



# Environment and Natural Resources Trust Fund (ENRTF) M.L. 2014 Work Plan

**Date of Report:** December 31, 2013  
**Date of Next Status Update Report:** November 15, 2014  
**Date of Work Plan Approval:**  
**Project Completion Date:** June 30, 2017  
**Does this submission include an amendment request?** No

**PROJECT TITLE: Contaminants in Minnesota’s Loons and Pelicans-Phase 2**

**Project Manager:** Carrol Henderson  
**Organization:** Minnesota Department of Natural Resources  
**Mailing Address:** Nongame Wildlife Program, Box 25, Division of Ecological and Water Resources, Department of Natural Resources, 500 Lafayette Road.  
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**Location: Statewide**

<b>Total ENRTF Project Budget:</b>	<b>ENRTF Appropriation:</b>	<b>\$260,000</b>
	<b>Amount Spent:</b>	<b>\$0</b>
	<b>Balance:</b>	<b>\$260,000</b>

**Legal Citation:** M.L. 2014, Chp. 226, Sec. 2, Subd. 05g

**Appropriation Language:**

\$260,000 the second year is from the trust fund to the commissioner of natural resources to continue to assess the potential impact of petroleum, dispersants, and heavy metal contaminants from the Deepwater Horizon oil spill in the Gulf of Mexico on the wintering habitat of Minnesota's common loons and white pelicans using radiotelemetry, geolocators, and contaminant analysis.

**I. PROJECT TITLE: Contaminants in Minnesota’s Loons and Pelicans-Phase 2**

**II. PROJECT STATEMENT:** Since April 2010, the Deepwater Horizon oil spill has taken on significant dimensions because of direct mortality and possible long term impacts on Minnesota-origin Common loons and American white pelicans. Petroleum contaminants (PAH) and toxic dispersants (DOSS) released into the Gulf of Mexico cause continuing exposure to loons and pelicans that winter in the Gulf of Mexico. PAH stands for Polycyclic Aromatic Hydrocarbons. They are petroleum contaminants that are carcinogenic, mutagenic, and teratogenic. DOSS stands for Dioctyl Sodium Sulfosuccinate. Known commercially as “Corexit”, from 800,000 to 1,000,000 gallons were dispersed onto oil slicks in the Gulf. It did not break down the oil. It only made it sink. DOSS is reported by the Environmental Protection Agency to cause respiratory, nervous system, liver, kidney, and blood disorders. It is carcinogenic and causes hormone disruption.

Minnesota has the largest breeding population of both loons (12,000 adult loons in the state) and white pelicans (22,000 breeding pairs which nest primarily on islands of Marsh Lake near Appleton in Swift County). This presents a national stewardship responsibility to look after the long term health of and survival of those populations.

Loons hatched in Minnesota in the summers of 2008 and 2009 were in the Gulf when the oil spill occurred, and young pelicans hatched in 2009 were also present in the Gulf when the oil spill occurred. Subadult loons do not return to Minnesota until the beginning of their third year, and they typically do not begin breeding until their fifth year. Young American white pelicans do not return to Minnesota until spring of their second year. The Deepwater Horizon oil spill caused the death of approximately 200 Common loons and continuing contamination may be affecting their long term survival and reproduction. This study is directed at learning the extent of those long term damages.

ENRTF funding in 2011 provided three years of field studies in which telemetry showed that, in addition to the impacts on juvenile loons, adult loons from Minnesota subsequently migrated to winter in the area affected by the oil spill. Analyses of loon and pelican blood, tissue, egg, and bill knob samples revealed that a significant percentage of loons and pelicans from Minnesota had picked up both oil and dispersant contaminants in the Gulf. This may be causing long term sublethal impacts including reproductive failure, population declines, or reduced longevity in these long-lived species. Five activities are proposed over the next two years to continue assessing pollutant levels, migration patterns, and population trends for loons and white pelicans.

This information will be used by the US Fish and Wildlife Service in development of their federal court case based on the Natural Resources Damage and Restoration (NRDAR) process under the Oil Pollution Act to reimburse states for the loss of wildlife due to oil spills. This data and other information previously gathered in this ENRTF study will likely result in a significant settlement to the State of Minnesota for damages to loons and pelicans, with the proceeds to be used for future loon and waterbird restoration and management purposes over a 15 year period.

**III. PROJECT STATUS UPDATES:**

**Project Status as of November 15, 2014:**

**Project Status as of April 15, 2015:**

**Project Status as of September 15, 2015:**

**Project Status as of April 15, 2016:**

**Project Status as of September 15, 2016:**

**Project Status as of April 15, 2017:**

**Overall Project Outcomes and Results:**

**IV. PROJECT ACTIVITIES AND OUTCOMES:**

**Activity 1: Migration patterns and wintering distribution of juvenile common loons.**

**Budget: \$79,300**

**Description:** The US Geological Survey will be contracted for their biologists and a wildlife veterinarian to capture 15 juvenile loons by nightlighting in the summer of 2014. The loons will be surgically outfitted with internal satellite transmitters and geolocators on their leg bands to monitor their subsequent migration and movements during their first two years of life. Little is known about how juvenile loons utilize the Gulf of Mexico in their first two years of life. This has become an extremely important portion of this study because it documents the wintering sites in the Gulf of Mexico that have been most directly impacted by the Deepwater Horizon oil spill. Loons will subsequently be recaptured to obtain data collected on the geolocators which includes the depths to which the loons dive while feeding.

**Summary Budget Information for Activity 1:**

**ENRTF Budget: \$ 79,300**  
**Amount Spent: \$ 0**  
**Balance: \$ 79,300**

**Activity Completion Date:**

<b>Outcome</b>	<b>Completion Date</b>	<b>Budget</b>
1. Capture & outfit 15 juvenile loons in 2014 with transmitters and geocator tags and monitor loon movements and survival.	Sept. 15, 2014	\$ 64,300
2. Recover geocator tags via carcass recovery or recapture to download data and produce final report.	Dec 1, 2016	\$ 15,000

**Activity Status as of November 15, 2014:**

**Activity Status as of April 15, 2015:**

**Activity Status as of September 15, 2015:**

**Activity Status as of April 15, 2016:**

**Activity Status as of September 15, 2016:**

**Activity Status as of April 15, 2017:**

**Final Report Summary:**

**Activity 2: Loon and pelican tissue contaminants analysis.**

**Budget: \$ 84,013**

**Description:** The North Dakota State University Dept. of Biology will be contracted to collect 50 eggs from the American white pelican colony breeding at Marsh Lake in 2014 and 2015. The U of Connecticut will be contracted to analyze the eggs for PAH and DOSS to determine if petroleum contaminant concentrations are declining from 2011 levels.

Contract with the U of Connecticut to analyze loon feather samples collected by the US Geological Survey biologists for both PAH and DOSS contaminants to verify high levels of PAH and DOSS detected in blood samples from the same loons. The U of Connecticut will analyze blood samples taken from live loons captured by the USGS in the course of placing or recovering geolocators and satellite transmitters by the USGS field staff. They will also analyze blood and fatty tissue samples of loons found dead in Minnesota for PAH and DOSS.

This analysis will be carried out by the Center for Environmental Sciences and Engineering at the University of Connecticut because that facility has been doing the analysis of PAH and DOSS samples in wildlife contaminated by the Deep Horizon oil spill for federal agencies and research institutions. It is important that the results obtained for Minnesota's loons and pelicans to be consistent with the results obtained with other samples from the oil spill to strengthen the evidence that will be necessary to present for federal litigation related to upcoming NRDAR proceedings. The U of Connecticut also has access to original samples of oil spilled during the Deep Horizon incident so that unique PAH and DOSS features found in MN can be matched to the "fingerprint" characteristics of the oil spill petroleum and dispersant. That is why a Minnesota-based firm was not identified to carry out this analysis.

Additional analysis will be carried out to determine levels of heavy metal contaminants in 125 loon blood samples. This specialized analysis of heavy metals in loon blood samples will be carried out by Frontier Global Sciences, Inc. They specialize in comprehensive biological assessment of heavy metals in wildlife blood and tissues. They offer a superior level of detection and accuracy compared other labs that do such testing including those in Minnesota. This assessment will broaden our understanding of additional environmental contaminants, like mercury or lead which can pose a long-term threat to the health of Minnesota's loon population.

**Summary Budget Information for Activity 2:**

**ENRTF Budget: \$ 84,013**  
**Amount Spent: \$ 0**  
**Balance: \$ 84,013**

**Activity Completion Date:**

Outcome	Completion Date	Budget
1. Collect 50 pelican eggs at selected Minnesota colony sites.	Sept. 15, 2015	\$ 8,000
2. Analyze 50 pelican eggs for PAH and DOSS concentrations and provide summary of results to MN DNR and USGS.	June 30, 2015	\$ 15,000
3. Prepare summary report of findings on all contaminants found in pelican eggs and bill knobs from 2011 through 2015 .	Dec 31, 2015	\$ 8,000
4. Analyze 26 loon feather samples for PAH and DOSS and provide summary of results to MN DNR and USGS.	June 30, 2015	\$ 7,800
5. Analyze up to 45 blood samples taken from live loons captured by USGS field staff and provide summary of results to MN DNR and USGS.	June 30, 2015	\$ 13,350
6. Analyze 34 blood and fatty tissue samples from dead loons from Minnesota and provide summary of results to MN DNR and USGS.	June 30, 2015	\$ 10,000
7. Analyze 125 blood samples for heavy metals and provide results to MN DNR and USGS.	June 30, 2015	\$ 20,293
8. Direct and necessary services/DNR	June 30, 2015	\$ 1,570

**Activity Status as of November 15, 2014:**

**Activity Status as of April 15, 2015:**

**Activity Status as of September 15, 2015:**

**Activity Status as of April 15, 2016:**

**Activity Status as of September 15, 2016:**

**Activity Status as of April 15, 2017:**

**Final Report Summary:**

**Activity 3: Statewide pelican survey.****Budget: \$ 31,500**

**Description:** The University of Minnesota will be contracted to carry out aerial surveys to determine statewide abundance and distribution of American White Pelicans in 2014 and estimate numbers of pelican fledglings at selected Minnesota colonies. Methods will be similar to those used in assessing pelican distribution, abundance, and population change in 2011 and 2012, during which a total of 53 sites were surveyed. Reports of nest sites in the state will be solicited from natural resource professionals, and all reported and known nest sites will be visited on the ground or by aircraft during the May-June nesting period. Aerial photographs will be used to obtain nest estimates from all sites where pelicans are nesting unless visibility from the air is poor, in which case ground counts will be used. Estimates of fledgling survival will also be generated from ground counts.

Pelican surveys under this activity will be conducted by the University of Minnesota, under contract to MNDNR.

**Summary Budget Information for Activity 3:**

**ENRTF Budget:** \$ 31,500  
**Amount Spent:** \$ 0  
**Balance:** \$ 31,500

**Activity Completion Date:**

<b>Outcome</b>	<b>Completion Date</b>	<b>Budget</b>
1. Carry out statewide survey to Determine location and size of all active pelican colonies.	Nov. 30, 2014	\$ 21,500
2. Prepare a final report that estimates numbers of nesting pelicans at all nesting colonies in Minnesota, analyzes statewide trends to assess if populations are increasing, stable or declining, estimates numbers of young birds at specific colonies, and determines ratio of young birds to adults as an indicator of reproductive success.	June 30, 2015	\$ 10,000

**Activity Status as of November 15, 2014:****Activity Status as of April 15, 2015:****Activity Status as of September 15, 2015:****Activity Status as of April 15, 2016:****Activity Status as of September 15, 2016:****Activity Status as of April 15, 2017:****Final Report Summary:****Activity 4: Pelican satellite telemetry.****Budget: \$ 18,300**

**Description:** Audubon Minnesota will be contracted to carry out a satellite transmitter study that will include outfitting four white pelicans from the Marsh Lake white pelican colony, Big Stone County. They will be banded and outfitted with external solar-powered satellite radios in the summer of 2015 to monitor summer and winter movements related to nesting season activities, foraging behavior, and wintering locations comparable to the information collected for loons. This information will be correlated related to oil spill sites in the Gulf of Mexico. This information will help provide a more complete picture of pelican wintering activity to supplement existing band recovery information on white pelicans. Because satellite transmitters can be tracked in real time, maps depicting the location of the radioed pelicans will be frequently updated on the internet.

**Summary Budget Information for Activity 4:**

ENRTF Budget: \$ 18,300  
 Amount Spent: \$ 0  
 Balance: \$ 18,300

**Activity Completion Date:**

Outcome	Completion Date	Budget
1. Acquire 4 satellite transmitters for use on pelicans.	Nov 1, 2014	\$ 12,000
2. Capture and outfit 4 adult white pelicans with satellite transmitters.	July 31, 2015	4,000
2. Monitor pelican movements, analyze movement patterns, and prepare final report on white pelican migration and wintering movements.	Sept. 15, 2016	\$ 2,300

**Activity Status as of November 15, 2014:****Activity Status as of April 15, 2015:****Activity Status as of September 15, 2015:****Activity Status as of April 15, 2016:****Activity Status as of September 15, 2016:****Activity Status as of April 15, 2017:****Final Report Summary:****Activity 5: Loon satellite transmitters and satellite service acquisition****Budget: \$46,887**

**Description:** The DNR Nongame Wildlife Program will acquire the 15 satellite transmitters that will be used on the juvenile loons and will handle the subscription for the monitoring and downloading the satellite data received from the pelicans that are outfitted with satellite transmitters. Further description of plans for this activity can be found under Activity 1 and Activity 4.

Purchase of satellite transmitters and satellite subscription will be conducted by MNDNR.

**Summary Budget Information for Activity 5:**

ENRTF Budget: \$ 46,887  
 Amount Spent: \$ 0  
 Balance: \$ 46,887

**Activity Completion Date:**

Outcome	Completion Date	Budget
1. Purchase 15 satellite transmitters @ \$2756.67@ ea. for use on juvenile loons	July 10, 2014	\$ 41,350
2. Purchase satellite subscription to record movements of white pelicans via satellite transmitters @ \$200/month for 12 months.	July 1, 2015	\$ 2,400
3. Direct and Necessary Services (see explanation below)	N/A	\$ 3,137

**Activity Status as of November 15, 2014:**

Activity Status as of April 15, 2015:

Activity Status as of September 15, 2015:

Activity Status as of April 15, 2016:

Activity Status as of September 15, 2016:

Activity Status as of April 15, 2017:

Final Report Summary:

**V. DISSEMINATION:**

**Description:** Results of this project will be shared via summary reports made available to the US Fish and Wildlife Service for preparation of their NRDAR court case against BP for damages to Minnesota’s loon and pelican populations. News releases and postings on the Nongame Wildlife Program’s facebook page will be provided as substantial conclusions are reached regarding the extent of contamination that has occurred in the state’s loon and populations, and DNR staff will make themselves for interviews with the media to share the results of that work. All reports and media contacts will provide appropriate credits to the ENRTF for funding this project.

Status as of November 15, 2014:

Status as of April 15, 2015:

Status as of September 15, 2015:

Status as of April 15, 2016:

Status as of September 15, 2016:

Status as of April 15, 2017:

Final Report Summary:

**VI. PROJECT BUDGET SUMMARY:**

**A. ENRTF Budget Overview:**

Budget Category	\$ Amount	Explanation
Personnel:	\$ 0	DNR In-Kind
Professional/Technical/Service Contracts	\$ 79,300	USGS (Activity 1)
	\$ 16,000	NDSU (Activity 2)
	\$ 46,150	UConn (Activity 2)
	\$ 20,293	Frontier Global Sciences or similar (Activity 2)
	\$ 31,500	UMN (Activity 3)
	\$ 18,300	Audubon Minnesota (Activity 4)
	\$ 2,400	satellite subscription service (Activity 5)
Equipment/Tools/Supplies:	\$ 41,350	15 Satellite transmitters for loons (Activity 5)
Other: Direct and Necessary*	\$ 4,707	DNR-assessed Direct and Necessary services
<b>TOTAL ENRTF BUDGET:</b>	<b>\$ 260,000</b>	

**\*Explanation of Direct and Necessary assessment:** Direct and Necessary expenses include both Department Support Services (Human Resources, IT Support, Safety, Financial Support, Communications Support, Planning Support, and Procurement Support) and Division Support Services. Department Support Services are described in the agency Service Level Agreement, and is 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, all contractual activities not requiring a competitive bid (total associated cost = \$198,358) were not assessed Direct and Necessary costs.

**Explanation of Use of Classified Staff:** N/A

**Explanation of Capital Expenditures Greater Than \$5,000:** N/A

**Number of Full-time Equivalent (FTE) Directly Funded with this ENRTF Appropriation:** N/A

**Number of Full-time Equivalent (FTE) Estimated to Be Funded through Contracts with this ENRTF Appropriation:** 2 (composite of staff salaries from USGS & U of MN-No DNR staff)

**B. Other Funds:**

Source of Funds	\$ Amount Proposed	\$ Amount Spent	Use of Other Funds
<b>Non-state sources</b>			
USGS senior loon biologist salary match \$10,000	\$ 10,000	0	Project management, implementation and report preparation
Audubon salary match \$10,000	\$ 10,000	0	Project management, implementation and report preparation
U of MN salary match \$17,000	\$ 17,000	0	Project management, implementation and report preparation
NDSU salary match \$10,000	\$ 10,000	0	Project management, implementation and report preparation
<b>State sources</b>			
DNR Nongame Wildlife Program supervisor-15% time for two years, plus travel.	\$ 30,000	0	Project management, supervision, planning, and report preparation
DNR Nongame Wildlife Program Endangered Species Coordinator- 10% time + travel	\$ 15,000	0	Project management, planning, coordination with researchers, and analysis and evaluation of research data
<b>TOTAL OTHER FUNDS:</b>	<b>\$ 92,000</b>	<b>\$ 0</b>	

**VII. PROJECT STRATEGY:**

**A. Project Partners:** US Geological Survey, North Dakota State University, University of Minnesota, University of Connecticut Center for Environmental Sciences, Audubon Minnesota, Frontier Global Sciences Inc., US Fish and Wildlife Service, MN Pollution Control Agency, and DNR Nongame Wildlife Program

**B. Project Impact and Long-term Strategy:** The goal of this project is to assess the immediate and long term impacts that may affect Minnesota’s population of loons and pelicans as a result of the DeepWater Horizon oil

spill that occurred in 2010. The oil spill caused direct mortality to birdlife in the Gulf of Mexico including loons and pelicans. It may also have caused long term sublethal effects that could reduce reproductive potential or longevity for these long-lived birds. This project is part of a 10-year long term strategy to quantify negative long term impacts so that this information can be used by the US Fish and Wildlife Service in developing a federal court case that according to guidelines of the Natural Resources Damages and Restoration Act which will potentially result in award of damages from BP to the State of Minnesota over a 15 year period for restoration and management of loons and pelicans to the extent that they were affected by the oil spill.

**C. Spending History:**

<b>Funding Source</b>	<b>M.L. 2008 or FY09</b>	<b>M.L. 2009 or FY10</b>	<b>M.L. 2010 or FY11</b>	<b>M.L. 2011 or FY12-13</b>	<b>M.L. 2013 or FY14</b>
ENRTF Appropriation				\$ 250,000 ML 2011, 3p	

**VIII. ACQUISITION/RESTORATION LIST: N/A**

**IX. VISUAL ELEMENT or MAP(S): Attached to proposal.**

**X. ACQUISITION/RESTORATION REQUIREMENTS WORKSHEET: N/A**

**XI. RESEARCH ADDENDUM: N/A**

**XII. REPORTING REQUIREMENTS:**

Periodic work plan status update reports will be submitted no later than November 15, 2014, April 15, 2015, September 15, 2015, April 15, 2016, September 15, 2016, and April 15, 2017. A final report and associated products will be submitted between June 30 and August 15, 2017.



Environment and Natural Resources Trust Fund																	
M.L. 2014 Project Budget																	
Project Title: Contaminants in Minnesota's Loons and Pelicans - Phase 2																	
Legal Citation: M.L. 2014, Chp. 226, Sec. 2, Subd. 05g																	
Project Manager: Carrol L. Henderson																	
Organization: Minnesota Department of Natural Resources																	
M.L. 2014 ENRTF Appropriation: \$ 260,000																	
Project Length and Completion Date: 3 Years, June 30, 2017																	
Date of Report: February 6, 2014																	
ENVIRONMENT AND NATURAL RESOURCES TRUST FUND BUDGET	Activity 1 Budget	Amount Spent	Activity 1 Balance	Activity 2 Budget	Amount Spent	Activity 2 Balance	Activity 3 Budget	Amount Spent	Activity 3 Balance	Activity 4 Budget	Amount Spent	Activity 4 Balance	Activity 5 Budget	Amount Spent	Activity 5 Balance	TOTAL BUDGET	TOTAL BALANCE
<b>BUDGET ITEM</b>	<i>Migration patterns and wintering distribution of juvenile common loons</i>			<i>Loon and pelican contaminants analysis</i>			<i>Statewide pelican survey</i>			<i>Pelican satellite telemetry</i>			<i>Loon satellite transmitters and satellite service acquisition</i>				
<b>Professional/Technical/Service Contracts</b>																	
Activity 1: Contract with US Geological Survey to capture and equip 15 juvenile loons with internal satellite transmitters and with geolocators. Monitor movements of loons and recapture loons as possible to recover geolocator data. Collect blood and feathers for contaminant analysis. Prepare final report on results. Extension of existing collaborative agreement.	\$79,300	\$0	\$79,300													\$79,300	\$79,300
Activity 2, Outcomes 1 and 3: Contract with the Department of Biology, North Dakota State University, to collect 50 pelican eggs in 2014 to assess current contaminant levels in white pelican eggs. Also prepare a comprehensive report on the results of contaminant analyses of eggs and bill knobs collected from 2010 through 2014. Extension of existing contract.				\$16,000	\$0	\$16,000										\$16,000	\$16,000
Activity 2, Outcomes 2, 4, 5, and 6: Contract with the Center for Environmental Sciences and Engineering at the University of Connecticut for analyses of 155 samples of pelican eggs, loon blood, loon feathers, loon fatty tissues for both PAH and DOSS contamination levels. Prepare a final report on findings. Extension of existing of contract.				\$46,150	\$0	\$46,150										\$46,150	\$46,150
Activity 2, Outcome 7: Contract with an institution like Frontier Global Services or similar for heavy metals analysis of 125 loon blood samples. Bidding opportunities will be offered for companies that can fulfill the levels of quality control and detection levels that will be necessary to provide legal evidence in federal court proceedings related to the BP oil spill according to NRDAR guidelines. Provide a final report to the MN DNR.				\$20,293	\$0	\$20,293										\$20,293	\$20,293
Activity 3: Contract with the University of Minnesota, Department of Conservation Biology, to carry out a statewide aerial survey of white pelican colonies to determine statewide population numbers and do an assessment of survival of pelican chicks in those colonies. Prepare a final report on findings. Extension of existing contract.							\$31,500	\$0	\$31,500							\$31,500	\$31,500
Activity 4: Contract with Audubon Minnesota as a sole-source provider for carrying out a project to capture 4 white pelicans in summer of 2015 and outfit them with external satellite transmitters to determine migration and wintering movement patterns in the Gulf of Mexico. Provide a final report to the MNDNR.										\$18,300	\$0	\$18,300				\$18,300	\$18,300
Activity 5: Purchase subscription from a service provider for satellite service to track pelicans carrying radios outfitted under Activity 4. \$200/mo x 12 mos													\$2,400	\$0	\$2,400	\$2,400	\$2,400
<b>Equipment/Tools/Supplies</b>																	
15 Satellite Transmitters - Activity 5													\$41,350		\$41,350	\$41,350	\$41,350
<b>Other</b>																	
DNR Direct and Necessary Services Assessment				\$1,570		\$1,570							\$3,137		\$3,137	\$4,707	\$4,707
<b>COLUMN TOTAL</b>	<b>\$79,300</b>	<b>\$0</b>	<b>\$79,300</b>	<b>\$84,013</b>	<b>\$0</b>	<b>\$84,013</b>	<b>\$31,500</b>	<b>\$0</b>	<b>\$31,500</b>	<b>\$18,300</b>	<b>\$0</b>	<b>\$18,300</b>	<b>\$46,887</b>	<b>\$0</b>	<b>\$46,887</b>	<b>\$260,000</b>	<b>\$260,000</b>

**COMMON LOON AND WHITE PELICAN RESEARCH SITES  
LCCMR FY '15 FUNDING CYCLE-Phase 2.**

**Tamarac NWR  
Tamarac Lake  
Blackbird Lake  
Loon Marsh**



**Lake Vermilion**

**Burntside Lake**

**Big Mantrap Lake**

**Fox Lake**

**Sagatagan and  
Stump Lakes**

**Lake George**

**Marsh Lake**



**KEY:  
Common loons-black type  
White pelicans-red type**

## DNR Direct & Necessary Cost Calculator DRAFT 1-10-14

*Fill in yellow cells to calculate services your program needs. All other cells are formulaic and locked.*

Division: **EWR**

Project Title: Contaminants in Minnesota's Loons and Pelicans, Phase II

LCCMR Request (before D&N)	Fee Title or Easement Acquisition	Pass-through Grants	Single-source Contract	Metric	Metric Value	Number of Units	Total D&N
\$ 260,000	\$ -	\$ -	\$ 172,950	<b>People Support</b>	FTE	0	\$ -
				<b>Safety Support</b>	FTE	0	\$ -
				<b>Financial Support</b>	All Other Costs	\$82,343	\$ 1,070
				<b>Communication Support</b>	Altmnts	1	\$ 1,141
				<b>IT Support</b>	IT User ID	0	\$ -
				<b>Planning Support</b>	Altmnts	1	\$ 704
				<b>Procurement Support</b>	Altmnts	1	\$ 235
				<b>Division Direct (project)</b>	Cost/dollar (.0189)	0.0189	\$1,556
				<b>Division Direct (program)</b>	Cost/dollar (.0463)	0.0000	\$0
<b>Total Direct &amp; Necessary:</b>							<b>\$ 4,707</b>
<b>Costs before Direct and Necessary:</b>							<b>\$ 255,293</b>
<b>Total Project Costs:</b>							<b>\$ 260,000</b>

Position Title	Staff Funded by Program/Project			FTE-Year Units	User ID-Year Units
	FTE's Funded	Years	User ID's Needed		
				0	0
				0	0
				0	0
				0	0
				0	0
				0	0
				0	0
<b>SUM:</b>				<b>0</b>	<b>0</b>

**Notes on calculations**

- People Support: FY14 HR Budget/2012-13 March/March FTE
- Safety Support: FY14 Safety Budget/2012-13 March/March FTE
- Financial Support: Source: FY14 OMBS Budget/FY13 Approp & Dedicated Revenue Budget
- Communication Support: FY14 OCO Budget/2013 Allotments
- Computer Support: FY14-15 MN.IT Services @ DNR SLA Budget (Governance Subtotal + IT Server Initiative/2012-13 March/March FTE)
- Planning Services: FY14 Planning Budget/2013 Allotments
- Procurement Support: FY14 Procurement Budget/2013 Allotments
- Division Support: Cost/dollar (from D&N Cost Analysis)