

Lessard-Sams Outdoor Heritage Council

Highbanks Ravine Bat Hibernaculum

ML 2024 Request for Funding

General Information

Date: 05/31/2023

Proposal Title: Highbanks Ravine Bat Hibernaculum

Funds Requested: \$2,300,000

Confirmed Leverage Funds: \$4,002,000

Is this proposal Scalable?: No

Manager Information

Manager's Name: Lisa Vollbrecht Title: Assistant Public Utilities Director Organization: City of St. Cloud Address: 1201 7th Street S. City: St. Cloud, MN 56301 Email: lisa.vollbrecht@ci.stcloud.mn.us Office Number: 320-255-7225 Mobile Number: 320-250-6410 Fax Number: Website: https://www.ci.stcloud.mn.us/

Location Information

County Location(s): Stearns.

Eco regions in which work will take place:

• Forest / Prairie Transition

Activity types:

• Enhance

Priority resources addressed by activity:

• Habitat

Abstract

The City of St. Cloud is proposing a project that will enhance a critical bat hibernaculum in central Minnesota. The DNR protected Highbanks bat hibernaculum is a brick-and-mortar structure constructed in the early 1900s. The hibernaculum has historically been the home to hundreds of bats, but over the past several years, stormwater flow and flooding to the top of the structure have been detrimental for the bats to roost. The project, which is fully designed and shovel ready, will remove the stormwater and flooding from the hibernaculum, enhancing the habitat to where bats will continue to utilize the hibernaculum.

Design and Scope of Work

The Highbanks Bat Hibernaculum has historically been studied by St. Cloud State University staff starting in 1952 through the early 2000's. Surveys indicated the number of bats within the hibernaculum to range from 50 to over 500 bats. Surveys were also completed by Gerda Norquist with the MNDNR in 1992, 2006, 2012 and 2016, who noted that the early surveys completed prior to 2006 found hundreds of bats roosting in the hibernaculum. The most recent surveys found only two (2) big brown bats (Eptesicus fuscus) on both occasions. Ms. Norquist noted during her recent visits the occurrence of more frequent flash flood events and evidence of stormwater flooding to the top of the structure, which is detrimental to bats roosting there. The hibernaculum is also an active stormwater conveyance system. Stormwater from approximately 125 acres of residential and commercial land use drain into the hibernaculum, causing the detrimental flooding events. The hibernaculum/stormwater convenance discharges into a 680 linear foot, 40-foot-deep Highbanks Ravine which outlets into the Mississippi River. Stormwater flows through the ravine cause significant erosion and sedimentation into the Mississippi River, impacting fish and aquatic habitat. The plume of sediment is visible on aerials.

According to an article (The Chronicle [January 23, 1979] (stcloudstate.edu)) the hibernaculum should be a cool place (32-44°F) with a water supply as the bats will crawl down and get a drink occasionally. The brick-and-mortar tunnel provides the perfect environment with cool temperatures, cracks for the bats to crawl into for the winter, and a water source (Mississippi River) nearby. The Highbanks Ravine habitats are listed as a Floodplain Forest and Mesic Hardwood Forest. Having this habitat adjacent to the river and hibernaculum is ideal for the bats as they emerge from hibernation. The bats can exit, find food immediately and rest in the trees.

The City has been working closely with the MNDR over the past eight years to identify a solution to address the negative and detrimental stormwater impacts on the bat hibernaculum and Mississippi River. After a detailed assessment of varying options ranging from eliminating the bat hibernaculum, creating an alternative bat roosting area, re-routing stormwater flow, and many other options, the MNDNR and City have identified the best option to enhance habitat in the area is to remove/route the stormwater flow away from the bat hibernaculum and around the ravine.

The proposed project is unique and a non-traditional habitat enhancement project in that the project includes the installation of a stormwater pipe.

The new stormwater pipe alignment includes revamping the stormwater system to eliminate flows to the brickand-mortar tunnel by rerouting the lateral stormwater pipes to the south along 4th Street South and would outlet directly into the Mississippi River. The new route will improve water quality be eliminating flow and erosion within the ravine. This re-route is critical in the enhancement of the hibernaculum as it eliminates the flooding of the tunnel and improves fish and aquatic habitat by reducing sediment into the Mississippi River.

Explain how the proposal addresses habitat protection, restoration, and/or enhancement for fish, game & wildlife, including threatened or endangered species conservation

The bat hibernaculum is currently under a conservation easement with the MNDNR. Over the past several years the conditions within the hibernaculum have become less favorable for the bat species. The DNR noted in the last surveys it appears the brick-and-mortar structure has flooded to near the ceiling, which would be detrimental to any bats using the hibernaculum for shelter. Bat habitat and particularly hibernaculum are critical to bat survival. Minnesota has white-nose syndrome (WNS) which is a disease that is killing bats across North America. There have been no bats with WNS found within the Highbanks hibernaculum. The enhancement and re-establishment of a healthy hibernaculum would be extremely beneficial to the bat population in Central Minnesota. The goal of the enhancement would be to retire this historic brick-and-mortar tunnel as a stormwater mainline conveyance by installing a new mainline system. The project would remove the lateral stormwater connections to the hibernaculum, which will likely increase the temperature of the brick-and-mortar tunnel returning it to the favorable environmental conditions of the 1950– 2000's.

Protection of the river from sediment is important for water quality, spawning habitat, and general quality of the water. The Highbanks Ravine has been prone to erosion and this sediment ends up in the Mississippi river. The ravine itself is an important habitat for bats emerging from hibernation. The forested floodplain habitat of the ravine bottom provides areas of rest and/or food source immediately outside the hibernaculum.

The ravine and hibernaculum are critical habitat for the Big Brown bat (Eptesicus fuscus), Tricolored bat (Perimyotis subflavus), and the Northern Long-eared bat (Myotis septentrionalis).

What are the elements of this proposal that are critical from a timing perspective?

The City of St. Cloud has already completed a preliminary design, topographic surveys, design, and permitting for the project. The City has also secured two other grants to help fund the project through FEMA and LCCMR. Due to significant material cost increases over the past couple of years, there remains a funding gap preventing the project from being constructed. If additional funds are not secured to complete the project, the funds already in hand will not meet completion deadlines and the money will have to be returned to the agencies, resulting in the project not being completed. In addition to funding, the ravine slopes continue to erode. The erosion significantly increases each year, threating the ravine habitat, bat hibernaculum entrance and the integrity of adjacent buildings and infrastructure.

Describe how the proposal expands habitat corridors or complexes and/or addresses habitat fragmentation:

Known public bat hibernacula are not common with approximately 30 total hibernacula being identified by the USFWS and MNDNR. There are likely many private areas, such as homes or barns, that may provide locations for bats to hibernate. However, these areas are generally not protected or regulated. This puts the bats and hibernaculum sites at risk as development occurs and people either remove or seal up hibernaculum locations used by bats. The enhancement of the brick-and-mortar tunnel back to the conditions found in the 1950 – 1980's would provide the opportunity for the bats to expand the use of the hibernaculum, bringing population from two (2) into the hundreds. By removing erosion potential from the adjacent ravine, eroded areas can reestablish creating a more favorable and flourishing Floodplain Forest and Mesic Hardwood Forest habitat within the ravine, between the bat hibernaculum to the Mississippi River.

Which Conservation Plans referenced in MS97A.056, subd. 3a are most applicable to this project?

• Minnesota DNR Nongame Wildlife Plans

• Minnesota Statewide Conservation & Preservation Plan

Explain how this proposal will uniquely address habitat resilience to climate change and its anticipated effects on game, fish & wildlife species utilizing the protected or restored/enhanced habitat this proposal targets.

As we continue to see more significant and intense precipitation events the impacts to the bat hibernaculum flooding will continue to worsen making it impossible for bat to roost within the brick-and-mortar structure. This would eliminate the benefit of the bat hibernaculum. By establishing a new stormwater conveyance to remove the stormwater flow from the bat hibernaculum and around the ravine, large and intense precipitation events can be better managed and conveyed, saving the bat hibernaculum and improving water quality and aquatic habitat.

Which LSOHC section priorities are addressed in this proposal?

Forest / Prairie Transition

• Protect, restore, and enhance habitat for waterfowl, upland birds, and species of greatest conservation need

Describe how this project/program will produce and demonstrate a significant and permanent conservation legacy and/or outcomes for fish, game, and wildlife, and if not permanent outcomes, why it is important to undertake at this time:

The bat hibernaculum is protected with a MNDNR conservation easement. However, even with the easement the current environmental conditions of the bat hibernaculum make the hibernaculum uninhabitable for bats. The project will remove the detrimental stormwater flows from the hibernaculum, prevent ongoing erosion within the ravine and restore the hibernaculum and area to conditions that have historically proven favorable for bats. Failure to complete this project now will result in continued deterioration of habitat and potentially the loss of funding already in hand.

Outcomes

Programs in forest-prairie transition region:

Protected, restored, and enhanced nesting and migratory habitat for waterfowl, upland birds, and species
of greatest conservation need ~ The success of the brick-and-mortar tunnel hibernaculum will be measured
in the ability to create the environmental conditions that bat species will desire for the winter. The ideal
habitat is air temperatures of 32 – 44 degrees F; fresh water available; and tunnel does not flood. These
conditions can be measured by placement of an electronic measuring device post construction. The ultimate
measure of success for the hibernaculum will be bat use, which will likely occur via MNDNR surveys. The
measurement of success of the bank stabilization portions include the establishment of permanent vegetation
and no erosion.

What other dedicated funds may collaborate with or contribute to this proposal?

• Environment and Natural Resource Trust Fund

Per MS 97A.056, Subd. 24, Please explain whether the request is supplanting or is a substitution for any previous funding that was not from a legacy fund and was used for the same purpose.

This funding request does not supplant or substitute for previous funding that was not from a legacy fund. Other project funds have been secured through LCCMR and through FEMA, and the LSOHC funds would be used to fill the remaining funding gap. It does not replace previous funding.

How will you sustain and/or maintain this work after the Outdoor Heritage Funds are expended?

The perpetual MNDNR conservation easement over, under, and upon the bat hibernaculum, protects the hibernaculum from any topographic changes or alterations of the natural landscape in any fashion. The City has also completed a structural assessment of the brick-and-mortar structure and is working closely with the MNDNR to identify and implement improvements to the structure to maintain its structural integrity as part of the project. The MNDNR and the City are working to incorporate structural improvements that will further enhance habitat within the hibernaculum.

The new proposed storm sewer convenance system will be located within the City of St Cloud owned right-of-way and will be maintained in accordance with City's current stormwater system maintenance program.

Actions to Maintain Project Outcomes

Year	Source of Funds	Step 1	Step 2	Step 3
Annually	City of St. Cloud	Inspect and monitor	Complete any identified maintenance activities	Plan for and budget any necessary capital improvements

Provide an assessment of how your program may celebrate cultural diversity or reach diverse communities in Minnesota, including reaching low- and moderate-income households:

An assessment of the project was completed utilizing the Minnesota Pollution Control Agency's "Understanding Environmental Justice" tool, which identified the project area as an "environmental justice area of concern" due to the fact that more than 40% of the residents living in the neighborhood around the habitat restoration area have income of less than 185% of the federal poverty level. Additionally, more than 50% of the people living in the neighborhood directly to the south of the project area are people of color. While the benefits of habitat restoration extend far beyond the project site, including protection of a threatened bat species, it is important to be aware of how the project will impact the people living in close proximity to the site. Should grant funds be awarded, the project benefits will extend to the adjacent neighborhoods as well, including future potential research and educational opportunities in partnership with St. Cloud State University.

Activity Details

Requirements

If funded, this proposal will meet all applicable criteria set forth in MS 97A.056? Yes

Will restoration and enhancement work follow best management practices including MS 84.973 Pollinator Habitat Program?

Yes

Is the restoration and enhancement activity on permanently protected land per 97A.056, Subd 13(f), tribal lands, and/or public waters per MS 103G.005, Subd. 15 or on lands to be acquired in this program? Yes

Where does the activity take place?

- Permanently Protected Conservation Easements
- County/Municipal

Land Use

Will there be planting of any crop on OHF land purchased or restored in this program? No

Will neonicotinoid pesticide products be used within any activities of this proposal? No

Other OHF Appropriation Awards

Have you received OHF dollars in the past through LSOHC that are current OPEN appropriations? No

Timeline

Activity Name	Estimated Completion Date
Bid project	June 2024
Construction begins	August 2024 (or once authorized LSOHC)
Final completion and project closeout	August 2025

Budget

Totals

Item	Funding Request	Total Leverage	Leverage Source	Total
Personnel	-	\$15,000	City of St. Cloud,	\$15,000
			Stearns County	
Contracts	\$1,905,000	\$3,722,000	LCCMR and FEMA	\$5,627,000
Fee Acquisition w/ PILT	-	-	-	-
Fee Acquisition w/o PILT	-	-	-	-
Easement Acquisition	-	\$40,000	City of St. Cloud	\$40,000
Easement	-	-	-	-
Stewardship				
Travel	-	-	-	-
Professional Services	\$395,000	\$225,000	City of St. Cloud	\$620,000
Direct Support	-	-	-	-
Services				
DNR Land Acquisition	-	-	-	-
Costs				
Capital Equipment	-	-	-	-
Other	-	-	-	-
Equipment/Tools				
Supplies/Materials	-	-	-	-
DNR IDP	-	-	-	-
Grand Total	\$2,300,000	\$4,002,000	-	\$6,302,000

Personnel

Position	Annual FTE	Years Working	Funding Request	Total Leverage	Leverage Source	Total
Stearns County Staff	0.05	1.0	-	\$5,000	Stearns County	\$5,000
City Public Utilities Staff	0.1	1.0	-	\$10,000	City of St. Cloud	\$10,000

Amount of Request: \$2,300,000 Amount of Leverage: \$4,002,000 Leverage as a percent of the Request: 174.0% DSS + Personnel: -As a % of the total request: 0.0% Easement Stewardship: -As a % of the Easement Acquisition: -

Total Leverage (from above)	Amount Confirmed	% of Total Leverage	Amount Anticipated	% of Total Leverage
\$4,002,000	\$4,002,000	100.0%	-	0.0%

Detail leverage sources and confirmation of funds:

City and County staff time is committed toward this project. An LCCMR grant in the amount of \$825,000 has been secured, as has a FEMA grant in the amount of \$2,897,000.

Does this proposal have the ability to be scalable?

No

Please explain why this project can NOT be scaled:

Phasing this project has been thoroughly evaluated, but unfortunately is not possible. The habitat protection will not occur until the project is fully completed.

Contracts

What is included in the contracts line?

If awarded funds, the work will be competitively bid and the City will enter into a contract for completion of the work to reroute the stormwater out of the bat hibernaculum.

Professional Services

What is included in the Professional Services line?

• Design/Engineering

Federal Funds

Do you anticipate federal funds as a match for this program? Yes

Are the funds confirmed?

Yes

• Other : FEMA Grant

Output Tables

Acres by Resource Type (Table 1)

Туре	Wetland	Prairie	Forest	Habitat	Total Acres
Restore	0	0	0	0	0
Protect in Fee with State PILT Liability	0	0	0	0	0
Protect in Fee w/o State PILT Liability	0	0	0	0	0
Protect in Easement	0	0	0	0	0
Enhance	0	0	0	2	2
Total	0	0	0	2	2

Total Requested Funding by Resource Type (Table 2)

Туре	Wetland	Prairie	Forest	Habitat	Total Funding
Restore	-	-	-	-	-
Protect in Fee with State PILT Liability	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-
Protect in Easement	-	-	-	-	-
Enhance	-	-	-	\$2,300,000	\$2,300,000
Total	-	-	-	\$2,300,000	\$2,300,000

Acres within each Ecological Section (Table 3)

Туре	Metro/Urban	Forest/Prairie	SE Forest	Prairie	N. Forest	Total Acres
Restore	0	0	0	0	0	0
Protect in Fee with State PILT Liability	0	0	0	0	0	0
Protect in Fee w/o State PILT Liability	0	0	0	0	0	0
Protect in Easement	0	0	0	0	0	0
Enhance	0	2	0	0	0	2
Total	0	2	0	0	0	2

Total Requested Funding within each Ecological Section (Table 4)

Туре	Metro/Urban	Forest/Prairie	SE Forest	Prairie	N. Forest	Total Funding
Restore	-	-	-	-	-	-
Protect in Fee with State PILT Liability	-	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-	-
Protect in Easement	-	-	-	-	-	-
Enhance	-	\$2,300,000	-	-	-	\$2,300,000
Total	-	\$2,300,000	-	-	-	\$2,300,000

Average Cost per Acre by Resource Type (Table 5)

Туре	Wetland	Prairie	Forest	Habitat
Restore	-	-	-	-
Protect in Fee with State PILT Liability	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-
Protect in Easement	-	-	-	-
Enhance	-	-	-	\$1,150,000

Average Cost per Acre by Ecological Section (Table 6)

Туре	Metro/Urban	Forest/Prairie	SE Forest	Prairie	N. Forest
Restore	-	-	-	-	-
Protect in Fee with State	-	-	-	-	-
PILT Liability					

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Protect in Fee w/o State PILT Liability	-	-	-	-	-
Protect in Easement	-	-	-	-	-
Enhance	-	\$1,150,000	-	-	-

Target Lake/Stream/River Feet or Miles

Parcels

Sign-up Criteria?

No

Explain the process used to identify, prioritize, and select the parcels on your list:

These parcels were selected because they contain the project area, including the bat hibernaculum, the ravine, and the area where the new pipe would re-route the stormwater.

Restore / Enhance Parcels

Name	County	TRDS	Acres	Est Cost	Existing Protection
82.51977.0010	Stearns	12428211	-	-	Yes
City owned right of way	Stearns	12428211	-	-	No
82.51569.0200	Stearns	12428211	-	-	Yes
82.51977.0000	Stearns	12428214	-	-	Yes
82.51569.0000	Stearns	12428211	-	-	Yes
82.51570.0000	Stearns	12428211	-	-	Yes

Parcel Map



CITY OF HIGHBANKS RAVINE ST.CLOUD HIGHBANKS RAVINE BAT HIBERNACULUM





The Highbanks Ravine is a 690 feet long, 40-feet deep ravine located in a developed area of St. Cloud.

- The ravine takes runoff from 125 acres of residential and commercial land uses.
- Drainage from two storm pipe systems flows through the ravine causing significant erosion.
- The primary storm sewer is protected by a Minnesota Department of Natural Resources (MNDNR) easement as a bat hibernaculum



The Bat Habitat impacts due to stormwater drainage.

- The city is working with MNDNR and the United States Fish and Wildlife Services (USFWS) to help protect and enhance the bat hibernaculum.
- Stormwater flow is detrimental to bats roosting in the brick and mortar storm sewer bat hibernaculum.
- The city is working with property owners to address unsafe slopes and dangerous conditions near and above the bat hibernaculum.



The significant erosion and bank failures cause large amounts of sediment to be transported to the Mississippi River.

- Retaining walls are visibly leaning towards the ravine and bank failures are within feet of and exposing structure foundations.
- The ravine is located near the St. Cloud State University Campus and has been a nuisance dumping ground for many years.
- Debris and eroded sediment washes into the Mississippi River or accumulates, posing an environmental and safety concern.
- Due to the potential safety and hazardous impacts, the Highbanks Ravine was added to the Stearns County Hazard Mitigation Plan in 2015.

PROJECT STATUS

- The city bid the project in March 2022. Bids came back well above project estimates due to significant increases in material costs. For example, the project includes large diameter concrete pipe and large concrete structures. Concrete costs increased by over 40% from the time the project was advertised for bid to when bids were open.
- The city made design changes to help reduce construction costs and the project is ready to rebid. However, the project is still over budget. If additional funds are secured the project can be built during the 2024 construction season. If additional funds are not obtained the project will not be able to move forward.



PROJECT IMPROVEMENTS



Re-route the storm pipe around ravine to protect adjacent properties.



Remove storm flow from MNDNR protected storm sewer to enhance bat hibernaculum.



Stabilize existing bank failures and provide overland flow management to prevent ongoing erosion.



Provide trash and debris management, and fill dangerous depressions to make the area safer and cleaner.









Estimated Total Project Costs \$6.3 MILLION

Current Funding Sources FEMA FUNDING = \$2.89 MILLION LCCMR FUNDING = \$825,000

Remaining Project Cost **\$2.3 MILLION**



As Trusted Partners:









HIGHBANKS RAVINE BAT HABITAT ENHANCEMENT & PROTECTION PROJECT ST CLOUD, MINNESOTA

This map is neither a legally recorded map nor a survey map and is not intended to be used as one. This map is a compilation of records, information, and data gathered from various sources listed on this map and is to be used for reference purposes only. SEH does not varrant that the Geographic Information System (GIS) Data used to prepare this map are error free, and SEH does not represent that the GEOgraphic features. The user of this map achowedges that SEH shall not be liable for any damages which arise out of the user's access to use of data provided.

DEPARTMENT OF NATURAL RESOURCES

Division of Ecological and Water Resources

500 Lafayette Road Saint Paul, MN 55155

May 2, 2022

Lisa Vollbrecht Public Utilities Director City of St. Cloud 1201 7th St. S. St. Cloud, MN 56301

Greetings,

Since 1992, the Minnesota Department of Natural Resources has held a perpetual conservation easement on a bat hibernaculum in the City of St. Cloud, as described in the attached easement. The bat hibernaculum is an early 1900's stone mason storm drain that runs under 3rd Ave South and empties into Highbanks Ravine. The easement requires written authorization from the Commissioner of the Department of Natural Resources for any topographic changes or alteration of the natural landscape or for any structures or devices, whether permanent or temporary, constructed or placed on the premises. The City has proposed and is requesting approval of a project designed to address erosion concerns in Highbanks Ravine and provide improved conditions within the storm drain for hibernating bats. The City of St. Cloud requested approval of five actions in a letter to MN DNR dated January 10, 2022. In brief, those five actions are:

- 1. Place fill over existing bat hibernaculum easement.
- 2. Repair structural integrity of the bat hibernaculum.
- 3. Bank stabilization within the adjacent ravine:
- 4. Tree removal.
- 5. Re-route storm water flow away from the bat hibernaculum. This includes the inlet within the parking lot off of 4th Ave.

Item #1 Place fill over existing bat hibernaculum easement.

West of 3rd Avenue South there is a valley or small gulley which is over the bat hibernaculum. The City proposes to fill in this small gulley and add desking, stairs, paths, and seating to the depression area and requests MN DNR approval. Nathan C Klopp, PE Short Elliott Hendrickson Inc conducted a structural assessment of the culvert for the City. Although structural capacity could not be calculated without original construction plans, the assessment concluded that it would be reasonable to assume that the culvert would be capable of withstanding loading from filling the small gulley to an elevation like the adjacent areas. The new loading would be similar to the loading near the manhole in the parking lot. *DNR approves this action.*

Item #2 Repair structural integrity of the bat hibernaculum.

The structural assessment of the culvert recommended tuckpointing of the stone masonry to retain the structural integrity of the bat hibernaculum into the future. However, the proposed tuckpointing would

eliminate the spaces in the culvert that are used as roost sites by bats. The DNR supports routine inspections on a two to four year cycle to monitor the structural integrity of the culvert, as recommended in the structural assessment report. DNR would be willing to reconsider this action in the future if monitoring demonstrates progressing deterioration of the structural integrity.

DNR does not approve this action.

Item #3 Bank stabilization within the adjacent ravine

To address ongoing erosion within the Highbanks Ravine, the City proposes re-routing the existing storm sewer and stormwater flow out of the ravine and bat hibernaculum along with stabilizing the areas of existing erosion. The proposed work will include the removal of trees, placement of fill and flattening of ravine slopes where possible. The DNR believes the proposed work will improve conditions within the storm drain for hibernating bats.

DNR approves this action.

Item #4 Tree removal

The proposed project will include the removal of trees within the ravine, within the gulley depression and along the road corridor proposed for re-routing the storm sewer. Despite the presence of a bat hibernaculum, the DNR is not concerned with tree removal in this area because the hibernaculum has not been used by northern long eared bats in recent years and the trees present are not suitable for roosting. *DNR approves this action*

Item #5 Re-routing of all storm sewer inlets to the bat hibernaculum

At the DNR's request, the City proposes to reroute an existing catch basin that currently drains into the bat hibernaculum. The catch basin located within a parking lot to the west of the gulley depression will be routed into an existing storm sewer system located along 4th Ave. South. The DNR believes the proposed work will improve conditions for hibernating bats.

DNR approves this action

Thank you for your continued cooperation and dedication to protecting the bat hibernaculum and our rare and declining bat species.

Sincerely,

Katie Smith Depaty speetby Kate Smith

Katie Smith, Director

Division of Ecological and Water Resources

CC: Jan Shaw Wolff, Manager, Ecosystem Management and Protection Section Dan Lais, Manager, Region 3, Division of Ecological and Water Resources

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