

AUG 16 2001

Teacher Training in Interdisciplinary Environmental Education

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Environmental Education

ML 1999 Chap231, Sec 16, Subd. 11G

\$60,000

FINAL REPORT

This appropriation funded the creation of an interdisciplinary environmental education training workshop for K-12 teachers, and the workshop fees for up to 200 Minnesota teachers. A total of 188 Minnesota teachers participated in the four five day summer workshops, and two weekend workshops held at the Audubon Center of the Northwoods, Sandstone, MN. The focus of the workshops was to give teachers tools for integrating interdisciplinary environmental education lessons and activities in to their classroom curriculum. They participated in a wide variety of sessions, ranging from water quality and wetland monitoring to art and drama activities on the Mississippi River. Feedback from the teachers indicate that many of them have taken the activities and ideas from the workshops and used them to alter existing curriculum and/or create new curriculum focusing on the environment.

Information is being disseminated in several ways. Each teacher received a participant list of people attending their workshop, including e-mail addresses. This has allowed the teachers to stay in touch and share ideas. The Audubon Center has created a special section of its web page to post information for teachers including materials from people who presented at the workshops, as well as current environmental education resources, and educational opportunities related to environment for teachers. The web page is undergoing a redesign into front page, and will continue to be updated regularly. In addition, Minnesota Audubon is disseminating information to teachers and students through the network of 14 Audubon chapters in Minnesota through various education projects including Audubon Adventures curriculum.

Date of Report: July 27, 2001

Date of Next Status Report: None - Project Completed

Date of Workprogram Approval: June 1999

Project Completion Date: June 30, 2001

LCMR Work Program 1999

I. PROJECT TITLE: EE 22 Teacher Training in Interdisciplinary Environmental Education.

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Total Biennial Project Budget: \$60,000

\$LCMR: \$60,000

-\$LCMR Amount Spent: \$51,010.64

=\$Return to LCMR - Balance: \$8,989.36

A. Legal Citation: ML 1999 [Chap. 231], Sec. [16], Subd. 11G

Appropriate Language: (g) Teacher Training in Interdisciplinary Environmental Education. \$30,000 the first year and \$30,000 the second year are from the trust fund to the commissioner of natural resources for an agreement with the Audubon Center of the North Woods to train K-12 teachers in environmental education techniques.

B. Status of Match Requirement: Not Applicable

II. PROJECT SUMMARY AND RESULTS: This project will benefit teachers, students, and the environment. We will provide one week or two weekend sessions of training, on-site at the Audubon Center of the North Woods, to a total of 200 K-12 teachers. We will hold four to six training sessions between July 1999 and June 2001. Teachers will learn a variety of fun, innovative, hands-on, and multi-disciplinary approaches to environmental education through their particular subject matter.

At the same time, teachers will learn strategies for reaching the graduation standards and design of performance packages. The project's benefits will be far reaching as each of these 200 teachers

will reach at least 30 students per year for a minimum of 6,000 students annually. The project will be sustained through a follow-up website, the volunteer network, and the environmental education connections that are established in the workshops associated with this grant. It will connect teachers with Audubon chapter members and other environmental educators in their area. It will become a priority of the Audubon Center of the North Woods, the Minnesota Audubon Council, and local community Audubon chapters to continue to support these teachers and extend the opportunities to others.

III. PROGRESS SUMMARY:

Result 1: Minnesota Audubon recruitment and outreach activities for the grant were coordinated by the Director of Education, Membership and Chapter Development, Suzanne Plass. Plass worked with the volunteers of Audubon's Education and Outreach committee to ensure the Audubon's thirteen chapters in Minnesota were informed about the workshop and to encourage participation by chapter members and teachers in their communities. Audubon arranged with the Audubon Center to establish a special registration rate for chapter members to encourage Audubon education people (non-teachers, and therefore not covered under the grant) to participate in the workshops. Chapter and member outreach was achieved through a variety of channels. The Education and Outreach Committee distributed informational flyers to teachers and interested chapter members. The state Audubon newsletter, The Audubon Agenda, featured articles and registration information about the workshops. This newsletter is compiled and distributed by Suzanne Plass. Plass also distributed workshop information to chapter newsletter editors, to be included in the chapters' monthly membership newsletters. Plass and other Audubon staff members distributed workshop information at regional events such as the International Migratory Bird Day event at Como Zoo, and the Minnesota State Fair. Executive Director of Minnesota Don Arnosti cooperated in the promotion of the workshops and lead a session during the workshop in the summer of 1999. He continued to promote the workshops until his departure from Audubon in July 2000, when his duties were assumed by Acting Director, Betsy Daub. Betsy led several workshop sessions in the two workshops held during the summer of 2000.

The Audubon Center of the North Woods staff assisted in the recruitment and outreach efforts of the Minnesota Audubon office personnel. In addition, teachers who had attended either residential environmental education programs with their students and/or participated in graduate level college courses at the Center were provided with information about the summer and weekend courses. Center staff arranged for credit for all of the workshops with Hamline University, St. Paul, MN, and coordinated the advertisement of the workshops with Hamline University, Minnesota Audubon, and the Centers network of environmental education providers including K-12 schools. The total amount allocated in this result is \$7,500. \$4,933.10 has been spent, leaving a balance of \$2,566.90 to be returned to LCMR.

Result 2: Instructors at the Audubon Center of the North Woods developed the program curricula, educational materials, project evaluation and arranged for guest instructors. Some minor adaptations were made to fine tune the sessions after the initial workshop in July 1999. A change in workprogram was requested and approved to hold 2 weekend workshops in 2001. The

total amount in Result 2 is \$5,000. \$4,371.10 has been spent leaving a balance of \$628.90 to be returned to LCMR.

Result 3: During the weeks of July 19-23 and August 16-20, 1999, and July 17 - 21 and August 14 - 18, 2000, two one week teacher workshops were held at the Audubon Center of the North Woods. In addition, two weekend workshops were held April 20 - 22 and May 18 - 20, 2001. 78 Minnesota teachers attended the workshops in 1999, 72 in 2000, and 38 attended the weekend workshops in 2001, for a total of 188 teachers. Teachers came from school districts across the state, and represented the whole spectrum of K - 12 classrooms. Of the teachers attending all workshops, 20.2% came from either the Minneapolis or St. Paul School Districts. These schools serve a student body that has a high minority population. Contacts with teachers from these schools were established, with the assistance, in part, of James Shelton, and Louis King. The workshops addressed strategies for working with the K-12 age range of students, and covered a wide variety of topics. Included in the summer week long workshops were sessions on: assessment, Project WET activities, ArtStart (art and ee), environment as an integrating context, the biomes of North America, teaching history through environment, forest ecology, reptiles and amphibians, water quality monitoring(RiverWatch), birds in the classroom, wildlife studies, wetlands, nature discovery hikes, adventure programs for outdoor education, internet environmental education programs, dancing, tree art, geography of the environment, and nature crafts and natural history. Multiple sessions were offered both morning and afternoon. Teachers had the opportunity to sign up for the sessions that were the most relevant for them. An ideas and sharing session wrapped up the workshop on the last day. The format was altered for the weekend workshops, and focused on one of the following: plants, animals, water or birds. Interdisciplinary teaching was still emphasized. Teachers filled out evaluations to give feedback on the workshops. Overall the comments were very positive. The teachers indicated they went away with relevant activities and ideas they could use in their classrooms. They also said they really appreciated being able to talk to other teachers and share experiences. The following is an example of a typical evaluation : "This workshop was wonderful! The staff is great and very knowledgeable. We were kept busy with meaningful classes and yet were given time for fellowship and relaxation. The workshop pumps me up for school and getting my students outside". Some minor changes in scheduling were made for the week long summer workshops after the initial July 1999 workshop, based on the evaluations from the teachers. The other three workshop evaluations indicated these scheduling changes were beneficial. Fine tuning of the schedule was done for each of the four summer workshops based on teacher feedback from both verbal and written evaluations. The budgeted amount in this Result was \$40,000, of which \$34,400 has been spent, leaving a balance of \$5,600 to be returned to LCMR.

Result 4: Teachers who attended the workshops are on an e-mail list at the Audubon Center and have been receiving information about curriculum and further educational opportunities. For example, in October 2000, Minnesota Audubon and volunteers from several Metro Audubon chapters held a workshop on the Audubon environmental education curriculum for classroom teachers, called Audubon Adventures. Two of the fifty participants were alumni of the summer workshops held at the Audubon Center. Through the network, teachers have shared ideas and shared experiences. One Minneapolis Audubon Chapter member participated in a 2000 workshop, and has been working with teachers in the classroom, as well as training other chapter volunteers.

Minneapolis Audubon contacted all teachers from the summer 2000 workshops about applying for chapter sponsored Audubon Adventures curriculum. Two classrooms were awarded this material free of charge. One volunteer from the St. Paul Audubon Society who attended the July 1999 workshop, has been working with teachers enrolled in the Audubon Adventures program, and is training other volunteers to assist in the classroom. Audubon chapter volunteers continue to mentor classroom teachers through sponsorship of Audubon Adventures curricula, assistance in training, providing scholarships to attend other environmental education workshops, and continuing support of the Interdisciplinary EE workshop (continuing after the initial workshops developed in this project) in 2001 and beyond through scholarships and information dissemination. An e-mail address system to connect the teacher is in place. Teachers have been receiving information about further educational opportunities through this e-mail system, as well as printed material through regular mail. A web site connection has been established on the Audubon Centers web page. A special section has been created for teachers, to access environmental education information from workshop presenters and other sources, and get information about further educational opportunities. This web information will be kept up to date, and serve as a resource for teachers. Of the \$7,500 allotted to this result, a balance of \$193.36 remains to be returned to LCMR.

IV. OUTLINE OF PROJECT RESULTS:

Result 1 - Recruitment and Outreach of Training Participants. Working with Audubon staff, volunteers from Minnesota's 14 Audubon Chapters will lead the effort to recruit teachers from school districts throughout the state. In addition, at least 10% of the teachers will be from school districts serving high minority populations. Louis King, Executive Director of Summit Academy and Minneapolis School Board Member, and James Shelton, Affirmative Action Officer with the St. Paul School District, are partnering with us to provide additional assistance in recruiting teachers from inner-city school districts. Their time will be donated (see VII. Cooperation).

LCMR Budget: \$7,500

Completion Date: 7/00

Result 2 - Workshop Development. Instructors at the Audubon Center of the North Woods will develop the program curricula, educational materials, and project evaluation.

LCMR Budget: \$5,000

Completion Date: 7/99

Result 3 - Conducting Four to Six Week-long and two weekend Training Workshops. Two to three workshops will be conducted during the summer of 1999, and two to three workshops in the summer of 2000. Two weekend work shops will be offered in the spring of 2001. These weekends are an addition to the original workprogram. We

have had requests from Minnesota teachers who could not attend the previous workshops, to offer either another summer workshop or several weekend workshops addressing interdisciplinary environmental education. Since our grant is finished at the end of June 2001, another summer workshop where the teachers' cost is covered by the LCMR grant is not possible. I would like to propose two weekend workshops for up to 50 teachers, spending the remaining \$10,000 from the Result 3 category. These workshops would be held at the Audubon Center of the North Woods on April 20 - 22 and May 18 - 20. While the theme of interdisciplinary environmental education would be the same, the format would have to be altered to fit the weekend (2 ½ days each weekend instead of the original 5 days). Session options for the first weekend would include activities that focus on forests, animals, and plants. Session options for the second weekend workshop would concentrate on water, or birds. These are the "delivery vehicles" we concentrated on in the summer workshops. Teachers could choose which subject area they would like to focus on. Some of the same instructors from the summer workshops would be leading one or both of the workshops. Credit from Hamline University would be available for interested teachers. As before, this credit cost would be covered by the teacher, not the grant. A total of 200 teachers will participate. Teachers will have food and lodging provided at the Audubon Center of the North Woods.

LCMR Budget: \$40,000 (\$20,000 \$15,600 in 1999 and \$20,000 \$14,400 in 2000, and \$10,000 in 2001).

Completion Dates: 9/99 for first summer's sessions; 9/00 for second summer's sessions, 6/01 for the two proposed additional weekend workshops.

Result 4 - Community Follow-up and Information Dissemination. This will include development of website materials and follow-up with Audubon chapter members. The chapters will provide adult volunteers who will assist the teachers in the classroom with the implementation of their environmental education programs. For example, they will assist with science projects, art programs or field trips. Some of these adult volunteers will have participated in the same workshops with the teachers, having their expenses contributed by the chapters.

V. DISSEMINATION: Follow-up will be provided through the Audubon website. The website will provide information and tools to help program participants and other interested educators stay abreast of current information. It will also help the participants maintain a professional network of contacts with each other.

VI. CONTEXT

A. Significance: Teachers are currently being exposed to more opportunities for resident, day use and in-class environmental education. At the same time, they are being pressured to implement strategies for reaching graduation standards and design performance

packages. Schools are asking for help to pull these two demands together and the Department of Children, Families, and Learning (DCFL) has determined that environmental education makes a good learning tool for implementation and training.

This project pulls together members of the environmental education community, DCFL, GreenPrint Council, Minnesota Audubon Chapters, and public schools to address the specific opportunities and strategies needed to succeed in an interdisciplinary approach that addresses multi-cultural and sustain ability issues through disciplines such as art, history, recreation, and Internet use.

B. Time: Two years.

C. Budget Context:

1. LCMR Budget History: This project was initially piloted during the period 1991 - 1993 through an LCMR - recommended grant of \$5,000 from the Minnesota Future Resources Fund to the St. Paul Audubon Society. This pilot program was run at the Audubon Center of the North Woods during two summers. It provided scholarships for the training of 28 teachers.

2. The project related to the GreenPrint project was funded by LCMR, but is a separate project and not a continuation of prior funding.

3. Non-LCMR funding: The Blandin Foundation GreenPrint Council has funded teacher workshops related to this project over the two years (\$23,000) and the Central Minnesota Initiative Fund has funded the history portion of the project (\$10,000).

Additional money from the GreenPrint Council will be spent between now and the beginning of the LCMR grant to prepare staff and project partners on graduation standards and GreenPrint related issues (\$15,000).

Total for 1994 - 1998 \$50,000

4. We will donate meals for 200 participants x 5 days each @ \$16/day = \$16,000.

We will provide hundreds of hours of volunteer time donated by Audubon chapter members to recruit and follow-up with teachers in their communities and classrooms. Estimate 10 volunteer hours per teacher @ \$10/hr - \$20,000 in kind. Total direct and in-kind contribution to the project = \$36,000.

1. Budget:

Personnel:	\$28,000
Equipment:	\$500
Acquisition:	\$0

Development: \$0
 Other:
 Room and Board: \$24,000
 Postage & Phone: \$4,000
 Local Travel: \$1,200
 Printing & Ad: \$1,000
 TOTAL: \$60,000

2. Submit a budget detail with all the specifics as attached as Attachment A.

VII. COOPERATION

	% of time
1. Don Arnosti, Executive Director Minnesota Audubon Council	5%
Betsy Daub, Acting Director Minnesota Audubon Council	
2. Louis King, Executive Director Summit Academy	3%
3. James Shelton, Affirmative Action Officer, St. Paul School District	3%
4. Pam Landers, Executive Director, GreenPrint Council	2%
5. Susan Milnor, ArtStart	2%
6. Tracy Fredin, Hamline University - Director Center of Global EE	2%

All of the above people have contributed time and ideas to this project without pay. Don Arnosti assisted in the promotion and information dissemination as well as teaching a session during the July 1999 workshop. Susan Milnor has donated time in her work through the Minnesota Audubon Council's education committee. She was also a presenter at the workshops, for which her organization (ArtStart) was paid. These monies came from Result 3 (four to six workshops). Jim Shelton and Louis Kind assisted in providing contacts for teachers and schools having a high percentage of minority students. Tracy Fredin of Hamline University assisted Audubon Center staff in arranging Hamline credits for interested teachers, and in including workshop information in Hamline University publications.

VII. LOCATION: The workshops will be at the Audubon Center of the North Woods in Pine County.

Areas of Impact:

The target areas include the schools attending residential environmental education centers with special attention to the following: The Audubon Center's natural service area (within 90 minutes) - includes the Twin Cities, St. Cloud, Duluth, Brainerd.

Special emphasis on inner city schools in partnership with Louis King, and James Shelton.

Communities and counties served by Minnesota's 14 National Audubon Society chapters with headquarters in Albert Lea (Freeborn County), Austin, Minneapolis, Bemidji-Grand Rapids area (Itasca, Hubbard, Cass, and Beltrami Counties), Bloomington, Duluth and the Arrowhead, Winona, Moorhead, North Branch (Chisago County), Pine City (Pine

County), Rochester, St. Cloud, St. Paul, and Warren-Thief River Falls area (Marshall, Pennington, and Polk Counties).

The 250 public school classrooms throughout Minnesota participating in the *Audubon Adventures* education program.

IX. REPORTING REQUIREMENTS:

Periodic workprogram progress reports will be submitted not later than November 1, 1999, and November 1, 2000.

A final workprogram report and associated products will be submitted by June 30, 2001, or by the completion date as set in the appropriation.

X. RESEARCH PROJECTS: Not applicable.

EE 22 Teacher Training in Interdisciplinary Environmental Education

Audubon Center of the North Woods

P.O. Box 530

Sandstone, MN 55072

July 27, 2001

Attachment A: Deliverable Products and Related Budget

LCMR Project Biennial Budget					
	Result 1	Result 2	Result 3	Result 4	Row Total
Budget Item	Recruitment & Outreach	Workshop Development	Four to Six Workshops	Follow Up & Dissemination	
Wages, salaries & benefits					
Membership Director	\$4,000	0	0	\$2,000	\$6,000
Instructors	0	\$4,500	\$16,000	\$2,000	\$22,000
Space rental, maintenance & utilities	0	0	\$24,000	0	\$24,000
Communications	\$2,300	0	0	\$2,500	\$4,800
Printing & Advertising	\$500	0	0	\$500	\$1,000
Local Auto mileage	\$700	0	0	\$500	\$1,000
Other supplies	0	\$500	0	0	\$500
Column Total	\$7,500	\$5,000	\$40,000	\$7,500	\$60,000
Total Amount Spent	\$4,933.10	\$4,371.10	\$34,400	\$7,306.44	\$51,010.64
Balance	\$2,566.90	\$628.90	\$5,600	\$193.56	\$8,989.36
Return to LCMR	\$2,566.90	\$628.90	\$5,600	\$193.56	\$8,989.36



Wetlands Monitoring



Animal Activities



Bluebird House Building



Water Monitoring

**EE 22 - Teacher Training in
Interdisciplinary Environmental
Education July 1999 - May 2001**



Maypole Dancing

EVALUATION OF THE INTERDISCIPLINARY EE TEACHER WORKSHOP

1. Tell us how you feel about the overall workshop.

Excellent balance in programming comes to the forefront as the particular forte of this workshop. You folks did a superb job of planning arts, affective activities after the content area courses in the A.M. All staff were warm, gracious and witty don't you know.

2. The highlights were?

The dance and storytelling were extraordinary in the artistic realm. The "Reading Landscape", "Biomes" and basket making were my personal favorites.

3. The low points were?

4. Tell us what you would change.

Extraordinaire - don't change a thing!

5. Choose four topics that you participated in and tell us what you liked about the sessions and how you will apply them to your classroom.

A. I will definitely do the set up Mike showed us in the "Biomes" course as it provided an outstanding concrete activity to help convey a more complex concept.

B. I will add the adaptation to my use of the "Project Wet" activity. Incredible Journey of beads the kids string besides filling it out on paper. Nice addition.

C. I will use the GLOBE web site for the dragonfly.

D. Survey work I do with kids if possible - from Tony's class.

I will be doing birch bark baskets with kids - Native kids who have never made a basket.

The food was delicious and plenty of it but I ate mutton peas from my British mom so I'm no expert!

On the back please write any comments you would like to make. Tell us what other teacher workshops you would like to see offered - topic, season, length of time.

I would like to see a whole class on medicinal herbs and use of the gathered material.