1995 Project Abstract
For the Period Ending June 30, 1997
This project was supported the MN Future Resources Fund (MS 116P)

TITLE: Deliver ecological information and technical assistance to local governments

PROJECT MANAGER: Bonita Eliason
ORGANIZATION: Department of Natural Resources
ADDRESS: 500 Lafayette Road, Box 25, St. Paul, MN 55155
WEB SITE ADDRESS: bonita.eliason@dnr.state.mn.us

LEGAL CITATION: ML 1995, Chp. 220, Sec. 19, Subd. 6(n)
APPROPRIATION AMOUNT: $100,000

Statement of Objectives: The goal of the project is to facilitate protection of rare species and significant habitats by local action in counties in the greater Twin Cities area where the Minnesota County Biological Survey (MCBS) is complete or partially complete. This will be achieved by providing technical recommendations to local units of government, citizen groups, and land managers on how to use ecological information to protect areas of high biodiversity significance.

Overall Project Results: The ecologist provided ecological information to 43 municipalities, including 11 counties, 20 cities, 2 townships, and 10 watersheds. This included county planners from Anoka, Sherburne, Isanti, Washington, Ramsey, Carver, Scott, Goodhue, and Dakota Counties, all in the process of developing comprehensive plans, water plans, or parks and open space plans. A workshop was held in Stanford Township in Isanti County for landowners and local governments, where ecological information was shared with 45 people.

Two major publications that interpret ecological information resulted from this project. An 80-page booklet titled *Land Protection Options: A Handbook for Minnesota Landowners*, was produced through a cooperative project with The Nature Conservancy, Minnesota Land Trust, Trust for Public Lands, and the DNR Scientific and Natural Areas Program. A 150-page book titled *Natural Areas: Protecting a Vital Community Asset; A Sourcebook for Minnesota Local Governments and Citizens*, was produced to provide information to local governments.

Project Results Use and Dissemination: Five thousand copies of the *Land Protection Options* booklet were printed and widely distributed to natural resource professionals and landowners. Four thousand copies of the sourcebook for local governments are being printed and will be distributed to local governments through advertising in publications and on existing networks, through distribution to natural resource professionals, and by direct mailing to local governments the ecologist has worked with. In addition to the workshop described above, ecological information about 22 high-priority sites was distributed to local governments, citizen groups, and land managers. Natural resource protection plans were prepared through cooperative efforts for two high-priority sites: the Sandhill Crane Natural Area in East Bethel, and the Bluff Creek Watershed in Chanhassen. Protective ordinances are being drafted by the cities of St. Cloud and Chanhassen using information from this project. Two landowners in high-priority sites who have received technical information about their lands from this project are working with the Minnesota Land Trust to pursue protection of their lands through conservation easements or other means.

Date of Report: July 1, 1997 **WORKPROGRAM UPDATE**

LCMR Final Work Program Update Report

I. Project title and Project Number: Deliver ecological information and technical assistance to local governments

Project Manager:	Bonita Eliason
Agency Affiliation:	Department of Natural Resources
Mail Address:	500 Lafayette Rd., Box 25
	St. Paul, MN 55155
Phone:	(612) 297-2276
FAX:	(612) 296-1811
E-mail:	bonita.eliason@dnr.state.mn.us

A. Legal Citation: ML 1995, Ch. 220, Sec. 19, Subd. 6(n)
Total biennial LCMR appropriation: $100,000
Balance: $0

Appropriation language: This appropriation is from the future resources fund to the commissioner of natural resources to provide interpretation of ecological data collected by the county biological survey.

B. Status of Match Requirement: N/A

II. Project summary: The goal of this project is to facilitate protection of rare species and significant habitats by local action in the counties in the greater Twin Cities metropolitan area where Minnesota County Biological Survey (MCBS) data collection is complete (Anoka, Chisago, Dakota, Goodhue, Isanti, Ramsey, Rice, Sherburne, and Washington) or partially complete (Scott and Carver). Scott and Carver counties were added in January 1996 because of current county-wide park and open space planning efforts and because several high priority sites with imminent threats were identified in these two counties in 1995 by MCBS ecologists. The MCBS has proven to be an efficient method of collecting information about the location and condition of rare and significant components of the state's biological diversity. Data collected by MCBS are maintained in the Natural Heritage Information System by staff of the Natural Heritage Program, who distribute the data to users. MCBS products such as maps, computer print-outs, pamphlets, and a book have been developed which present and interpret the results of the survey. The information and products have created a demand for other product formats, and for technical assistance in interpreting the data and setting protection priorities at the local level. This demand will be met, in part, by the current project.

Under Objective A, a plant ecologist will conduct one or more workshops to educate local units of government and public land managers about the importance of protecting rare species and

significant plant communities. For Objectives B and C, biodiversity rankings of sites by MCBS will be used to determine where conservation action is most warranted. Under Objective B, the focus of the project will be 20-30 areas of moderate to high biodiversity significance. In these areas the ecologist will provide interpretation of MCBS data, explain conservation priorities, provide a "tool box" of possible protection actions, and a list of contacts who may be able to provide additional assistance. Under Objective C, key cooperators in at least three target areas of the highest biodiversity significance will receive more intensive assistance from the ecologist in the development of plans to protect natural communities and endangered species.

As an outcome of this project, local units of government, public land managers and citizen's groups will have better information about rare features and natural habitats, as well as guidelines for protecting them. Rare features and natural habitats will be protected by actions at the local level. Potential conflicts between protection and development will be minimized by advance planning.

III. July 1, 1997 Final Work Program Update Summary: A 75% time unclassified position was filled by Hannah Dunevitz to carry out this program. Hannah (referred to hereafter as "the ecologist") previously worked as a plant ecologist/botanist with MCBS for 5 years; her MCBS work included data collection in three of the counties in the defined work area. For the duration of this project, she continued to work 25% time for MCBS. Utilizing Natural Heritage and MCBS databases and interviews with other ecologists, she compiled a list of 51 sites of high to moderate biodiversity significance in the eleven counties included in the workprogram. Technical assistance was provided to facilitate the conservation of 22 of these sites, for 7 county-wide planning processes, and for a number of additional MCBS sites of at least moderate biodiversity significance in which ongoing projects had special need of ecological expertise.

The ecologist met with staff of nine private conservation organizations (for example, Cannon River Watershed Partnership, Friends of the Minnesota River Valley, Minnesota Land Trust, Minnesota-Wisconsin Boundary Area Commission), and local government representatives from 43 municipalities (for example, Red Wing, St. Cloud, Hugo, Dakota County) to distribute and explain MCBS maps, printouts, and other resources, and to plan cooperative education and protection efforts.

The ecologist was an active member of an interagency task force that cooperated to plan a large public natural area in East Bethel (Anoka County). A GIS map of natural features in the site was prepared by the county with MCBS data; an open house including a presentation by the ecologist was held and was attended by about 50 East Bethel residents, including many adjacent landowners; and a steering committee that included local citizens, adjacent landowners, and local government representatives was formed that wrote a management plan for the natural area and formed a local advisory board that will carry out the actions designated in the management plan. Another major project was active participation in planning for the Bluff Creek Watershed in Chanhassen (Carver County), which includes two high-priority MCBS sites. The ecologist made a presentation to the steering committee, participated as an active member of the committee, provided GIS data and technical expertise to city staff, and reviewed and edited the natural

resource management plan.

Erica Johnson, a student at the University of Minnesota who was hired through the Natural Resource Internship and Scholarship program, completed 400 hours of work for this project. Her main task was the compilation of a "toolbox" of protection options. She collected and organized books, reports, and sample ordinances and plans, wrote a 70-page paper summarizing protection options available to local governments and landowners, and exchanged information with over 20 individuals from government agencies and conservation organizations.

A cooperative venture with The Nature Conservancy, Minnesota Land Trust, Trust for Public Lands, and the Scientific and Natural Areas Program resulted in a contract with a local professional writer and naturalist who has written and designed a booklet describing conservation options for landowners. The ecologist provided extensive information to the author about natural areas protection and stewardship, was an editor of the book, and provided substantial funding from this project for its production. The 80-page booklet, titled *Land Protection Options: A Handbook for Minnesota Landowners*, was published in July 1996. Five thousand copies were printed and widely distributed to natural resource professionals, landowners, and conservation organizations. In June, 1997, over 1000 additional copies were printed with funding from the Section of Ecological Services.

A 150-page handbook titled *Natural Areas: Protecting a Vital Community Asset; A Sourcebook for Minnesota Local Governments and Citizens* was completed and will be published in August, 1997. The author of *Land Protection Options* (described above) was hired to write and design the sourcebook. The ecologist wrote several portions, did extensive editing, and coordinated the review process. The sourcebook includes chapters on the status of Minnesota natural areas, how to plan for natural areas protection, tools for land protection, how to finance acquisition of natural areas, and management considerations for natural areas; extensive appendices with sample ordinances and other resources; and original line-art illustrations. Four thousand copies are being printed. Distribution will be accomplished by widely advertising the sourcebook's availability through conservation and land-use planning newsletters and through networks and servers such as the Sustainable Communities Network. In addition, the ecologist will distribute copies to all local governments she has worked with through this project.

Geographic Information System (GIS) data and printouts of rare features data have been distributed to over 10 local governments. GIS data were also transferred to the DNR Metro Regional office to be used in a large-scale Natural Areas and Greenways project which is also utilizing the ecologist's technical expertise.

A pilot workshop titled "Innovative Bluffland Development" in Red Wing resulted in the distribution of MCBS data and protection tools to city and county staff, developers, builders, and realtors. A workshop and open house was held in Stanford Township, Isanti County, for local governments and landowners. The purpose was to describe MCBS results in the township, the importance of local natural features, and available conservation tools. The workshop was co-

sponsored by the county and the township, and included participation by the NRCS, other DNR staff, and the Minnesota Land Trust. Forty-five people attended and gave strong positive evaluations of the event.

Public presentations about MCBS results and conservation tools were made upon request at the following conferences: Cannon River Watershed Partnership Summit; Minnesota Association of Soil and Water Conservation Districts; Midwest Regional Planning Conference; Oak Ecosystems in Minnesota and the Midwest; the Minnesota Conference on Sustainable Development; and Wetlands: Lands of Opportunity (Anoka County).

IV. Statement of Objectives:

Objective A. Provide training on the sources and uses of ecological information.

Outcomes: Local governments, citizen groups, and public land managers will be aware of the rare features that occur in their region. They will know where to obtain information about these rare features. Participants will share information on their own perceptions of significant natural areas and the type of assistance they feel is needed to protect them. They will participate in discussions and develop protection strategies for sample areas.

Objective B: Provide interpretation of ecological data for planning purposes in selected areas of moderate to high biodiversity significance.

Outcomes: The activities under this objective will be extensive, rather than intensive. Cooperators in selected areas will receive data on locations of rare features in formats suited to their needs. They will be trained to understand the relative significance of these features, and of possible actions that could protect them. Cooperators will receive a tool box of protection options for future use in their localities, and a list of contacts who may be able to provide additional assistance.

Objective C: Provide technical recommendations for the protection and maintenance of rare species and significant natural habitats to local units of government, citizen groups, and land managers for selected areas of highest biodiversity significance.

Outcomes: Cooperators will have the ecological expertise at their disposal to develop protection plans. Plans for the protection of rare features in selected areas of high biodiversity significance will be formulated. One or more protection actions identified in each plan will be implemented.

	7/95	**6/96**	**9/96**	**3/97**	**6/97**
Objective A. Provide training on the sources and uses of ecological information.	**********				
Objective B: Provide interpretation of ecological data for planning purposes.	**********	**********	**********		
Objective C: Provide technical recommendations for the protection and maintenance of rare species and significant natural habitats within selected areas.			**********	**********	

V. Objectives/Outcome:

A. Title of Objective/Outcome: Provide training on the sources and uses of ecological information.

A.1. Activity: Develop and conduct 1-3 workshop(s) to educate local units of government and public land managers about the importance of protecting rare species and their habitats. Participants will work through examples of how to identify and retrieve information available on rare species and habitats, and how to use that information for planning purposes.

A.1.a. Context within the project: Although metropolitan citizens are concerned about protection of endangered species, at present there is little ecological expertise relating to rare plant species and natural communities available to local units of government. Education about the value of preserving biological diversity will provide an essential context for dealing with area-specific information about rare features. These workshops will also provide an opportunity for a DNR plant ecologist to identify and develop relationships with key cooperators involved in local efforts to protect rare features.

A.1.b. Methods: The work area for this project will include counties in the greater Twin Cities metropolitan area where MCBS data collection is complete (Anoka, Chisago, Dakota, Goodhue, Isanti, Ramsey, Rice, Sherburne, and Washington) or partially complete (Scott and Carver). The project will be carried out by a plant ecologist familiar with MCBS methodology and data. Workshops will involve presentations by the plant ecologist on general concepts of biological diversity, presettlement vegetation, the Natural Heritage Information System, the types of rare natural features that occur in the region, and measures needed to preserve those rare features MCBS products such as maps, summary reports, and *Minnesota's St. Croix River Valley and Anoka Sandplain: A Guide to Native Habitats* will serve as resource materials. Participants will share information on their perceptions of significant natural areas and the type of assistance they feel is needed to protect these features. Small groups will work through case studies dealing with a variety of rare features and their protection needs. Each participant will complete a questionnaire that will allow on-going analysis and improvement of workshop effectiveness. The outcome of this analysis will inform decisions about the number and content of future workshops.

A.1.c. Materials:

Workshop materials (slides, overheads, and printed materials)	$5,000

A.1.d. Budget
Total Biennial LCMR Budget: $15,000
LCMR Balance: $0

A.1.e. Timeline:

	7/95 9/95	9/96
Develop workshop materials	*****	
Conduct workshops	**********	
Evaluation of workshop effectiveness	**********	

A.1.f. July 1, 1997 Workprogram Update: In the first six months of the project, discussions were held with several potential cooperators to explore workshop formats. In addition, materials to be used in the workshops were compiled as part of the "toolbox" of protection methods described under Activity B.2.

In June, 1996, a workshop, titled "Innovative Bluffland Development", attended by developers, builders, realtors, and city planning and zoning staff, was conducted in cooperation with the City of Red Wing and the DNR Blufflands Planner. Participants learned about natural communities and rare species in Red Wing, why they are significant, how to obtain more information about them, and how to protect them. They also completed a hands-on exercise demonstrating how to incorporate natural features protection into development and building designs. In the winter and spring of 1996, the ecologist explored other workshop formats through interviews with local government staff and professionals active in land protection efforts in Goodhue, Sherburne, and Isanti counties. Because of feedback during these interviews, a format of offering workshops for local governments and the owners of ecologically significant lands was adopted, and the groundwork was laid for a workshop for landowners and local governments in southwestern Isanti County.

In December 1996, a workshop was conducted in Stanford Township, in Isanti County. The workshop was co-sponsored by the county and the township. A planning team consisting of representatives from the county, township, and local planning commission, together with the ecologist and the DNR Ecosystem Based Management education coordinator put together the format. The workshop included talks by the ecologist, a local state legislator, and a Minnesota Land Trust board member, and an open house afterwards with displays, information booths, and natural resource experts on hand. The 45 people who attended gave positive evaluations and showed a great deal of interest in local rare features and conservation options.

B. Title of Objective/Outcome: Provide interpretation of ecological data for planning purposes in selected areas of moderate to high biodiversity significance.

B.1 Activity: Develop information about location of rare and endangered species and significant plant communities in specific localities.

B.1.a. Context within the project: In order to address protection of significant natural features, local units of government and public land managers need specific information about the location of these features in a convenient format. This activity will be an extensive effort to provide township, city, and other public land managers in 20-30 areas of moderate to high biodiversity significance with that information.

B.1.b. Methods: The Natural Heritage Information System is the most complete compilation of information about the location of rare and endangered species, significant natural communities and other rare features such as animal aggregation sites in the state. Information products such as customized maps, and descriptive information about natural communities will be prepared for priority areas, and delivered in a format that is tailored to the capabilities and needs of cooperators. As part of the MCBS process, sites are ranked according to their overall biodiversity significance. These rankings will be used to select 20-30 areas on which to focus the emphasis of this project, thus targeting areas where conservation action is most warranted. A plant ecologist will work closely with the Natural Heritage Information System staff to develop and produce these products.

B.1.c. Materials: Computer hardware and software necessary for this task are housed in the St. Paul office of the DNR. The ecologist will need a PC with modem to access this information from the metro regional office. ARCVIEW software will allow the ecologist to utilize information in geographic information system (GIS) format. The agency offers no leasing option for computer equipment, so purchase is necessary. This computer will also be used for other activities under Objectives B and C. At the end of the project the computer equipment will become part of the computer inventory of the Natural Heritage Program, where it will be used in on-going efforts to protect biodiversity in Minnesota.

Computer hardware and software $6000

B.1.d. Budget
Total Biennial LCMR Budget: $15,000
LCMR Balance: $0

B.1.e. Timeline

	7/95	**1/97**
Preparation of print-outs,	**********	

maps, electronic media

Preparation of explanatory material about format of information and interpretation ********************

B.1.f. July 1, 1997 Workprogram Update: A list of high and medium priority MCBS sites was compiled for each of the nine counties using databases and consultations with other MCBS ecologists. A total of 51 sites were identified as highest priority for conservation action. Forty-three were in the original nine county project area, and eight additional sites were identified in Carver and Scott counties. A draft display designed to accompany any completed MCBS map was developed and exhibited at the conference "Environmental Solutions for Local Communities" organized by the Minnesota Office of Environmental Assistance. The display was revised following review, and the newly constructed display will be available for use in late summer, 1997.

MCBS data in GIS format were distributed to Anoka County and the City of Chanhassen for use in the production of maps for site-specific natural areas planning. MCBS data in GIS format were also transferred to the DNR Metro Region office to be used in an extensive Natural Areas and Greenways mapping and planning project that involves cooperative efforts with Twin Cities metropolitan local governments; the ecologist is providing technical assistance with this project. MCBS rare features data, county maps showing presettlement bearing tree data, and releve data were also generated from computer files and distributed to 18 local governments with jurisdiction over one or more high priority sites. (These 18 are among the 43 local governments that the ecologist has worked with, detailed in Section B3f).

B.2. Activity: Compile a "tool box" of information about protection tools available to local units of government (e.g., model zoning ordinances, open space statutes, land trusts, easements, tax incentives, cost-sharing programs, best management practices approaches, use of buffer strips, etc.)

B.2.a. Context within the project: Local governments need concrete examples of tools available to protect the rare features under their jurisdiction. Some local governments within Minnesota and elsewhere have developed a variety of tools for this purpose, which will be compiled.

B.2.b. Methods: An intern will be employed to compile existing information on protection strategies available to local units of government. Sources will include University of Minnesota researchers in public policy, published and unpublished literature, and selected local governments and their associations from around the country (e.g. Met Council, Lincoln Land Institute, League of MN Municipalities, Association of Minnesota Counties, National Conference of State Legislatures).

B.2.c. Materials: computer, library, phone

B.2.d. Budget
Total Biennial LCMR Budget: $4,000
LCMR Balance: $0

B.2.e. Timeline

	7/95 9/95
Compilation of protection tools information	*****

B.2.f. July 1, 1997 Workprogram Update: Between June 1995 and January 1996, Erica Johnson, a University of Minnesota senior majoring in Natural Resources and Environmental Studies who was hired through the Natural Resource Internship and Scholarship program, completed 400 hours of work for this program. She collected and organized materials that include sample ordinances and plans, books that address protection options, and descriptions of programs and financial incentives available to governments and private landowners. In the process, she spoke to over 20 individuals from government agencies, universities, and private conservation organizations, introducing them to the MCBS program and gaining information from them. She also wrote a 70 page report summarizing protection options for lands identified by MCBS as possessing significant natural features.

The ecologist collaborated with staff from The Nature Conservancy, Minnesota Land Trust, Trust for Public Lands, and the DNR's Scientific and Natural Areas Program to produce a booklet that addresses conservation options for private landowners. A local naturalist and professional writer was hired to write and design the booklet. The ecologist provided extensive information to the author about natural areas protection and stewardship, was an editor of the book, and provided substantial funding from this project for its production. The 80-page booklet *Land Protection Options: A Handbook for Minnesota Landowners*, was published in July 1996. Five thousand copies were printed and distributed widely to natural resource professionals, landowners, and conservation organizations. In June 1997, over 1000 additional copies were printed with funding from the DNR Section of Ecological Services.

In July, 1996, the author of the *Land Protection Options* book was contracted to write and design a handbook for local governments on protecting natural areas. Utilizing resources collected by the ecologist, the protection options report written by the intern, and other information sources, she wrote and designed a 150-page book titled *Natural Areas: Protecting a Vital Community Asset; A Sourcebook for Minnesota Local Governments and Citizens.* The ecologist wrote several sections of the book, did extensive editing, and coordinated the review process. The book includes chapters on the status of Minnesota natural areas, how to plan for natural areas protection, tools for land protection, financing acquisition of land to protect natural areas, and management considerations for natural areas; extensive appendices with sample ordinances and other practical tools; and original line-art illustrations;. The book is currently in press, and will

be available by August, 1997. Four thousand copies will be printed. They will be distributed to local governments by advertising in conservation and land-use planning newsletters, through networks and servers such as the Sustainable Communities Network, and through other natural resource professionals who work with local governments. Copies will also be given to all local governments the ecologist has worked with through this project. The author and the ecologist completed a 4-page summary of the handbook that was included in the appendix of the Metropolitan Council's 1997 updated handbook on comprehensive planning.

B.3. Activity: Meet with cooperators (local government planners, citizen's groups, and land managers) to present information from Activities B.1 and B.2 and explain its significance.

B.3.a. Context within project: The experience of Natural Heritage Program and MCBS staff indicates that many local units of government and some land managers have difficulty interpreting data on rare natural features and integrating it into their planning efforts. This activity will provide the needed assistance to understand the significance of the data, and to explain management guidelines for rare species and natural communities.

B.3.b. Methods: One-on-one or small group presentations and discussions will be arranged to transfer the products developed in B.1 and B.2. In addition, lists of contact persons with expertise to address site specific management issues will be provided to participants. The effectiveness of this approach will be assessed through interviews with selected participants.

B.3.c. Materials: "Tool box" developed under B.1, information products developed under B.2.

B.3.d. Budget
Total Biennial LCMR Budget: $25,000
LCMR Balance: $0

B.3.e. Timeline:

	1/96	6/96	1/97	3/97
Meetings with participants	**********			
Evaluation of usefulness of approach		**********		

B.3.f. July 1, 1997 Workprogram Update: The ecologist met with individuals from nine private conservation organizations and representatives of 43 municipalities, including 11 counties, 20 cities, 2 townships, and 10 watersheds. She distributed and interpreted MCBS information and

provided practical information about how to protect natural areas. Some examples follow:

*Met with Dakota County planners and Mississippi National River and Recreation Area (MNRRA) staff to discuss potential impacts of a proposed regional bike trail on significant MCBS sites in Dakota County, and sent detailed memo and map as a follow-up. Provided technical expertise to Dakota County planners in developing the natural resources section of the county's revised comprehensive plan.

*Met with staff of MNRRA, Greening the Great River Park, and St. Paul Riverfront Corporation to plan for an ecological inventory of the Mississippi River corridor in the MNRRA area. Funding for an inventory was secured, a consultant was hired, and the work for the project is underway. The Metro Regional DNR office has agreed to house and manage the data and will undertake the continuation of the project once the consultant's contract has expired.

*Led field tour for local resource managers and gave a talk at a public meeting regarding planning for protection of Clitty Lake, an important MCBS site in Sherburne County that is being donated by private owners to become a public park. Met with county staff to provide technical expertise regarding the protection and management of the new county park.

*Met with staff of Minnesota-Wisconsin Boundary Area Commission to discuss ways to coordinate activities. A 4-page article about significant natural features along the St. Croix River, including GIS maps, was written by the ecologist and published as an insert in the spring 1996 issue of the "St. Croix River Steward's Journal".

* Met with staff of Cannon River Watershed Partnership (CRWP) to distribute new MCBS maps and to plan for cooperative education and preservation efforts in the Little Cannon River Watershed in Goodhue County. In May 1996, CRWP organized a presentation and field tour led by the ecologist and attended by about 30 people; participants observed wildflowers and learned about natural communities in the Little Cannon River watershed. In July 1996, the ecologist gave a presentation at the Cannon River Summit on natural features in the watershed.

*Met with Goodhue County Water Planner and DNR Blufflands Coordinator to distribute MCBS information and plan ways to work together to incorporate MCBS data and protection language into the new county water plan.

*Spoke with members of the Isanti County Environmental Coalition about the use of MCBS data for parks and open space planning. Served as guest speaker at February meeting, attended by about 40 people, and spoke about MCBS and the need to protect natural features.

*Gave presentation to citizens and city council representatives in Afton, to help with ongoing comprehensive planning and zoning revisions during a moratorium on development.

*Led a field tour organized cooperatively with the National Park Service for landowners and city

council members in Taylors Falls to observe significant natural areas and discuss tools for protection. Upon request, visited one tract as a follow-up and provided conservation advice and tools to owners of a significant natural area. Following this visit, the owners contacted the Minnesota Land Trust to investigate the possibility of placing a conservation easement on their property.

*Met with city of Hastings staff to point out locations of oak savanna and endangered plant populations and recommended re-routing a planned bike trail to preserve the rare features.

*Made extensive recommendations for land protection priorities to consultant preparing open space plan for Sherburne County.

*Met with Eden Prairie City Forester to visit a significant natural area, locate rare plant species and natural community occurrences, and evaluate the site as a potential Scenic and Natural Areas Grant project. Site was subsequently awarded a DNR Scenic and Natural Areas grant.

*Provided technical information and sample ordinances to the City of St. Cloud Environmental Task Force for the development of a Sensitive Natural Areas Overlay Ordinance. The ordinance has been drafted and is being considered for adoption by the city. Gave a presentation to the Task Force on natural areas in St. Cloud, and spoke to the City Council about natural areas and the importance of the Sherburne Meadows MCBS site, which is partially owned by the city.

*Public presentations about MCBS results and conservation tools were made upon request at the following conferences: Midwest Regional Planning Conference; Oak Ecosystems in Minnesota and the Midwest; the Minnesota Conference on Sustainable Development; and Wetlands: Lands of Opportunity (Anoka County).

*Gave presentation to the annual statewide meeting of the Minnesota Association of Soil and Water Conservation Districts on the importance of natural communities and how SWCD professionals can help to protect them. Also wrote and distributed fact sheet on natural communities designed for natural resource professionals and laypersons.

C. Title of Objective/Outcome: Provide technical recommendations for the protection and maintenance of rare species and significant natural habitats to local units of government, citizen groups, and land managers for selected areas of high biodiversity significance.

C.1. Activity: Work intensively with cooperators in at least 3 selected areas of high biodiversity significance to formulate plans to protect priority sites.

C.1.a. Context within project: The educational components of the project will create a framework for on-the-ground protection. Initial contacts through the activities in Objective B will help to identify the most promising opportunities for collaboration. Through this activity the ecologist will work intensively with cooperators to create

detailed, area-specific protection plans in those areas.

C.1.b. Methods: One-on-one or small group presentations, discussions, and work sessions will be arranged to accomplish this objective.

C.1.c. Materials: Computer, MCBS products, Heritage Program files. Maps, air photos, "tool box" developed under B.1, information products developed under B.2.

C.1.d. Budget
Total Biennial LCMR Budget: $41,000
LCMR Balance: $0

C.1.e. Timeline

	6/96	6/97
Develop protection plans		**********

C.1.f. July 1, 1997 Workprogram Update: The ecologist actively participated in an inter-agency task force to plan for a public natural area in Anoka County in East Bethel. The task force also included a DNR Forestry Manager, two Anoka County planners, and two members of the East Bethel City Council. The natural area, initially called Ned's-Mud-Deer Lakes, and now called the Sandhill Crane Natural Area, is within an important MCBS site possessing high-quality natural communities, rare plants and rare animals. It includes lands owned by the state, the county, the city, and private citizens. The ecologist interpreted MCBS data; provided maps, printouts, and a copy of *Minnesota's Anoka Sandplain and St. Croix River Valley: A Guide to Natural Habitats;* persuaded the group to expand their project to include adjacent private landowners and local citizens in the education and planning process; and arranged for staff of the Minnesota Land Trust to attend a meeting to help explain protection options.

Outcomes included GIS maps of the site produced by Anoka County with MCBS data; a statement of goals for a public natural area drafted by the DNR, the county, and the city; two meetings with private owners of large tracts of land in the site; and an open house attended by about 50 citizens where information about the project was distributed. A steering committee consisting of local government representatives, citizens, and DNR staff completed a management plan for the natural area; a newly appointed advisory board consisting of citizens, landowners, local governments, and natural resource specialists will carry out the actions recommended in the plan.

Another high-priority site planning process was the Bluff Creek Watershed project in Carver County, where the ecologist actively participated by serving on the steering committee, giving a presentation on natural features in the watershed to the steering committee, and providing maps and other detailed natural resource information to staff of the city of Chanhassen. The outcome

was an extensive natural resources management plan incorporating protection of the rare natural features in the watershed. Chanhassen has begun work on priority projects identified in the plan, including drafting a conservation overlay district ordinance.

The ecologist participated in the development of an extensive stewardship plan for the Cannon River Wilderness Park, a high-priority county-owned MCBS site in Rice County. In response to a request from DNR foresters, the ecologist provided MCBS data and maps, written descriptions of natural features, and management recommendations for protection of the park's natural communities and rare species.

VI. Evaluation: This project will educate local units of government about the location, significance, and protection needs of rare natural features. The ultimate goal of the project is to facilitate protection of the most significant features through local action. Measures of the success of the project in achieving its objectives will be:

1. Number of workshop participants and their positive responses on workshop evaluation forms
2. Completion of contacts with County Planning Boards for all counties in region
3. Positive response to evaluation of usefulness of assistance provided under Objective B.
4. Compilation of "tool box" under B.1.
5. Development of a new resource protection ordinance by at least one local unit of government as a result of the project
6. Creation of informed advocates for protection of rare natural features in selected areas of moderate to high biodiversity significance.
7. Utilization of at least one grant from the Scenic and Natural Areas Grant Program for acquisition of areas identified through this project.
8. Completion of protection plans for priority sites/areas
9. Implementation of at least one protection action in each of the areas of high biodiversity significance identified in Objective C.

VII. Context within field: Staff from a number of DNR programs have been involved in providing information about rare features and their protection needs for many years. There are currently no trained plant ecologists at the regional level in the DNR with primary responsibility for the protection and management of rare species and natural communities. Therefore, when issues arise relating to the protection of these features, there is often no one available to address them.

Natural Heritage Program(NHP) and Nongame Wildlife Programs(NWP): The NHP has primary responsibility for inventory, research and promotion of wise stewardship of native plant resources in Minnesota, with particular emphasis on rare species and significant natural communities. The Nongame Wildlife Program has similar responsibilities with respect to nongame animals and their habitats. The Programs share responsibility for maintenance of the Natural Heritage Information System, which is the most comprehensive repository of information about rare and endangered species and significant plant communities in the state. Information System staff currently respond to more than 800 requests for information each year. Data are provided in the form of computer

print-outs, electronic media, and maps. The Nongame Research Unit employs an Endangered Species Environmental Review Specialist who provides data in connection with development projects and reviews environmental review documents prepared under state and federal environmental policy laws. The regional plant ecologist position created under this project will complement existing efforts by proactively working with cooperators to provide information and develop protection plans for rare features.

Regional Nongame Wildlife Specialists in each of the 6 DNR regions (housed in Bemidji, Grand Rapids, Brainerd, New Ulm, Rochester and St. Paul) also review projects in their respective geographical areas for potential impacts on nongame species. Wherever possible these staff proactively seek to protect significant rare features, focusing on nongame animals and their habitats.

The Minnesota County Biological Survey (MCBS) began in 1987 as a joint project of NHP and NWP to accelerate collection of information relevant to the protection of Minnesota's natural biological diversity. The MCBS has proven to be an efficient and effective method of collecting and summarizing information. Products such as maps, computer print-outs, reports, and a book have been developed which present and interpret the results of the survey. Plant ecologists have become intimately familiar with the significant natural features in their work areas, and are frequently called upon to provide data and technical assistance to local units of government and land managers. These products and activities have been well received by local units of government, citizens and land managers and have created a demand for other product formats, for technical assistance in interpreting the data, as well as for assistance in determining protection priorities at the local level. Because their first priority is to complete the survey in a timely manner, MCBS staff have a limited ability to respond to these requests.

This project: This project responds in a limited way to the need for a new type of staffing to assist local government and public land managers. It provides the technical expertise and tools needed to plan for and secure the protection of significant rare features by local action. By focusing on a few priority areas, the project will provide some success stories, help to create an educated constituency, and help to assess the effectiveness of this approach.

VIII. Budget context: The activities described in this workplan are related to the work of the Natural Heritage Program, the Nongame Wildlife Program, the Scientific and Natural Areas Program and MCBS, but are beyond the scope of current funding/staffing of these programs. Work done by these programs in the target counties that is related to the work proposed under this project includes data management, data delivery, development of specialized products that present and interpret the data (e.g. maps, pamphlets, books), and technical assistance aimed at facilitating the protection of rare natural features. In addition, the staff of these programs, who have a strong commitment to conservation of biodiversity, frequently volunteer to spend their personal time outside of normal work hours participating in meetings, symposia and field trips. No attempt has been made to include cost estimates for the latter time in the estimates offered below. An exact accounting of time spent on these activities is not possible; the numbers provided are rough estimates.

Source	FY4-5	FY6-7

MCBS funds	$80,000	$10,000
Nongame Fund	$30,000	$30,000
General Fund (NHP,SNA)	$20,000	$20,000
TOTAL	$130,000	$60,000

IX. Dissemination: Products will be disseminated to local governments, citizen groups, and land managers throughout the course of the project. Activities of the ecologist will be documented in quarterly reports submitted to the project manager. The intern will prepare a report summarizing his/her activities under the project.

X. Time: The need for the services provided under this project is on-going, and increasing. It is our intention to seek to convert this position to a full-time permanent position in the Twin Cities metropolitan area with general fund support in the FY8-9 biennium. An investment initiative to fund five additional regional plant ecologist positions has been proposed for inclusion in the department's sustainable ecosystems initiative for FY6-7. These positions would work within regional DNR teams to incorporate consideration of native plant and plant communities into planning and management efforts on private and public lands. If converted to a full-time permanent position, the plant ecologist position created under this project would also assume these broader responsibilities. The current project therefore serves as an experiment to test the efficacy of several approaches for protecting rare plants and plant communities through local action. Should the plant ecologist positions described above ultimately be created, existing gaps in expertise relating to native plants would be filled in each of the six DNR administrative regions of the state. The approaches tested through this project will be available to these ecologist as they pursue the long term goal of protection of the state's biological diversity.

XI. Cooperation:

XII. Reporting requirements: Semiannual six-month workprogram update reports will be submitted not later than January 1, 1996, July 1, 1996, January 1, 1997, and a final six-month workprogram update and final report by June 30, 1997.

XIII. REQUIRED ATTACHMENT

1. **Qualifications**: see attached
2. **Project Staffing Summary**: see attached