Environment and Natural Resources Trust Fund
2016 Request for Proposals (RFP)

Project Title: **ENRTF ID: 022-A**

Scientific Asset Management: Digital Preservation for Future Generations

Category: A. Foundational Natural Resource Data and Information

Total Project Budget: $ 406,218

Proposed Project Time Period for the Funding Requested: 2 years, July 2016 to June 2018

Summary:

This project will build the core infrastructure to store and organize DNRs scientific information assets into standard digital formats for easier search, retrieval, public access, and long-term preservation.

Name: Andrew Holdsworth

Sponsoring Organization: MN DNR

Address: 500 Lafayette Road N.
St. Paul MN 55155

Telephone Number: (651) 259-5536

Email andy.holdsworth@state.mn.us

Web Address http://www.dnr.state.mn.us/index.html

Location

Region: Statewide

County Name: Statewide

City / Township:

Alternate Text for Visual:

This project consists of three activities. 1) Scientific asset inventory, stakeholder engagement and system selection, 2) implementation of a digital asset management system with pilot content, and 3) public launch of the digital asset mangement system.

_____ Funding Priorities	_____ Multiple Benefits	_____ Outcomes	_____ Knowledge Base
_____ Extent of Impact	_____ Innovation	_____ Scientific/Tech Basis	_____ Urgency
_____ Capacity Readiness	_____ Leverage	_____ TOTAL	_____%

PROJECT TITLE: Scientific Asset Management: Digital Preservation for Future Generations

I. PROJECT STATEMENT

Minnesota has a rich legacy of collecting foundational natural resource information. Natural resource professionals have produced field notes, surveys, maps, and photographs providing site-specific records of land, water, fish, wildlife, and biodiversity conditions extending back over 100 years. The volume of this information has grown dramatically in hard copy form through the 1990s and also in digital form since then. Our natural resources data has been synthesized and interpreted in reports and other documents to serve its primary purposes, such as increasing our understanding of our natural heritage and informing natural resource management decisions. However, the raw materials of this work, including field notes, maps, photos, etc., are at risk of being physically lost or rendered inaccessible to the public and the next generation of natural resource stewards. Other cultural institutions, including academic libraries, museums, and government agencies, are beginning to solve similar problems by building institutional repositories and digital archives of locally created content.

This project will build the core infrastructure to store and organize DNR's scientific assets (e.g. collections of records including photographs, reports, field notes and surveys) into standard digital formats for easier search, retrieval, public access, and long-term preservation. It will combine the information management expertise of DNR's library, content expertise of DNR natural resource managers, knowledge of "citizen archivists", and state-of-the-art digital asset management technology to make publicly available a pilot collection of DNR's scientific assets with high scientific, historical and public value.

This project will improve natural resource data management, conservation, and use statewide through the management and distribution of critical natural resource data that is at risk of loss or not readily accessible. It will help capture the place-based knowledge and information sets of natural resource professionals who are retiring. It will help bring the natural resource information legacy of the 20th century to a new generation of Minnesota citizens who desire location-specific information about the lands they steward, recreate on or visit.

II. PROJECT ACTIVITIES AND OUTCOMES

Activity 1: Scientific asset inventory, stakeholder engagement, and system selection **Budget: $103,000**

We will inventory and evaluate DNR's collection of photographs, reports, field notes and surveys, many of which have historical and scientific value, but are not available or actively managed as an agency-wide asset.

Outcome	Completion Date
1. Stakeholders consulted about high-value content to be included in the system	*September 2016*
2. Criteria developed for content to be included in the system	*October 2016*
3. Inventory of DNR's scientific assets completed	*January 2017*
4. Formats and standards for the digital objects identified, including image quality and required data about subjects, creators, contributors, etc.	*February 2017*
5. Digital asset management system selected	*March 2017*

Activity 2: Implementation of digital asset management system using pilot project content **Budget: $212,000**

We will begin developing our digital asset management infrastructure with a pilot project that transforms a sub-set of the high-value content identified in Activity 1 into a digital asset that can be readily accessed by the public, students, researchers, and natural resource managers.

Outcome	Completion Date
1. Content selected for inclusion in pilot project	*May 2017*
2. Taxonomy of subject keywords specific to natural resources created to facilitate organization and retrieval of digital objects	*July 2017*
3. Print content for pilot digitized, adding metadata (e.g. creators/contributors, date, subject keywords, geospatial information, etc.)	*October 2017*
4. Existing digital pilot project content added to the system	*November 2017*
5. Workflow for curating and loading content into system documented	*December 2017*

Activity 3: Public launch of the digital asset management system **Budget: $91,218**

The public launch of the project will publicize the pilot project and position the digital asset management system as a tool to enhance citizen access to natural resource information.

Outcome	Completion Date
1. Citizen archivists engaged to enhance pilot project content with additional information, such as subject tags and place-based information	*January 2018*
2. Individuals chosen to produce new tools, data visualizations, maps, etc. using the pilot project content	*February 2018*
3. Public release of the pilot project content	*June 2018*

III. PROJECT STRATEGY

A. Project Team/Partners

- Project manager: Andy Holdsworth, Data Management & Performance Unit Supervisor
- Contributor: Robert Maki, MN.IT@DNR: As the MN.IT DNR Chief Information Officer, Robert will be responsible for delivering Information Technology services to the project, including recommendations for file and image storage, and search and retrieval systems, as well as web-based publishing solutions.
- Contributor: Tracy Waterman, DNR Librarian: As the DNR librarian, Tracy has been responsible for supporting the information needs of DNR staff and managing a collection of publications created at DNR for four years. She will participate in stakeholder engagement, content curation, and development of workflows for the digital asset management system.
- 1.5 FTE: Staff person with digital asset management experience and a student worker assistant.

B. Project Impact and Long-Term Strategy

This project will lay the groundwork for an agency-wide effort toward strategic preservation and access to historically and scientifically valuable natural resource information. The scope of this proposal is the planning and implementation of a digital asset management system incorporating a high-value subset of the digital objects we plan to make available over the long term. The initial implementation will include the digitization of information resources that currently exist only in print. Over time, our focus will shift to activities like managing citizen-contributed information, curating contributions from DNR, and the technical work of maintaining the digital asset management system. Following the launch of the digital asset management system and pilot project content, the agency will support the work as a self-sustaining program.

C. Timeline Requirements

We are requesting a 24-month timeline to carry out the proposed project. No particular conditions or stages are required or assumed other than successive completion of the proposed activities.

2016 Detailed Project Budget

Project Title: Scientific Asset Management: Digital Preservation for Future Generations

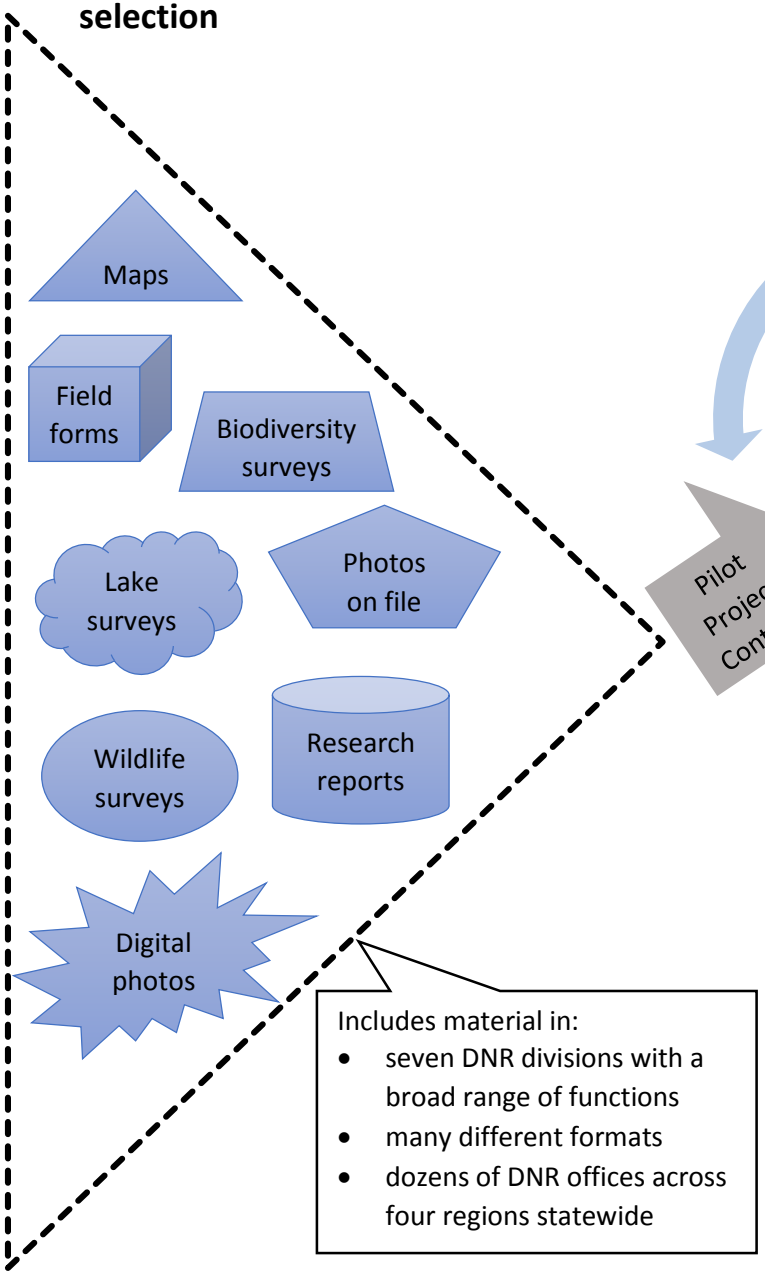
IV. TOTAL ENRTF REQUEST BUDGET: two years

BUDGET ITEM	AMOUNT
Personnel: DNR digital asset management specialist - 1 FTE for two years (78% salary, 22% benefits)	$ 208,000
Personnel: DNR digital library assistant- 0.5 FTE for two years (78% salary, 22% benefits)	$ 60,000
Professional/Technical/Service Contract: IT services including digital asset management platform, programming and web development.	$ 100,000
Professional/Technical/Service Contract: scanning and material processing services to digitize material and load into system.	$ 10,000
Equipment/Tools/Supplies: *In this column, list out general descriptions of item(s) or item type(s) and their purpose - one row per item/item type.*	$ -
Acquisition (Fee Title or Permanent Easements): *In this column, indicate proposed number of acres and and name of organization or entity who will hold title.*	N/A
Travel: Travel to DNR regional and area offices to inventory and collect materials, engage with DNR staff and other stakeholders, present project results, and train system users.	$ 4,000
Direct and Necessary expenses: HR Support ($4,365), Safety Support ($1,029), Financial Support ($5,348), Communication Support ($1,236), IT Support ($11,176), Planning Support ($829), and Procurement Support ($235) necessary to accomplishing funded programs/projects.	$ 24,218
TOTAL ENVIRONMENT AND NATURAL RESOURCES TRUST FUND $ REQUEST =	$ 406,218

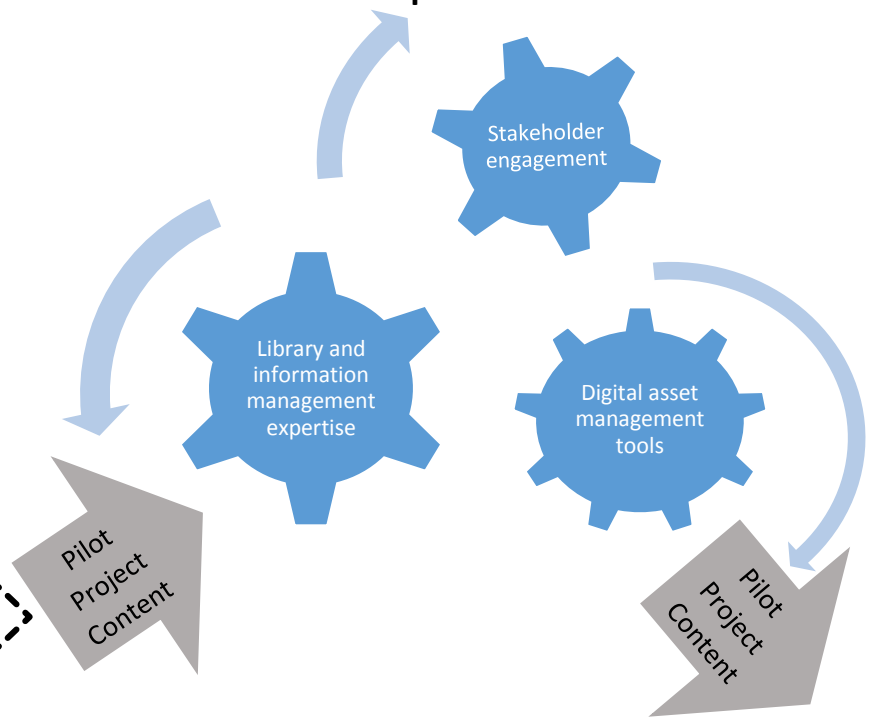
V. OTHER FUNDS *(This entire section must be filled out. Do not delete rows. Indicate "N/A" if row is not applicable.)*

SOURCE OF FUNDS	AMOUNT	Status
Other Non-State $ To Be Applied To Project During Project Period: *Indicate any additional non-state cash dollars secured or applied for to be spent on the project during the funding period. For each individual sum, list out the source of the funds, the amount, and indicate whether the funds are secured or pending approval.*	N/A	
Other State $ To Be Applied To Project During Project Period: *Indicate any additional state cash dollars (e.g., bonding, other grants) secured or applied for to be spent on the project during the funding period. For each individual sum, list out the source of the funds, the amount, and indicate whether the funds are secured or pending approval.*	N/A	
In-kind Services To Be Applied To Project During Project Period: *Project consultation with DNR librarian thoughout project*	$ 20,000	*Pending*
Funding History: *Indicate funding secured but to be expended prior to July 1, 2016, for activities directly relevant to this specific funding request, including past and current ENRTF funds. State specific source(s) of fund and dollar amount.*	N/A	
Remaining $ From Current ENRTF Appropriation: *Specify dollar amount and year of appropriation from any current ENRTF appropriation for any directly related project of the project manager or organization that remains unspent or not yet legally obligated at the time of proposal submission. Be as specific as possible. Indicate the status of the funds.*	N/A	

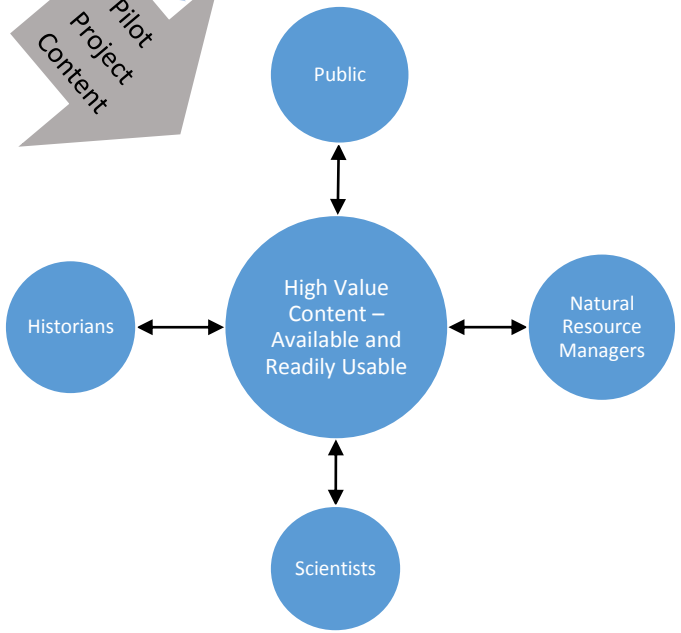
Activity 1: Scientific asset inventory, stakeholder engagement and system selection



Activity 2: Implementation of digital asset management system with pilot content



Activity 3: Public launch of the digital asset management system



PROJECT TITLE: Scientific Asset Management: Digital Preservation for Future Generations

Andrew Holdsworth
Minnesota Department of Natural Resources
500 Lafayette Road, Box 10
St. Paul, MN 55155
andy.holdsworth@state.mn.us
651-259-5536

Project Manager Qualifications

Andrew Holdsworth is a conservation scientist and manager with twenty years of natural resource management experience in government, academia, and non-profits. As DNR's Data and Performance Management supervisor he leads a team of four staff, including DNR's librarian that develops department policies, processes, and procedures to ensure that DNR's data and information is accessible, accurate, and useable to staff and the public. In his nine years at DNR, he has led projects to advance strategic conservation, performance measurement, and climate change adaptation at the agency. He has led the development of DNR's Outcomes Tracking System, an agency-wide information system for integrated performance reporting of DNR programs and projects. He co-led the stakeholder team that developed the strategic plan that lead to the creation of DNR's Minnesota Forests for the Future Program. He has managed several GIS projects to identify priority conservation areas in Minnesota. He served as a lead member of the interagency team that developed Minnesota's first Clean Water Fund Performance Report. He also served on the working group that developed the 25 year funding framework for Minnesota's Outdoor Heritage Fund. He has also published research on forest ecology and management, fire ecology, and invasive species. He received his PhD in Conservation Biology from the University of Minnesota.

Organization Description

The Minnesota Department of Natural Resources' mission is to work with citizens to conserve and manage the state's natural resources, to provide outdoor recreation opportunities, and to provide for commercial uses of natural resources in a way that creates a sustainable quality of life.