

# FINAL REPORT

July 1, 2002

## LCMR Final Work Program Report

Date of Work program Approval: July 8, 1999

Project Completion Date: June 30, 2002

### LCMR WORK PROGRAM 1999

#### I. PROJECT TITLE: Minnesota Wolf Public Education

**Project Manager:** Andrea Lorek Strauss, Information and Education Director

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#### Total Biennial Project Budget:

n \$ LCMR:	\$	100,000	00	\$ Match:	\$	15,500.00
- \$ LCMR Spent:	\$	100,000	00	- \$ Match Spent:	\$	15,500.00
= \$ LCMR Balance:	\$		0	= \$ Match Bal. :	\$	0

#### A. Legal Citation: ML 1999, [Chap. 231], Sec. [16], Subd. 11, Letter (c).

Appropriation Language: Carryforward Language: ML 2001, 1<sup>st</sup> Special Session, Chp. 2, Sec. 14, Subd. 18, paragraph (a): The availability of the appropriation for the following project is extended to June 30, 2002: ML 1999, Chp. 231, Sec. 16, Subd. 11, Letter (c). *Minnesota Wolf Public Education*: \$50,000 the first year and \$50,000 the second year are from the trust fund to the commissioner of natural resources for an agreement with the International Wolf Center to develop educational curriculum, conduct teacher training workshops and develop a traveling exhibit on wolves to address the current Minnesota wolf management debate. This appropriation must be matched by at least \$15,500 of nonstate money.

#### B. Status of Match Requirement:

Matching funds of \$15,500 have been secured and received from a private donor.

## **II. and III. Final Project Summary**

### **1999 Project Abstract** For the period ending June 30, 2002

**TITLE :** Minnesota Wolf Public Education

**PROJECT MANAGER:** Andrea Lorek Strauss, Information and Education Director

**ORGANIZATION:** The International Wolf Center

**ADDRESS:** 1396 Highway 169, Ely, MN 556731

**WEB SITE ADDRESS:** wolf.org

**FUND:** Minnesota Environment and Natural Resources Trust Fund

**LEGAL CITATION:** ML 1999, Ch. 231, Sec. 16, Subd. 11(c)

**APPROPRIATION AMOUNT:** \$100,000

#### Overall Project Outcome and Results:

The International Wolf Center will educate the public about the wolf and the controversies surrounding its survival. We will accomplish this objective in three ways: through a curriculum, teacher workshops and a traveling exhibit.

The two-part curriculum entitled "Gray Wolves Gray Matter" includes an activity guide and web-based project. It focuses on the wolf's biology and the economic and political issues affecting its continued survival. The activity guide is organized into five modules and contains 22 lessons for students grade 6-12. The web-based curriculum is a workbook style project that follows the same modules, and but allows students explore each content area in more depth. The lessons and on-line project can engage students with different learning levels and styles.

Five teacher workshops took place throughout Minnesota in June 2001 throughout the state. Seventy educators attended these 6-hour workshops. Participants thoroughly examined the activity guide and web-based curricula, and tried some lessons. Many commented on its possibilities for interdisciplinary studies and cluster courses.

The traveling exhibit consists of a five-paneled wall display featuring images of the wolf and the controversies affecting its management. Participants may express their own reactions to the wolf, learn about the history of the wolf management, and vote on solutions for the most important wolf management issue for the future.

These three results are significant because it provides an unbiased, comprehensive , and usable resource on wolf management .

The \$100,000 project grant was matched with \$15,500 of non state money.

#### Project Results Use and Dissemination

The curriculum is currently available for classroom use. All 750 copies of the activity guide have been distributed. The web-based curricula is available on our web site: [www.wolf.org](http://www.wolf.org).

We had 350 attendees at our teacher workshops and additional presentations, and those individuals disseminated the curricula to 17,000 students, teachers, and environmental educators.

The traveling exhibit is available for shipment to selected schools and other facilities throughout Minnesota.

#### **IV. OUTLINE OF PROJECT RESULTS:**

##### **Result 1:**

We developed, presented and distributed an objective curriculum on wolves and the controversial issues surrounding their management. It is comprised of two parts: an activity guide and a web-based project. Both follow the same basic topics: wolf biology, its natural environment, human/wolf issues, wildlife management, and communication skills needed for designing a wolf management plan.

The activity guide is organized into five modules and contains 22 lessons for students grade 6-12. Each lesson includes extensive teacher background information, thorough activity descriptions, all activity materials, corresponding assessment strategies, and correlations to the Minnesota Graduations Standards and the Minnesota Greenprint. The Appendices contain more teacher background material, such as a summary of The Endangered Species Act, Minnesota stakeholder position statements, the Minnesota Wolf Management Bill summary, and wolf reference data.

The on-line project is divided into the same five modules as the activity guide. It was created as a cooperative venture between The International Wolf Center and The University of California, Berkeley. The University's Graduate School of Education had previously designed an interactive project on the Internet called "Web-based Integrated Science Environments" (WISE.) Their project provided us with the web-based format and on The International Wolf Center's web-page: [www.wolf.org](http://www.wolf.org).

This on-line project contains a progression of student readings and selected links showing the issues and complications of wolf management. Each module contains dialogue boxes where students may take notes on their reading and save their work on-line. As a culminating activity, students may organize their reflections and create their own ideas for a wolf management plan. The supplement and web-based curriculum are intended to work together or separate, depending on each teacher's resources and student skill level.

The curriculum's content was created as a cooperative effort between curriculum writers, professional educators, stakeholder groups, and wolf researchers. The curriculum was thoroughly reviewed for accuracy by Dr. L. David Mech, internationally renown wolf researcher. In addition, we solicited feedback from eight stakeholder groups, including the voices of DNR, livestock/farming interests, deer hunters, environmental groups and other stakeholders ensuring coverage of differing

perspectives on wolves. A draft of the curriculum was field-tested by 10 classroom teachers, and their feedback was incorporated into the final project. Because of this extensive review process, this curriculum is significant because it is scientifically accurate, stakeholder-sensitive, and teacher-friendly.

Our creation process followed the outline below, and only minor changes were necessary (see B. below.)

## Result 1 Budget

(Please note: same as 7/31/01 Work Program Update )

<b>\$ LCMR:</b>	\$	35,064	83	<b>\$ Match:</b>	\$	15,500	00
<b>- \$ LCMR Spent:</b>	\$	35,064	83	<b>- \$ Match Spent:</b>	\$	<del>6,900</del>	00
						<u>15,500</u>	
<b>= \$ LCMR Balance:</b>	\$	0	00	<b>= \$ Match Bal.:</b>	\$	<del>8,600</del>	00

A. Review existing wolf curricula and related curricula on wildlife, agriculture, hunting and environmental education.

B. Obtain educational materials from USDA Wildlife Services Division (formerly Animal Damage Control). *Because the USDA Wildlife Services Division did not have educational materials, we obtained curricula from several other wolf and wildlife organizations.*

C. Review the GreenPrint, graduation standards and general curricula expectations from Minnesota educational agencies.

D. Develop draft of curricula.

E. Distribute draft for comment from various stakeholders using a selection of wolf roundtable participants as a basis as well as educators who will be asked to test the curriculum.

F. Review suggestions and issue final version.

*Result 1 Completion Date: June 30, 2001.*

**Result 2:** Conduct teacher training workshops focused on new resources to bring the wolf and the controversial issues surrounding it into the classroom with an emphasis on graduation standards and consistent with the GreenPrint Statewide Plan for Environmental Education in Minnesota. Spark a multidisciplinary approach which brings science, current events, art, literature, mathematics, and the exploding internet technology to timely discussions of wolf management.

To date, we have received many positive comments by workshop participants regarding its content, teacher-friendliness, and versatility. People have stated that our content is complete, thoroughly researched and accurately represents the variety of viewpoints on the wolf and its management.

In addition to the five teacher workshops, we also provided additional workshops to teachers attending graduate classes at Metropolitan State University and Michigan Technological University. Other outreach opportunities included several international, national and state conferences: The International Wolf Symposium; National Wildlife Federation, Midwest Science Teachers Association; Midwest Environmental Education Conference, Minnesota Association for Environmental Educators, Minnesota Association for Agricultural Educators, and The Wolf Stewards meeting. A total of 350 individuals attended these events. Each attendee will use this information and teaching ideas in his/her setting – an estimated 13,000. Future planned workshops include a cooperative venture with the Leopold Education Project in the fall of 2002. The International Wolf Center is continuing to provide workshops on the curriculum to selected teachers, environmental educators and wildlife managers.

These workshops were significant because it trained practicing educators how to apply this resource in their classrooms. Their facilitation will expose students to the multi-faceted topic of wolf management.

## Result 2 Budget

(Please note: same as 7/31/01 Work Program Update )

<b>\$ LCMR:</b>	\$	19,951	64	<b>\$ Match:</b>	\$	8,600	00
<b>- \$ LCMR Spent:</b>	\$	19,951	64	<b>- \$ Match Spent:</b>	\$	<u>5,700</u>	00
						<u>8,600</u>	
<b>= \$ LCMR Balance:</b>	\$	0	00	<b>= \$ Match Bal.:</b>	\$	<u>2,900</u>	00

- A. Develop workshop components/materials using curriculum as guide.
- B. Identify and schedule host sites for at least five workshops throughout the state preferably in locations to include northwestern Minnesota, northeastern Minnesota, the Twin Cities, central Minnesota, and southern Minnesota.
- C. Develop outreach effort to notify educators of workshops.
- D. Conduct the workshops during academic year 2000-01.

*Result 2 Completion Date: June 30, 2001.*

**Result 3:** Develop a traveling exhibit Gray Wolves, Gray Matter, to bring the reality of wolves to urban and rural counties; focus on fact, natural history, and ecology of wolves as they relate to current management debate issues.

The traveling exhibit consists of a five-paneled wall display featuring images of the wolf and the controversies affecting its management. Each panel illuminates the wolf's behavior and its impact on humans by using a visual combination of photos, charts,

graphs, maps, comics, and script. In addition to the wall display, the traveling exhibit contains a few interactive components. These elements include a flip chart of wolf images, question and answer quiz cards, a magnetic habitat game, a puzzle and a coin drop. Participants may express their own reactions to the wolf, review comments left by others, learn about the history of the wolf management, and vote on solutions for the most important wolf management issue for the future.

Because the focal point of the wall display is a large collage of the wolf, we chose not to provide a taxidermic mount of the wolf as stated in E. below. Instead, we chose to produce several interactive elements for the traveling exhibit. This change will relieve our staff from the complexities of storage and shipping a taxidermic mount of a wolf.

This result helps participants recognize the complexities of managing the wolf. In viewing this exhibit, participants will be exposed to different points of view. It is an engaging exhibit that challenges viewers to investigate the validity of misinformed facts. Minnesotans will recognize the innumerable ways the wolf's presence alters ranching practices, impacts wildlife tourism, and transforms legislation. By guiding others through this process, the traveling exhibit illuminates potential strategies for future management of the wolf in Minnesota.

### Result 3 Budget

<b>\$ LCMR:</b>	\$	44,983	53	<b>\$ Match:</b>	\$	2,900	00
<b>- \$ LCMR Spent:</b>	\$	44,983	53	<b>- \$ Match Spent:</b>	\$	2,900	00
<b>= \$ LCMR Balance:</b>	\$	0	00	<b>= \$ Match Bal.:</b>	\$	0	00

A. Contract with the Science Museum of Minnesota to design and fabricate the interactive elements of the traveling exhibit.

B. Solicit feedback on plan from regional museums, nature centers and other venues.

C. Finalize concepts and design.

D. Fabricate exhibit components and shipping cases.

E. Solicit fabrication bids for wall display and taxidermic mount of wolf. *No taxidermic mount of wolf was created. Instead, an alluring collage on the exhibit's central panel will attract curious viewers. We also added several interactive components.*

F. Announce exhibit availability through press release and mailing.

E. Schedule exhibit locations, dates and transportation.

*Result 3 Completion Date: June 30, 2002.*

**V. DISSEMINATION:** Announcements of the curriculum, educators workshops and traveling exhibit will be accomplished through the International Wolf Center's Web site, it's quarterly publication and through press releases.

## **VI. CONTEXT:**

### **A. Significance:**

Minnesota wolves' transition from the protection of the federal list of endangered species to management by the Minnesota Department of Natural Resources (DNR) has begun. The DNR recently completed statewide public meetings which drew over 13,000 people concerned about wolf management. These meetings attracted more attendees than any other DNR-sponsored meetings on any subject. The DNR will soon assemble wolf management roundtables to assist development of a state wolf management plan which will be submitted to the U.S. Fish and Wildlife Service (USFWS). Barring successful legal challenges, the USFWS could delist Minnesota wolves as early as 2000.

The recovery of this controversial predator symbolizes success for wildlife conservation and the Endangered Species Act. However, wolf delisting and management are contentious issues that have roused vigorous and strident debate that is likely to grow as the process progresses.

Public sentiment has always influenced wolf management in Minnesota. For many years, people viewed wolves with hatred and fear, and strongly supported bounty laws and other forms of wolf persecution. In the 1960s and 1970s, public sentiment grew in support of wolf preservation as people became more environmentally aware and concerned about predator control and its impact on ecosystems. Thirty years after wolf bounties were abolished, emotions about this animal still run high. People who want complete wolf protection are as vocal as those who would like their numbers dramatically reduced. Some people adore and admire wolves, and romanticize them as powerful symbols of wildness. Others deplore them, and fear wolf attacks on people and increasing wolf depredation on livestock, deer and pets.

Wolf education is critical to the survival of wolves in Minnesota, and to the implementation of a sustainable, publicly-acceptable wolf management plan. People on all sides of the debate have serious concerns about wolves and their place in natural systems and human society. The proposed public education campaign will inform people about wolves, their association with other species and their dynamic relationships to humans. It will address the controversial issues surrounding wolf management, incorporating input from the Department of Natural Resources, livestock/farming interests, deer hunters, environmental groups and other stakeholders. This public education effort will dispel myths and promote knowledge that will support a more peaceful coexistence of wolves and humans.



**B. Time:** This project will be completed during the biennium beginning July 1, 1999.

07/ 99	09/ 99	11/ 99	01/ 00	03/ 00	05/ 00	07/ 00	09/ 00	11/ 00	01/ 01	03/ 01	05/ 01	07 /01	09/ 01	11/ 01	01/ 02	03/ 02	05/ 02
A. Development							Test / refine					Available to public					
B. Development											Workshops						
C. Development											Construction						

**C. Budget Context:**

**1. BUDGET:**

**2. See Attachment A for budget details.**

	Original	Revised 6/26/01	Revised 7/31/01	<u>Expenditures as of 6/30/02</u>
<b>Personnel</b>	<b>\$ 71,600</b>	<b>\$ 68,900</b>	<b>70,449.95</b>	<b><u>68,608.86</u></b>
<b>Equipment</b>	<b>\$ 3,000</b>	<b>\$ 1,900</b>	<b>1,884.55</b>	<b><u>1,884.55</u></b>
<b>Development</b>	<b>\$ 24,000</b>	<b>\$ 24,000</b>	<b>21,246.67</b>	<b><u>27,352.98</u></b>
<b>Other</b>	<b>\$ 16,900</b>	<b>\$ 20,700</b>	<b>21,918.83</b>	<b><u>17,653.61</u></b>
<b>TOTAL</b>	<b>\$115,500</b>	<b>\$115,500</b>	<b>115,500.00</b>	<b>115,500.00</b>

**Note to the Personnel Budget:**

The project coordinator will be approximately a half-time position throughout the grant period focused on logistics, maintaining the budget, contracting consultants, scheduling meetings, advertising workshops, securing equipment, getting print bids, writing RFPs, etc. Our Information & Education Director will spend approximately 25 % of her time during the grant period supervising the project coordinator and consultants, providing the overall vision and quality control for the project, and assisting with curriculum writing, workshop implementation, and exhibit design. Administrative support will be \$8700. This accounts for the fact that our executive director, associate director, assistant director, communications director, business manger, office manager, administrative assistant, and an Ely-based secretary will all have some involvement in the project. For example, the executive director will play a key role in facilitating the design of the traveling exhibit; the assistant director supervises the Information & Education Director and will review and comment on the development of all curriculum and workshop materials; the communications director will develop a strategy for advertising workshops and marketing the traveling exhibits; the business manager will assist in preparing detailed reimbursement requests.

<b>1999 LCMR Project Budget International Wolf Center</b>				<b>06/30/02</b>
	<b>Result 1</b>	<b>Result 2</b>	<b>Result 3</b>	
<b>Budget Item</b>	Curriculum on wolves / wolf management	Conduct teacher training workshops on wolves / wolf management	Develop traveling exhibit	<b>Row Total</b>
<b>Personnel</b>	<b>29,452.63</b>	<b>19,988.65</b>	<b><del>21,008.67</del> 19,167.58</b>	<b><del>70,449.95</del> 68,608.86</b>
Edu Coordinator	5,527.81	5,527.82	5,527.82	16,583.45
Project Coordinator	8,179.82	8,180.83	8,180.85	24,541.50
Admin. Support	2,900.00	2,900.00	2,900.00	8,700.00
Consultant	12,845.00	3,380.00	<del>4,400.00</del> 2,558.91	<del>20,625</del> 18,783.91
<b>Equipment</b>	<b>628.18</b>	<b>628.18</b>	<b>628.19</b>	<b>1,884.55</b>
Computer	628.18	628.18	628.18	1,884.55
Projector Unit	0	0	0	0
<b>Acquisition</b>	<b>\$0</b>	<b>\$0</b>	<b><del>21,246.67</del> 27,352.98</b>	<b><del>21,246.67</del> 27,352.98</b>
Exhibit fabrication	0	0	<del>21,246.67</del> 27,352.98	<del>21,246.67</del> 27,352.98
<b>Other</b>	<b>11,884.02</b>	<b>5,034.81</b>	<b><del>\$5,000</del> 734.78</b>	<b><del>21,918.83</del> 17,653.61</b>
Travel	1,177.53	1,306.30	<del>526.06</del> 1,000	<del>3,009.89</del> 3,483.83
Postage/shipping	271.86	1,181.09	<del>80.12</del> 2,250	<del>1,533.07</del> 3,702.95
Printing	8,877.45	259.44	<del>0</del> 300	<del>9,136.89</del> 9,436.89
Office supplies / phone	843.54	107.33	<del>107.34</del> 750	<del>1,058.21</del> 1,700.87
Workshop supplies	657.32	1,770.07	0	2,427.39
Misc.	56.32	410.58	<del>21.26</del> 700	<del>488.16</del> 1,166.90
<b>Column Total</b>	<b>41,964.83</b>	<b>25,651.64</b>	<b>47,883.53</b>	<b>115,500.00</b>