## LCCMR ID:  020-A2

**Project Title:**  WMA-AMA Work Planning Information System

**Category:**  A2. Natural Resource Data and Information: Distribution, Application, and Training

**Total Project Budget: $**  $582,000

**Proposed Project Time Period for the Funding Requested:**  3 yrs, July 2011 - June 2014

**Other Non-State Funds: $**  0

**Summary:**

Develop a DNR WMA-AMA Enterprise Information System to facilitate protection, enhancement and restoration of wildlife and fish habitat and facilities, and facilitate work planning, budgeting and reporting.

**Name:**  Steve          Benson

**Sponsoring Organization:**  DNR

**Address:**  1201 E Hwy 2

Grand Rapids          MN      55744

**Telephone Number:**  218-327-4149

**Email**  steve.benson@state.mn.us

**Web Address**

**Location**

**Region:** Statewide

**Ecological Section:** Statewide

**County Name:** Statewide

**City / Township:**

_____ Funding Priorities _____ Multiple Benefits _____ Outcomes _____ Knowledge Base

_____ Extent of Impact _____ Innovation _____ Scientific/Tech Basis _____ Urgency

_____ Capacity  Readiness _____ Leverage _____ Employment _____ TOTAL _____%

**PROJECT TITLE: Wildlife and Aquatic Management Area Work Planning Information System**

## I. PROJECT STATEMENT

Minnesota DNR manages over 1.3 million acres contained within over 2,135 State Wildlife Management Areas (WMA) and Aquatic Management Areas (AMA).

DNR Division of Fish and Wildlife has spent over ten years building WMA/AMA databases, and an existing Geographic Information System (GIS) as funds were available. This proposal is intended to build on that effort, and produce a product that will allow unprecedented internal and external access to up-to-date WMA/AMA information, and the ability to use that information to identify WMA/AMA project needs; and prioritize and plan efforts to fund and carry out habitat and facilities management activities on WMAs and AMAs.

The software used in the current system is obsolete. A new system needs to be built to continue to manage and share all the existing data. Rebuilding means we have an opportunity to build in changes that could support identifying ongoing habitat and facility management needs, indentifying deferred obligations and support coordinated project planning. Not rebuilding puts the integrity of the data at risk, and maintains only the status quo on the DNR's ability to assess habitat conditions, and plan for future enhancement and protection needs.

This system would provide the ability to quickly summarize information to answer questions on project needs and funding, such as deferred obligations. Reports on habitat enhancement and facilities management needs will enable DNR and cooperators to pursue funding from sources other than Fish and Game, e.g., bonding, LCCMR, L-SOHC, private NGO grants, federal grants or other funds. Designing a system to accommodate both WMA and AMA data will allow the Sections to coordinate management activities within a common framework, thus improving DNR Fisheries and Wildlife divisional operations such as planning, mapping and reporting.

The objectives of the project are: (1) update the current GIS for vegetation, facilities and recreation potential, and build it as an integrated component of the DNR Enterprise system, (2) create tools for assessing and analyzing the unmet needs for WMA/AMA habitat and facility enhancement, protection and maintenance, (3) create tools to collect and record information on projects for habitat/facilities enhancement and protection activities and (4) make the resulting information and reports available to the public and resource management partners..

## II. DESCRIPTION OF PROJECT ACTIVITIES

**Activity 1:** Develop the WMA/AMA component of the Enterprise System   **Budget:** $ 225,000

Build an integrated GIS component to capture and update existing GIS information on WMA/AMAs; boundaries, vegetation, habitat, facilities, deeds, acquisitions and public recreation opportunities. Create the ability to document projects on both habitat and facilities so they can be used to summarize accomplishments and ongoing needs.

| Outcome | Completion Date |
|---|---|
| 1. *Management and administrative database and system completed* | *June 2013* |
| 2. *Vegetation database and system completed* | *June 2013* |
| 3. *Facilities database and system completed* | *June 2013* |
| 4. *Recreation database and system completed* | *June 2013* |

**Activity 2:** Develop a field data recording system          **Budget:** $ 140,000

Design and build a system that captures field activities, e.g., seeding, prescribed burning, planting, invasives management, shoreline and habitat restoration, grassland conversions and provides for seamless integration with the GIS and planning/reporting components.

| **Outcome** | **Completion Date** |
|---|---|
| *1. Field data collection and recording system developed* | *December 2012* |
| *2. Field data entered into system* | *June 2014* |

*Seamless integration with GIS and planning/reporting components*

**Activity 3:** Create assessment, project prioritization, planning and reporting tools
                                                              **Budget:** $ 217,000

Develop system tools for assessing habitat restoration and enhancement requirements and defining facilities management and maintenance project needs.  Prioritize these needs for habitat and facilities, and use the information to build long-range management plans and help focus more immediate work planning on WMAs and AMAs.

| **Outcome** | **Completion Date** |
|---|---|
| *1. Analytical tools to assess habitat and facilities management needs* | *June 2012* |
| *2. Project planning and coordination tools developed* | *June 2012* |
| *3. Data, information and reports available on the web* | *June 2014* |

## III. PROJECT STRATEGY

### A. Project Team/Partners
Fisheries and Wildlife (FAW) IT staff, field staff and DNR MIS IT staff will work to design, build and populate this system.  FAW will contract and work closely with MIS for system design and programming; field staff will provide direction, guidance and create data on needed field projects.   FAW IT staff will assist with design and development, and provide support and training as the system is rolled out at offices across the state.  A temporary position will be required in systems development, field data gathering and training. Primary proposal contacts: (1) Steve Benson, Wildlife GIS Supervisor, steve.benson@state.mn.us; (218) 327-4149 (2) Tim Loesch, MIS GIS Program Manager, tim.loesch@state.mn.us ; (651) 259-5475.

### B. Time line Requirements
The timeline for this project is estimated to be 36 months

### C. Long-Term Strategy

Fish and Wildlife has spent over ten years building WMA/AMA data and GIS systems.  The proposed new system would solve the obsolete software problem, and integrate AMA/WMA management into DNR Enterprise Systems such as the new Land Records System. The use of this system will be long term, and will support WMA/AMA habitat and facilities management, enhancement, planning and funding into the foreseeable future.

**Project Title: Wildlife/Aquatic Management Area Work Planning Information System**
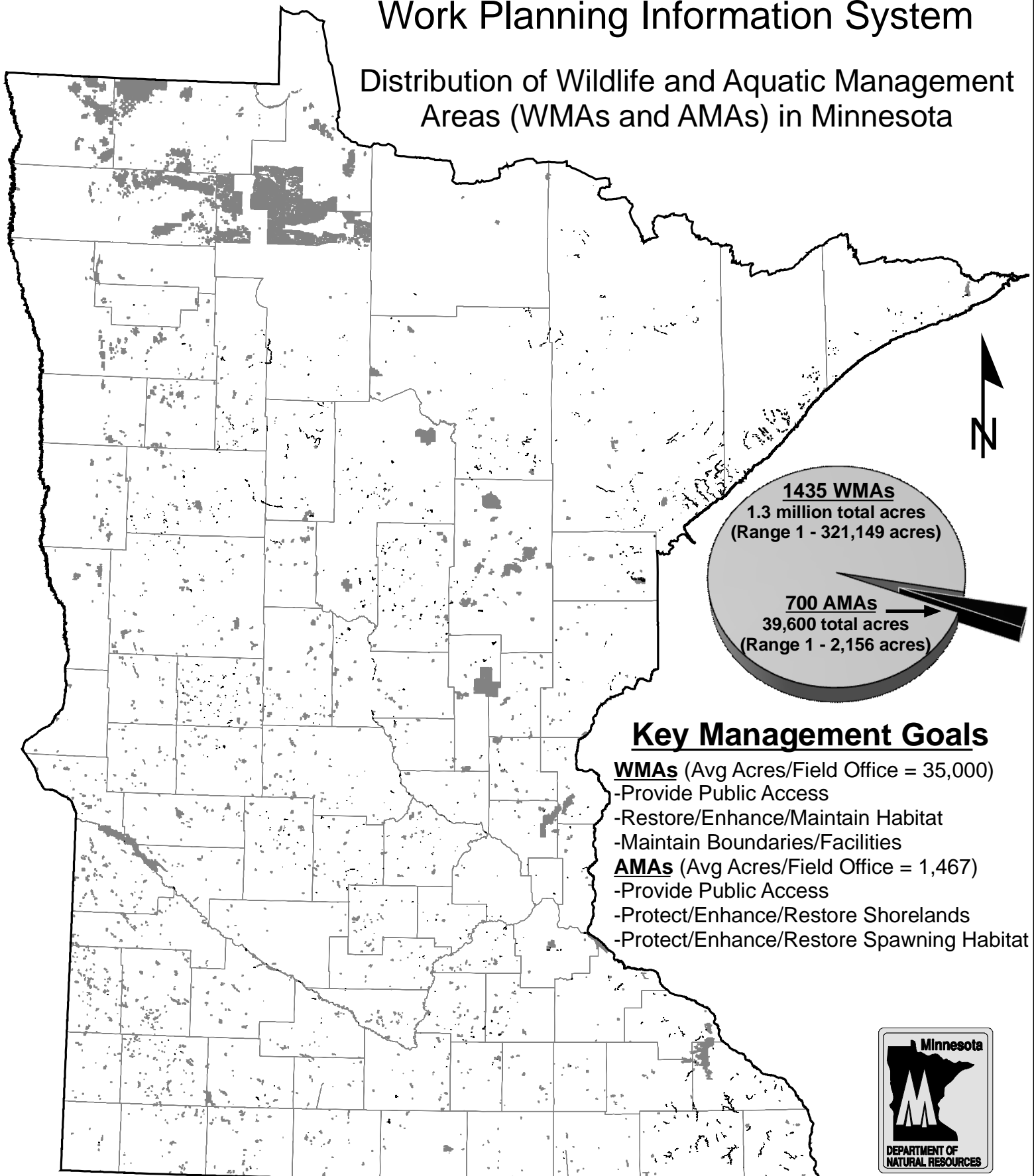
## IV. TOTAL PROJECT REQUEST BUDGET (*3* years)

| Budget Item | AMOUNT |
|---|---|
| **Personnel:** 1 full time project support position to manage requirements gathering, project tracking, project and system design documentation, product testing, training of field staff and field support.  This would be a three year unclassified position.  Benefits calculated at base salary + 30% | $                166,000 |
| **Contracts:**  Contract with DNR Management Information Systems for professional services; system design, programming, hardware and software support.  MIS no longer has General Funds sufficient to supply this kind of service. | $                350,000 |
| **Equipment/Tools/Supplies:** | $                         - |
| 2 network servers and software licenses sufficient to allow field staff to remotely use GIS tools to enter and manage data | $                  16,000 |
| | |
| 25 field data recorders and software | $                  50,000 |
| **TOTAL PROJECT BUDGET REQUEST TO LCCMR** | $                582,000 |

## V. OTHER FUNDS

| SOURCE OF FUNDS | AMOUNT | Status |
|---|---|---|
| **In-kind Services During Project Period:** DNR Fish and Wildlife IT staff time for three years; all levels of systems development from needs assessment to system roll out and support. | $          300,000 | |
| **Funding History:** The Fish and Game fund has been used to build the existing WMA/AMA GIS system and databases. | $          800,000 | |

# PROJECT TITLE: Wildlife and Aquatic Management Area Work Planning Information System

## Distribution of Wildlife and Aquatic Management Areas (WMAs and AMAs) in Minnesota

N

**1435 WMAs**
1.3 million total acres
(Range 1 - 321,149 acres)

**700 AMAs**
39,600 total acres
(Range 1 - 2,156 acres)

## Key Management Goals

**WMAs** (Avg Acres/Field Office = 35,000)
-Provide Public Access
-Restore/Enhance/Maintain Habitat
-Maintain Boundaries/Facilities
**AMAs** (Avg Acres/Field Office = 1,467)
-Provide Public Access
-Protect/Enhance/Restore Shorelands
-Protect/Enhance/Restore Spawning Habitat

**Minnesota**

**DEPARTMENT OF NATURAL RESOURCES**

0    25    50    100 Miles

**Steve Benson**     **MN DNR Wildlife GIS**     **1201 E Hwy 2, Grand Rapids MN 55744**
**Contacts: work (218) 327-4149  home (218) 327-2776**     steve.benson@state.mn.us

### Education
- BS Forest Management, University of Minnesota, 1980
- AAS Architecture, North Hennepin Community College, 1974

### Experience
- **GIS Supervisor, DNR Wildlife, Grand Rapids MN, 2007 – present**
  - Provide program direction, supervision and technical leadership for GIS staff involved in large projects including statewide natural resource, habitat and wildlife population modeling and analysis, statewide systems development, database development and management, research and disease management, large map production projects and delivery of statewide user support.

- **GIS Coordinator, DNR Wildlife, Grand Rapids MN, 1990 – 2007**
  - Provide overall leadership in DNR Wildlife for the design and development of GIS applications; data management; and research and analysis projects using GIS tools; establish common approaches and practices for application development, and lead efforts to develop and deliver training for GIS users.

- **Adjunct Faculty, Itasca Community College, Grand Rapids, MN  1999 – 2001, 2010**
  - Work with Curriculum Advisory Committee to develop a 2-year GIS curriculum. Develop and plan out all coursework, teach GIS classes (1 introductory, 2 levels of advanced GIS and a forest modeling course) for 3.5 years.  Assist search committee in recruiting, interviewing and hiring a full time replacement.

- **GIS Specialist, DNR Forestry, Grand Rapids, MN, 1985 – 1990**
  - Develop and manage the statewide GIS databases used by  Forestry and other clientele.  Update the databases and provide current data to clients.  Work in a team of 5 to 8 staff, managing data covering 9 million acres of state and county lands. Provide data analysis and produce maps, summaries and reports.

- **Forester, DNR Forestry, Grand Rapids, MN, 1983 – 1985**
  - Conduct forest inventories on Forestry owned lands.  Interpret aerial photos, map and cruise timber, produce summaries and reports.  Hand - draw final large format forest inventory maps for DNR and County use.

- **Forestry Technician, Clearwater National Forest, Kooskia ID, 1978 – 1982**
  - Cruise timber, traverse and survey future timber sale sites, conduct forest inventories, inspect contract work (forest inventory and thinning), supervise pre-commercial tree thinning crews, supervise planting crews, fight fires and supervise firefighting crews.

- **Committee / other activities**
  - MN GIS/LIS Consortium: Board Chair, State Government rep for the last four years
  - Statewide Geospatial Advisory Council: Emergency Preparedness Committee, past member of Data Standards Committee
  - DNR:  GIS Policy and Planning, GIS Technical Coordinators, IT Strategic Planning, IT Liaisons, WMAGIS Steering Group, Web Liaisons, Wildlife GIS Committee