

TITLE: Environmental Action Grants For Minnesota Schools M3-1
PROJECT MANAGER: Gary B. Deason
ORGANIZATION: School Nature Area Project (SNAP), St. Olaf College
ADDRESS: 1520 St. Olaf Ave., Northfield, MN 55057
WEB SITE ADDRESS: <http://www.stolaf.edu/other/snap>
LEGAL CITATION: ML 95, Chp. 220, Sec. 19, Subd. 6(f).
APPROPRIATION AMOUNT: \$200,000

Statement of Objectives

The School Nature Area Project (SNAP) created the Environmental Action Grants program for K-12 schools for projects leading to the establishment of school nature areas within walking distance of school buildings. Project Grants, for planting native vegetation and enhancing wildlife habitat, and Partnership Grants, for the development of nature areas and environmental education training for teachers, were offered to schools.

Overall Project Results

Thirty Project Grants and twelve Partnership Grants were awarded to Minnesota schools. Over 8,450 students were involved in Project Grants. Project Grants leveraged \$48,000 in additional funds. In the Partnership Grant program, 69 teachers participated in environmental education training and developed curriculum units for their nature areas. The projects that students conducted impacted over 1000 acres of land. Over 125 people and organizations provided consulting services and assistance to schools.

Project Results Use and Dissemination

A brochure about the Environmental Action Grants program was created. SNAP sent a mailing to all Minnesota schools and advertised the program via newsletters and electronic mail.

Eight teachers and project coordinators presented on their projects at two Minnesota Science Teachers Association (MSTA) conferences. Teachers and students from one school will present at the Midwest EE conference in Madison, Wisconsin, in October, 1997.

The *Environmental Action Grants* book, describing projects of all of the schools that have worked with SNAP, was compiled. The book includes a list of contact people at each school to encourage communication among teachers regarding projects. Each description is being added to the SNAP web site where every school has a web page. Additional copies of the Environmental Action Grants book will be distributed at meetings advertising the grants program and to schools interested in applying for grants.

A Project Grant Recipients Conference was held in March, 1997, at the Minnesota Valley National Wildlife Refuge in Bloomington. Forty-five teachers participated in the conference which focused on planting native vegetation. Participants were able to ask project-specific questions of the conference presenters and SNAP staff.

A St. Olaf College student produced a video collage of footage received from some Project grant schools. The video production company, Media Rare, produced three 5-7 minute segments about three Project Grant schools for the television program, *Environmental Journal* of the Minnesota State Lottery.

An outside evaluator visited six Project grant schools and conducted interviews with teachers. His findings indicate, as noted in his report conclusions, "that the Project grants provided an excellent starting point at nearly all the sites and were used as an impetus for seeking future funding, volunteer help, community involvement, and more long term planning."

Date of Report: August 15, 1997
LCMR Final Work Program Update Report

LCMR WORK PROGRAM 1995

I. Project Title: Environmental Action Grants For Minnesota Schools M3-1
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A. Legal Citation: ML 95, Chp. 220, Sec. 19, Subd. 6(f).

Total Biennial LCMR Appropriation:	\$ 200,000
Balance:	\$ 0

Appropriation Language: This appropriation is from the trust fund to the department of natural resources for an agreement with St. Olaf college for the school nature area project matching grants to schools for school nature area sites. The appropriation must be matched by at least \$50,000 of nonstate money.

B. Status of Match Requirement:

Match Required:	\$50,000
Amount Committed to Date:	\$50,000
Match Spent to Date:	\$50,000

II. Project Summary:

The School Nature Area Project (SNAP) will pilot a statewide grants program for K-12 schools for projects leading to the establishment of school nature areas within walking distance of school buildings. *Project grants* will fund 24 urban and rural school projects to augment native plant species, enhance wildlife habitat, or improve student access to school nature areas. *Partnership grants* will fund 16 schools for the design and development of school nature areas and for environmental education courses and curriculum writing workshops for teachers.

The grants program and information about school nature areas will be publicized to all Minnesota schools by televised broadcast, video distribution and mailings. Grants will promote local community involvement through in-kind matching and through use of local consultants to assist with school projects. Project directors will have opportunity to present their projects to other teachers at SNAP regional workshops and state conferences. A booklet describing funded school projects will be distributed to teachers at other schools.

The pilot project will result in 40 school sites with enhanced native vegetation, wildlife habitat and educational access and 16 schools with enhanced training and curriculum for environmental education. The project will make a unique contribution to environmental education in Minnesota by combining environmental education and natural resource conservation in local communities. It will promote personal

involvement among teachers and students, continuing environmental stewardship and local community ownership.

Evaluation and revision of the pilot program will result in a reliable prototype for a future environmental grants program for Minnesota schools.

III. Six Month Work Program Update Summary:

In the fall of 1995, SNAP presented at seven conferences and conventions to advertise the Environmental Action Grants program. A brochure was created describing the grants available to schools. SNAP sent a mailing to all Minnesota schools, and advertised the program via newsletters and electronic mail.

The Environmental Action Grants pilot program was a success with the funding of 30 Project Grants focused on augmenting native vegetation and enhancing wildlife habitat. Forty-two Project Grant applications were received. Twelve Partnership Grants were funded from 27 applications. These focused on the planning and use of school nature areas, including environmental education courses and curriculum writing workshops for teachers.

Over 1000 acres of land were impacted by the grants; 8,450 students were involved in Project Grants; 69 teachers participated in environmental education courses and curriculum writing workshops. The Project grants leveraged \$48,000 in additional funds. 125 people and organizations provided consulting services to schools.

Eight teachers and project coordinators presented on their projects at two Minnesota Science Teachers Association (MSTA) conferences. Teachers and students from one school will present at the Midwest EE conference in Madison, Wisconsin, in October, 1997.

An outside evaluator visited six Project grant schools and conducted interviews with teachers. His findings indicate, as noted in his report conclusions, "that the Project grants provided an excellent starting point at nearly all the sites and were used as an impetus for seeking future funding, volunteer help, community involvement, and more long term planning." A copy of his full report is included.

IV. Statement of Objectives

Objective A: School Proposals. Fund 40 proposals from urban and rural schools to develop or enhance school nature areas and improve environmental education.

Objective B: School Projects. Assist the schools with completion of their proposed projects; evaluate and disseminate the results.

Objective C: Prototype Program. Build a reliable prototype for a continuing school grants program in Minnesota.

Timeline for Completion of Objectives:

	7/95	1/96	6/96	1/97	6/97
Objective A: Select School Proposals	xxxxxxxxxxxxxx				
Objective B: Conduct School Projects			xxxxxxxxxxxxxxxxxxxxxxxxxxxx		
Objective C: Build Prototype Program			xxxxxxxxxxxxxxxxxxxxxxxxxxxx		

V. Objectives and Outcomes

A. Title of Objective: School Proposals

A.1 Activity: Program publicity and distribution of materials

A.1.a. Context: The success of this pilot rests on receiving proposals from schools in sufficient quantity and quality to fund 40 good projects involves publicizing widely, inspiring interest and providing informative supporting materials. Activity A.1 will stimulate interest and provide supporting information for schools to undertake the proposal process.

A.1.b. Methods: Before the beginning of the project, SNAP staff will prepare: a program brochure describing school nature areas and environmental action grants, a Request-for-Proposals (RFP), a video about school nature areas and a resource manual to help schools develop outdoor learning sites. The SNAP Advisory Board will review these materials and recommend changes for use in the LCMR project. At the beginning of the project, multiple copies of these materials will be produced. During teacher workshops in late August, 1995, the grants program will be publicized by distribution of the video, by a statewide telecast to schools and by mailing the brochure and RFP to all schools in Minnesota. Schools may respond to the telecast by requesting supporting materials including the video and resource manual.

A.1.c. Materials

A.1.d. Budget:

Total Biennial LCMR Budget:	\$27,443				
LCMR Balance:	\$ 0				
TOTAL MATCH:		\$	-		
MATCH BALANCE:		\$	-		

A.1.e. Timeline:	7/95	1/96	6/96	1/97	6/97
PRODUCT #1	xxx				
Copies of brochure, RFP, video and resource manual					
PRODUCT #2	x				
Statewide telecast					
PRODUCT #3	xxxxxxx				
Distribution of brochure, RFP, video and resource manual					

A.1.f. Workprogram Update In cooperation with the Advisory Board, SNAP staff prepared a program brochure and application forms which were mailed to all Minnesota schools. Program information was disseminated through a statewide telecast on August 31. Presentations were made in October and November at the Minnesota Educators Association (MEA) convention, Minnesota Association for Environmental Education (MAEE) conference, MSTA, Minnesota Zoo and a community conference sponsored by Blandin Foundation. Announcements were in SNAP, DNR and related newsletters and electronic bulletin boards, including the SNAP listserv. In addition to materials already distributed, schools made requests by phone and mail throughout the fall for an additional 182 applications, 52 videos and 65 resource manuals.

A.2 Activity: Select winning proposals.

A.2.a. Context: To maintain equity in awards, an outside panel and members of the SNAP staff will review and rank school proposals. The panel will represent, as fairly as possible, diverse educational, geographical and natural resource perspectives relevant to the school grants program. Members of the

panel will comprise the School Grants Sub-Committee of the SNAP Advisory Board, which will evaluate and recommend changes in the LCMR pilot program (see Objective C).

A.2.b. Methods: Grant applications will be due in December, 1995. The School Grants Advisory Committee and SNAP staff will review and rank proposals. They will write comments on proposals to assist schools in improving their projects. Approximately 24 project schools and 16 partnership schools will be announced in January, 1996.

A.2.c. Materials:

A.2.d. Budget

Total Biennial LCMR Budget:	\$ 13,103				
LCMR Balance:	\$ 0				
TOTAL MATCH:		\$	-		
MATCH BALANCE:		\$	-		

A.2.e. Timeline:	7/95	1/96	6/96	1/97	6/97
PRODUCT #1	xxx				
Finalize review committee and procedures					
PRODUCT #2	xxxxx				
Receive, review, and rank school proposals					
PRODUCT #3	x				
Award letters to schools					

A.2.f. Workprogram Update By the December 1, 1995 deadline, 27 applications were received for Partnership Grants and 42 applications were received for Project Grants. Eleven reviewers, including teachers, college faculty, natural resource professionals and SNAP staff, evaluated applications according to consistent guidelines and awarded grants to 12 partnership schools and 30 Project schools. The guidelines for review and the schools receiving grants were discussed with the SNAP Advisory Board.

B. Title of Objective: School Projects

B.1 Activity: Conduct school projects

B.1.a. Context: While project directors will have primary responsibility for completing proposed projects, local consultants will be identified to help schools with final planning and completion of their projects. These consultants will provide cost-effective assistance and the possibility of on-going local support. Consultation with SNAP staff and local consultants will help implementation of projects and better insure their success

B.1.b. Methods: SNAP will compile a master list of potential consultants before school proposals are received. After awards are announced, SNAP and each grantee school will select individual consultants for their expertise, proximity, availability and willingness to participate. Local consultants will meet with project directors to discuss plans and make necessary revisions. After SNAP receives and approves revised plans, project directors will receive one-half of the project award. Thereafter, consultants will work directly with project directors. SNAP staff will assist with individual

schools as necessary. In addition to personal assistance, schools with appropriate technology will have electronic access to other consultants through an existing SNAP mailbox on Internet.

B.1.c. Materials:

B.1.d. Budget

Total Biennial LCMR Budget:	\$84,841
LCMR Balance:	\$ (471) overdraft
TOTAL MATCH:	\$50,000
MATCH BALANCE:	\$ 0

The overdraft is due to additional benefits and workman's compensation insurance that St. Olaf College allocated from every account in May, 1997. We were unaware of this change when we made workprogram amendments.

B.1.e. Timeline:	7/95	1/96	6/96	1/97	6/97
PRODUCT #1	xxxxxxxxxxxxxxxx				
Master list of potential consultants					
PRODUCT #2		xxxx			
Consultant identified for each project school					
PRODUCT #3		xxxx			
Revised project plans sent to SNAP					
PRODUCT #4		xxx			
First half of project award paid to schools					
PRODUCT #5		xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx			
Consultants and SNAP staff advise project directors					
PRODUCT #6		xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx			
Schools complete projects					

B.1.f. Workprogram Update A master list of 75 potential consultants was compiled. Approximately 125 cooperators assisted schools with projects. Cooperators include federal, state, county and city natural resource agency personnel, master gardeners, college faculty, horticulturists, and restoration firms. Schools received one-half of project awards in April and May, 1996.

Partnership schools participated in environmental education training and nature area site planning. Each school developed a site action plan which is summarized below.

Apple Valley, School of Environmental Studies 10th through 12th graders are creating butterfly and hummingbird gardens. They are also doing buckthorn removal from their site and building a dock for access to their pond. Some students are creating woodland wildflower study plots. Bemidji Middle School is building a boardwalk and floating dock to access their wetland. Cedar Creek and East Bethel Community Schools are conducting a prairie restoration and creating interpretive signs for their trail. They are also building docks and boardwalks for access to two ponds. Crookston High School is doing a prairie planting on their new school grounds. Gilbert School is planting native plants around a flagpole area and creating a wetland and pond to create additional habitat diversity in the city park which is their nature area.

Fergus Falls, Adams Elementary is assisting with a prairie restoration project at the Prairie Wetlands Learning Center adjacent to their school grounds. Goodhue Public School is creating a butterfly garden and enhancing a prairie area at their school. Hanover Elementary School is creating a wetland boardwalk. They are also starting a butterfly garden and building interpretive stations along their nature trail. Hermantown Public School is creating trails and improving access to their two wooded nature areas. Kasson -Mantorville School is doing a prairie planting on the grounds of their new school. Lakeville, Crystal Lake Elementary is doing a prairie planting project on their school grounds. Taylors Falls Elementary School is creating a boardwalk over low areas along their nature trail in their woodland nature area.

B.2. Activity: Review and evaluate school projects

B.2.a. Context: To assist schools and appraise the ecological and educational value of their projects, we will incorporate reporting and evaluation procedures into school projects. Inside and outside evaluators will be used to provide multiple perspectives and maximize information about school projects.

B.2.b. Methods: Schools will submit update reports to SNAP every six months and a final report by May 31, 1997. SNAP will release the final half of the project award upon receipt of the final report. School reports will be incorporated into the SNAP update report to LCMR. SNAP staff will select a diverse group of schools to review and evaluate in fall and spring of the second year. An outside evaluator will do the same for a different group of schools. Both sets of evaluations will be incorporated into the final report to LCMR and used by the SNAP Advisory Board to evaluate and revise the overall program (see C.1).

B.2.c. Materials:

B.2.d. Budget:

Total Biennial LCMR Budget:	\$25,774
LCMR Balance:	\$ (65) overdraft
TOTAL MATCH:	\$ -
MATCH BALANCE:	\$ -

The overdraft is due to additional benefits and workman's compensation insurance that St. Olaf College allocated from every account in May, 1997. We were unaware of this change when we made workprogram amendments.

B.2.e. Timeline:	7/95	1/96	6/96	1/97	6/97
PRODUCT #1				x	x
School reports due					
PRODUCT #2			xxxx		xxxx
Evaluation of school projects by SNAP staff					
PRODUCT #3			xxxx		xxxx
Evaluation of school projects by outside evaluator					
PRODUCT #4					x
Last half of project award paid to schools					

B.2.f. Workprogram Update Project schools completed their projects in the spring of 1997. Schools submitted final project reports which are summarized below:

Bovey, Conner-Jasper Middle School, 135 students planted 100 tree seedlings in a 9 acre city park. They also planted 125 native berry and cherry trees. They hauled rocks to the site for the expansion of a butterfly resting area and planted native perennials around the rock pile.

Byron Primary, 500 students planted a 1300 square foot butterfly garden with 200 native prairie plants. The students had a goal of establishing their own nursery for butterflies to lay their eggs and for larva to develop. Monarch caterpillars were prolific in the garden in the first year and students spent many days observing plant life, butterflies, and the metamorphosis of larva. Students also established a rock garden, a small pond to study water organisms, and two puddling areas for feeding butterflies. They built bird feeders, drew a large map of the garden area, and created a photo identification notebook.

Duluth, Chester Park Elementary School, students created a 3000 square foot nature area. 258 students in grades K-4 planted over 200 native trees and shrubs and over 100 native perennials. Some students and a Brownie troop grew some of the plants under grow lights. A parent volunteer and a naturalist from Hartley Nature Center coordinated the project. They hope to ask the PTA for funds to equip each grade level with grow lights so more students can grow additional plants.

Eden Prairie, Eden Lake Elementary School, third and fourth graders planted 300 trees and shrubs of 16 native species to restore 10,000 square feet of understory of a maple/basswood forest. Each class planted 15-20 trees and shrubs in a 10 x 100 foot portion of the site. They mapped and measured each species planted. 1st, 2nd, and 3rd grade classes planted sixteen of the trees and shrubs in a 10 x 10 foot plot. An interpretive trail around the plot will focus on species identification.

Eden Prairie, Eden Lake Elementary School, fourth graders planted 15 species of native wildflowers in the maple/basswood forest restoration project. They delineated each planting area with a hula hoop to be able to monitor growth and survival of plants. It appeared in the first year that survival rates were very low. They plan to look at ways to improve plant survival.

Frazee Elementary School, 4th-6th grade students are assisting with a 120 acre prairie restoration. The site was burned twice to discourage weedy species. They have created interpretive signs to aid in identification of a variety of plant species. Students also built bluebird houses and wood duck boxes for their site. They are also doing water quality testing and studying water organisms along the Ottertail River.

Hayfield High School, students planted a native prairie area in their two acre nature area. Elementary students helped with the planting. High schoolers made presentations to the elementary students on prairies. The Iron Horse Scientific and Natural Area is less than a mile from the schools. This tallgrass prairie remnant along an old railroad bed serves as an example for the school to emulate in their own prairie project.

Hopkins, Alice Smith Elementary, 560 students planted 400 native prairie plants in their courtyard. The courtyard was created as a result of a building project. Teachers worked with architects in designing the space to be a useful classroom. A parent Master Gardener helped students plan and plant the area.

Fifth grade students designed a logo for their outdoor classroom and a parent who works at the Minneapolis Tribune helped them complete the design at the newspaper office.

Isanti Elementary School, 181 students planted native prairie plants in a schoolyard butterfly garden. Students researched the needs of butterflies. Fourth graders introduced the planting project to the community at an Arbor Day celebration.

Maplewood, Edgerton Elementary School 75 students planted 52 native trees and shrubs, 3200 forbs and grass plugs and 200 aquatic plants on 6 acres of municipal property adjacent to a pond. Students were actively engaged in cleaning up the area, designing the project, ordering stock, planting, and constructing "flutter sticks" to prevent large scale predation by geese on new plantings. In the process students were exposed to principles of wildlife habitat management and basic watershed dynamics.

Minneapolis, Lincoln Elementary School, 125 students planted native trees, shrubs, and wildflowers in a corner of a playing field across the street from their school. Master Gardeners and a garden club have assisted with the project which has become a source of community pride. The school received a CUE award from the City of Minneapolis for the neighborhood's best grassroots project.

New Hope, Meadow Lake Elementary, 200 students are creating a nature area in the school courtyard. They collected soil samples of the site to help determine what plants would grow well. They hauled compost and crushed limestone by buckets into the courtyard and made the area handicap-accessible.

North St. Paul, Covern Elementary, 50 students in the Covern habitat club created a prairie area on their 4 acre nature area. They prepared the soil and planted small plants and seeds. The club studied the history and components of a prairie using the Prairie Trunk from the Minnesota Valley National Wildlife Refuge.

Plymouth, Sunset Hill Elementary, students are revitalizing a 1970 prairie planting in their nature area. They planted over 400 prairie plants. Some prairie seeds that were collected by a parent were planted under grow lights and transplanted to the prairie.

Plymouth, Zachary Lane Elementary students in grades 4 and 5 worked diligently to create a habitat for ducks, song birds, and insects in their courtyard. Students learned some of the difficulty in recreating a habitat and that each species of animal may have many different needs for food, shelter and space. A pair of mallards nested in the courtyard which the students celebrated as a success of their labor.

Ponemah Elementary, 223 students planted trees on school grounds. They also built two bat houses, bird feeders, a butterfly shelter, a purple martin house, and bluebird houses. Native plants were planted in a meadow area. Cedar, white pine, balsam fir, and spruce saplings were planted on the school site on Arbor Day. Signs labeling trees in Ojibwe and English have been created.

Princeton Area Learning Center, Twenty-two Area Learning Center students (ALC) designed and constructed a native flower garden outside the Princeton School District building. Early Childhood Family Education, Early Childhood Intervention, and Headstart preschoolers, with their parents, planted many of the forbs. Middle school environmental club members cleaned up the garden in the fall and spring and fifth graders planted more forbs in the spring of 1997.

Ramsey Elementary, 80 students assisted in research and planting a 2 acre prairie restoration. Students studied prairie plants and helped determine what plants would grow best on the sandy hill. Prairie Restorations Inc. drilled the seed into the site due to the slope of the hill. Students grew native seeds in their classrooms and in garden beds.

Red Wing, Burnside Elementary fifth grade students terraced a drainage area to create a butterfly garden. Students helped lay out the area and marked boundaries. An eagle scout helped build the retaining walls. An area church has volunteered to help build a viewing area. The project has been so successful that the school hopes to double the area and create a second set of terraces above the first level.

Rochester, John Marshall High School, 9th and 10th grade honors biology students planted a prairie area near the school's pond. They had a problem with weeds in the first year which has been a struggle to battle. The students were integrally involved in writing their grant proposal including talking with faculty, administrators, and support staff to organize the project.

Rochester, Mayo High School, 35 ecology club students are assisting with a small prairie planting. Students volunteered to monitor the prairie planting over the summer. The Rochester Park and Recreation Department has volunteered to mow the area to help control weeds.

Rollingstone Elementary, 100 students started prairie seeds indoors and transplanted seedlings to their nature area. A Master Gardener assisted with the project and a parent volunteer prepared the planting site and eliminated noxious weeds. A volunteer prepared a booklet of pressed leaves and information about the plants found in the prairie area. Community members constructed a split-rail fence around the prairie and a Scout troop built a rustic sign for the area.

Roseville Area Middle School, Over 300 students planted native trees, shrubs, and wildflowers on their school grounds. Students were responsible for site determination, species selection, area design and public relations. The project provided an opportunity for alternative learning experiences. Leadership opportunities for students have been an integral part of the project's design. Students received two commendations. One was from the Minnesota Horticultural Society's Minnesota Green program and the other was a President's Environmental Youth Award.

Saint Cloud, Oak Hill Elementary, 285 students are planting a prairie near their school. In the spring of 1996 about 45 parents and students helped burn the area to prepare for planting. Second and third graders started several different wildflowers from seed and planted them on the prairie. Fifth graders planted 500 wildflower plants. They hope to involve additional grade levels in the future with the possible enhancement of some wetlands on school property.

Saint Louis Park, Benilde -St. Margaret students are restoring a campus courtyard to represent a pre-settlement native oak savanna ecosystem. They prepared the site by removing non-native species, selected plant species, and started seeds indoors. They also built 25 nesting boxes for birds and bats. They created six theme planting beds for specific oak savanna plant types.

Silver Lake, Lakeside School, 44 students have cleaned up, planted native plants, and helped create a berm, along the lakeshore by their school. Their project has grown beyond their original plans as they have also torn out an unused parking lot and replaced it with wild prairie grasses and forbs. In addition students constructed eight bird feeders.

Stillwater Area High School, 300 students have assisted with an 8 acre prairie restoration. With the help of the Lake Elmo Park Reserve and the Bayport Fire Department, the site was burned. A local farmer helped drill prairie grass seeds. Students have grown forbs under grow lights for transplanting to the nature area. In the future they hope to harvest seed from their prairie area to plant additional acres.

Thief River Falls, Challenger Elementary, Students in Kindergarten through fifth grades are creating a nature area which includes native prairie, prairie identification, and forest areas on their school grounds. Students have collected, cleaned, tested, and planted native prairie seeds for two prairie areas totaling three acres. Students have also planted what is the beginning of a three acre forest area. With the help of an Eagle Scout, students have created a prairie identification area displaying individual prairie species for educational purposes.

White Bear Lake, Parkview Elementary, 300 students helped convert school grounds into a prairie area. They planted 2400 plants of 55 different species. In the spring of 1997, a killdeer nested in the middle of their restoration. "Prairie" was the annual theme for the 1995-96 school year and served as inspiration for: two weeks of creative dance with an Artist in Residence, a play, classroom lessons including flower form and function, growing prairie seedlings, history of and life on the Oregon Trail, quilting, prairie ecology, keying plants, mapping and soil sampling, plant and animal adaptations, and pioneer literature; professional speakers on fire ecology research, prairie ecology, and soil science; and field trips to Dodge Nature Center, Gammelgarden Museum, and Afton State Park.

Willmar High School, 150 students planted trees and shrubs and erected 14 bluebird houses. They also built a goose nesting platform for their pond. Students picked rocks from agricultural fields and used them to create rip rap along the edge of the pond. The nature area also has a prairie planting that students are working to restore.

Six schools were selected for evaluation by an outside evaluator. The schools were Lincoln Elementary in Minneapolis, Roseville Area Middle School, John Marshall High School in Rochester, Willmar High School, Zachary Lane Elementary School in Plymouth, and GSL Lakeside Elementary School in Silver Lake. Schools were selected for evaluation based on grade level and location. Three elementary schools, one middle school, and two high schools were visited. One inner city urban school, two suburban schools, one out-state city school, and two rural schools were chosen.

The evaluator visited each site and interviewed the coordinator. Specific questions were addressed in a conversational interview that often took place while walking the site. The interviews were tape-recorded. The evaluator compiled the answers to his questions for each school and added comments for each case. He drew the following conclusions which are taken from his evaluation report:

1. Three sites were successful well beyond reasonable expectations for the project. Two sites were successful in that the SNAP resources were expended as planned and the sites were improved. One site failed in that not all the resources that were expended and those that were used with only the most minimal site enhancement and little reason to expect that the project will be sustained.
2. My overall impression is that these SNAP Project grants provided an excellent starting point at nearly all the sites and was used as an impetus for seeking further funding, volunteer help, community involvement, and more long term planning.

3. The project was successful where the coordinator either had an extensive personal background related to the development of areas, native plants, or knew how to gain access to the necessary information. The SNAP information that was made available and the consulting from the staff were both quite important.

4. The project was more likely to be successful when the school curriculum was directly related to the site.

5. The leadership was primarily in the hands of the coordinator and strong leadership was required for the project to be successful.

6. The work and responsibility for the successful projects was widely distributed among students, community members, and parents.

7. While direct participation by teachers and administrators other than the coordinator is helpful, it does not seem to be critical as long as they and the administrators at least cooperate by releasing students from their classes and they are not obstructive. Yet, at several sites the coordinator expressed disappointment in the limited participation by their colleagues.

B.3. Activity: Disseminate school projects

B.3.a. Context: For funded projects to provide information and inspiration to other schools, and thereby to broaden the impact of the school grants program, descriptions of school projects and presentations about them will be disseminated as widely as possible to educators and conservationists.

B.3.b. Methods: Based on original school proposals and revised workplans, SNAP will compile a booklet describing funded school projects. The booklet will be advertised and distributed to teachers at workshops, conferences and other schools. Project directors will be able to present their work to other interested teachers at SNAP workshops and at state and regional teacher conferences. Selected school projects will be featured in the SNAP newsletter with a circulation to 1250 teachers, conservationists and environmental educators. A revised booklet reflecting completed projects will comprise part of the final report to LCMR and serve as information and advertisement to other schools for a later cycle of the grants program. The revised booklet will be expanded to include descriptions of all SNAP *partnership* and *project* grants. This will give readers a more comprehensive sense of projects being conducted throughout Minnesota. It will also help facilitate communication among teachers involved in projects from previous and current grants. In addition to teacher presentations on their projects at a variety of conferences, SNAP will host a one day conference for current *project* grant recipients and 1997-98 recipients. Sessions on prairie plantings, woodland plantings, and other topics addressing needs of recipients will be offered. A variety of resources will be offered to participants and native plant vendors will be invited to help inform schools of the availability, ordering, site preparation, and care of native plantings. To meet LCMR's request for a video about our project, we asked schools to send us videotape of their work. As an incentive we advertised that three schools sending in videos would win a prize. A St. Olaf College student pursuing studies in film and video will be hired to review the videos and create a video collage highlighting activities. SNAP will use the video to help advertise the Environmental Action Grants program.

B.3.c. Materials:

B.3.d. Budget:

Total Biennial LCMR Budget: \$25,296
LCMR Balance: \$ 720
TOTAL MATCH: \$ -
MATCH BALANCE: \$ -

A balance remains in this activity to compensate for overdrafts in other activities due to the additional benefits and workman's compensation expenses in activities involving salaries.

B.3.e. Timeline	7/95	1/96	6/96	1/97	6/97
PRODUCT #1		xxxxx			
Complete preliminary booklet					
PRODUCT #2			xxxxxxxxxxxxxxxxxxxxxxxxxxxx		
Distribute preliminary booklets					
PRODUCT #3				xxxxxxxxxxxxxxxxxxxx	
School presentations of their projects					
PRODUCT #4					xxx
Final booklet describing school projects					

B.3.f. Workprogram Update: The *Environmental Action Grants* booklet describing funded school projects was compiled. The initial version of the book described 1995-97 Project Grants and 1996-97 Partnership Grants. Copies were distributed to 256 teachers in nine environmental education courses offered through the LCMR funded Teacher Preparation Project. Additional copies were distributed at fall 1996, open houses and meetings advertising the Environmental Action Grants program. SNAP presentations advertising the grants included:

- Open House at St. John's University, Collegeville
- Open House at St. Olaf College, Northfield
- Presentation at grant writing workshop at MEA convention
- Booth at MEA Convention
- Presentation at MSTa meeting
- Presentation at SNAP Natural Science Enrichment for Teachers workshop
- Display table at Minnesota Valley National Wildlife Refuge celebration
- Display table at Science Museum of Minnesota Environmental Ed conference
- Display table at Center for School Change conference

The book was expanded to include descriptions of all of the schools that SNAP has awarded Project and Partnership Grants. The book includes a list of contact people at each school to encourage communication among teachers regarding projects. Each description is being added to the SNAP web site where every school has a web page. Additional copies of the Environmental Action Grants book will be distributed at meetings advertising the grants program and to schools interested in applying for grants.

One teacher presented on his school project at the MSTa meeting in October, 1996. Seven teachers and volunteers from three schools presented about their projects at the MSTa Teaching Science through Literature and the Arts conference at the Science Museum of Minnesota in January, 1997. We submitted a proposal for three schools to present at the Minnesota state EE conference in Duluth in May, 1997,

but our proposal was not accepted. Teachers and students from one school will present at the Midwest EE conference in Madison, Wisconsin, in October, 1997.

A Project Grant Recipients Conference was held in March, 1997, at the Minnesota Valley National Wildlife Refuge in Bloomington. Forty-five teachers participated in the conference which focused on planting native vegetation. Many schools planned to complete their projects in the spring of 1997, and the workshop was very valuable in assisting them with site preparation and selecting appropriate plants. Two staff from the University of Wisconsin Madison Arboretum, which operates a schoolyard prairie restoration program in Wisconsin, were the keynote speakers. Three staff from nurseries selling native Minnesota plant materials spoke about plant selection. Participants were able to ask project-specific questions of the presenters during break-out sessions.

A St. Olaf College student produced a video collage of footage received from some Project grant schools. The quality of footage received from each school varied due to the quality of equipment schools used. The collage gives a sense of the variety of ways schools are creating and using nature areas. The video production company, Media Rare, produced three 5-7 minute segments about three Project Grant schools for the television program, *Environmental Journal* of the Minnesota State Lottery. A videotape of the three *Environmental Journal* segments and the collage are included with this report.

C. Title of Objective: Prototype Program

C.1 Activity: Discussion, evaluation and revision of pilot program

C.1.a. Context: Two goals of the LCMR pilot are (1) test the feasibility, procedures and results of statewide environmental grants for schools and (2) build a foundation for a continuing school grants program in Minnesota. Formal evaluation and public discussion of the pilot program will help to build a reliable model and receptive climate for a continuing grants program. This information will provide diverse perspectives for revising the program and developing a reliable prototype.

C.1.b. Methods: A brochure and presentation about the pilot program will be developed early in the project and presented at conferences, in communities and to organizations in order to provide opportunity for public discussion. The presentation will be updated as schools proceed with their projects and as changes are made in the pilot. The SNAP Advisory Board will review the pilot program and make recommendations for changes. Their recommendations will be based on information from inside and outside evaluation of school projects, school reports, public discussions and SNAP staff.

C.1.c. Materials:

C.1.d. Budget

Total Biennial LCMR Budget:	\$23,542
LCMR Balance:	\$ (185) overdraft
TOTAL MATCH:	\$ -
MATCH BALANCE:	\$ -

The overdraft is due to additional benefits and workman's compensation insurance that St. Olaf College allocated from every account in May, 1997. We were unaware of this change when we made workprogram amendments.

C.1.e. Timeline:	7/95	1/96	6/96	1/97	6/97
PRODUCT #1		xxxxx		x	x
Prepare program presentation. Update as necessary					
PRODUCT #2		xxxxxxxxxxxxxxxxxxxxxxxxxxxx			
Public presentations and discussions of pilot program					
PRODUCT #3		xx		xx	xx
Advisory Board reviews pilot and completes prototype					
PRODUCT #4		x	x	x	x
Update reports to LCMR					

C.1.f. Workprogram Update: Presentations of the program have been made to: RELC Greenprint Council, representatives of eight Minnesota foundations, National Fish and Wildlife Foundation and EcoSense workshop participants. A presentation was also made at a Schoolyard Habitat Forum during the North American Association for Environmental Education conference in San Francisco, CA. Participants included personnel from agencies and organizations throughout the United States who assist schools with schoolyard habitat projects.

Minor revisions were made to the *Project* grant applications based on review of last year's applications and feedback from participants and Advisory Board members. A sample application was included with the new forms to give applicants an example of the information we were seeking. This was very helpful to teachers, many of whom had no experience in writing grant proposals. A graphic artist was hired to finalize the layout of the applications to make them more visually appealing and reader friendly.

The 1997-98 grant applications were sent to principals at 2,100 Minnesota public and private schools. 67 *project* grant applications were received in December 1996, representing a 37% increase in the number of applications received. 30 Project grants were awarded.

VI. Evaluation: The pilot project will be successful if: (1) school proposals of sufficient quantity and quality are received to select 40 good projects (2) grantee schools enhance schoolyard sites with native vegetation and wildlife habitat and use the enhancement process as environmental education (3) teachers and community members sustain conservation projects in school nature areas and use the projects as environmental education and (4) the revised pilot leads to a permanent school grants program in which Minnesota schools compete for funds to develop outdoor learning sites and environmental education programs.

Specific methods of evaluation are described in workplan activities B.2 and C.1 above.

VII. Context within field: The project combines natural resource conservation with environmental education. It builds on biological research about the importance of native vegetation for ecological integrity and wildlife habitat. It follows educational research emphasizing the importance of student-centered learning, problem-solving and hands-on activities.

By combining conservation and education, the project plays a unique role in Minnesota environmental education. It emphasizes practical, out-of-classroom learning experiences identified as a priority in *Greenprint for Minnesota*. Promoting education through action, the project differs from other out-of-classroom opportunities at nature centers, ELCs, state parks, zoos and museums by stressing personal involvement and decision-making by teachers and students, continuing environmental stewardship and local community ownership.

VIII. Budget Context:

- a. **July 1, 1993-June 30, 1995:** The following monies (cash) have contributed to the overall work of SNAP with schools during the previous biennium: Blandin Foundation (\$500,000); EPA (\$12,600); Hughes Foundation (\$50,000), DNR (\$22,000), St. Olaf College (\$15,000); National Project Wild (\$20,000), Merck Company (\$25,000), Eisenhower Grant (\$27,257).
- b. **July 1, 1995-June 30, 1997:** In addition to LCMR funds, the following monies (cash) will contribute to the pilot project described herein: Blandin Foundation (\$208,662); EPA (\$12,225), St. Olaf College (\$6,110), MEEAB (\$300).

IX. Dissemination: Summary of plans for dissemination (described more fully above) :

Objective A: A brochure and RFP will be mailed to all Minnesota schools. A telecast will be pre-announced to all schools and aired in late August. Interested schools may request a video on school nature areas and a resource manual to help assess and plan for a site.

Objective B: A booklet describing funded school projects will be distributed to teachers at workshops and conferences. Project directors will present projects at SNAP workshops and at other workshops for teachers and environmental educators. Selected school projects will be featured in the SNAP newsletter with a circulation to 1250 teachers, conservationists and environmental educators.

Objective C: The pilot project will be presented and discussed at meetings of educational and environmental organizations.

X. **Time:** All outcomes and objectives described in this proposal will be completed by June 30, 1997. The LCMR pilot will be used as a model and advertisement for a continuing school grants program.

XI. Cooperation:

Project Staff	Percent of Full Time					
	Obj. A		Obj. B		Obj. C	
	Yr 1	Yr 2	Yr 1	Yr 2	Yr 1	Yr 2
Exec Director, Project Manager	8.5%				8.5%	17%
project design, review, revision						
SNAP Director	25%		25%	45%		5%
project implementation, evaluation						
Administrative Coordinator	12.5%		12.5%	20%		5%
project management						
Site Ecologist	17%		50%	62%		5%
ecological consultation to schools						
Site Design Specialist			33%	67%		
site design consultation to schools						
Office Assistant	25%		25%	45%		5%
telephone, clerical						
Elementary EE Specialist				100%		
EE training for partnership schools						
Secondary EE Specialist				50%		
EE training for partnership schools						
Secondary EE Specialist				50%		

EE training for partnership schools

Cooperators for Objective B: **Carrol Henderson**, DNR Nongame Wildlife Program: assist with plant-wildlife database for resource manual and coordinate DNR Nongame Wildlife field agents to help provide consultation to schools; **Pam Landers**, MN EE Advisory Board: coordinate distribution of school projects booklet in MEEAB teacher in-service workshops.

Advisory Board For Objectives A and C: **Pam Landers**, MN EE Advisory Board; **Carrol Henderson**, Director, DNR Nongame Wildlife Program; **Sandy Pederson**, high school teacher, Stillwater; **Ed Hessler**, Director, Environmental Sciences Foundation; **Waldo Larson**, Educational Planner, Wold Architects; **Ernie Diedrich**, Environmental Studies, St. John's University; **Steve Dibb**, middle school teacher, Farmington; **Nelson French**, Director, Minnesota Nature Conservancy; **Jacque Hick**, elementary teacher, Elgin-Millville; **Cindy Johnson-Groh**, Biology Education, College of St. Scholastica; **Joe Nathan**, Director, Center for School Change; **Gene Bakko**, Biology, St. Olaf College; **Ron Unruh**, middle school teacher, Alexandria; **James Day**, Hartwick/Day Educational Consultants; **B.J. Smith-Kohlstedt**, environmental educator, Wolf Ridge ELC, Finland; **Ed Buchwald**, MN EE Advisory Board and Geology, Carleton College; **Mary Lou Klinkhammer**, elementary teacher, Roseville; **Paul Gruchow**, author, Chair, DNR Scientific and Natural Areas Committee; **Doug Thomas**, SE Coordinator, Center for School Change; **Kathy Hermes**, high school teacher, Duluth; **Molly Fifield Murray**, Director of Earthkeeping Program, U. of Wisconsin-Madison Arboretum.

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 Attachments:

1. **Qualifications:** See attached vitas of **Gary B. Deason**, Project Manager, and **Karen Van Norman**, SNAP Director.

2. **Project Staffing Summary:** See attached.