
Northeast MN K-12
Environmental Education
Needs Assessment
Project

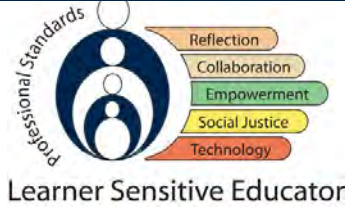


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Project Partners



Hawk Ridge Bird Observatory



Grants

- Public v. private
 - Application processes
 - Reporting & Finances
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Teacher Survey

■ Development

- ❑ EE in the US: A survey of pre-service teacher education programs (*McKeown-Ice, 2000*)
 - ❑ An EE Needs Assessment of K-12 Teachers in Kentucky (*Meichtry & Harrell, 2002*)
 - ❑ Environmental Education and Pre-service Teacher Preparation: A National Study (*Heimlich, McKeown-Ice, Braus, Barringer-Smith, & Olivolo, 2004*)
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Teacher Survey

- School
 - Grade Level (K-2, 3-5, 6-8, 9-12)

 - Area 1: EE at your school
 - Teaching Methods
 - Presently doing at school
 - Content Knowledge
 - EE Resources
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Teacher Survey

- Area 2: Environmental Education Needs
 - EE Resources
 - EE Professional Development
 - Content
 - Teaching Methods
 - Other resources
 - Opportunities
 - Area 3: Potential Barriers to EE
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Teacher Survey

- 56 schools visited
 - Principals distributed surveys to teachers
 - 114 surveys distributed
 - 56 surveys returned (49%)
 - Qualitative & Quantitative
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EE at your School

Teaching Methods	Rank: Low (1) – High (5)
1. Comfort teaching EE	4.20
2. Other teachers actively teaching EE	2.88
3. Other teachers comfortable teaching EE	3.02
4. Administrators committed to providing EE	3.43

Presently do at my school

Question (<i>n=56</i>)	#	%
Teach about the environment	52	93%
Stewardship Projects	33	59%
Visit ELCs & Nature Centers	36	64%
Teach outdoors	43	77%
Use outdoor school site	38	68%
EE guest speakers/programs	29	52%
Published EE curriculum	21	38%
Created own EE curriculum	26	46%

Presently do at my school (#s)

Question	#	Once per year	2-5 per year	Once per month	Once per week	Seasonal	Unit-based	Integrated	X only	Not used
Teach about environment	52	2	2	8	11	3	14	8	4	4
Stewardship Projects	33	4	17	2	1	3	0	3	3	23
Visit ELCs & Nature Centers	36	17	12	4	0	2	0	0	1	20
Teach outdoors	43	0	7	12	6	8	3	2	5	13

Level of Content Knowledge

Topic	Rank 1 (low) – 5 (high)
Outdoor recreation (x-c skiing, hiking, etc.)	3.91
General environmental issues (climate change, acid rain, etc.)	3.70
Wildlife	3.51
Personal growth and team building	3.50
Physical sciences (weather, chemistry, etc.)	3.49
Contemporary interactions of humans upon natural resources (forestry, recreation, development, mining, etc.)	3.45
Aquatic ecosystems	3.31
Earth Sciences (geology, watershed, etc.)	3.28
Birds	3.25
Historical interactions of human culture(s) upon natural resources (fur trade, logging, mining, etc.)	3.24
Specific coastal resource management issues (fisheries, forestry, development, etc.)	3.02

EE Published Resources

Resource	Unaware	%	Not used	%	Rank: Low (1) – High (5)
Great Lake Aquarium Lake Effects	15	27%	23	41%	2.19
Wolf Ridge Lesson Plans	13	23%	21	38%	2.14
L. Superior/Duluth Streams curriculum	19	34%	18	32%	2.06
Project WET	10	18%	18	32%	2.31
Project WILD	11	20%	16	29%	2.26
Project Learning Tree	11	20%	20	36%	2.50
A Greenprint for Minnesota	31	55%	17	30%	2.29
MN Environmental Literacy Scope & Sequence	25	45%	20	36%	2.20
North American Association for Env. Ed Guidelines for Excellence	30	54%	20	36%	1.33
Leopold Education Project	34	61%	18	32%	1.67

EE Resource Needs

EE Resource Needs	Rank: Low (1) – High (5)
Funding for EE activities & resources	4.21
Field trip opportunities	3.91
Speakers	3.80
EE professional development & training	3.59
Meetings with colleagues to share, network, & learn	3.59
EE curriculum resources & supplies	3.53
Lesson plans and written curriculum ideas	3.48
Mailings regarding EE information & opportunities	3.31
Development of teacher networks	3.26
Student clubs	2.98
Outdoor school site	2.83

EE Professional Development Needs

EE Professional Development Needs	Rank: Low (1) – High (5)
Specific coastal resource management issues (fisheries, forestry, development, etc.)	3.33
Aquatic ecosystems	3.25
Birds	3.11
Current interactions of humans upon natural resources (forestry, recreation, development, mining, etc.)	3.11
Historical interactions of human culture(s) upon natural resources (fur trade, logging, mining, etc.)	3.09
Earth Sciences (geology, watershed, etc.)	3.07
Wildlife	3.04
Physical sciences (weather, chemistry, etc.)	2.98
General env. issues (climate change, acid rain, etc.)	2.96
Value of & rationale for environmental education	2.76
Personal growth and team building	2.76
Outdoor recreation (x-c skiing, hiking, etc.)	2.51

EE Professional Development Needs

Methods	Rank: Low (1) – High (5)
Outdoor teaching methods	3.41
Place-based education	3.24
Environment as an Integrating Context (EIC)	3.19
Outdoor motivation strategies	3.13
Hands-on experiential education	3.13
Classroom management outdoors	3.11
Inquiry based learning	3.08

EE Professional Development Needs

Other resources	Rank: Low (1) – High (5)
Funding sources	4.21
Transportation to an outdoor EE site off campus	3.83
Grant writing	3.69
EE equipment resources	3.67
Integrating EE with other subjects	3.41
Alignment of EE with MN Academic Standards	3.38
Availability and use of written EE curriculum	3.30
Internet resources relating to EE	3.25
Development & use of outdoor EE site on campus	3.25
Teaching about environmental issues	3.15
Flexibility within daily school schedule	3.02

EE Professional Development Opportunities

Professional Development Opportunities	Rank: least likely (1) – most likely (5)
Teacher in-service during school year	4.05
Summer workshops	3.46
University courses for credit	2.96
Weekend workshops during school year	2.39

Potential Barriers to EE

Barriers to teaching EE	Rank: minor (1) – major (5)
Inadequate funding	4.16
Lack of access to transportation	3.61
Lack of time amidst required core subjects	3.55
Inadequate EE equipment resources	3.50
Inadequate planning time	3.48
Current structure of daily school schedule	3.35
Inadequate written curriculum EE resources	3.19
Lack of content knowledge about coastal environment	3.02
Inadequate compensation for my efforts	2.62
Difficulty making EE relevant to core subjects	2.61
Does not address state academic standards	2.54
Lack of fellow teacher support in your school	2.30
Lack of administrative support	2.13
Beyond the provisions in my contract	2.00
Safety concerns associated with outdoor activities	2.00
Lack of parent support in your school	1.94

EE Curriculum Resources

- Resource List
 - Recommendations
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Community Meetings

- 4 Parent, Teacher, Student Organizations
 - Kenwood Edison Elementary, Duluth (K-6)
 - Silver Bay Public Schools, Silver Bay (K-12)
 - Ordean Middle School, Duluth (6-8)
 - Hermantown Elementary & Middle School, Hermantown (K-8)
 - 36 participants
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EE Content Needs

Topic	Rank: Less (1) – More (5)
General environmental issues (climate change, acid rain, etc.)	4.19
Contemporary interactions of humans upon natural resources (forestry, recreation, development, mining, etc.)	4.19
Outdoor recreation (x-c skiing, hiking, etc.)	4.06
Wildlife	4.03
Earth Sciences (geology, watershed, etc.)	4.00
Aquatic ecosystems	3.94
Personal growth and team building	3.91
Physical sciences (weather, chemistry, etc.)	3.86
Specific coastal resource management issues (fisheries, forestry, development, etc.)	3.85
Historical interactions of human culture(s) upon natural resources (fur trade, logging, mining, etc.)	3.64
Birds	3.60

EE Resource Needs

EE Resource Needs	Rank: less (1) – more (5)
Field trip opportunities	4.61
Funding for EE activities & resources	4.47
Speakers	4.31
Student clubs	4.06
EE professional development & training	4.00
Outdoor school site	4.00
EE curriculum resources & supplies	3.91
Development of teacher networks	3.78
Meetings with colleagues to share, network, & learn	3.71
Lesson plans and written curriculum ideas	3.67
Mailings regarding EE information & opportunities	3.47

Community Meetings - Feedback

- What is happening?
 - EE occurs because of personal interest from teachers
 - Field trips
 - Parent & administrative support for EE
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Community Meetings - Feedback

- Where to teach EE?
 - Guest speakers
 - Field trips
 - Integrated with current curriculum
 - Afterschool clubs
 - Family nights
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Community Meetings - Feedback

- **Current Barriers?**
 - ❑ Funding
 - ❑ Full Curriculum/Time
 - ❑ Current EE opportunities (What's available?)
 - ❑ Transportation
 - ❑ Professional Development
 - ❑ Volunteers
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Next steps ...

- Guide future research
- Collaborative partnerships with individual schools/districts to address needs
- Develop new programs to address needs

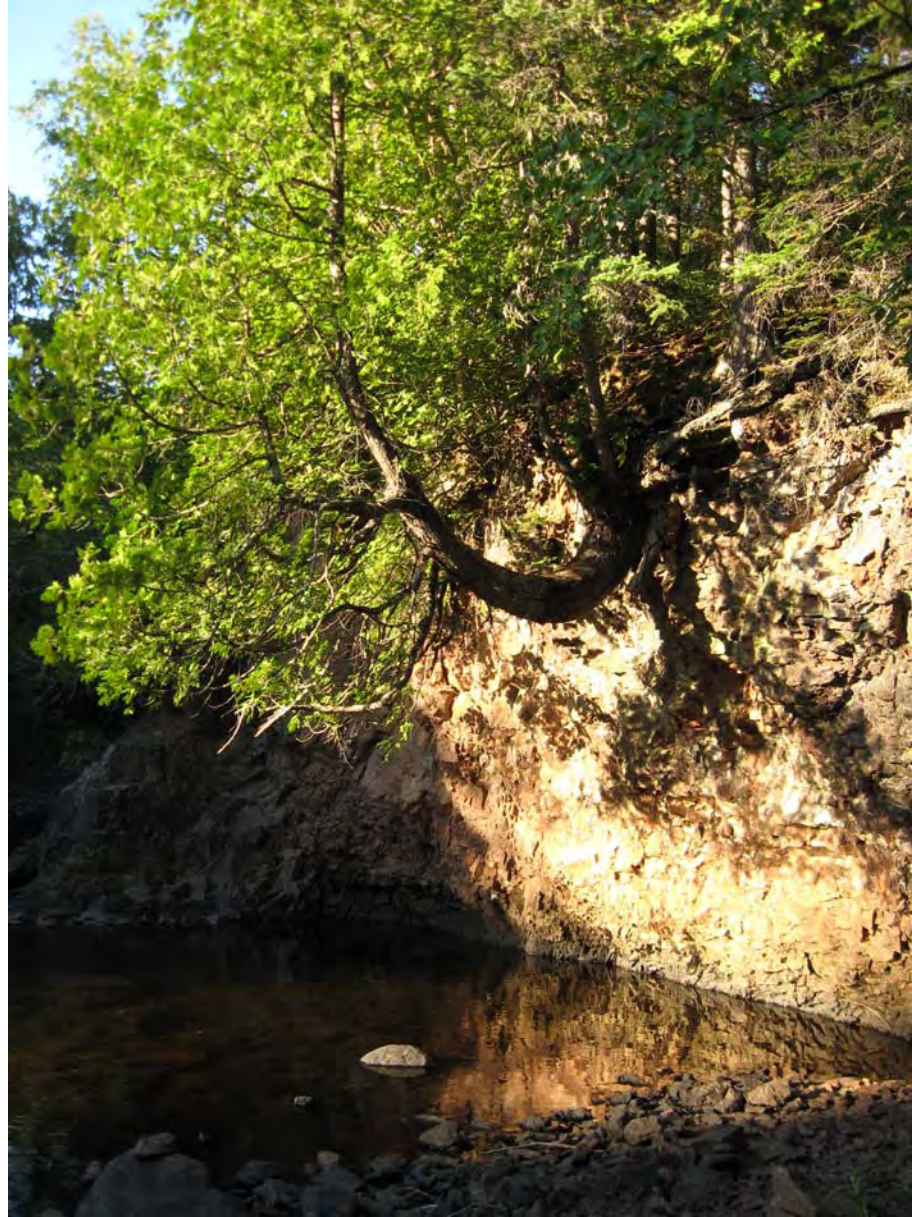


Next steps ...

- Development of an EE resource network
- Seek funding resources



Q & A



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