

**Environment and Natural Resources Trust Fund
2011-2012 Request for Proposals (RFP)**

Subd: 08c

Project Title: Minnesota Junior Master Naturalist Program

Category: G. Environmental Education

Total Project Budget: \$ 365,000

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

Other Non-State Funds (secured): \$ 0

Summary:

Pairs trained adult Master Naturalist Volunteers with staff in after-school programs throughout Minnesota to offer outdoor, science-based, activities for youth to learn about the ecology of their schoolyards and neighborhoods.

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Location:

Region: Statewide

Ecological Section: Statewide

County Name: Statewide

City / Township:

PROJECT TITLE: Minnesota Junior Master Naturalist: An After-School Program

I. PROJECT STATEMENT

Minnesota Junior Master Naturalist will pair current adult Minnesota Master Naturalist Volunteers with staff in existing after-school programs to offer fun, outdoor, science-based educational opportunities for 4th and 5th graders to learn about the ecology and natural history of their schoolyard, neighborhood, nearby natural areas, and the entire state.

This program will address the problem that children are spending increasingly less time outside and, consequently, know less about their environment and world. It responds to the needs identified in the *2009 Outdoor Education Legislative Report* to increase outdoor learning opportunities for children and to train educators who are often uncomfortable taking youth outside for lessons. It also addresses outcomes outlined in the Minnesota *Greenprint* to provide increased environmental education opportunities for youth both at school and during play.

The goals of this project are 1) to create a series of outdoor, sequential, science-based lessons with targeted learning outcomes that address the new MN K-12 Science Standards, 2) to prepare adult leaders to deliver these lessons in after-school programs for 4th and 5th graders with the aim of improving their performance on the 5th grade Science MCA exams and 3) to establish a permanent program to offer these lessons throughout Minnesota.

Other state and national programs focus on outdoor exploration, play, and reflection with an emphasis on natural areas. This program emphasizes targeted science learning outcomes and use of the schoolyard as a means of investigating the environment. The curriculum will be developed and tested in schools with large minority enrollments. MN Master Naturalist staff will then train, place, and support volunteers offering the program in at least 50 schools statewide.

II. DESCRIPTION OF PROJECT ACTIVITIES

Activity 1: Develop and Pilot-test Fall, Winter & Spring Curricula Budget: \$ 100,355

We will develop and pilot-test a series of weekly lessons on the physical changes in the seasons and their effects on plant and animal life. These lessons will be divided into three units linked to *The Minnesota Weatherguide*, a natural history calendar. Each seasonal unit will include supplies for the volunteer to use while implementing the lessons. The pilot-testing phase will be a collaborative effort between Master Naturalist staff, students, volunteer instructors, and after-school staff to develop lessons that are appropriate for teaching diverse audiences in schoolyard settings. We will then evaluate and revise the units.

| Outcome | Completion Date |
|---|-----------------|
| 1. Develop and pilot-test Fall, Winter, & Spring curricula at 4 sites | May 2012 |
| 2. Evaluate and revise curricula | August 2012 |

Activity 2: Train Master Naturalist Volunteers & Field-test Curricula Budget: \$ 126,345

While developing sequenced curricula is vital, it is also important to develop and evaluate training materials for the volunteer instructors i.e. field-testing. Field-testing will be done the second year to insure that the developed materials and adult training materials are appropriate for widespread implementation. In Yr. 2, we will train 16 – 24 additional Master Naturalist Volunteers who want to work with the Jr. Program. They will then test the materials at eight additional sites (for a total of 12) during the school year followed by evaluation and revision of both the lessons and training materials. Additional sites will increase the geographic coverage.

| Outcome | Completion Date |
|---------|-----------------|
|---------|-----------------|

| | |
|--|-------------|
| 1. Develop and implement training for adult Master Naturalist Volunteers | August 2012 |
| 2. Field-test Fall, Winter and Spring Curricula at 12 sites | May 2013 |
| 3. Evaluate and finalize curricula and training materials | August 2014 |

Activity 3: Expand Program to 50 Sites Statewide

Budget: \$ 138,760

In the final year of the grant, we will train at least 50 additional Master Naturalist Volunteers and offer Junior Master Naturalist in at least 50 after-school programs statewide.

| Outcome | Completion Date |
|--|------------------------|
| 1. Offer training for at least 50 Adult Master Naturalist Volunteers | August 2013 |
| 2. Offer Jr. Master Naturalist Programs in at least 50 schools statewide | June 2014 |

III. PROJECT STRATEGY

A. Project Team/Partners

The main partners in this project are Univ. of MN Extension and the MN Dept. of Natural Resources, which jointly run the MN Master Naturalist Program. Rob Blair (Assoc. Professor; Fisheries, Wildlife and Conservation Biology; UMN-St. Paul), Amy Rager (UMN Extension – Morris), Nate Meyer (UMN Extension – Cloquet), Andrea Strauss (UMN Extension – Rochester), John Loegering (Assoc. Professor – UMN Crookston), Karen Oberhauser (Assoc. Professor, UMN St. Paul), and Dawn Flinn (Education Coordinator – MN DNR) have developed and manage the growing MN Master Naturalist Program, which has more than 500 volunteers who have taken a 40-hour course in Minnesota’s natural history. These volunteers offered more than 37,000 hours of volunteer service in 2009 in the areas of conservation, educational outreach, and citizen science. Each Master Naturalist staff members will devote at least two weeks of their time to this new project in addition to staff hired with the LCCMR funds.

We have commitments from John A. Johnson Elementary, Saint Paul; Lake Harriet Upper School, Minneapolis; Cardinal Place, Willmar; and Parks and Recreation, Saint Paul to help develop and pilot-test the program. These partners were selected because they have strong after-school programs with a diverse student enrollment (African American, Native American, Asian and/or Latino) and they wish to increase the science content of their after-school offerings. We also have commitments from Master Naturalist volunteers who are eager to join this effort. We expect to field-test the revised materials at eight additional sites in the state, with a specific focus on both urban and rural schools with high proportions of diverse students.

Rob Blair at the University of Minnesota will manage funding. The University of Minnesota Extension will house a new full-time Jr. Master Naturalist Coordinator. Rob Blair (UMN Extension) will supervise and perform annual review of the coordinator for Extension and a DNR staff member will direct and guide the coordinator in the development of the curriculum and integrating the project into DNR’s programming. All funding will be directed through University of Minnesota Extension, which is the established fiscal authority for the Minnesota Master Naturalist program.

B. Timeline Requirements

Each activity above corresponds to a year of the program, which begins in July (Figure 1).

C. Long-Term Strategy and Future Funding Needs

The major initial investment in this program will be for the development and testing of the curricula. After the grant ends, the longevity of the program will depend on hiring a permanent coordinator and finding funds to provide supplies to the Master Naturalist Volunteers and after-school programs. Currently, the Master Naturalist program is growing a long-term donor base,

which may be sufficient to provide for these needs. Alternatively, we may need to seek other grants to guarantee the baseline funding. We understand that this will be one-time funding for this project from the LLCMR; however, we hope this not preclude us from applying fro new initiatives that develop with the program.

D. Clarification of the Role between Extension, Minnesota DNR, and project management.

Minnesota Master Naturalist is a joint program of University of Minnesota Extension and Minnesota Department of Natural Resources. The program has been operating for five years with a Collaboration Agreement between the two entities and it delineates both responsibilities and expectations. The agreement designates University of Minnesota Extension as the fiscal agent and the Regents of the University of Minnesota as the copyright holder of all materials produced in the program.

Minnesota Junior Master Naturalist will be a new venture of the Minnesota Master Naturalist program. The newly hired coordinator of Jr. Master Naturalist will be an employee of University of Minnesota Extension and will be directly supervised by Robert Blair at the University of Minnesota. A DNR staff member involved with education, will support Dr. Blair in supervising the new Junior Master Naturalist Coordinator. Both the DNR staff member and the new coordinator will be responsible for adapting, refining, and evaluating the curriculum for the Jr. Master Naturalist program. Consequently, they will work closely to insure that the program meets the objectives of both agencies. The new coordinator will devote 100% of his or her time to the project, while the DNR staff member will devote 25% of her time to the project.

The coordinator will be housed in Extension, most likely on the Saint Paul campus of the University of Minnesota in 184 McNeil Hall. However, the Minnesota DNR Office of Communication and Outreach will also provide workspace for the coordinator for up to two days per week because of the close collaboration between the DNR staff member and the new coordinator.

2011-2012 Detailed Project Budget

IV. TOTAL TRUST FUND REQUEST BUDGET for 3 years

| BUDGET ITEM (See list of Eligible & Non-Eligible Costs, p. 13) | AMOUNT |
|---|-------------------|
| <p>Personnel: \$33,959 total for Rob Blair, UMN, 1 month salary per year for three years, 33.3% fringe benefits, to assist in development of curricula, serve as a liaison between the Minnesota Master Naturalist (adult) program and Minnesota Junior Master Naturalist) and manage project throughout year. \$173,345 total for coordinator, 12 months salary for three years, 33.3% fringe benefits to develop, adapt, evaluate, refine curriculum and implement program.</p> | \$ 207,982 |
| <p>Equipment/Tools/Supplies: \$340,350 for seasonal supplies for each school/program participating in Junior Master Naturalist, three seasons per year (Fall, Winter, Spring), \$200 of supplies per school per season; 4 schools Yr 1, 12 schools Yr 2, 50 schools Yr 3. \$750 for printing of pilot-test materials and evaluations, \$250 per year.</p> | \$ 40,350 |
| <p>Travel: Travel for staff to visit schools to evaluate implementation and to conduct training: 1173 miles Year 1, 2000 miles Year 2, 4000 miles Year 3</p> | \$ 3,588 |
| <p>Additional Budget Items: \$24,000 Stipends for staff teachers involved in pilot- and field testing. (\$500 per season, per staff teacher involved); \$6,000 Year 1, \$18,000 Year 2. \$3,500 for workshops to train volunteers including room rental, printing of training materials, teaching supplies, recognition pins, name badges, and background checks. Estimate based on \$50 per volunteer.</p> <p><i>Subaward to DNR</i> \$74,580 salary for DNR staff member, 25% time for three years, 37.2% fringe benefits, to adapt and develop curricula and to guide coordinator; \$11,000 for graphic design and printing of final materials including promotional materials (brochures, banners, pins, badges) in Year 1, seasonal curricula for students Year 2, training materials for instructors Year 3.</p> <p>NOTE: THE DNR WILL NOT RECEIVE SHARED SERVICES NOR DIVISIONAL SUPPORT FOR ANY BUDGET ITEM.</p> | \$ 113,080 |
| TOTAL ENVIRONMENT & NATURAL RESOURCES TRUST FUND \$ REQUEST | \$ 365,000 |

V. OTHER FUNDS

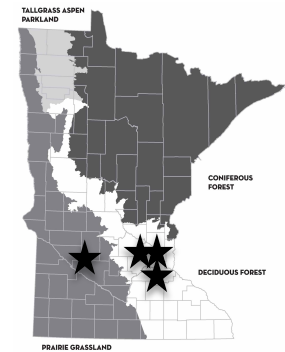
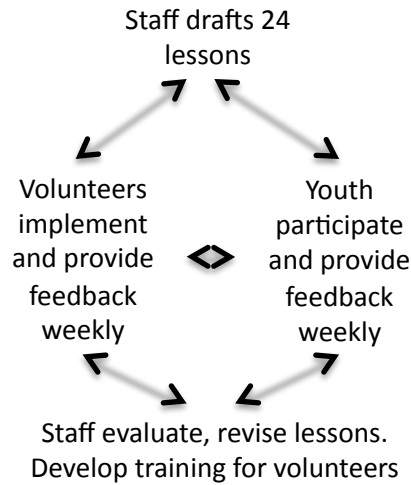
| SOURCE OF FUNDS | AMOUNT | Status |
|--|---------------|---------------|
| Funding History: Minnesota Master Naturalist program development funded by the National Science Foundation. | \$ 1,712,504 | |



Junior Master Naturalist Development Timeline

Year 1

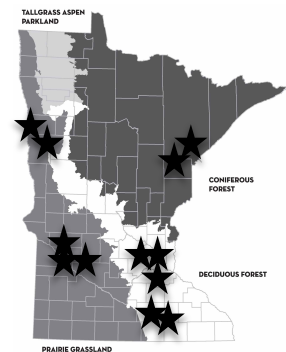
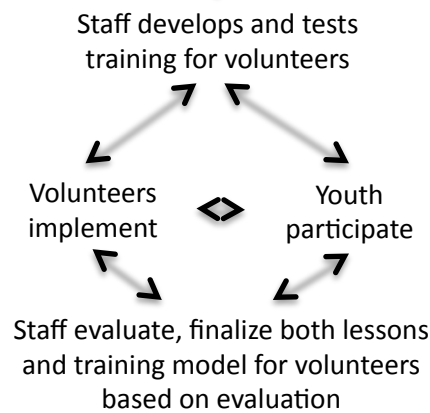
Development and Pilot-Testing



4 sites in Twin Cities and Willmar

Year 2

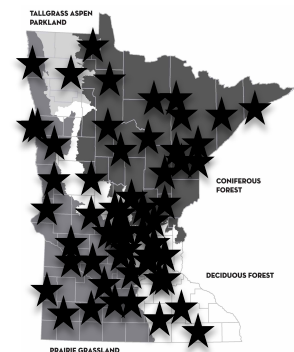
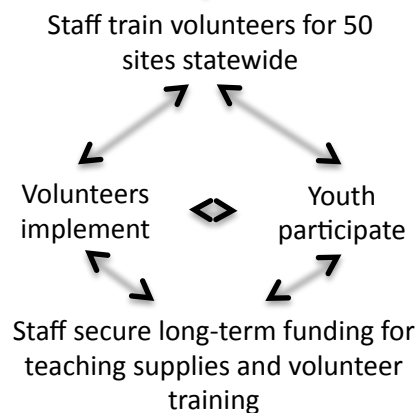
Field-Testing



12 sites near regional Extension staff

Year 3

Statewide Implementation



50 sites statewide

Sustained Junior Master Naturalist Program



Figure 1

Project Manager Qualifications:

Dr. Rob Blair is an Associate Professor of Fisheries, Wildlife, and Conservation Biology in the College of Food, Agriculture and Natural Resource Science at the University of Minnesota. He initiated the Minnesota Master Naturalist program in 2005 with a grant from the National Science Foundation Informal Science Education Program. Currently, he coordinates efforts of three Extension educators working on the project and two administrative assistants. Amy Rager, Extension Educator at Morris, is the Project Director. She handles the everyday functioning of the program and direct communication with instructors and volunteers. Blair has overseen the development of all curriculum material, including writing the majority of the main text. He manages the budgets for the program. He also coordinates efforts with the program's main partner – MN DNR – and Dawn Flinn, Education Coordinator for the DNR.

His role with Junior Master Naturalist program will be similar. A staff member in the DNR, will be the DNR liaison for the Junior Master Naturalist Program. She and Blair will hire and oversee a full-time coordinator to handle the day-to-day functioning of the program and direct contact with instructors and volunteers. Blair will oversee all curriculum development, budgets, training and evaluation. The staff member will work with the Junior Master Naturalist Coordinator to develop, adapt, refine, and evaluate all curriculum materials. Coordination with partners will be the responsibility of both Blair and staff member.

Junior Master Naturalist will be an expansion of the Minnesota Master Naturalist program to grade school children. Its audience will be children in existing after-school programs and the adult Minnesota Master Naturalist Volunteers who will work with them.

Organization Description:

University of Minnesota Extension staff listen to and collaborate with individuals, organizations and communities in order to discover, develop and deliver research-based education and information to address issues that are important to Minnesota - including conservation of Minnesota's natural resources.

The Minnesota Master Naturalist Program is a model collaboration between University of Minnesota Extension and the Minnesota Department of Natural Resources. It operates with a Memorandum of Understanding between the two agencies with each responsible for different portions of the program. University of Minnesota Extension is the fiscal agent for the project.

Minnesota Master Naturalist is a volunteer program that teaches adults about Minnesota's natural resources, empowers them to educate others, and provides them opportunities to do conservation projects. The mission of the Minnesota Master Naturalist Program is to promote awareness, understanding, and stewardship of Minnesota's natural environment by developing a corps of well-informed citizens dedicated to conservation education and service within their communities.

The Minnesota Master Naturalist program has been resoundingly successful. Since the Fall of 2005, more than 100 professional naturalists have become trained Master Naturalist Instructors and they have taught classes that have graduated more than 500 volunteers. In 2009 alone, these volunteers provided 5,956 hours of work on stewardship projects, 7,908 hours on interpretive activities that reached more than a million people, 4,626 hours on citizen-science monitoring, and 11,622 hours of program support at various nature centers for a total of 30,013 hours of volunteer effort. According to IndependentSector.org, this volunteer time is valued at \$20.25 per hour for a total contribution of \$607,763 to the state's economy. From 2005 through 2009, the volunteers have donated over 81,000 hours worth more than \$1,721,250.

