done on ~83.8 acres at 12 SNAs and woody removal has been done on ~53.1 acres at 2 SNA. **2c. Prescribed Burning/Prescribed Disturbance:** About 2.4 miles of burn breaks were prepared at 4 SNAs and burn plans are being initiated for proposed spring 2015 prescribed burning. **2d. Development:** activities completed included: installation, repair or removal of signs (boundary or entry) at 9 SNAs, site clean-up at 1 SNA and work on parking

areas at 7 SNAs. **2e. Partner Project Coordination:** Work is underway with at 6 SNAs (Rice Lake Savanna, Twin Lakes, Pine Bend Bluffs, Grey Cloud Dunes, Hastings Sand Coulee, and Savage Fen) with 5 partners (Great River Greening, Friends of Mississippi River, FMR, City of Savage, Dakota County, and Shakopee Mdewakanton Sioux).

2f. Management Planning: Adaptive Management Plan (AMP) priorities have been identified for both DNR staff written plans and contractor written plans. Staff written AMPs are in the early stages of research and development. Contractor written AMPs have been identified, a RFP was posted and bids received for writing services. Bid review, scoring and contractor selections and contract negotiations in progress.

2g. Ecological Monitoring & AMSD: Spring-summer field season work is being planned to monitor snakes and other reptiles at targeted SNAs in the Minnesota River Valley and southeastern Minnesota (including the proposed Brownsville Bluff SNA, Rushford Sand Barrens SNA, Hastings Sand Coulee SNA, and partial funding of another phase of work at Kellogg-Weaver Dunes SNA)

Activity Status as of September 15, 2015 – cumulative results to date (since July 2014):

2a. Restoration: Planning and site assessment work has begun for the restoration project at Blanket Flower Prairie SNA; specifications and implementation timeline are being prepared for restoration work Wolsfeld Woods and Woodrill SNAs will be initiated. **2b. Woody removal & Invasive Species Treatment:** Herbaceous invasives treatment has been done on ~93.0 acres at 19 SNAs and woody removal has been done on ~61.2 acres at 4 SNA. **2c. Prescribed Burning/Prescribed Disturbance:** About 4.2 miles of burn breaks were prepared at 7 SNAs and prescribed burns were completed on 32.0 acres at 6 SNAs. **2d. Development:** activities completed included: installation, repair or removal of signs (boundary or entry) at 9 SNAs, site clean-up at 3 SNAs and work on parking areas at 8 SNAs. The design of interpretive signs for 2 SNAs has been initiated. **2e. Partner Project Coordination:** Work is underway with at 6 SNAs (Rice Lake Savanna, Twin Lakes, Pine Bend Bluffs, Grey Cloud Dunes, Hastings Sand Coulee, and Savage Fen) with 5 partners (Great River Greening, Friends of Mississippi River-FMR, City of Savage, Dakota County, and Shakopee Mdewakanton Sioux).

2f. Management Planning: Adaptive Management Plan (AMP) priorities have been identified for both DNR staff written plans and contractor written plans. Staff written AMPs are in the early stages of research and development. Contractor written AMPs have been identified, a RFP was posted and bids received for writing services. Bid review, scoring and contractor selections and contract negotiations in progress.

2g. Ecological Monitoring & AMSD: The 2015 field season work focused on developing a monitoring initiative of five-lined skinks at Swede's Forest SNA and Blue Devil Valley SNA in the upper Minnesota River valley. Cover objects (metal and wood) were prepared and distributed in transects which included a variety of parameters including vegetative cover and presence of rock. Skinks have been documented within transects utilizing both types of cover objects. Results of this effort will assist in future management of sites with populations of five-lined skinks. In addition, searches were conducted for skinks at additional SNAs within the Minnesota River valley and in southeastern Minnesota.

WORK PLAN AMENDMENT APPROVED by LCCMR 4-11-16: Moved \$37,242 from Activity 1 to Activity 2. Within Activity 2, increased salary by \$5,724, increased contracts by \$18,000, increased supplies \$6,500, add \$2,500 for printing (for interpretive sign fabrication), and increased fleet/travel by \$22,780. These changes are needed to achieve proposed ecological monitoring and to assure that restoration and enhancement deliverables are met.

Activity Status as of March 15, 2016 – cumulative results to date (since July 2014):

2a. Restoration: Planning and site assessment work has begun for the restoration project at Blanket Flower Prairie SNA; specifications and implementation timeline are being prepared for restoration work Wolsfeld Woods and Woodrill SNAs will be initiated.

2b. Woody removal & Invasive Species Treatment: Herbaceous invasives treatment has been done on ~95.0 acres at 23 SNAs; woody removal has been done on ~82.4 acres at 8 SNA; and invasive species boot brush-information kiosks were installed at 2 SNAs.

2c. Prescribed Burning/Prescribed Disturbance: About 5.6 miles of burn breaks were prepared at 7 SNAs and prescribed burns were completed on 50.5 acres at 7 SNAs.

2d. Development: activities completed included: installation, repair or removal of signs (boundary or entry) at 11SNAs; installation or repair of fencing necessary to protect natural features at 2 SNAs; site clean-up at 3 SNAs; and work on parking, road or trail areas at 11 SNAs. The design of interpretive signs for 2 SNAs has been initiated.

2e. Partner Project Coordination: Work is underway with at 6 SNAs (Rice Lake Savanna, Twin Lakes, Pine Bend Bluffs, Grey Cloud Dunes, Hastings Sand Coulee, and Savage Fen) with 5 partners (Great River Greening, Friends of Mississippi River-FMR, City of Savage, Dakota County, and Shakopee Mdewakanton Sioux).

2f. Management Planning: Nine staff written Adaptive Management Plan (AMP) AMPs are in progress, with three of these plans in final review. The contractor-written plans through the last RFP was all funded through the ML13 ENRTF appropriation; whether this appropriation will be used for an upcoming RFP is being determined.

2g. Ecological Monitoring & AMSD: The 2015 field season work focused on developing a monitoring initiative of five-lined skinks at Swede's Forest SNA and Blue Devil Valley SNA in the upper Minnesota River valley. Cover objects (metal and wood) were prepared and distributed in transects which included a variety of parameters including vegetative cover and presence of rock. Skinks have been documented within transects utilizing both types of cover objects. Results of this effort will assist in future management of sites with populations of five-lined skinks. In addition, searches were conducted for rare lizards (skinks and racerunners) and several species of rare snakes at Rushford Sand Barrens SNA (Fillmore Co) and Brownsville Bluff SNA (Houston Co).

Monitoring projects in cooperation with DNR Nongame Wildlife, Minnesota Biological Survey, and/or EWR Conservation Management and Rare Resources Unit are being planned to be funded all or in part with this appropriation as follows:

- Eastern hemlock (endangered species) baseline population and habitat survey (at Hemlock Ravine SNA) will evaluate the feasibility of hemlock restoration, inform exclosure placement/management, invasive species treatment, erosion control, and future research – funded fully with this appropriation;
- A more detailed study of rare snake hibernaculum at Brownsville Bluff SNA will gather information on snake dispersion and habitat utilization in order to inform habitat management and snake protection measures and inform future research needs – funded fully with this appropriation;
- An expanded Minnesota River reptile survey (at Blue Devil, Gneiss Outcrops, Swedes Forest, Cedar Rock, Morton Outcrops, Cedar Mountain, and proposed River Warren SNAs) is intended to increase site-specific information on the distribution, habitat use, and movements of five-lined skinks, gophersnakes/bullsnakes, and plains hog-nosed snakes in order to improve guidance on preferred timing and degree of woody removal, preferred size and placement of brushpiles, and timing of burning associated with reptile activity – 2016 work with this appropriation, 2017 work with the ML15 appropriation;
- Small white lady's slipper survey (at Santee Prairie SNA) will gather baseline data on population locations, conditions, etc. in order to determine impacts to plants of prescribed burning and lack of fire (this data will also be compared to data collected with other funding for an adjoining grazed WMA) – 2016 work with this appropriation, 2017 work with the ML15 appropriation;
- Calcareous fen vegetation monitoring (at Savage Fen SNA) is intended to determine if a prescribed burn enhances the calcareous fen plant community (including populations of small white lady's slipper) – pre-burn baseline assessment with this appropriation, and burn characteristics and post-burn assessment with the ML15 appropriation.

- Survey of the federally-listed prairie bush clover (at the Prairie Bush Clover SNA) in order to help inform prescribed fire and other management activities – 2016 work with this appropriation, 2017 work with the ML15 appropriation;
- Prairie status and trends bird monitoring in the 2016 field season (at Langhei Prairie, Prairie Coteau, and Santee Prairie) –will be funded by this appropriation. This is a continuation of the ongoing prairie monitoring work initiated in the ML2008 Accelerated Prairie ENRTF appropriation and continued with subsequent SNA ENRTF appropriations and through federal State Wildlife Grant funding.

Improvements in the Adaptive Management Spatial Database (AMSD) are underway which will improve its usability.

Project Status as of September 15, 2016 – cumulative results to date (since July 2014):

2a. Restoration: Seed collection has been initiated for the restoration project at Wolsfeld Woods SNA. Target outcome acres for this deliverable must be reduced because several key projects have been delayed such that restoration projects cannot be completed under this appropriation; the overall target of native habitat restoration and site improvement activities on 700 acres is still expected to be reached. Restoration work at Bonanza Prairie SNA will be deferred to a future appropriation due to 1) inability to harvest seed due to DNR vacancies and distance of this site from the SNA office and 2) its lower priority because the site already has perennial vegetative cover and focus has shifted to farmed plots needing restoration. Restoration work at Blanket Flower Prairie SNA will be deferred to a future appropriation because of difficulty in harvesting seed due to site constraints and cooperator availability.

2b. Woody removal & Invasive Species Treatment: Herbaceous invasives treatment has been done on ~131.7 acres at 27 SNAs (including CCM at 1 SNA); woody removal has been done on ~83.3 acres at 8 SNA (including CCM at 1 SNA); and invasive species boot brush-information kiosks were installed at 2 SNAs.

2c. Prescribed Burning/Prescribed Disturbance: About 5.6 miles of burn breaks were prepared at 9 SNAs and prescribed burns were completed on 198.7 acres at 12 SNAs (including CCM at 5 SNAs) and prescribed haying has been completed on 119.7 acre at 2 SNAs.

2d. Development: activities completed included: installation, repair or removal of signs (boundary or entry) at 18 SNAs; installation or repair of fencing necessary to protect natural features at 2 SNAs; site clean-up at 3 SNAs; and work on parking, road or trail areas at 16 SNAs. The design of interpretive signs for 2 SNAs has been initiated.

2e. Partner Project Coordination: Work is underway with at 6 SNAs (Rice Lake Savanna, Twin Lakes, Pine Bend Bluffs, Grey Cloud Dunes, Hastings Sand Coulee, and Savage Fen) with 5 partners (Great River Greening, Friends of Mississippi River-FMR, City of Savage, Dakota County, and Shakopee Mdewakanton Sioux).

2f. Management Planning: Nine staff written Adaptive Management Plan (AMP) AMPs are in progress, with 4 of these plans in regional review. The contractor-written plans through the last RFP was all funded through the ML13 ENRTF appropriation; whether this appropriation will be used for an upcoming RFP is being determined.

2g. Ecological Monitoring & AMSD: The 2015 field season work focused on developing a monitoring initiative of five-lined skinks at Swede's Forest SNA and Blue Devil Valley SNA in the upper Minnesota River valley. Cover objects (metal and wood) were prepared and distributed in transects which included a variety of parameters including vegetative cover and presence of rock. Skinks have been documented within transects utilizing both types of cover objects. Results of this effort will assist in future management of sites with populations of five-lined skinks. In addition, searches were conducted for rare lizards (skinks and racerunners) and several species of rare snakes at Rushford Sand Barrens SNA (Fillmore Co) and Brownsville Bluff SNA (Houston Co).

Monitoring projects in cooperation with DNR Nongame Wildlife, Minnesota Biological Survey, and/or EWR Conservation Management and Rare Resources Unit are being planned to be funded all or in part with this appropriation as listed above – status updates or results will be provided in the next work plan update (after completion of the 2016 field season).

WORK PLAN AMENDMENT APPROVED September 19, 2016: Moved \$10,000 from Contract- IT Services to personnel because the database project management functions will be done by division staff (unclassified staff whose appointment would otherwise be ending) rather than to MNIT (which does not provide these services). This position will assure that new database features provide the most useful software tools to improve integration of rare feature data into on-the-ground management decisions.

WORK PLAN AMENDMENT APPROVED by LCCMR January 23, 2017: Moved remainder of direct and necessary funds in appropriation from Activity 2 to Activity 1.

Project Status as of March 15, 2017 – cumulative results to date (since July 2014):

2a. Restoration: Target outcome acres for this deliverable must be reduced because several key projects have been delayed such that restoration projects cannot be completed under this appropriation; the overall target of native habitat restoration and site improvement activities on 700 acres is still expected to be reached. Restoration work at Bonanza Prairie SNA will be deferred to a future appropriation due to 1) inability to harvest seed due to DNR vacancies and distance of this site from the SNA office and 2) its lower priority because the site already has perennial vegetative cover and focus has shifted to farmed plots needing restoration. Restoration work at Blanket Flower Prairie SNA will be deferred to a future appropriation because of difficulty in harvesting seed due to site constraints and cooperator availability. Pending the work plan amendment, restoration-related work will be done at LaSalle Lake SNA.

2b. Woody removal & Invasive Species Treatment: Herbaceous invasives treatment has been done on ~161.2 acres at 36 SNAs (including CCM at 1 SNA); woody removal has been done on ~180.4 acres at 8 SNA (including CCM at 2 SNAs); and invasive species boot brush-information kiosks were installed at 2 SNAs.

2c. Prescribed Burning/Prescribed Disturbance: About 5.6 miles of burn breaks were prepared at 9 SNAs and prescribed burns were completed on 198.7 acres at 12 SNAs (including CCM at 5 SNAs) and prescribed haying has been completed on 119.7 acre at 2 SNAs.

2d. Development: Activities completed included: installation, repair or removal of signs (boundary or entry) at 25 SNAs; installation or repair of fencing necessary to protect natural features at 2 SNAs; site clean-up at 3 SNAs; and work on parking, road or trail areas at 13 SNAs. Production of interpretive signs for 5 SNAs has been initiated.

2e. Partner Project Coordination: Work is underway with at 9 SNAs (Rice Lake Savanna, Twin Lakes, Pine Bend Bluffs, Grey Cloud Dunes, Hastings Sand Coulee, Hastings, Savage Fen, Boot Lake, and Minnesota Point Pine Forest) with 5 partners (Great River Greening, Friends of Mississippi River-FMR, City of Savage, Dakota County, Shakopee Mdewakanton Sioux, Anoka County SWCD, and the City of Duluth). In addition partnership work is being done that will lead to better prescribed burning protocols at Felton Prairie SNA related to the Dakota skipper recovery being led by the Minnesota Zoo and involving various programs in the DNR and The Nature Conservancy .

2f. Management Planning: Nine staff written Adaptive Management Plan (AMP) AMPs are various staged of development with three are in final review. The contractor-written plans through the last RFP was all funded through the ML13 ENRTF appropriation.

2g. Ecological Monitoring & AMSD: Monitoring projects in cooperation with DNR Nongame Wildlife, Minnesota Biological Survey, and/or EWR Conservation Management and Rare Resources Unit work completed or underway funded all or in part with this appropriation as follows. Minimal upgrades were made to the Adaptive Management Spatial Database that could be done by EWR staff rather than through a MNIT service level agreement (SLA) since a person to be a limited-time project manager for a MNIT SLA could not be secured.

- The baseline population and habitat survey at Hemlock Ravine SNA for eastern hemlock (endangered species) was completed in 2016 with this appropriation. The SNA contains the largest population of eastern hemlock on state-owned lands in Minnesota. A report with tree location and growth data, maps, and management recommendations was completed by an MBS field staff person doing this work as a special assignment. The information provided in the report will be used guide management actions at the SNA such as invasives species treatments, exclosure placements, and possible hemlock restoration.
- Searches were conducted in 2015 for rare lizards (skinks and racerunners) and several species of rare snakes at Rushford Sand Barrens SNA (Fillmore Co) and Brownsville Bluff SNA (Houston Co).
- A more detailed study of western ratsnake hibernaculum at Brownsville Bluff SNA was conducted in the 2016 field season including searches, pit tagging, and trail-camera detection. Search sites were mapped, identifying suitable snake habitat. Results with the trail camera had 5% of the time-lapse images showing snakes in 29 instances. Cover objects detected two other snake species on the site.
- The expanded Minnesota River reptile survey (at Blue Devil and Swedes Forest in 2015-16 and at also at Gneiss Outcrops, Cedar Rock, Morton Outcrops, and Cedar Mountain in 2016) increased site-specific information on the distribution, habitat use, and movements of common five-lined skinks and other reptiles in order to inform management work. This work was also funded in part through the Nongame Wildlife Fund and will be expanded in summer 2017 until July 1 with this appropriation and after July 1 with the SNA's ML15 ENRTF appropriation. Based on results and analysis of 2016 data and supporting literature, preliminary management recommendations for site's skink populations include:
 - Maximize the number of areas with >25% bare rock cover (including removing or preventing woody shrubs);
 - Do not remove or destroy down woody debris (particularly hardwood debris, especially oak) and increase its volume where possible while maintaining >25% bare rock cover ; and
 - Maintain an overall relatively open canopy within and adjacent to rock outcrops, but also maintain some patches of trees and scattered individual trees (e.g. savanna) to provide important refuge and cover.
- The small white lady's slipper survey at Santee Prairie SNA is nearly complete to gather baseline data on population locations, conditions, etc. in order to determine impacts to plants of prescribed burning and lack of fire. This appropriation funded most of the 2016 field work which spatially mapped the extent of small white lady's throughout most of the SNA, collected phenological observations of small white lady's slippers, and documented habitat conditions of the site through the fall growing season on the SNA. The contractor compared these observations to similar areas on the neighboring grazed Wambach WMA. One more site visit will be done this spring with this appropriation to complete the initial mapping.
- Calcareous fen vegetation monitoring (at Savage Fen SNA) is intended to determine if a prescribed burn enhances the calcareous fen plant community (including populations of small white lady's slipper). The pre-burn baseline assessment was completed with this appropriation and the post-burn assessment is proposed with the ML15 appropriation. The contractor established twelve (12) permanent fire monitoring plots to examine fire effects on native and invasive species including rare plants and communities at Savage Fen SNA. Plot data collected and reported included plant species present and photo point documentation.
- The federally-listed threatened prairie bush clover (at the Prairie Bush Clover SNA) was monitored in 2016 (paid in part with this appropriation and partly with federal funds). The monitoring plots fall within different management regimes (prescribed fire, woody removal, both, or neither) and may help provide evidence that one treatment regimen is better and lead to a more in-depth study of how management impacts on the species on this and other SNAs.
- Prairie status and trends bird monitoring in the 2016 field season at Langhei Prairie, Prairie Coteau, and Santee Prairie was completed with this appropriation and State Wildlife Grant. This is a continuation of the ongoing prairie monitoring work initiated in the ML2008 Accelerated Prairie ENRTF appropriation

and continued with subsequent SNA ENRTF appropriations and through federal State Wildlife Grant funding.

- Biotic inventory surveys were completed for Iona's Beach (Lake Co), Sugarloaf Point (Cook Co), and Hemlock Ravine (Carlson Co) SNAs.

WORK PLAN AMENDMENT Request March 15, 2017: Move \$39,811 from Activity 1 to Activity 2; and move \$9,733 from Activity 3 to Activity 2. Within Activity 2, increase salary by \$4,358, increased contracts by \$28,400, decrease the IT services contract by \$10,000 (zero out), decrease supplies \$7,214, add \$300 more for printing (for interpretive sign fabrication), and increased fleet/travel by \$33,700. These changes are the best strategy to expend the balance of the appropriation on additional prescribed burning, invasives control, and ecological monitoring and to implement the LaSalle Lake SNA restoration work listed below.

WORK PLAN AMENDMENT Request March 15, 2017: Add to the parcel list restoration of up to 80 acres at LaSalle Lake SNA (Hubbard Co). This site at the confluence of LaSalle Creek and the Mississippi River was acquired in 2010 and protected in part because it contained a critically imperiled (S1-S2 ranked) jack pine woodland plant community. In 2011, the site suffered a serious natural blow down event. Limited restoration work has been undertaken with other funding. An enclosure (which also requires a cultural resources risk evaluation) is proposed with expiring ML14 ENRTF funding to better protect young pine from deer browse. *Note this addition was intended to be included in the January amendment and was referenced in the ML15 January amendment*

Final Report Summary: with changes since March underlined:

2a. Restoration: Target outcome acres for this deliverable must be reduced because several key projects have been delayed such that restoration projects cannot be completed under this appropriation; the overall target of native habitat restoration and site improvement activities on 700 acres is still expected to be reached. Restoration work at Bonanza Prairie SNA will be deferred to a future appropriation due to 1) inability to harvest seed due to DNR vacancies and distance of this site from the SNA office and 2) its lower priority because the site already has perennial vegetative cover and focus has shifted to farmed plots needing restoration. Restoration work at Blanket Flower Prairie SNA will be deferred to a future appropriation because of difficulty in harvesting seed due to site constraints and cooperator availability. A 10' tall deer enclosure nearly a mile in length enclosing a 31-acre jack pine woodland restoration at LaSalle Lake SNA was constructed (about 2/3's with this appropriation and the remainder with ML15 appropriation – see the Evaluation of ENRTF Restoration Project report for more details).

2b. Woody removal & Invasive Species Treatment: Herbaceous invasive species treatment has been done on ~343.3 acres at 54 SNAs (including CCM at 4 SNAs); woody removal has been done on ~261.3 acres at 17 SNAs (including CCM at 6 SNAs); and invasive species boot brush-information kiosks were installed at 2 SNAs.

2c. Prescribed Burning/Prescribed Disturbance: About 6.8 miles of burn breaks were prepared at 9 SNAs and prescribed burns were completed on 686.7 acres at 14 SNAs (including CCM at 5 SNAs) and prescribed haying has been completed on 119.7 acre at 2 SNAs.

2d. Development: Activities completed included: installation, repair or removal of signs (boundary or entry) at 27 SNAs (including CCM work at 6 SNAs); installation or repair of fencing necessary to protect natural features at 2 SNAs; site clean-up at 4 SNAs; and work on parking, road or trail areas at 13 SNAs. Twelve interpretive signs for 8 SNAs were designed and produced.

2e. Partner Project Coordination: Work was done at 9 SNAs (Rice Lake Savanna, Twin Lakes, Pine Bend Bluffs, Grey Cloud Dunes, Hastings Sand Coulee, Hastings, Savage Fen, Boot Lake, and Minnesota Point Pine Forest) with 5 partners (Great River Greening, Friends of Mississippi River-FMR, City of Savage, Dakota County,

Shakopee Mdewakanton Sioux, Anoka County SWCD, and the City of Duluth). In addition partnership work is being done that will lead to better prescribed burning protocols at Felton Prairie SNA related to the Dakota skipper recovery being led by the Minnesota Zoo and involving various programs in the DNR and The Nature Conservancy .

2f. Management Planning: Nine staff written Adaptive Management Plan (AMP) AMPs were substantially completed through this appropriation. Seven AMPs were fully completed and two AMPS are in final review due to a key author leaving state service. The contractor-written plans through the last RFP was all funded through the ML13 ENRTF appropriation.

2g. Ecological Monitoring & AMSD: Monitoring projects in cooperation with DNR Nongame Wildlife, Minnesota Biological Survey, and/or EWR Conservation Management and Rare Resources Unit work completed or underway funded all or in part with this appropriation as follows. Minimal upgrades were made to the Adaptive Management Spatial Database that could be done by EWR staff rather than through a MNIT service level agreement (SLA) since a person to be a limited-time project manager for a MNIT SLA could not be secured.

- The baseline population and habitat survey at Hemlock Ravine SNA for eastern hemlock (endangered species) was completed in 2016 with this appropriation. The SNA contains the largest population of eastern hemlock on state-owned lands in Minnesota. A report with tree location and growth data, maps, and management recommendations was completed by an MBS field staff person doing this work as a special assignment. The information provided in the report will be used guide management actions at the SNA such as invasives species treatments, exclosure placements, and possible hemlock restoration.
- Searches were conducted in 2015 for rare lizards (skinks and racerunners) and several species of rare snakes at Rushford Sand Barrens SNA (Fillmore Co) and Brownsville Bluff SNA (Houston Co).
- A more detailed study of western ratsnake hibernaculum at Brownsville Bluff SNA was conducted in the 2016 field season including searches, pit tagging, and trail-camera detection. Search sites were mapped, identifying suitable snake habitat. Results with the trail camera had 5% of the time-lapse images showing snakes in 29 instances. Cover objects detected two other snake species on the site.
- The expanded Minnesota River reptile survey (at Blue Devil and Swedes Forest in 2015-16 and at also at Gneiss Outcrops, Cedar Rock, Morton Outcrops, and Cedar Mountain in 2016) increased site-specific information on the distribution, habitat use, and movements of common five-lined skinks and other reptiles in order to inform management work. This work was also funded in part through the Nongame Wildlife Fund and was extended through summer 2017 until July 1 with this appropriation and after July 1 with the SNA's ML15 ENRTF appropriation. Based on results and analysis of 2016 data and supporting literature, preliminary management recommendations for site's skink populations include:
 - Maximize the number of areas with >25% bare rock cover (including removing or preventing woody shrubs);
 - Do not remove or destroy down woody debris (particularly hardwood debris, especially oak) and increase its volume where possible while maintaining >25% bare rock cover ; and
 - Maintain an overall relatively open canopy within and adjacent to rock outcrops, but also maintain some patches of trees and scattered individual trees (e.g. savanna) to provide important refuge and cover.
- The small white lady's slipper survey at Santee Prairie SNA was completed to gather baseline data on population locations, conditions, etc. in order to determine impacts to plants of prescribed burning and lack of fire. This appropriation funded most of the 2016 field work (and some follow-up in spring 2017) which spatially mapped the extent of small white lady's throughout most of the SNA, collected phenological observations of small white lady's slippers, and documented habitat conditions of the site through the fall growing season on the SNA. The contractor compared these observations to similar areas on the neighboring grazed Wambach WMA.
- Calcareous fen vegetation monitoring (at Savage Fen SNA) is intended to determine if a prescribed burn enhances the calcareous fen plant community (including populations of small white lady's slipper). The

pre-burn baseline assessment was completed with this appropriation and the post-burn assessment is proposed with the ML15 or ML16 appropriation. The contractor established twelve (12) permanent fire monitoring plots to examine fire effects on native and invasive species including rare plants and communities at Savage Fen SNA. Plot data collected and reported included plant species present and photo point documentation. Brush removal (which will proceed planned prescribed fire) is now scheduled for winter 2017-18 (with other funding).

- The federally-listed threatened prairie bush clover (at the Prairie Bush Clover SNA) was monitored in 2016 (paid in part with this appropriation and partly with federal funds). The monitoring plots fall within different management regimes (prescribed fire, woody removal, both, or neither) and may help provide evidence that one treatment regimen is better and lead to a more in-depth study of how management impacts on the species on this and other SNAs.
- Prairie status and trends bird monitoring in the 2016 field season at Langhei Prairie, Prairie Coteau, and Santee Prairie was completed with this appropriation and State Wildlife Grant. This is a continuation of the ongoing prairie monitoring work initiated in the ML2008 Accelerated Prairie ENRTF appropriation and continued with subsequent SNA ENRTF appropriations and through federal State Wildlife Grant funding.
- Biotic inventory surveys were completed for Iona’s Beach (Lake Co), Sugarloaf Point (Cook Co), and Hemlock Ravine (Carlson Co) SNAs.

ACTIVITY 3: Public Engagement in Natural Areas

Description:

The third phase of the SNA Outreach Initiative will engage residents, students, and other interested people in ecological recreation, stewardship, and education activities on SNAs. The site steward network will be sustained with volunteer stewards for at least 110 SNAs. Ecological and safety training, guidance, and support materials will be provided for site stewards as necessary to recruit and retain these volunteers and ensure their work on SNAs is safe and ecologically appropriate. About 50 events will be sponsored, co-sponsored or coordinated, including volunteer site restoration and management work days and recreation-educational events (guided nature hikes, birding visits, botanizing, citizen-science activities, etc) aimed at building long-lasting and action-based conservation ethics in the community. The key to engaging people in nature-based events and recruiting, training, supporting SNA site stewards and volunteers is to have a dispersed network of professional naturalists leading this work for the SNA Program. This appropriation makes this possible by funding the SNA-dedicated portions of naturalists shared with State Parks across the state. The effectiveness of site steward recruitment and retention, expansion of participation in SNA events, and other SNA outreach tools will be evaluated, including measuring progress towards meeting the Department’s *Conservation That Works* Goal 2.

New or refined electronic/social media communications tools will be developed and disseminated to increase and enhance recreationist’s use of SNAs. Additional visitor features will be added to the SNA web page, such as additional online site maps with topography, plant communities, and facilities. Postings of events, news, and images will be increased on the new SNA Facebook (launched in 2014 with ENRTF ML12-13 support) and Tweets may be initiated on the DNR Twitter site. The e-book version of the SNA guidebook for visitors (initiated through the ENRTF ML2013 appropriation) will continue to be updated with new sites and new information, including site specific interactive maps, video and audio tracks. Accomplishments under this Activity will be increased and enhanced through a proposed CCM worker dedicated to SNA outreach.

Summary Budget Information for Activity 3:

ENRTF Budget: \$ 361,200
Amount Spent: \$ 350,992
Balance: \$ 10,208

Activity Completion Date: June 30, 2017

Outcome	Completion Date	Budget
3a. SNA website, e-book, & social media enhancements	6/30/16	\$ 162,450
3b. ~50 volunteer events (site management work days & rec.-ed.	6/30/16	\$ 143,870

events)		
3c. network of about 110 volunteer site stewards	6/30/16	\$ 144,530

Note: total budget for this Activity includes \$24,603 for direct & necessary services which are prorated across all costs except budgets for CCM contracts; no direct & necessary charges are budgeted for the \$35K in CCM contracts; actual charges will be based on actual expenditures.

Activity Status as of November 15, 2014:

AMENDMENT APPROVED by LCCMR on 11/24/2014: moved \$15K from Activity 3 (personnel) to Activity 2 (travel/fleet). This will not impact achieving the deliverables under this Activity; the change is possible because the person in the shared State Parks-SNA Naturalist position (supported in part by this appropriation) left the position which is now being held vacant by DNR Parks for their own reasons.

Work with site stewards has been initiated under this appropriation. Accomplishments related to this activity through December 2014 will be reported under the ML13 ENRTF appropriation.

Activity Status as of March 12, 2015 – cumulative results to date (since July 2014)

Work with site stewards has been initiated under this appropriation. Accomplishments related to this activity to date were reported under the ML13 ENRTF appropriation except as listed here. Work with this appropriation includes a dragonfly workshop and volunteer survey led by a contractor was held at Blanket Flower Prairie.

WORK PLAN AMENDMENT APPROVED by LCCMR on 5-11-15: moved \$30,000 from Activity 3 personnel to professional services for land transactions.

Activity Status as of September 15, 2015: – cumulative results to date (since July 2014)

3a. Communications tools: The SNA Facebook page has achieved over 2,100 page likes and total reach of 34,000 as of September 2015. The SNA Flickr social media channel was launched in February 2015; the site allows high quality photo sharing and with 23 members sharing over 265 photos to date. The 14th (Summer 2014) issue of the *Nature Notes* e-newsletter was delivered to over 3,500 subscribers. Improvements to the SNA webpage include conversion of slideshows for each site from Flash to Javascript in order to improve usability on mobile devices; the program webpages are also being totally rewritten.

3b. Events: Educational and interpretive events done through this appropriation include: a dragonfly workshop and volunteer survey led by a contractor was held at Blanket Flower Prairie; and several SW Minnesota SNAs had contractor or partner organized events (fliers for these previously sent to LCCMR).

3c: Site Stewards: As of September 2015, 129 SNAs (80% of SNAs) have one or more volunteer stewards who submit regular reports on their work and findings. Regular communications are made with the stewards and SNA staff have provided site stewards (and other volunteers) with personal protective equipment to use during SNA events.

WORK PLAN AMENDMENT APPROVED by LCCMR 4-11-16: Moved \$18,280 from Activity 3 to Activity 2. Within Activity 3, decreased salary by \$22,193, increased contracts by \$3,900, decreased supplies \$3,200, increased printing by \$813, and increase fleet/travel by \$2,400. Activity 3 deliverables will still be met and this will help assure that Activity 2 deliverables are met.

Activity Status as of March 15, 2016 – cumulative results to date:

3a. Communications tools: The SNA Facebook page has achieved over 2,700 page likes by late February 2016 and total reach of 45,207 as of January 2016. A very successful post on #WildlifeWednesday achieved a one-time reach of 10,464 on December 2, 2015. The “Facebook metrics Recap of the Last 3 Months (Oct 1, 2015 – Dec 31, 2015)” and “Facebook metrics Recap of the Last 3 Months (July 1, 2015 – Sept 30, 2015)” are attached. The SNA Flickr social media channel was launched in February 2015; the site allows high quality photo sharing and with 26 members sharing over 330 photos as of February 2016 – a “Mn SNAs Flickr Group Photos – 1 Year Report” is attached. The 16th (Winter 2015) issue of the *Nature Notes* e-newsletter was delivered to over 3,900

subscribers. Improvements to the SNA webpage include conversion of slideshows for each site from Flash to Javascript in order to improve usability on mobile devices; the program webpages are also being totally rewritten – with the Visiting Guidelines section in final revision. A series of three native lady’s-slippers posters were designed, printed (2000 each), and distribution has been initiated in order to promote SNAs (“Visit the Wild Places”) and Minnesota’s native wildflowers. Data and feedback were obtained from people seeking the first released copies of the 1st poster – “Poster Promotion #1” Results is attached. Final steps are underway to publish the prototype of the SNA e-guidebook.

3b. Events: With ENRTF support from July 1, 2015 through March 15, 2016, about 82 events were held involving over 320 people. Events since July 2015 have included: wild bee, wildflower, and prairie hike at Bluestem Prairie SNA; a history and ecology hike at the Lost 40 SNA; a peatland class at Lost Lake Peatland SNA; junior naturalist activities including exploring animal tracks, bees, and seed collection; karst geology tours of Cherry Grove Blind Valley SNA; and on-site collection and hand broadcasting of prairie seed at Oronoco Prairie, Lost Valley Prairie, and Grey Cloud Dunes SNAs. Event participants in calendar year 2015 were asked to complete a survey. Results are provided in the attached “SNA Event Survey Data 2015” report survey in 2015 and include: 56.9% were first time event attendees, 43.1% had never visited an SNA on their own, and most (22%) interest was for providing guided informational hikes in the future.

3c: Site Stewards: As of February 2016, 127 SNAs (78% of SNAs) have one or more volunteer stewards who submit regular reports on their work and findings – with a total 158 site stewards. Regular communications are made with the stewards and SNA staff have provided site stewards (and other volunteers) with personal protective equipment to use during SNA events. As an example of a special project involving stewards: starting in March 2016, SNA site stewards and volunteers are receiving bee nest boxes to install and will be doing bee monitoring at 17 Central Region SNAs as part of the UofMN Extension’s Bee Atlas project.

Project Status as of September 15, 2016 – cumulative results to date (since July 2014):

3a. Communications tools: The SNA Facebook page has achieved over 2,700 page likes by late February 2016 and total reach of 45,207 as of January 2016. A very successful post on #WildlifeWednesday achieved a one-time reach of 10,464 on December 2, 2015. The “Facebook metrics Recap of the Last 3 Months (Oct 1, 2015 – Dec 31, 2015)” and “Facebook metrics Recap of the Last 3 Months (July 1, 2015 – Sept 30, 2015)” was attached. The SNA Flickr social media channel was launched in February 2015; the site allows high quality photo sharing and with 26 members sharing over 330 photos as of February 2016 – a “Mn SNAs Flickr Group Photos – 1 Year Report” was attached. The 16th (Winter 2015) issue of the *Nature Notes* e-newsletter was delivered to over 3,900 subscribers. Improvements to the SNA webpage include conversion of slideshows for each site from Flash to Javascript in order to improve usability on mobile devices; the program webpages are also being totally rewritten – with the Visiting Guidelines section in final revision. A series of three native lady’s-slippers posters were designed, printed (2000 each), and distribution has been initiated in order to promote SNAs (“Visit the Wild Places”) and Minnesota’s native wildflowers. Data and feedback were obtained from people seeking the first released copies of the 1st poster – “Poster Promotion #1” Results were attached. The prototype of the SNA e-guidebook (with 12 SNA sites) was published through iBooks for iPhones and iPads – also see <https://library.biblioboard.com/content/48eb9115-7ee0-41b6-ba56-4eaffbd85590>. This prototype took much longer to produce than anticipated as it was the first time an e-book had been attempted by the DNR. The process of getting it published alone took about six months. Given the difficulties in developing/publishing the prototype, the SNA Program is evaluating if/how to complete a freestanding electronic guidebook for all SNAs since the data is already available on the SNA website; if additional work is done it would be with subsequent appropriations. Subsequent work under Activity 3a is funded and reported with the ML15 appropriation.

3b. Events: With ENRTF support from July 1, 2015 through August 31, 2016, about 110 events were held involving over 570 people. Events since July 2015 have included: wild bee, wildflower, and prairie hike at Bluestem Prairie SNA; a history and ecology hike at the Lost 40 SNA; a peatland class at Lost Lake Peatland SNA; junior naturalist activities including exploring animal tracks, bees, and seed collection; karst geology tours of

Cherry Grove Blind Valley SNA; on-site collection and hand broadcasting of prairie seed at Oronoco Prairie, Lost Valley Prairie, and Grey Cloud Dunes SNAs; and interpretive hikes at Itasca Wilderness Sanctuary and Iron Springs Bog SNAs. Event participants in calendar year 2015 were asked to complete a survey. Results are provided in the attached “SNA Event Survey Data 2015” report survey in 2015 and include: 56.9% were first time event attendees, 43.1% had never visited an SNA on their own, and most (22%) interest was for providing guided informational hikes in the future.

3c: Site Stewards: As of September 2016, 128 SNAs (78% of SNAs) have one or more volunteer stewards who submit regular reports on their work and findings – with a total 161 site stewards. Regular communications are made with the stewards and SNA staff have provided site stewards (and other volunteers) with personal protective equipment to use during SNA events. Examples of special projects involving stewards: starting in March 2016, SNA site stewards and volunteers are receiving bee nest boxes to install and will be doing bee monitoring at 17 Central Region SNAs as part of the UofMN Extension’s Bee Atlas project; and six new interpretive signs at Cherry Grove Blind Valley SNA were installed by Forestville State Park with assistance from the SNA site steward.

WORK PLAN AMENDMENT APPROVED by LCCMR January 23, 2017: Moved remainder of direct and necessary funds in appropriation from Activity 3 to Activity 1.

Project Status as of March 15, 2017 – cumulative results to date (since July 2014) with changes since September underlined:

3a. Communications tools:

- SNA Program social media work is largely achieved through contracts with Conservation Corps Minnesota – with work in FY17 split between this appropriation and the ML15 appropriation. Because of the combined funding the current social media accomplishments will be listed under both appropriations – then fully transitioned to the ML15 reporting. The SNA Facebook page has achieved over 4,150 page likes by June 30, 2017 and total reach of 72,096. Examples of the most successful posts are: #WildlifeWednesday achieved a one-time reach of 10,464 on December 2, 2015 and #ScientificSunday achieved a one-time reach of 15,596 on November 13, 2016. The “Facebook metrics Recap of the Last 3 Months (April 1-June 31, 2017)” is attached. The SNA Flickr social media channel was launched in February 2015; the site allows high quality photo sharing and with 42 members sharing over 675 photos to date.
- The 16th (Winter 2015) issue of the *Nature Notes* e-newsletter was delivered to over 3,900 subscribers.
- Improvements to the SNA webpage include conversion of slideshows for each site from Flash to Javascript in order to improve usability on mobile device and the Visiting Guidelines section of the SNA webpage was fully revised. New/enhanced site descriptions for SNA sites have been written by a professional writer under contract. When follow-up work is completed this summer with other funding, all SNA sites will have stories that best illustrate the ecological diversity, protection or rare species, research, and visiting tips.
- A series of three native lady’s-slippers posters were designed, printed (2000 each), and distribution has been initiated in order to promote SNAs (“Visit the Wild Places”) and Minnesota’s native wildflowers. Data and feedback were obtained from people seeking the first released copies of the 1st poster – “Poster Promotion #1” Results were attached.
- The prototype of the SNA e-guidebook (with 12 SNA sites) was published through iBooks for iPhones and iPads – also see <https://library.biblioboard.com/content/48eb9115-7ee0-41b6-ba56-4eaffbd85590>. This prototype took much longer to produce than anticipated as it was the first time an e-book had been attempted by the DNR. The process of getting it published alone took about six months. Given the difficulties in developing/publishing the prototype, the SNA Program is evaluating if/how to complete a freestanding electronic guidebook for all SNAs since the data is already available on the SNA website; if additional work is done it would be with subsequent appropriations.

3b. Events: With ENRTF support from July 1, 2015 through February 28, 2017, about 180 events were held involving over 1670 people (subsequent activity is reported under ML15 appropriation). Events since July 2015 have included:

- wild bee, wildflower, and prairie hike at Bluestem Prairie SNA;
- a history and ecology hike at the Lost 40 SNA;
- a peatland class at Lost Lake Peatland SNA;
- junior naturalist activities including exploring animal tracks, bees, and seed collection; karst geology tours of Cherry Grove Blind Valley SNA;
- on-site collection and hand broadcasting of prairie seed at Oronoco Prairie, Lost Valley Prairie, and Grey Cloud Dunes SNAs;
- interpretive hikes at Itasca Wilderness Sanctuary and Iron Springs Bog SNAs;
- monarch survey, photography presentation and hike, and regional site steward potluck at Bluestem Prairie SNA;
- citizen science bioblitz at Felton Prairie SNA;
- plant biology field trip with White Earth Tribal College to Santee Prairie SNA;
- a time-lapse video project and a joint outreach event “Under the Moon, Ice and Snow” at Sugarloaf Point SNA;
- geology exploration at Iona’s Beach SNA; and
- multiple volunteer stewardship events (including interseeding) at Lost Valley Prairie SNA, Grey Cloud Dunes SNA and Oronoco Prairie SNA.

Event participants in calendar year 2015 were asked to complete a survey. Results were provided in the attached “SNA Event Survey Data 2015” report survey in 2015 and include: 56.9% were first time event attendees, 43.1% had never visited an SNA on their own, and most (22%) interest was for providing guided informational hikes in the future.

3c: Site Stewards: As of March 2017 (subsequent activity is reported under ML15 appropriation), 131 SNAs (79% of SNAs) have one or more volunteer stewards who submit regular reports on their work and findings – with a total 165 site stewards. Regular communications are made with the stewards and SNA staff have provided site stewards (and other volunteers) with personal protective equipment to use during SNA events. Examples of special projects involving stewards: starting in March 2016, SNA site stewards and volunteers are receiving bee nest boxes to install and will be doing bee monitoring at over 30 SNAs statewide as part of the 3-year UofMN Extension’s Bee Atlas project; and six new interpretive signs at Cherry Grove Blind Valley SNA were installed by Forestville State Park with assistance from the SNA site steward.

WORK PLAN AMENDMENT Request March 15, 2017: Move \$9,733 from Activity 3 to Activity 2. Within Activity 1 decrease personal by \$6,407, increase professional/technical contracts by \$8,396, decrease the IT services contract by \$5,000 (zero out), decrease equipment/supplies by \$3,110, and decrease printing by \$3,612. This is because of unexpected vacancies of personnel doing outreach work, because MNIT did not charge the SNA program for webpage improvements (because their timing and nature was able to coincide with department upgrades), and because of the opportunity to increase work done through contractors.

Final Report Summary: with changes since March underlined:

3a. Communications tools:

- SNA Program social media work is largely achieved through contracts with Conservation Corps Minnesota – with work in FY17 split between this appropriation and the ML15 appropriation. Because of the combined funding the current social media accomplishments are listed under both appropriations – then fully transitioned to the ML15 reporting. The SNA Facebook page has achieved over 4,150 page likes by June 30, 2017 and total reach of 72,096. Examples of the most successful posts are: #WildlifeWednesday achieved a one-time reach of 10,464 on December 2, 2015 and #ScientificSunday

achieved a one-time reach of 15,596 on November 13, 2016. The “Facebook metrics Recap of the Last 3 Months (April 1-June 31, 2017)” is attached. The SNA Flickr social media channel was launched in February 2015; the site allows high quality photo sharing and with 42 members sharing over 675 photos to date.

- The 16th (Winter 2015) issue of the *Nature Notes* e-newsletter was delivered to over 3,900 subscribers.
- Improvements to the SNA webpage include conversion of slideshows for each site from Flash to Javascript in order to improve usability on mobile device and the Visiting Guidelines section of the SNA webpage was fully revised. New/enhanced site descriptions for SNA sites have been written by a professional writer under contract. When follow-up work is completed this summer with other funding, all SNA sites will have stories that best illustrate the ecological diversity, protection or rare species, research, and visiting tips.
- A series of three native lady’s-slippers posters were designed, printed (2000 each), and distribution has been initiated in order to promote SNAs (“Visit the Wild Places”) and Minnesota’s native wildflowers. Data and feedback were obtained from people seeking the first released copies of the 1st poster – “Poster Promotion #1” Results were attached.
- The prototype of the SNA e-guidebook (with 12 SNA sites) was published through iBooks for iPhones and iPads – also see <https://library.biblioboard.com/content/48eb9115-7ee0-41b6-ba56-4eaffbd85590>. This prototype took much longer to produce than anticipated as it was the first time an e-book had been attempted by the DNR. The process of getting it published alone took about six months. Given the difficulties in developing/publishing the prototype, the SNA Program is evaluating if/how to complete a freestanding electronic guidebook for all SNAs since the data is already available on the SNA website; if additional work is done it would be with subsequent appropriations.

3b. Events: With ENRTF support from July 1, 2015 through February 28, 2017, about 180 events were held involving over 1670 people. Events since July 2015 have included:

- wild bee, wildflower, and prairie hike at Bluestem Prairie SNA;
- a history and ecology hike at the Lost 40 SNA;
- a peatland class at Lost Lake Peatland SNA;
- junior naturalist activities including exploring animal tracks, bees, and seed collection; karst geology tours of Cherry Grove Blind Valley SNA;
- on-site collection and hand broadcasting of prairie seed at Oronoco Prairie, Lost Valley Prairie, and Grey Cloud Dunes SNAs;
- interpretive hikes at Itasca Wilderness Sanctuary and Iron Springs Bog SNAs;
- monarch survey, photography presentation and hike, and regional site steward potluck at Bluestem Prairie SNA;
- citizen science bioblitz at Felton Prairie SNA;
- plant biology field trip with White Earth Tribal College to Santee Prairie SNA;
- a time-lapse video project and a joint outreach event “Under the Moon, Ice and Snow” at Sugarloaf Point SNA;
- geology exploration at Iona’s Beach SNA; and
- multiple volunteer stewardship events (including interseeding) at Lost Valley Prairie SNA, Grey Cloud Dunes SNA and Oronoco Prairie SNA.

Event participants in calendar year 2015 were asked to complete a survey. Results were provided in the attached “SNA Event Survey Data 2015” report survey in 2015 and include: 56.9% were first time event attendees, 43.1% had never visited an SNA on their own, and most (22%) interest was for providing guided informational hikes in the future.

3c: Site Stewards: As of March 2017, 131 SNAs (79% of SNAs) have one or more volunteer stewards who submit regular reports on their work and findings – with a total 165 site stewards. Regular communications are made with the stewards and SNA staff have provided site stewards (and other volunteers) with personal protective equipment to use during SNA events. Examples of special projects involving stewards: starting in March 2016,

SNA site stewards and volunteers are receiving bee nest boxes to install and will be doing bee monitoring at over 30 SNAs statewide as part of the 3-year UofMN Extension's Bee Atlas project; and six new interpretive signs at Cherry Grove Blind Valley SNA were installed by Forestville State Park with assistance from the SNA site steward.

V. DISSEMINATION:

Dissemination will primarily be achieved through the SNA webpage on the DNR website: mndnr.gov/snas, through a new SNA Facebook, DNR Twitter feed, and through *Nature Notes* – the SNA Program e-newsletter distributed through GovDelivery.com to over 2000 subscribers including SNA site stewards. All volunteer events will be listed at the SNA webpage. The SNA webpage and SNA Facebook page will continue to be updated and refined to increase and enhance recreationist's use of SNAs. The SNA naturalists, other SNA staff, and contractors are expected to make presentations and lead field trips at SNAs and/or to promote involvement in SNAs; these will be publicized on the DNR website, SNA Facebook page, via emails or local fliers, and as needed through press releases. The e-book version of the SNA guide for visitors is expected to be disseminated through the DNR website.

Status as of November 15, 2014:

Accomplishments related to this activity through December 2014 will be reported under the ML13 ENRTF appropriation.

Status as of March 12, 2015:

Accomplishments related to this activity to date are reported under the ML13 ENRTF appropriation.

Status as of September 15, 2015: The SNA website is updated as needed including listings of new volunteer events. SNA Facebook page has achieved over 2,100 page likes and total reach of 34,000 as of September 2015. The SNA Flickr social media channel was launched in February 2015; the site allows high quality photo sharing and with 23 members sharing over 265 photos to date. The 14th (Summer 2014) issue of the *Nature Notes* e-newsletter was delivered to over 3,500 subscribers. Examples of fliers used to promote ENRTF-supported education and outreach events at SNAs were separately submitted to the LCCMR.

Status as of March 15, 2016 – cumulative results to date (since July 2014): The SNA website is updated as needed including listings of new volunteer events. SNA Facebook page has achieved over 2,700 page likes and total reach of 45,207 as of January 2016. The SNA Flickr social media channel was launched in February 2015; the site allows high quality photo sharing and with 26 members sharing over 330 photos to date. The 16th (Winter 2015) issue of the *Nature Notes* e-newsletter was delivered to over 3,900 subscribers. Examples of fliers used to promote ENRTF-supported education and outreach events at SNAs were separately submitted to the LCCMR. A series of three native lady's-slippers posters were produced (2000 each), and distribution has been initiated in order to promote SNAs ("Visit the Wild Places") and Minnesota's native wildflowers.

Project Status as of September 15, 2016 – see above (March 15, 2016) subsequent social media, e-newsletter and other SNA publicity 3a is funded and reported with the ML15 appropriation.

Project Status as of March 15, 2017 – cumulative results to date (since July 2014): The SNA Facebook page has achieved over 3,900 page likes by late February 2017. The SNA Flickr social media channel was launched in February 2015; the site allows high quality photo sharing and with 39 members sharing over 640 photos as of February 2016. The 16th (Winter 2015) issue of the *Nature Notes* e-newsletter was delivered to over 3,900 subscribers. Improvements to the SNA webpage include conversion of slideshows for each site from Flash to Javascript in order to improve usability on mobile device and the Visiting Guidelines section of the SNA webpage was fully revised. A series of three native lady's-slippers posters were designed, printed (2000 each), and distribution has been initiated in order to promote SNAs ("Visit the Wild Places") and Minnesota's native

wildflowers. Data and feedback were obtained from people seeking the first released copies of the 1st poster – “Poster Promotion #1” Results were attached.

Final Report Summary: The SNA program uses multiple media to engage the people of Minnesota in SNAs and to inform them about work done with support from ENRTF. The extent of outreach supported by this appropriation include the following. The SNA [Facebook](#) page has achieved over 4,150 page likes by June 2017. The SNA [Flickr](#) social media channel was launched in February 2015; the site allows high quality photo sharing and with 42 members sharing over 675 photos. The 16th (Winter 2015) issue of the [Nature Notes](#) e-newsletter was delivered to over 3,900 subscribers. Improvements to the SNA [webpage](#) include conversion of slideshows for each site from Flash to Javascript in order to improve usability on mobile device and the Visiting Guidelines section of the SNA webpage was fully revised and new/enhanced site descriptions have been written. Acquisitions acquired with this ENRTF appropriation are also featured on the website: [Brownsville Bluff](#), [Crystal Spring](#), and [Lawrence Creek](#). A series of three native lady’s-slippers posters were designed, printed (2000 each), and mostly distributed in order to promote SNAs (“Visit the Wild Places”) and Minnesota’s native wildflowers. Data and feedback were obtained from people seeking the first released copies of the 1st poster.

VI. PROJECT BUDGET SUMMARY:

A. ENRTF Budget Overview:

Budget Category	\$ Amount	Explanation
Personnel:	\$ 798,100	Coordinators & Planner (1.7 FTE for 2 yrs); Spec’s, Tech’s & Naturalists (4.1 FTE for 2 yrs); Laborers & Seasonal Field Crews (1.7 FTE for 2 yrs)
Professional/Technical/Service Contracts:	\$ 268,696	<u>Professional/Technical Contracts</u> - Activity 2f. mgmt. plans (~\$10K); Act. 2g. adaptive mgmt. monitoring (~\$50K); Act. 3a. photography, videography etc & participant evaluation (~\$32K); Act. 3b. SNA events & site steward training (~\$15K) <u>Service Contracts</u> (including Conservation Corps Minnesota) - Activity 2 including 2b. woody encroachment removal & exotics control (~\$60K), 2c. prescribed burning (~\$13K); & 2d. site development (fences, signs, etc) (~\$15K); Activity 3. CCM outreach assistant (~\$35K)
Contract	\$ 0	IT Services (Mn.IT service agreements) spatial database & SNA website/interactive media development & support
Equipment/Tools/Supplies:	\$ 75,646	Activity 2: parts, tools, repair costs & supplies for restoration, invasives control, prescribed burning, management plans, & monitoring (~\$10.2K); interpretive displays, signs & posts, fencing, & other site development tools & supplies (~\$51.2K) Activity 3: volunteer events & site steward supplies (including safety items, handtools, training materials, etc) (~\$16.3K).
Fee Title Acquisition:	\$1,035,000	~240 acres in 1-3 parcels to be designated as SNA & owned in fee by DNR
Professional Services for Fee Title and Easement Acquisition:	\$ 142,980	Includes real estate transaction costs & LAM billings; appraisal & review; property survey; attorney general; closing costs; recording fees &

		deed tax; etc. <\$20K/parcel
Printing:	\$ 6,001	Includes Activity 1: State Register publication (required to designate acquired parcels) & strategic plan update report; Activity 3: maps, educational & volunteer materials.
Travel Expenses in MN:	\$ 128,080	Fleet charges for trucks, cars, & equipment (e.g. mowers, seeders), mileage, lodging & meals as per state contracts. The fleet charges are use charges (by mile traveled or monthly which we pro-rate) for the specific equipment we utilize for this project. The direct and necessary expenditures (below) do not explicitly include any \$s for the DNR fleet program.
Other:	\$ 85,497	Direct & Necessary Services for the appropriation
TOTAL ENRTF BUDGET:		\$ 2,540,000

Explanation of Use of Classified Staff: Consistent with approved work plans for previous ENRTF appropriations for the SNA Program, this funding will be used to pay project-associated costs for classified and unclassified staff paid mostly with special project funds. These positions would not exist, but for special project funding received through the ENRTF and other funds. Each year these positions are assigned work based on the particular combination of soft funding available to address priority SNA Program activities.

Direct and Necessary expenses include both Department Support Services (Human Resources \$19,890, IT Support \$30,913, Safety \$4,920, Financial Support \$16,922, Communications Support \$5,705, Planning Support \$3,520, and Procurement Support \$1,175) and Division Support Services (\$60,268). Department Support Services are described in the agency Service Level Agreement, and billed internally to divisions based on rates that have been developed for each area of service. These services are directly related to and necessary for the appropriation. Department leadership services (Commissioner’s Office and Regional Directors) are not assessed. Division Support Services include costs associated with Division business offices and clerical support. Those elements of individual projects that put little or no demand on support services such as large single-source contracts, large land acquisitions, and funds that are passed-thru to other entities are not assessed Direct and Necessary costs for those activities. For this work plan, landowner payments and CCM contracts with an associated cost of \$1,095,000 have not been assessed Direct and Necessary costs.

Explanation of Capital Expenditures Greater Than \$5,000: NA

Number of Full-time Equivalent (FTE) Directly Funded with this ENRTF Appropriation: 7.5 FTE each for two years (no staff budgeted for 3rd year) spread over 25-35 positions - for a total of 15 FTEs

Number of Full-time Equivalent (FTE) Estimated to Be Funded through Contracts with this ENRTF Appropriation: up to 1.0 FTE for 1 year for professional technical contract; & up to 1 FTE for 1 year for CCM & fieldwork contractors

B. Other Funds:

Source of Funds	\$ Amount Proposed	\$ Amount Spent	Use of Other Funds
Non-state	\$0	\$0	No other funds are budgeted for the deliverables proposed for this appropriation; if any other funds are used for landowner payments accomplishments will be pro-rated by the

			actual expenditures per funding source.
State	\$0	\$0	No other funds are budgeted for the deliverables proposed for this appropriation; if any other funds are used for landowner payments accomplishments will be pro-rated by the actual expenditures per funding source; in-kind contributions by the project manager to administer this project will not be tracked.
TOTAL OTHER FUNDS:	\$0	\$0	

VII. PROJECT STRATEGY:

A. Project Partners:

This proposal includes the DNR’s work and funding to be used by the SNA Program towards partnership project work on SNAs. Partners include entities, such as The Nature Conservancy, Friends of the Mississippi River, and Great River Greening.

B. Project Impact and Long-term Strategy:

The SNA Long Range Plan goal is protection by SNA designation 5 occurrences of each native plant community and 3 occurrences of each natural heritage element per landscape. Thus, the Division could utilize support from the Environment and Natural Resources Trust fund of \$5M to \$10M per biennium over the next 20 years.

C. Spending History:

Funding Source	M.L. 2008 or FY09	M.L. 2009 or FY10	M.L. 2010 or FY11	M.L. 2011 or FY12-13	M.L. 2013 or FY14
ENRTF	\$37,500 (3c) \$515,000 (3a) \$1,000,000 (3f)	\$37,500 (4e) \$410,000 (4f) \$703,300 (4d)	\$31,500 (4f) \$1,046,700 (4b)	\$1,640,000 (4e)	\$1,500,000 (4b)
OHF			\$2,058,800	\$1,519,000	\$380,000
Bonding	\$5,000,000				
State Wildlife Grant (federal)			\$137,000	\$49,800	

VIII. ACQUISITION/RESTORATION LIST: See attached list.

IX. VISUAL ELEMENT or MAP(S): See attached map set.

X. ACQUISITION/RESTORATION REQUIREMENTS WORKSHEET: TBD when available from LCCMR

XI. RESEARCH ADDENDUM: NA

XII. REPORTING REQUIREMENTS:

Periodic work plan status update reports will be submitted not later than November 15, 2014, March 15, 2015, September 15, 2015, March 15, 2016, September 15, 2016, and March 15, 2017. A final report and associated products will be submitted before September 15, 2017 (as necessary for state FY closeout data to be available and summarized).

Environment and Natural Resources Trust Fund											
M.L. 2014 Project Budget											
Project Title: SNA Acquisition, Restoration, & Citizen Engagement											
Legal Citation: M.L. 2014, Chp. 226, Sec. 2, Subd. 07a											
Project Manager: Margaret (Peggy) Booth											
Organization: Minnesota Department of Natural Resources, Division of Ecological & Water Resources, SNA Program											
M.L. 2014 ENRTF Appropriation: \$2,540,000											
Project Length and Completion Date: 3 years, June 30, 2017											
Date of Report: August 30, 2017											
ENVIRONMENT AND NATURAL RESOURCES TRUST FUND BUDGET	Activity 1 Budget approved March 2017	Amount Spent	Activity 1 Balance	Activity 2 Budget approved March 2017	Amount Spent	Activity 2 Balance	Activity 3 Budget approved March 2017	Amount Spent	Activity 3 Balance	TOTAL BUDGET approved March 2017	TOTAL BALANCE
BUDGET ITEM	Protection of Sites of Biodiversity Significance			Native Habitat Restoration & Improvements			Public Engagement in Natural Areas				
Personnel (Wages and Benefits)	\$94,500	\$90,836	\$3,664	\$485,400	\$457,330	\$28,070	\$218,200	\$217,600	\$600	\$798,100	\$32,334
Position Type 1: Coordinators & Planner - Activity 1: ~0.5 FTE acquisition/land protection for 2 yrs; Activity 2: ~0.5 FTE resto/mgmt for 2 yrs; Activity 3: 0.8 FTE outreach (~\$281.2K) - all spread over ~5 positions											
Position Type 2: Specialists, Technicians, & Naturalists - Activity 1: ~0.8 FTE acquisition/land protection for 2 yrs; Activity 2: ~2.0 FTE resto/mgmt for 2 yrs; Activity 3: 1.3 FTE outreach (~\$570.9K) - all spread over about ~13 positions											
Position Type 3: Laborers & Seasonal Field Crews - all Activity 2: ~1.7 FTE for 2 yrs (spread over ~9-15 positions)											
Professional/Technical/Service Contracts Professional/Technical Contracts - Activity 2f. 2-3 mgmt. plans (~\$10K); Act. 2g. adaptive mgmt. monitoring at 10+ SNAs (~\$50K); Act. 3a. photography, videography etc & participant evaluation (~\$32K); Act. 3b. SNA events & site steward training through 2-5 contractors (~\$15K) Service Contracts (including Conservation Corps Minnesota) - Activity 2 including 2b. woody encroachment removal & invasives control (~\$60K at ~\$1500-\$4000/ac), 2c. prescribed burning (~\$13K at ~\$80-\$200/ac for grassland/brushland & up to \$800/ac for forest); & 2d. site development (fences, signs, etc) (~\$15K); Activity 3. CCM outreach assistant (~\$35K)				\$174,400	\$154,743	\$19,657	\$94,296	\$91,514	\$2,782	\$268,696	\$22,439
Equipment/Tools/Supplies Activity 2: parts, tools, repair costs & supplies for restoration, invasives control, prescribed burning, etc (this is largely for SNA tools, such as chain saws, pump cans, drip torches, fire racks, pulaskis, other handtools, backpack sprayers, portable pumps & hose, personal protective equipment, etc, & supplies such as herbicides, spreading oils, flagging, stakes, etc) (~\$10.2K); 5 or more interpretive display panels & standards (at ~\$2K each) (~\$10K); entry signs (at ~\$3-5K each), boundary & rules signs, posts/hardware, fencing, gravel, & other site development tools & supplies (~\$41.2K) Activity 3: volunteer events & site steward supplies (including safety items, handtools, training materials, temporary signs, stamps, envelopes, etc) (~\$16.3K).				\$65,646	\$59,387	\$6,258	\$10,000	\$6,713	\$3,287	\$75,646	\$9,545
Fee Title Acquisition ~240 acres in 1-3 parcels to be designated as SNA & owned in fee by DNR	\$1,035,000	\$1,035,000	\$0							\$1,035,000	\$0
Professional Services for Fee Title and Easement Acquisition Includes real estate transaction costs & LAM billings; appraisal & review; property survey; attorney general; closing costs; recording fees & deed tax; etc. <\$20K/parcel	\$142,980	\$142,955	\$25							\$142,980	\$25
Printing Includes Activity 1: State Register publication (required to designate acquired parcels) & strategic plan update report; Activity 2: interpretive sign fabrication; Activity 3: maps, educational & volunteer materials.	\$0	\$0	\$0	\$2,800	\$2,666	\$134	\$3,201	\$459	\$2,742	\$6,001	\$2,876
Travel expenses in Minnesota Fleet charges for trucks, cars, & equipment (e.g. mowers, seeders), mileage, lodging & meals as per state contracts	\$3,500	\$2,555	\$945	\$113,680	\$113,642	\$38	\$10,900	\$10,103	\$797	\$128,080	\$1,780
Other Direct & Necessary Services for the appropriation	\$17,420	\$17,420	\$0	\$43,474	\$43,474	\$0	\$24,603	\$24,603	\$0	\$85,497	\$0
COLUMN TOTAL	\$1,293,400	\$1,288,766	\$4,634	\$885,400	\$831,242	\$54,157	\$361,200	\$350,992	\$10,208	\$2,540,000	\$68,999



Environment and Natural Resources Trust Fund

M.L. 2014 Acquisition/Restoration List

Project Title: SNA Acquisition, Restoration, & Citizen Engagement

Legal Citation: M.L. 2014, Chp. 226, Sec. 2, Subd. 07a

Project Manager Name: Margaret (Peggy) Booth

Organization: Minnesota Department of Natural Resources, Division of Ecological & Water Resources

M.L. 2014 ENRTF Appropriation: \$2,540,000

Project Length and Completion Date: 3 years, June 30, 2017

Date of Report: August 30, 2017

#	Acquisition or Restoration	Geographic Coordinates		Estimated Cost	Estimated Annual PILT	County	Ecological Significance	Activity Description	# of Acres	# of Shoreline	Type of Landowner	Proposed Fee Title or	Status
		Latitude	Longitude										
1	Chanarambie Creek	43-54-22.4	96-1-51.9	\$ 400,000	\$ 3,000	Murray	MBS-mapped dry hill prairie & prairie meadow	fee title acquisition	120		private ind/trust	DNR-SNA	not being pursued with this approp
2	Prairie Coteau SNA addition	44-7-14.0	96-8-58.5	\$ 1,000,000	\$ 7,500	Pipestone	MBS-mapped dry hill prairie, with rare species	fee title acquisition	200		private ind/trust	DNR-SNA	not being pursued with this approp
3	Pipestone Outcrops	44-1-13.5	96-19-33.4	\$ 800,000	\$ 6,000	Pipestone	MBS-mapped rock outcrop, dry prairie, with rare species	fee title acquisition	160		private ind/trust	DNR-SNA	not being pursued with this approp
4	Crystal Spring (formerly listed as addition to Falls Creek SNA)	45-15-33.9	92-45-58.26	\$ 1,300,000	\$ 9,750	Washington	old-growth mesic hardwood forest, native white pines, black ash seepage swamp, deep gorge exposing layers of bedrock, filled with seeps & wetfalls	fee title acquisition	37		private ind/trust	DNR-SNA	Property acquired in part with this appropriation & designated as SNA
5	Cedar Rock SNA addition	44-36-57.3	95-10-22.4	\$ 280,000	\$ 2,100	Redwood	MBS-mapped rock outcrop & mesic prairie	fee title acquisition	80		private ind/trust	DNR-SNA	not being pursued with this approp
6	Art Lake Hardwood Ridges	47-30-26.9	91-12-13.3	\$ 420,000	\$ 3,150	Lake	MBS-mapped ecologically intact area with oldgrowth sugar maple & upland white cedar forest on remote ridges; rare birds	fee title acquisition	160		private	DNR-SNA	not being pursued with this approp
7	Drake Woods	43-33-54.0	94-6-23.51	\$ 1,800,000	\$ 13,500	Faribault	best intact MBS mapped hardwood forest in south central MN	fee title acquisition	300		private ind/trust	DNR-SNA	not being pursued with this approp
8	Mound Spring Prairie addition	44-45-29.7	96-26-10.1	\$ 480,000	\$ 3,600	Yellow Medicine	MBS-mapped wet & mesic prairie	fee title acquisition	160		private	DNR-SNA	not being pursued with this approp
9	Brownsville Bluff	43-40-40.6	91-16-57.1	\$ 560,000	\$ 4,200	Houston	Forested Mississippi River bluff with rare animals	fee title acquisition	200		private ind/trust or non-profit	DNR-SNA	Parcel 1 closed in March 2015; Parcel 2 acquired in part with this appropriation; both designated as SNA
10	Rushford Bluffs	43-48-54.6	91-45-12.5	\$ 150,000	\$ 1,125	Fillmore	oak-shagbark hickory woodland, bluff prairie	fee title acquisition	50		private ind/trust	DNR-SNA	not being pursued with this approp
11	Franconia Bluffs addition	45-22-8.3	92-42-17.7	\$ 250,000	\$ 1,875	Chisago	key parcel to connect 2 parts of existing SNA; contains MBS mapped mesic hardwood forest	fee title acquisition	50		private ind/trust	DNR-SNA	not being pursued with this approp
12	Kertonville Snow Creek (within Glacial Ridge area)	47-44-18.7	96-25-38.2	\$ 300,000	\$ 2,250	Polk	Prairie Plan Core Area - mesic & wet prairie; rare plants & birds	fee title acquisition	300		private ind/trust or non-profit	DNR-SNA	not being pursued with this approp
13	Morton Outcrops	44-33-3.9	94-59-31.4	\$ 24,000	\$ 180	Renville	MBS-mapped rock outcrop, prairie, with rare species	fee title & or easement acquisition	6		private ind/trust	DNR-SNA	not being pursued with this approp
14	Felton Prairie SNA addition	47-1-40.1	96-25-56.4	\$ 1,200,000	\$ 9,000	Clay	Prairie Plan Core Area - wet & mesic prairie; prairie chickens & rare prairie birds	fee title acquisition	400		private ind/trust or non-profit	DNR-SNA	not being pursued with this approp
15	Upper Beaver Creek Valley	44-08-34.34	92-03-40.82	\$ 980,000	\$ 7,350	Wabasha	MBS-mapped bluff prairie, forest, & cliff native plant communities; providing connectivity to Whitewater WMA parcels	fee title acquisition	280	2.35	private ind/trust	DNR-SNA	not being pursued with this approp
16	Lake Traverse Prairie	45-43-27.6	96-41-15.6	\$ 380,000	\$ 2,850	Traverse	Prairie Plan Core Area - dry hill prairie; rare plants & animals	fee title acquisition	100		private ind/trust	DNR-SNA	not being pursued with this approp
17	Glacial Lakes & Moraine	45-31-46.1	95-30-20.7	\$ 900,000	\$ 6,750	Pope	Prairie Plan Core Area - dry sand gravel prairie	fee title acquisition	300		private ind/trust or non-profit	DNR-SNA	not being pursued with this approp
18	Boot Lake SNA	45-20-0.62	93-7-39.5	\$ 12,500		Anoka	restore oak woodland comparable to adjoining MBS mapped woodland	reconstruction	5		public	DNR-SNA	proposed for future appropriation
19	Blanket Flower SNA	46-38-11.46	96-17-34.6	\$ 40,000		Clay	restore dry sand gravel prairie comparable to adjoining MBS mapped prairie	reconstruction	20		public	DNR-SNA	proposed for future appropriation
20	Bonanza Prairie SNA	45-27-8.20	96-42-41.2	\$ 36,000		Big Stone	restore dry hill prairie comparable to adjoining MBS mapped prairie	reconstruction	20		public	DNR-SNA	proposed for future appropriation
21	Wolsfeld Woods SNA	44.00090	-93.57277	\$15,000	NA	Hennepin	MBS-mapped sugar maple forest	forest groundlayer rehabilitation	1		DNR	SNA	proposed for future appropriation
22	Wood-Rill SNA	44.98829	-93.53020	\$10,000	NA	Hennepin	MBS-mapped sugar maple forest	forest groundlayer rehabilitation	1		DNR	SNA	proposed for future appropriation
23	Lawrence Creek**	45° 22' 16.6"	92° 41' 34.6"	\$ 1,000,000	\$ 7,500	Chisago	forested bluff along St. Croix River	fee title acquisition	72		private ind/trust	DNR-SNA	Project closed, in part with this appropriation
24	Blanket Flower	46° 40' 53.2"	96° 12' 19.0"	\$30,000	\$ 225	Clay	dry sand-gravel prairie & habitat greater prairie chicken, regal fritillary, Hill's thistle, & blanket flower	fee title acquisition	13		private ind/trust	DNR-SNA	Project closed with ML15 ENRTF
25	LaSalle Lake SNA	47° 21' 7.246"	95° 10' 23.202"	\$ 30,000		Hubbard	restore jack pine blow down area, an S1-S2 rare native plant community	restore jack pine woodland	31		public	DNR-SNA	deer enclosure 2/3s constructed with this appropriation

NOTES: Specific parcels have yet to be identified for acquisition areas #14-17

Evaluation of ENRTF Restoration Project

Report Date: August 23, 2017

Legal Citation: M.L. 2014, Chp. 226, Sec. 2, Subd. 07a

Project Title: Scientific and Natural Area Acquisition, Restoration, Improvement and Citizen Engagement

Project Manager: Margaret (Peggy) Booth

Parcel Name: LaSalle Lake Scientific and Natural Area

Parcel Ownership: DNR administered and owned Scientific and Natural Area

Completed Restoration and Management Plans Consistent with ENRTF Requirements: LaSalle Lake State Recreation Area Natural and Cultural Resource Management Plan (2012)

Summary of Plan Outcomes: Restore jack pine overstory to a wind-damaged jack pine bush honeysuckle woodland; restore old field to jack pine bush honeysuckle woodland

Activities Completed Through This Project:

This appropriation was used for costs associated with construction of a deer enclosure necessary for jack pine woodland restoration.

Currently, the most significant threat to jack pine establishment and growth at LaSalle Lake SNA is damage from deer browse. Deer browse of jack pine seedlings was assessed in late April of 2016 and appeared to be very significant, with approximately 50-75% of located seedlings exhibiting browse damage. Follow up observations from June 2016 indicate that a high percentage of browsed seedlings were able to recover, but sustained heavy browse over a number of years would most likely result in unacceptably high seedling mortality.

In the spring of 2017, a survey of the site determined that bud capping had little effect on discouraging deer browse. Initial estimates suggested that approximately 75-90% of bud capped seedlings sustained browse damage over the winter. At this time it was decided that enclosing a portion of the site within a deer proof enclosure fence was the only practical way to eliminate damage from deer browse. It was determined that a fenced area of 31 acres with a perimeter of approximately 1 mile was needed to protect the areas of highest jack pine seedling density. With this appropriation a required archeological survey of the construction area was done in March 2017 followed by State Historic Preservation Office review and project approval. Construction of the 10 foot tall welded wire fence began in late May 2017. About 2/3s of the fence installation was completed by June 30, 2017 with this appropriation. The remainder of the fence was completed in early August 2017 using ML15 SNA ENRTF funding.

Project Background:

Blowdown, Salvage Harvest and Restoration Efforts

On July 2nd 2012, a windstorm resulted in a catastrophic blowdown on the LaSalle Lake Scientific and Natural Area (SNA). Unfortunately, a 60 acre stand of Jack Pine-(Bush Honeysuckle) Woodland [FDc24a]

was among the most heavily affected areas, resulting in a loss of nearly all of the mature over story trees. This native plant community has become increasingly rare and is currently ranked as S1, critically imperiled statewide, and globally rare.

Following the blowdown, restoration efforts (funded with other appropriations) at LaSalle Lake SNA have focused on reestablishing jack pine as a canopy tree in the affected area. Restoration efforts began with a salvage harvest designed to facilitate jack pine regeneration by heavily scarifying the ground layer through full tree skidding. Additionally, jack pine seed was collected on site prior to the harvest and broadcast over the site after the harvest was completed. The long-term goal at the LaSalle Lake SNA is to reestablish jack pine as a canopy tree. The near-term objectives at LaSalle are to:

1. Ensure central floristic region jack pine remains a component of the plant community
2. Ensure adequate numbers of regenerating jack pine reach sexual maturity
3. Reduce or mitigate threats to jack pine establishment and growth

In addition to jack pine restoration, other activities (funded with other appropriations) have included reestablishing native vegetation on the 12 acre old field located in the southwest portion of the SNA. In 2014, the field was burned and later treated with a glyphosate herbicide to kill established smooth brome. After herbicide application, the site was seeded with native prairie species. As of 2017, the restoration of the old field is establishing as expected, with many species of native grasses and wildflowers present. Once grassland cover is well established, jack pine will be established on the old field through either planting, direct seeding, or natural seed rain from adjacent trees.

Following the discovery of heavy deer browse on jack pine seedlings, plans were made to bud cap jack pine seedlings in the fall of 2016. Bud capping was completed on October 14, 2016 (funded with other appropriations), with more than 1000 jack pine seedlings found and capped. Additionally, 56 jack pine seedlings were surrounded with 5 foot tall wire cages to protect some seedlings in the event bud capping failed to discourage browse.

Yearly Evaluations 2013-2016

Jack Pine Germination and Establishment

Monitoring of jack pine germination and establishment has been conducted annually since 2013 (using other appropriations). In 2013 (1 year post-harvest), 1342 jack pine seedlings per acre were documented, with 90% of sample units stocked. In 2014 (2 years post-harvest), 526 jack pine seedlings per acre were documented, with 73% of sample units stocked. In 2015 (3 years post-harvest), 316 jack pine seedlings per acre were documented, with 21% of sample units stocked. In 2016 (4 years post-harvest), 289 jack pine seedlings per acre were documented with 16% of sample units stocked (Table 1). As of 2016, jack pine regeneration at LaSalle remains within MN DNR Division of Forestry's recommended 250-500 stems per acre for seeded central floristic region jack pine 3 years post seeding.

Table 1. Jack pine establishment at LaSalle SNA 2013-2015

Year	2013 (1)	2014 (2)	2015 (3)	2016 (4)
Jack Pine Seedlings Per Acre	1342	526	316	289
% Stocking	90%	73%	21%	16%
Monitoring Method	EWR	Forestry	EWR	EWR

Map and Images of Restoration Project: Attached below as Appendix A and B

Ongoing Management Needs & Funding:

Ongoing management in the near-term will likely include invasive species control across the site and targeted control of fast growing woody species (aspen). In addition to the enclosure, individual cages will be used to protect jack pine seedlings found growing outside of the fenced area. If jack pine seedling counts fall below acceptable levels, supplemental seeding or planting of jack pine seedlings may be implemented. Additionally, jack pine may be seeded or planted in the restored old field if seedlings fail to establish from adjacent trees. Once newly established seedlings reach sexual maturity, additional ground scarification may be implemented to recruit additional seedlings. Prescribed fire will not be utilized within the restoration area until the established trees reach a fire resistant size.

These tasks will be done with funding available through appropriations by the legislature, including current and future ENRTF and Outdoor Heritage Fund appropriations. Future use of CCM crews is proposed to aid in ongoing management activities including invasive species control, woody species control and tree planting.

Appendix A.

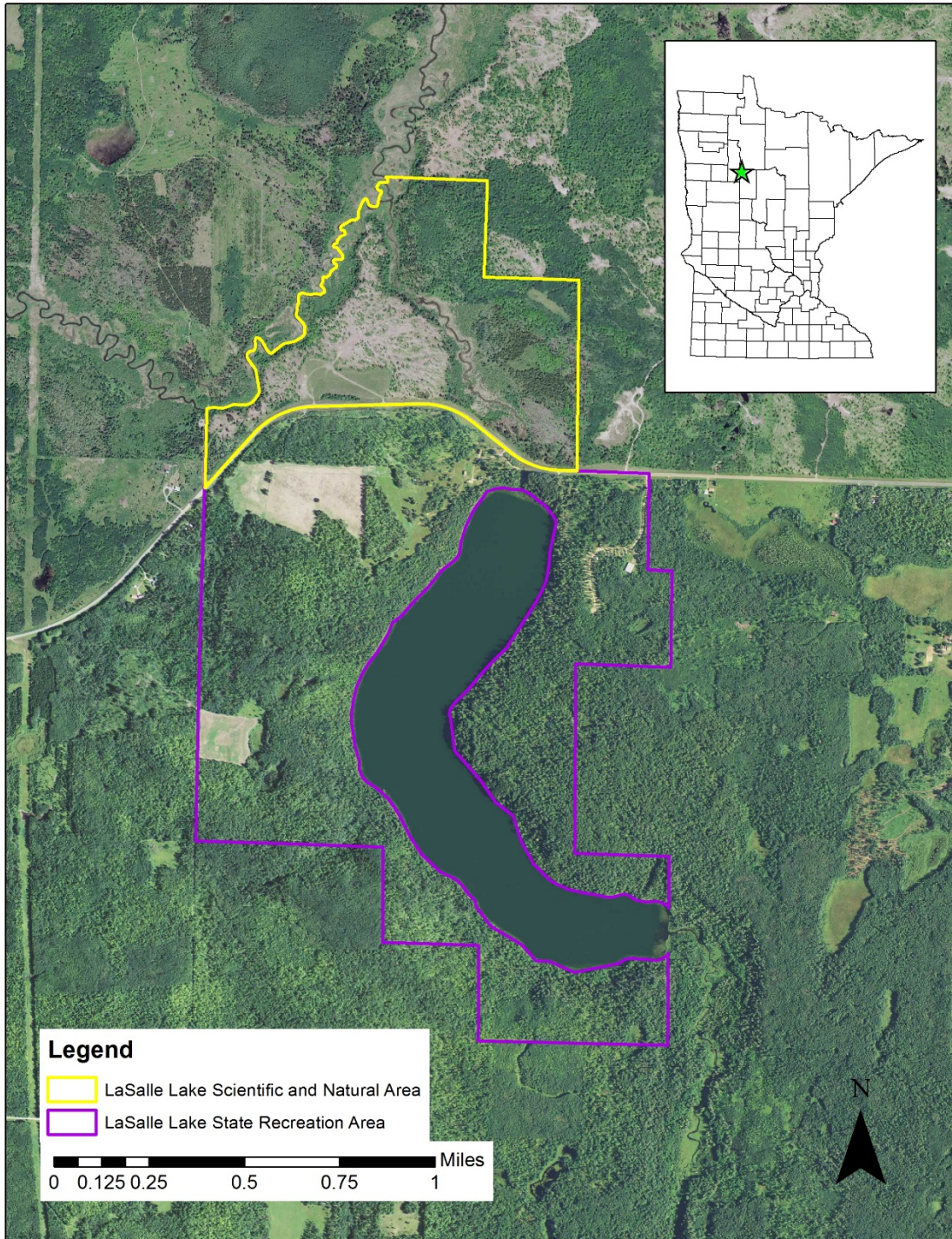


Figure 1. LaSalle Scientific and Natural Area and LaSalle State Recreation Area boundaries

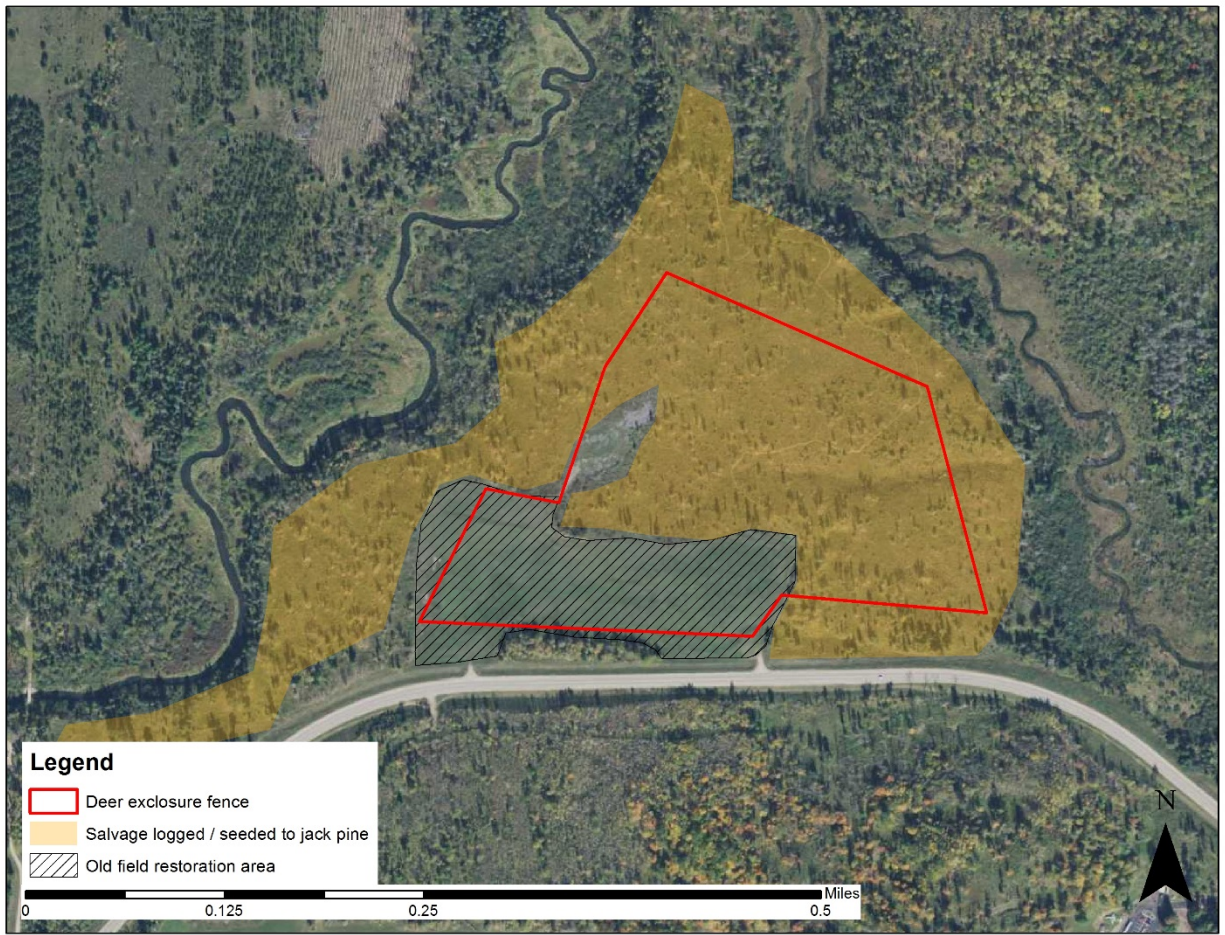


Figure 2. Location of restoration areas and deer enclosure fence at LaSalle Lake SNA.

Appendix B. Selected images of LaSalle SNA restoration work



Figure 3. Jack pine seedling recovering from deer browse, August 2017.



Figure 4. Jack pine growth following installation of wire cage to prevent deer browse (with other appropriations).



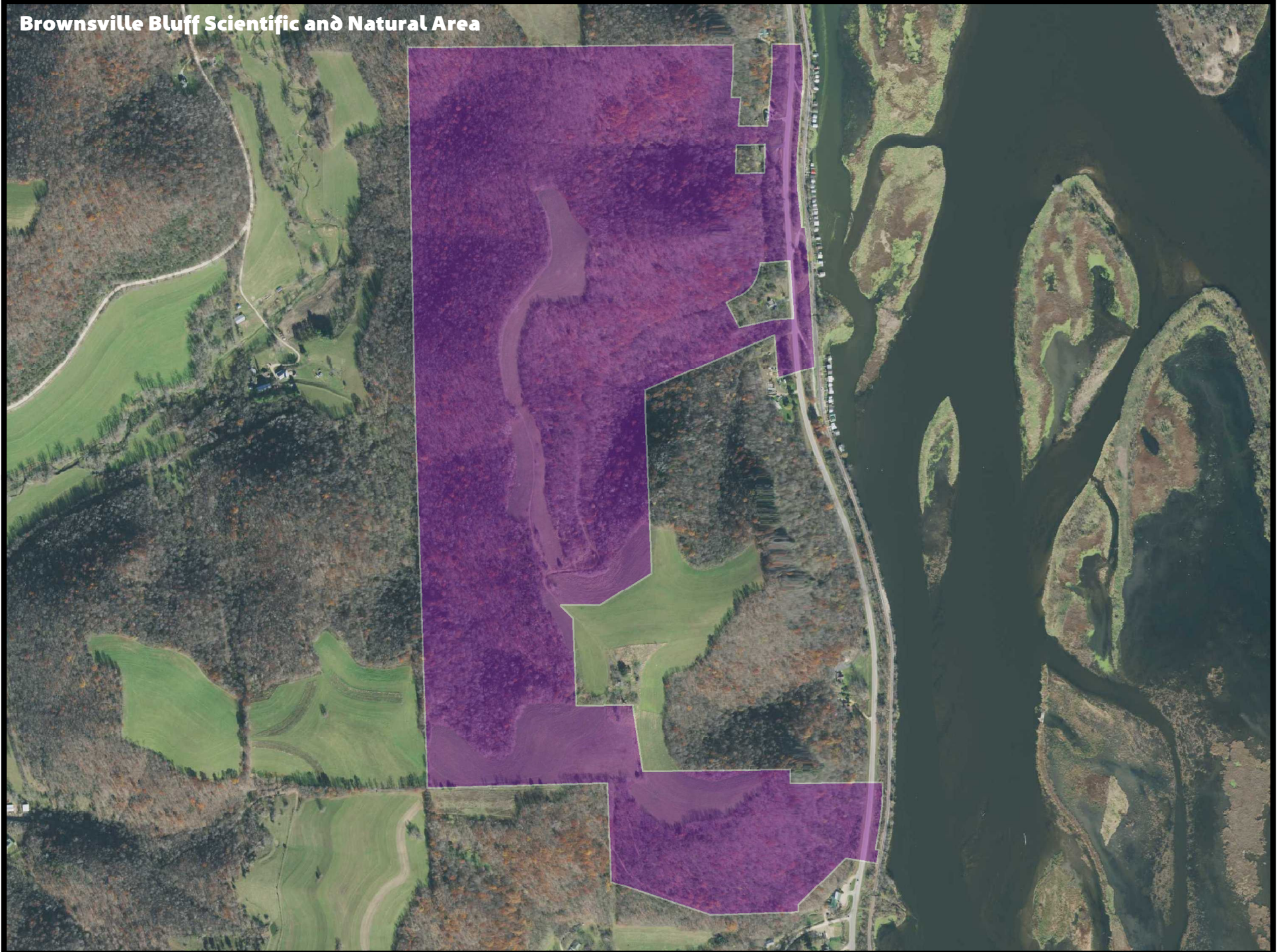
Figure 5. 10 foot tall woven wire deer exclosure fence.



Figure 6. Old field restoration area 2 years after seeding (with other appropriations).

ML14 07a Final Report Maps - SNA Acquisition

Brownsville Bluff Scientific and Natural Area



0 Miles
0.5

north ↑

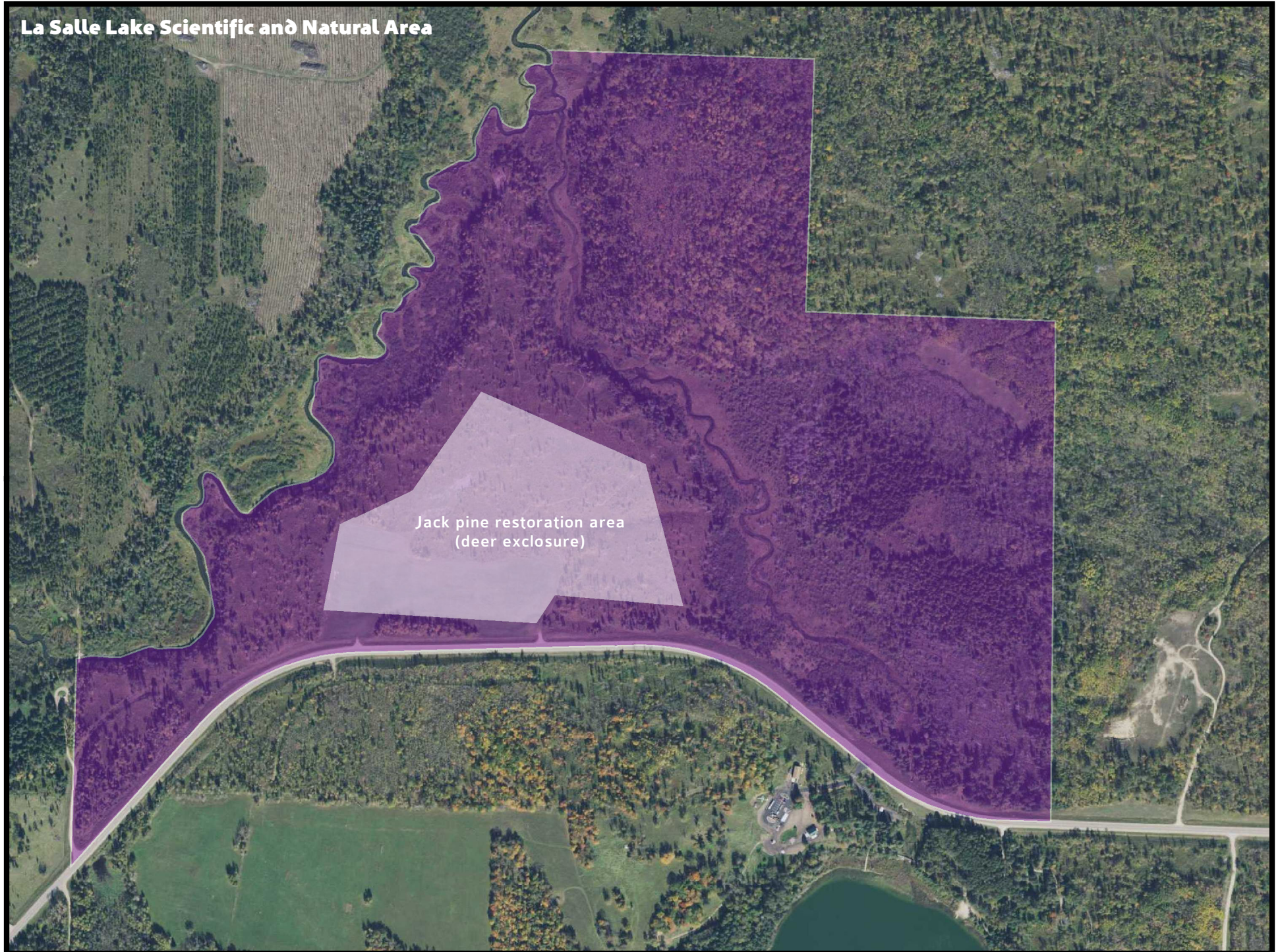
ML14 07a Final Report Maps - SNA Acquisition



0 Miles
0.25

north ↑

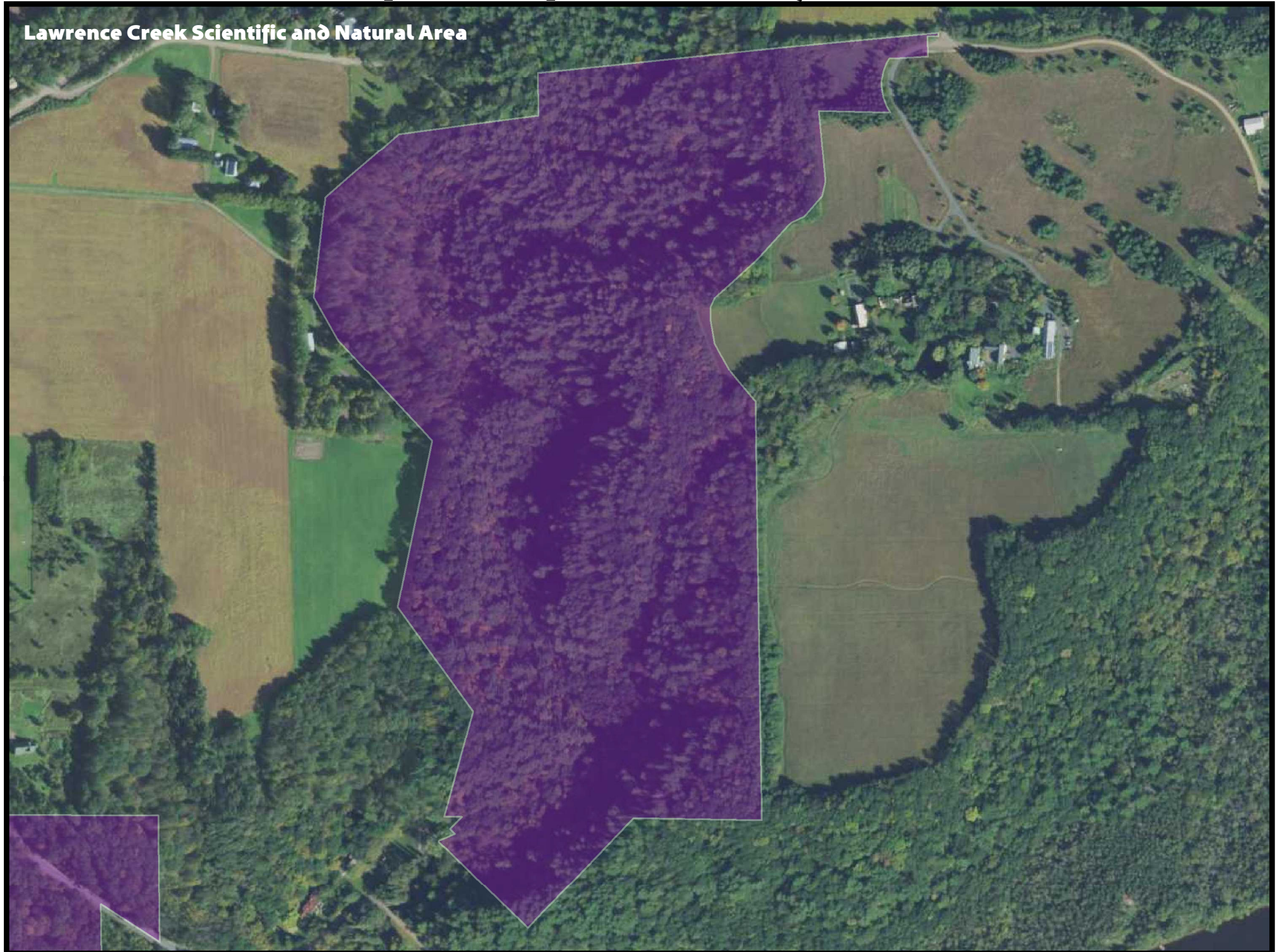
ML14 07a Final Report Maps – SNA Restoration



0 Miles 0.5

north ↑

ML14 07a Final Report Maps - SNA Acquisition



0 Miles 0.25

north ↑



DEPARTMENT OF NATURAL RESOURCES

SCIENTIFIC AND NATURAL AREAS

Facebook Metrics

APRIL

1,520
Average Daily Reach
Total Reach: **45,604**

MAY

1,742
Average Daily Reach
Total Reach: **54,000**

JUNE

2,486
Average Daily Reach
Total Reach: **72,096**



Daily reach: the number of people who interacted with or viewed SNA page content within their News Feed, on the SNA page or shared by friends.

Content Clicks

The number of clicks on any SNA content. Does not include clicks outside of page, like viewer timeline.

April: **2,720** clicks

May: **4,642** clicks

June: **4,574** clicks

4,150 FOLLOWERS

#ScientificSunday

#WildlifeWednesday

#ScientificSunday is exclusive to the SNA program and is used to highlight relevant SNA and Minnesota scientific topics.

#WildlifeWednesday serves to connect the SNA program to wildlife related topics in Minnesota and beyond.

Most Successful Posts

3,764 PEOPLE REACHED
#ScientificSunday



#ScientificSunday
Do you know why a planetary scientist would put an earthquake sensor in Minnesota?



Why put an earthquake sensor in Minnesota? - Futurity
Seismometers in unusual places are letting scientists get a clearer look at a giant scar that underlies the American Midwest.
FUTURITY.ORG

5,800 PEOPLE REACHED
#ScientificSunday



Last Saturday was the fishing opener and without doubt Minnesotans were out on the lake, reel and bait in hand! That bait may have been an earthworm, but did you know they're an invasive species?
#ScientificSunday

Photo credit: Yun Huang Yong



Invasive earthworms
All of the terrestrial earthworms in Minnesota are non-native, invasive species from Europe and Asia (There is a native aquatic species that woodcock eat). At least fifteen non-native terrestrial species have been introduced so far. Studies...
DNR.STATE.MN.US

11,919 PEOPLE REACHED
#MBSMonday



#MBSMondays Happy pollinator week!
Recently, Crystal Boyd, a Minnesota Biological Survey (MBS) Entomologist, helped create the first Minnesota State Agency Pollinator Report. The report is a response to the Governor Dayton's Executive Order 2016-2017. It reflects input from 11 state agencies and a 15-member citizen committee. Although the report focuses on what state agencies can do to support pollinators, its goals and suggested actions can help inform and support conservation efforts from our many partners!



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