

Environmental Science Education

Environmental Science Education

V(A). Planned Program (Summary)

1. Name of the Planned Program

Environmental Science Education

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
135	Aquatic and Terrestrial Wildlife	20%		20%	
136	Conservation of Biological Diversity	20%		20%	
903	Communication, Education, and Information Delivery	60%		60%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2008	Extension		Research	
	1862	1890	1862	1890
Plan	4.4	0.0	0.0	0.0
Actual	4.2	0.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c 47182	1890 Extension	Hatch	Evans-Allen
	0	0	0
1862 Matching 186163	1890 Matching	1862 Matching	1890 Matching
	0	0	0
1862 All Other 151256	1890 All Other	1862 All Other	1890 All Other
	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Extension: Through education and support to science teachers and students, and through Master Naturalist programs that recruit volunteers to teach about the natural world, the Environmental Science Education team energizes and stimulates science education in Minnesota. In 2008, new evaluation tools for science educators were completed and disseminated by the team. The new evaluation tool, which is consistent with best education practices, allows Field Day organizers to evaluate the potential their events hold for stimulating educational outcomes. To further advance the cause of effective field day events, the team created an online site where field days organizers can submit information about their event, and ask for tools and resources to make them more effective. The Master Naturalist program, now in its third year, has now infused the state with 345 new volunteers who help Minnesotans understand the natural world, and work effectively to preserve it. Both programs have shared their learning nationally, with instructor training to help other states develop Master Naturalist programs and integrate Best Practices in Field Days into their environmental programming. (For more information, visit <http://www.extension.umn.edu/Environment/>.)

Reviewers should note that the absence of Experiment Station dollars for research specialists in youth development does not correspond to a lack of research base for 4-H programs. Rather, other dollars and collaborations are utilized to assure that research base.

2. Brief description of the target audience

Environmental Science Education programs reach citizens, environmental professionals, science teachers and Native American youth on the White Earth Reservation in Northwest Minnesota.

According to the 2008 network study, the primary organizations that were provided substantive environmental science programs were: 1) Natural Resource Conservation Organizations (23% of contacts); higher education institutions (14%); professional associations and state government (11.6%). The largest area of effort with these organizations was passing along substantive information (46.5%), followed by partnerships around a joint effort with mutual benefit (25.6%) and providing expert advice (18.6%).

V(E). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons (contacts) reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	680	3150	210	4775
2008	5501	7854	3157	0

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year	Target
Plan:	0
2008:	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan	0	0	
2008	4	0	4

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

Through training and other communications, volunteers, educators and natural resource professionals will be prepared to deliver research-based environmental science education programs. (Measure expressed as number of Minnesota Master Naturalist volunteers trained and supported.)

Year	Target	Actual
2008	445	563

Output #2

Output Measure

White Earth Reservation youth will graduate from a four week summer program that includes environmental science education. (Target expressed as a percentage of students graduating.)

Not reporting on this Output in this Annual Report

Output #3

Output Measure

Recruitment strategies for Environmental Science Education programs for adults will reach under-represented audiences. (Target expressed as a percentage of total audiences served.)

Year	Target	Actual
2008	10	10

Output #4

Output Measure

All ESE modules and trainings will be developed, tested and finalized. (Target expressed as number of modules and trainings completed that year.)

Year	Target	Actual
2008	2	3

V(G). State Defined Outcomes

O No.	Outcome Name
1	Within a year of environmental science education instructor training (i.e., Master Naturalist and Best Practices for Field Day Trainings), educators and community-based instructors will use the research-based educational methods in environmental science education delivery. (Target expressed as a percentage of participants.)
2	Minnesotans will have increased opportunities to participate in natural history learning activities. (Target measure reflects increases in number of events available.)
3	Master Naturalists will become more knowledgeable about natural history. (Measure expressed as a percentage of knowledge gain.)
4	Native American youth will increase their academic performance on standardized achievement tests following the four week ESE program. (Target expressed as a percentage of increase.)

Outcome #1

1. Outcome Measures

Not reporting on this Outcome for this Annual Report

2. Associated Institution Types

3a. Outcome Type:

3b. Quantitative Outcome

Year	Quantitative Target	Actual
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3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
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V(H). Planned Program (External Factors)

External factors which affected outcomes

- Public Policy changes
- Competing Public priorities
- Competing Programmatic Challenges
- Populations changes (immigration,new cultural groupings,etc.)

Brief Explanation

Reviewers should note that the absence of Experiment Station dollars for research specialists in youth development does not correspond to a lack of research base for 4-H programs. Rather, other dollars and collaborations are utilized to assure that research base.

V(I). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- Retrospective (post program)
- Case Study
- Comparisons between program participants (individuals,group,organizations) and non-participants

Evaluation Results

Key Items of Evaluation