

## **2010 Project Abstract**

For the Period Ending June 30, 2013

**PROJECT TITLE:** Expanding Outdoor Classrooms at Minnesota Schools

**PROJECT MANAGER:** Amy Kay Kerber

**AFFILIATION:** MN DNR, Forestry

**MAILING ADDRESS:** 500 Lafayette Road

**CITY/STATE/ZIP:** St. Paul, MN 55155

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**WEBSITE:** www.mndnr.gov/schoolforest

**FUNDING SOURCE:** Environment and Natural Resources Trust Fund

**LEGAL CITATION:** M.L. 2010, Chp. 362, Sec. 2, Subd. 8f

**APPROPRIATION AMOUNT: \$300,000**

### **Overall Project Outcome and Results**

The School Forest Program is Minnesota's outdoor classroom program. This project provided support to create new School Forest sites; develop and deliver site-specific outdoor education trainings, regional workshops, a multi-day conference, and a summit; create new online and in-person resources to better support School Forests; and investigate long-term support options for the School Forest Program. Funding provided 1.5 FTEs of School Forest educators for three years and an additional .75FTE School Forest Specialist for one year.

Minnesota has 125 School Forests throughout the state. As a result of this project, 22 new School Forest sites were developed on 256 acres of land, complete with proper applications, legal paperwork, School Forest committees, and land management plans. To meet teacher needs, several assessments were conducted (see 2012 School Forest Survey Report) and the results were used to create support materials for online and in-person delivery. The School Forest website was revamped and new sections relating to land management, outdoor education, and lesson plans/activities were created. More than 39,000 visitors used the website. School Forest staff participated in hundreds of crucial in-person site visits, meetings, and presentations to bolster support for new and existing School Forests.

To encourage and support outdoor education activities, this project delivered 21 site-specific outdoor education trainings, reaching 523 teachers. These workshops involved Project Learning Tree materials and content was tied to Minnesota academic standards in math, science, and social studies. One hundred outdoor education kits were developed and delivered. The kits provided tools, materials, and lesson plans to allow teachers to easily prep and teach age-appropriate outdoor activities meeting Minnesota academic standards. In addition, two regional trainings, one multi-day conference, and one summit were developed and delivered. These events provided School Forest teachers the opportunity to delve into outdoor education strategy, discover practical

teaching tips, and network with teachers, natural resource, and education experts; 106 teachers participated in these events.

Over three years, this project provided new outdoor education opportunities to over 400 teachers and 11,000 students at 22 new School Forests. The total project activities reached over 1,500 teachers and 30,000 students statewide at all 124 School Forests.

### **Project Results Use and Dissemination**

The School Forest website ([www.mndnr.gov/schoolforest](http://www.mndnr.gov/schoolforest)) houses many materials created by this project. It is viewed by thousands of people every month. The School Forest Activity Board, within the website, is home to more than 100 new lesson plans created by School Forest teachers and staff. Of particular note are over 20 newly developed activities and lesson plans that correlate to math standards from Prekindergarten to eighth grade, meeting the need to effectively teach math outside.

Dozens of newspaper articles and websites posts were created regarding the new 22 School Forest sites created during this grant.

The results of the School Forest Survey were presented at the 2013 Minnesota Environmental Education Conference and are being reviewed by DNR staff, teachers and naturalists statewide. This information is being used to create or provide better resources to support teachers interested in outdoor education.

Delivery of the “How to Teach in Your School Forest” trainings have evolved and been modified to meet teacher needs. For example, appropriate outdoor and reflection time is incorporated into each training and several other DNR and partner education programs have begun to use these techniques. In addition, the Minn. Dept. of Education asked School Forest staff and teachers to present much of the outdoor education training delivered as part of their ENRTF Environmental and Outdoor Education project. This provided positive outcomes for all partners involved.

About 70 percent of the 22 new School Forest sites are in an urban area. Results from the 2013 Urban School Forest focus groups were used to identify needs specific to urban sites. Strategies are needed for dealing with vandalism, dogs, invasive species, and high community use on small, urban parcels.

Two School Forest site coordinators were awarded the “Formal Environmental Educator of the Year” by the Minn. Assn. for Environmental Education for their work with their school forests (2012 & 2013). The School Forest program was recognized as one of Governor Dayton’s Education Highlights for 2011-2012.

## **Environment and Natural Resources Trust Fund (ENRTF) 2010 Work Program Final Report**

**Date of Report:** July 30, 2013  
**Date of Next Progress Report:** Final Report  
**Date of Work Program Approval:** June 9, 2010  
**Project Completion Date:** June 30, 2013

### **I. PROJECT TITLE: Expanding Outdoor Classrooms at Minnesota Schools**

**Project Manager:** Amy Kay Kerber  
**Affiliation:** Minnesota Department of Natural Resources, Forestry  
**Mailing Address:** MN DNR, Forestry  
500 Lafayette Road  
**City / State / Zip:** St. Paul, MN 55155-4044  
**Telephone Number:** 651-259-5272  
**E-mail Address:** amykay.kerber@state.mn.us  
**Fax Number:** 651-296-5954  
**Web Site Address:** www.mndnr.gov/schoolforest

**Location:** Statewide. A map of the current School Forest locations is attached. New School Forests will be added throughout the state as a result of this project.

<b>Total ENRTF Project Budget:</b>	<b>ENRTF Appropriation</b>	<b>\$ 300,000</b>
	<b>Minus Amount Spent:</b>	<b>\$ 300,000</b>
	<b>Equal Balance:</b>	<b>\$ 0</b>

**Legal Citation:** M.L. 2010, Chp. 362, Sec. 2, Subd. 8f

#### **Appropriation Language:**

\$300,000 is from the trust fund to the commissioner of natural resources to establish additional and enhance existing outdoor school forest and prairie classroom networks throughout Minnesota.

### **II. FINAL PROJECT SUMMARY AND RESULTS:**

Since 1949, the School Forest Program has been Minnesota's outdoor classroom program. School Forests help combat nature deficit disorder by providing a place where preK-12 students learn core subjects (math, science, social studies, etc.) outdoors, while using nature as the base context. School Forests are diverse environments (prairie, forest, wetland, etc.) located statewide in urban and rural places, ranging from 1-300 acres. Schools and communities that establish a School Forest make a long-term commitment to sustain an outdoor classroom to be used by many students on a regular, consistent basis.

By establishing 15 new School Forests, this project will create 115 sites statewide and reach more than 1,200 teachers and 28,000 students. Program support provided to all 115 sites will enhance use and quality of outdoor activities through:

- Creation and delivery of a multi-day intensive School Forest course to increase teacher knowledge of and comfort in teaching outdoors,
- Creation and delivery of a School Forest Summit to increase school-to-school networking, exchange ideas to best support teachers and schools with School Forest sites, deliver content on outdoor education strategies and advance site management,
- Delivery of site-specific trainings to increase school-wide teacher and student participation,
- Expansion of School Forest network through site-to-site contact and Web site development.

Individual site development and support for 75 new and existing School Forests will promote site sustainability and encourage teacher and student use of outdoor classrooms through:

- Creating and strengthening local, partner-rich School Forest Committees,
- Connections to local, state, and national outdoor education resources,
- Integrating existing outdoor education lessons into school curriculum,
- Correlating lessons to Minnesota Academic Standards,
- Providing outdoor teaching tools and learning kits.

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### **Overall Project Outcome and Results**

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1.5 FTEs of School Forest educators for three years and an additional .75FTE School Forest Specialist for one year.

Minnesota has 125 School Forests throughout the state. As a result of this project, 22 new School Forest sites were developed on 256 acres of land, complete with proper applications, legal paperwork, School Forest committees, and land management plans. To meet teacher needs, several assessments were conducted (see 2012 School Forest Survey Report) and the results were used to create support materials for online and in-person delivery. The School Forest website was revamped and new sections relating to land management, outdoor education, and lesson plans/activities were created. More than 39,000 visitors used the website. School Forest staff participated in hundreds of crucial in-person site visits, meetings, and presentations to bolster support for new and existing School Forests.

To encourage and support outdoor education activities, this project delivered 21 site-specific outdoor education trainings, reaching 523 teachers. These workshops involved Project Learning Tree materials and content was tied to Minnesota academic standards in math, science, and social studies. One hundred outdoor education kits were developed and delivered. The kits provided tools, materials, and lesson plans to allow teachers to easily prep and teach age-appropriate outdoor activities meeting Minnesota academic standards. In addition, two regional trainings, one multi-day conference, and one summit were developed and delivered. These events provided School Forest teachers the opportunity to delve into outdoor education strategy, discover practical teaching tips, and network with teachers, natural resource, and education experts; 106 teachers participated in these events.

Over three years, this project provided new outdoor education opportunities to over 400 teachers and 11,000 students at 22 new School Forests. The total project activities reached over 1,500 teachers and 30,000 students statewide at all 124 School Forests.

### **Project Results Use and Dissemination**

The School Forest website ([www.mndnr.gov/schoolforest](http://www.mndnr.gov/schoolforest)) houses many materials created by this project. It is viewed by thousands of people every month. The School Forest Activity Board, within the website, is home to more than 100 new lesson plans created by School Forest teachers and staff. Of particular note are over 20 newly developed activities and lesson plans that correlate to math standards from Prekindergarten to eighth grade, meeting the need to effectively teach math outside.

Dozens of newspaper articles and websites posts were created regarding the new 22 School Forest sites created during this grant.

The results of the School Forest Survey were presented at the 2013 Minnesota Environmental Education Conference and are being reviewed by DNR staff, teachers and naturalists statewide. This information is being used to create or provide better resources to support teachers interested in outdoor education.

Delivery of the “How to Teach in Your School Forest” trainings have evolved and been modified to meet teacher needs. For example, appropriate outdoor and reflection time is incorporated into each training and several other DNR and partner education programs have begun to use these techniques. In addition, the Minn. Dept. of Education asked School Forest staff and teachers to present much of the outdoor education training delivered as part of their ENRTF Environmental and Outdoor Education project. This provided positive outcomes for all partners involved.

About 70 percent of the 22 new School Forest sites are in an urban area. Results from the 2013 Urban School Forest focus groups were used to identify needs specific to urban sites. Strategies are needed for dealing with vandalism, dogs, invasive species, and high community use on small, urban parcels.

Two School Forest site coordinators were awarded the “Formal Environmental Educator of the Year” by the Minn. Assn. for Environmental Education for their work with their school forests (2012 & 2013). The School Forest program was recognized as one of Governor Dayton’s Education Highlights for 2011-2012.

### **III. PROGRESS SUMMARY AS OF January 20, 2011:**

Many outreach activities have been completed: 53 schools contacted regarding establishment of School Forest; Presentations delivered at 2 conferences; over 100 phone or email conversations with teachers.

Two School Forest sites established. One specialized teacher training delivered at an urban site.

A variety of factors have delayed the hiring of 2 staff to complete work outlined in this grant. Currently in the process of hiring staff with expected start date spring 2011. An extension request to June 30, 2013 has been filed.

### **Progress Summary as of September 2011:**

Outreach activities completed to date: 65 schools contacted regarding the School Forest Program; Presentation delivered at 4 conferences, including 3 booths; hundreds of phone or email conversations with teachers, administrators, and volunteers.

Four School Forest sites established. Two specialized teacher training delivered at the same urban site.

The School Forest Program Manager and former Project Learning Tree Coordinator are now working on this project. An extension of this project has been approved to June 30, 2013.

**Amendment Request: September 30, 2011**

Work plan amended to: change the number of new school forests from 20 to 15 (and corresponding number of teachers and students adjusted), adjust timelines to accommodate extension request to June 30, 2013, reflect changes in staffing and DNR in-kind funding, and addition of at least one school forest summit in Result 1 and the entirety of Result 4. Amendment Approved: October 6, 2011.

**Progress Summary as of July 2012:**

Total outreach activities completed to date: 135 schools contacted regarding the School Forest Program; Presentations delivered at 8 conferences, including 6 booths; hundreds of phone or email conversations with teachers, administrators, and volunteers.

In total, twelve School Forest sites established. Nine site-specific teacher trainings delivered. Delivered two regional School Forest trainings and one School Forest Summit to promote site-to-site contact and networking.

New website sections and pages created. Including new outdoor activity pages (correlated to Minnesota Academic Standards), and a Land Management and Stewardship web section.

Collaborated with Minnesota Department of Education Environmental and Outdoor Education project, funded by ENRTF, to enhance MDE project and connect activities between two ENRTF projects.

**Amendment Request: July 31, 2012**

**Amendment Approved: September 17, 2012**

The work plan is requested to be amended in Section V to reflect changes in staffing and DNR in-kind funding to provide additional new staff to support project and adjust travel and supply budgets to more accurately reflect project needs. This results in shifts to the amounts budgeted under Results 1, 2, and 3 for personnel, supplies, travel, and other direct costs on Attachment A, and also noted in Section V. Additionally, Attachment A is amended to correct a \$6,000 discrepancy/typo between original salary costs as correctly listed in Section V of work plan.

**Progress Summary as of December 31, 2012**

Total outreach activities completed to date: 147 schools contacted regarding the School Forest Program; presentations delivered at 11 conferences, including 7 booths; hundreds of phone or email conversations with teachers, administrators, and volunteers.

In total, 15 School Forest sites established. 18 site-specific teacher trainings delivered.

New website sections and pages created. Including new outdoor activity pages (correlated to Minnesota Academic Standards), and a Land Management and Stewardship web section.

Hired one 0.75 FTE School Forest Specialist to assist with meeting grant requirements.

Completed online School Forest site coordinator survey, receiving 60 responses. Data gathered from survey informed decisions made regarding website development, February 2013 School Forest Conference planning, training/workshop offerings, and other activities.

Notable: On December 11, 2012, Governor Mark Dayton recognized the School Forest Program as one of the top 11 education highlights of the biennium. Considering the program a key achievement in ensuring that Minnesotans have the education and skills needed to achieve their goals.

**Amendment Request: April 11, 2013**

**Amendment Approved April 18, 2013**

The work program is requested to be amended to reflect changes in funding in Section 1 to include focus groups to gather feedback specific to urban School Forest needs and in Section 3 to create 25 additional outdoor education kits and provide additional books at future site-specific workshops. There has been greater interest in Project Learning Tree books at workshops than anticipated and we desire to provide as many teachers as possible with these valuable environmental education materials. In addition, corrections to made to deliverables and ENRTF budget totals under each result to correct discrepancies from the amounts as outlined in Attachment A on the December 2012 Progress Report. These budget items were overlooked in the narrative, but done correctly in Attachment A.



#### IV. OUTLINE OF PROJECT RESULTS:

**RESULT 1:** Develop and enhance School Forest networking opportunities and support services statewide.

**Description:** These activities will benefit new and existing School Forests in all areas of the state and increase overall program strength, enabling the School Forest Program to serve more sites in the future with better quality support. Online networking features will be used to create a School Forest network that can communicate among themselves to advance outdoor education activities throughout the state and improve the quality of activities delivered. School Forest Web site features and social networking tools will be used to allow educators to learn and share with each other. Delivery of in-person information is important to establish buy-in and participation in site activities. Due to changes in school staffing, focus, and budget, many existing School Forest Committees need assistance regaining direction. A common challenge is administrative and school board knowledge of outdoor education benefits. Meetings with staff, administrators, school boards, and School Forest Committees will enhance site activity and sustainability and garner support for outdoor education. To determine the most useful services, staff will assess site coordinator needs regarding: new Web site features or content; social networking media; and traditional person-to-person support services. Information gathered will be used to inform the remaining outcomes. At least one School Forest Summit will be created to increase school-to-school networking, exchange ideas to best support teachers and schools with School Forest sites, deliver content on outdoor education strategies and advance site management. Two or three urban School Forest focus groups will be conducted to identify the top priority needs for these unique sites and help the School Forest Program plan long-term support services. An estimated 1,200 teachers and 28,000 students at 115 School Forests statewide will be impacted by activities in result 1.

**Summary Budget Information for Result 1:** ENRTF Budget: \$ 59000  
Amount Spent: \$ 59,000  
Balance: \$ 0

Deliverable	Completion Date	Budget
1. Assess site coordinator needs	Dec 2012	\$3,500
2. Create an interactive web portal for teachers to share School Forest activities and discussions.	March 2013	\$4,500
3. Develop School Forest Web site content and on-line features to address high priority teacher needs.	Ongoing, June 2013	\$10,000
4. Meet with School Forest Committees, staff, administrators, and school boards to strengthen committee, provide resources, and bolster support for outdoor education.	Ongoing, June 2013	\$ 37,000
5. Develop and deliver a School Forest Summit to	June 2012	\$2,000

promote stronger school forest committees and increased outdoor education delivery at existing sites.		
6. Conduct 2-3 Urban School Forest focus group sessions to identify specific urban site needs.	June 2013	\$2,000

**Result Completion Date: June 2013**

**Result Status as of January 2011:**

All activities listed in this result rely on 2 new staff members that have not been hired yet. Expected hiring date is early spring 2011, at this time work will be begin. As a result, expected completion date for site coordinator assessment is June 2011 and the remainder of work will follow from there.

**Result Status as of September 2011:**

1. School Forest Specialist began development of site coordinator needs assessment. Scope included determining best ways to receive feedback from site coordinators and best delivery method.
  
2. Updates made to School Forest Website included new outdoor activities on activity board and school forest application.
  
3. Developed and distributed first enewsletter using govdelivery. The govdelivery system will allow for tracking of open rates, click-through rates, etc. This will inform continuation of enewsletter content and new enewsletter features. Launched Minnesota School Forest Facebook page.
  
4. School Forest Program Manager met with staff, administrators, school board, or community members in person or via phone from the following School Forests:
  1. Longville School Forest
  2. Proctor School Forest
  3. Pike Lake School Forest
  4. Bemidji Middle School Forest
  5. Horace May School Forest (Bemidji)
  6. Linwood School Forest
  7. OH Anderson School Forest (Mahtomedi)
  8. Crosswinds School Forest (Woodbury)
  9. Seidl's Lake School Forest (South St. Paul)
  10. St. David's School Forest (Minnetonka)
  11. Scenic Heights School Forest (Minnetonka)
  12. Orr School Forest
  13. Pine Bend School Forest (Inver Grove Heights)

Majority of discussions were focused on specific requests for help (e.g., land transfer issues, support for working with school administration, engaging more teachers, etc.).

Conversations provided useful insight to determine which sites need more attention to bolster the school community around their school forest.

Delivered a one-hour “Meeting Outdoor Classroom Challenges” interactive session designed to engage teachers at existing School Forests in a problem-solving dialogue around common outdoor classroom challenges. Session delivered at Midwest Environmental Education Conference, Rochester, MN, April 9, 2011. Session attendance: 12.

5. Began conversations with Minnesota Association for Environmental Education Association regarding potential partnership on general environmental education workshops. Began investigation into best delivery of School Forest Summit.

### **Result Status as of July 2012:**

1. Detailed phone interviews conducted with 12 School Forest site coordinators. Conducted one online survey of 15 site coordinators. Conversations and feedback provided insight into:

- what type of questions to investigate with online survey of all sites,
- needs regarding assistance with tying outdoor activities to Minnesota Academic Standards,
- interest in interactive web portal,
- types of materials to provide in School Forest education trunks, and
- topics for School Forest Summit.

Developed questions and format for an extensive online School Forest site coordinator needs assessment to be administered in fall 2012.

2. Designed and took live a new Activity Board for School Forest teachers.

<http://www.dnr.state.mn.us/schoolforest/coordinator/sfactivities.html>

Activity Board features lessons submitted by School Forest teachers, School Forest staff, or partners (e.g., PLT, WET, WILD). Activity Board has lessons/activities categorized by grade bands (PreK, K-3, 4-6, 7-8, 9-12) and subcategorized by subject (math, science, language arts, etc). There are also seasonal activity pages within the Activity Board. Over 25 new activities have been added. Demonstrations of the Activity Board at workshops and trainings has met with very positive responses. However, School Forest staff has not been able to find a work around approach to allow teachers to post their own activities due to security requirements and limitations of the DNR website. As a result, teacher submit activities to School Forest staff, who then post the lessons to the activity board.

Initial site coordinator input has indicated a lower level of interest than anticipated around the idea of an interactive web portal. As a result, staff efforts have focused on meeting other high-priority needs identified.

A high priority need identified in interview investigations was meeting academic standards. This need could not be properly met via online delivery, so program staff developed two School Forest regional trainings specifically addressing how to meet Minnesota Academic Standards while teaching outdoors. More detail on training specifics in goal 3 and attached agenda. Activities demonstrated at regional training and much of content delivered are now available via the School Forest Website or interactive Activity Board. There was an overwhelming positive response to the regional trainings, reinforcing the notion that teachers desire to receive outdoor education materials and information in a face-to-face format. Regional training details:

March 30, 2012	Proctor, MN	21 teachers	12 School Forests
April 12, 2012	Fort Snelling State Park	27 teachers	17 School Forests

3. Many School Forest Website updates and changes made, including:

- New Training and Events Section – to facilitate teacher engagement with School Forest site specific trainings, provide a way for teachers to engage and inform administrators on training relevance, and promote other workshop opportunities.
- New Land Management Section – outlines the variety of land assistance the DNR can provide to School Forests and explains the importance and potential use of a stewardship plan.
- Created highlight posts for 8 new School Forests.

Links to new or updated web pages:

School Forest Locations <http://www.dnr.state.mn.us/schoolforest/listing.html>

Land Section <http://www.dnr.state.mn.us/schoolforest/land.html>

Land Options <http://www.dnr.state.mn.us/schoolforest/land-options.html>

Land Considerations <http://www.dnr.state.mn.us/schoolforest/land-considerations.html>

Land Management <http://www.dnr.state.mn.us/schoolforest/land-management.html>

Stewardship Plans <http://www.dnr.state.mn.us/schoolforest/stewardship.html>

Training and Events Section <http://www.dnr.state.mn.us/schoolforest/resources/training-events.html>

School Forest Summit and Conference

[http://files.dnr.state.mn.us/education\\_safety/education/schoolforests/summit-schedule.pdf](http://files.dnr.state.mn.us/education_safety/education/schoolforests/summit-schedule.pdf)

School Forest Workshops

<http://www.dnr.state.mn.us/schoolforest/resources/workshop.html>

Sample School Forest Highlight Post

[http://www.dnr.state.mn.us/schoolforest/sf\\_newschool.html#centennial](http://www.dnr.state.mn.us/schoolforest/sf_newschool.html#centennial)

4. Since September 2011 progress report, School Forest staff met with school staff, administrators, school board, or community members in person or via phone from the following School Forests:

1. Floodwood School Forest

2. Linwood School Forest
3. Parkview School Forest, Roseville
4. O.H. Anderson School Forest, Mahtomedi
5. Bailey School Forest, Newport
6. Bay View School Forest, Proctor
7. Forestview School Forest
8. City Academy Big Urban Woods School Forest
9. Trinity Lone Oak School Forest, Eagan
10. Askov School Forest, Askov
11. Circle of Life School Forest, White Earth
12. Oak Grove School Forest, Bloomington
13. Oneka-Hugo School Forest
14. Rockford School Forest - focused 7<sup>th</sup> grade curriculum
15. Longville School Forest – land ownership issues
16. Bayview School Forest, Waconia

Majority of discussions were focused on specific requests for help (e.g., outdoor/site development, support for working with school administration, engaging more teachers, etc.). Conversations provided useful insight to determine which sites need more attention to bolster the school community around their school forest. As a result, more attention has been given to schools such as Parkview, Linwood, and Trinity Lone Oak – these sites are working to better school and community engagement or reinvigorating their School Forest Committees.

5. School Forest staff developed and delivered one School Forest Summit in conjunction with the state environmental education (EE) conference hosted by the Minnesota Association for Environmental Education (MAEE). The School Forest and MAEE partnership yielded many successful results:

- All School Forest teachers chose to attend the MAEE Conference and thus were exposed to many high quality EE programs that could not have been provided by the School Forest Program alone.
- Reduced Summit costs and reduced environmental impact by combining efforts.
- Development and inclusion of a strong outdoor classroom strand in MAEE Conference (by School Forest staff).

#### School Forest Summit

June 21, 2012	Itasca State Park	18 teachers	14 School Forests
MAEE Conference			
June 21-22, 2012	Itasca State Park	Appx. 100 participants	

Content presented at the School Forest Summit was all targeted toward strengthening School Forest Committees and advancing leadership skills of site coordinators. These two areas have been identified as high need by School Forest staff. Summit evaluations

provided strong positive comments and interest in future offerings in these areas. Thus, the topics will also be included in School Forest Short Course in 2013. See enclosed Summit agenda for further details.

All activities complete for Deliverable 5 Goal 1.

**Result Status as of December 2012:**

1. Completed site coordinator needs assessment. Major pieces of assessment included: Phone interview of 12 site coordinators.

New training evaluation tools aimed at gathering information from participants to help advance the program overall and for training delivery feedback.

Teaching outdoor comfort assessment used at every School Forest training to provide more extensive data on training effectiveness.

New questions to School Forest Annual Report form designed to capture long-term evaluative data about site use and needs.

Online site coordinator survey developed, implemented, and analyzed.

24 question survey delivered in September 2012.

60 sites responded out of 118.

Data from online survey has been analyzed and is currently being finalized in a report format. Survey Report will be included in next progress report. A few significant findings from the survey were:

- “Ready-made activities” ranked the highest out of seven options to encourage teachers to use the School Forest more often.
- Site coordinators ranked “online resources” as their top choice for resources to assist their School Forest committee.
- “Site visits with foresters focused on land management advice” was ranked the highest out of eight land management resources.
- Urban sites ranked “stewardship plans” second highest out of eight land management resources, compared to rural sites that ranked it sixth

Data gathered from survey informed decisions made regarding website development, February 2013 School Forest Conference planning, training/workshop offerings, and other activities.

2. Continued advancement of School Forest Activity Board. Advancements include:

- 22 new math activities posted – Math activities were identified by teachers as a high-priority need. The math activities involved a new approach of establishing grade-level specific lessons, with accompanying student worksheets, for each grade for grades K-6. The lessons, when viewed as a collection, create a scope and sequence of outdoor math activities that are specifically tied to Minnesota academic benchmarks.

- Over 10 new activities (excluding math) added to activity board.
- Activity Board link made more visible on School Forest website: links in multiple locations, including one on main menu.

Adopt-a-Tree journal modified and posted for download. This journaling/writing/observation skills-based activity meets needs identified by teachers as a high-priority. The document had previously only been available in paper format.

Site coordinator input indicated a lower level of interest than anticipated around the idea of an interactive web portal. As a result, staff efforts have focused on meeting other high-priority needs already identified and met in July 2012 progress report.

3. Redesign of School Forest website underway. Site coordinator assessment has informed many of the decisions made for new website pages and content. Currently updating and creating the following pieces for the School Forest website:

- Revamping Becoming a School Forest Section – creating easier to follow pages with information on all the pieces schools need to consider before or complete as part of their application. Such as, School Forest committees, mission statements, legal paperwork pertaining to land ownership, etc.
- Updating How to Teach Outside Section - to help reduce “first timer’s fear” identified as a barrier to outdoor teaching in the School Forest survey.
- New About Us Section – basic page to inform viewers on what the School Forest Program is in a nutshell and provide a brief history.
- New School Forest Map – still under development, this map will run off of google maps and allow users to scroll over the state and click on site markers to get School Forest site details.

Four School Forest highlights written and posted to SF website  
[http://www.dnr.state.mn.us/schoolforest/sf\\_newschool.html](http://www.dnr.state.mn.us/schoolforest/sf_newschool.html)

Links to new or updated School Forest website sections and pages:

Note - many of the pages are still in final testing phase.

Becoming a School Forest

Why <http://www.dnr.state.mn.us/schoolforest/become/why.html>

How to Start <http://www.dnr.state.mn.us/schoolforest/become/begin.html>

Application <http://www.dnr.state.mn.us/schoolforest/become/application.html>

About Us <http://www.dnr.state.mn.us/schoolforest/about.html>

School Forest Locations <http://www.dnr.state.mn.us/schoolforest/listing.html>

How to Teach Outside <http://www.dnr.state.mn.us/schoolforest/teachoutside.html>

Activity Board <http://www.dnr.state.mn.us/schoolforest/coordinator/sfactivities.html>

4. Since the July 2012 progress report, School Forest staff met with school staff, committees, administrators, and school boards, or community members in person or via phone to strengthen committee, provide resources, and bolster support for outdoor education with the following School Forests:

1. Oneka Elem (Oneka-Hugo School Forest), Hugo
2. Dowling School Forest, Minneapolis
3. Pine Bend School Forest, Inver Grove Heights
4. Dean Mackey School Forest, Baxter
5. Crossroads Como Woodlands School Forest, St. Paul
6. Bayview School Forest, Proctor
7. Pike Lake School Forest, Proctor
8. Transitions School Forest, White Bear Lake Township (School Forest staff support helped this school get a \$9,960 grant from national Project Learning Tree to advance their School Forest)
9. Pillager School Forest, Pillager
10. Lakewood School Forest, Duluth
11. Frazee School Forest, Frazee
12. Hidden School Forest, Prior Lake
13. Five Hawks School Forest, Prior Lake
14. Hugo Elementary (Oneka-Hugo School Forest)– to designate additional acres near Hugo Elementary as their School Forest
15. Creative Arts High School, St. Paul
16. Jefferson Elementary, Blaine
17. Westwood Elementary, Blaine
18. Chaska Elementary, Chaska
19. St Charles School Forest, St. Charles
20. Northland School Forest, Remer
21. Crosswinds School Forest, Woodbury
22. Linwood School Forest, Forest Lake
23. Bailey School Forest, Newport
24. St. Louis County School Forests, Orr, Cook, Cotton

Majority of discussions were focused on specific requests for help (e.g., outdoor/site development, vandalism, support for working with school administration, engaging more teachers, etc.). Some meetings and discussions are on-going support to address time consumption issues that would not otherwise have been address without this grant. For example: Vandalism and site maintenance at Pine Bend School Forest; Northland School Forest restructuring due to district consolidation; St. Louis County district has closed several schools and opened new buildings, creating many changes to the School Forests in their district; Dowling School Forest facilitating process to get staff, parents, and administration all on the same page.



Helped six schools that identified specific needs in the School Forest online survey:

- Linwood School Forest, Wyoming
- Lakewood School Forest, Duluth
- Crosswinds School Forest, Woodbury
- Goodridge School Forest, Goodridge
- Frazee-Vergas School Forest, Frazee
- Centennial School Forest, LinoLakes.

School Forest Program staff identified site signage as a high-priority need to increase public visibility, reduced vandalism, and raise comfort levels of teachers using the sites. The School Forest program has initiated a project to develop and deliver School Forest signs using DNR funding.

### **Final Report Summary June 2013:**

School Forest site coordinator needs were assessed through phone interviews, event participation evaluation forms, and online survey tools. A summary of data and information gathered through the formal online survey is attached. Sixty site coordinators participated in the survey, a 49 percent response rate. A variety of valuable information to guide future program development was gathered.

- The School Forest Program needed to increase connections between new site coordinators and program resources. An introductory email and support mailing have been developed to better connect new site coordinators with program resources (both online and in-person options).
- Site committees were ranked as high importance by newer schools for helping with land management. Overall, site coordinators ranked “online resources” as the best way to assist them with committee management.
- Coordinators were turning to the School Forest website to find content on: Minnesota forests/trees, land management, teaching outdoors, committee management, and site features (benches, boardwalks, shelters, etc.). Thus, the land management, teaching outdoors, and committee management sections were revamped. And program staff is currently developing a site features section and considering what forest and tree content will be useful for site coordinators.
- Connections to and assistance from foresters and natural resource professionals are important to site coordinators.
- Site coordinators indicated a strong preference for face-to-face interaction with School Forest Program staff to support educational and management needs.

In addition to the planned site coordinator assessment, School Forest staff was able to complete a specialized Urban School Forest focus group assessment. Nineteen

teachers, volunteers, and site coordinators from urban School Forest sites participated in two focus groups. Insights gathered from the sessions include:

- Most participants were not aware of land management principles and what actions they needed to consider for their site. There was a lack of knowledge on what a healthy forest looked like or what plants and animals the site might contain. Instead, most spoke of site features they desired to build when asked about land management.
- Visibility (being able to see students at all times) was of high importance to most participants. Some spoke about the visibility at the transition area (from playground to forest) while others spoke about visibility while learning within the forest.
- Most participants wanted to increase their knowledge of plant identification and land management practices, with particular emphasis on invasive species.
- A majority of comments were focused on the desire for volunteers and assistance from organizations in completing land management goals.
- There was a lack of knowledge on invasive species and a desire to increase understanding about the importance, management practices, and harm caused by various species.

The School Forest Program website was revamped to meet site coordinator needs and better serve public inquiries about the program. This involved developing many new pages and redrafting existing sections, such as: Land Management, School Forest Committee, and How to Teach Outside. School Forest staff has received many comments regarding the quality and usefulness of the information presented on the website.

The School Forest website had 39,986 total pageviews and 28,664 unique pageviews during the grant period. There was a 44 percent increase in Web traffic when comparing the year preceding the grant initiation and the last year of grant activity. And, an 82 percent increase in unique pageviews, which indicates more people viewing the website.

Year	Total Pageviews	Unique Pageviews
July 2009-June 2010	8,400	6,571
July 2012 – June 2013	19,076	12,557

According to Web statistics, the sections most visited in descending order were: Safety and Legal, Teaching Outside, Activity Board, Map, How to Start, and Program Benefits and Criteria.

To strengthen School Forest site committees, connections with school administration, and bolster support for outdoor education activities, School Forest staff met with site coordinators and volunteers at 40 School Forests. This contact also led to 11 existing

School Forests revitalized with committees reestablished, and activities resumed or enhanced. A few highlighted outcomes from this type of support:

- Work with Crossroads School Forest committee led to discussion and investigation into school needs that resulted in the discovery of a need for a site closer to their campus/school to reduce travel time and increase teacher comfort. Crossroads Elementary, St. Paul, is now pursuing this effort, with principal support, to establish a School Forest at a City of St. Paul park located just a few blocks from their building.
- Invigorated School Forest activities at Lewiston-Altura High School, gaining a new site coordinator and increasing knowledge of the program to a new, supportive principal.
- Discussed safety preparedness and emergency response actions for lock-down situations when students are in the School Forest at Floodwood, Humboldt, Parkview, and Baudette School Forests.
- Jefferson Elementary School Forest was revitalized after contact with program staff. A solid committee was formed and they established a plan to increase site use and outdoor education activities. The effort included designating the whole school yard as a School Forest to provide easier access and an age-appropriate space for young learners. To celebrate, the entire school took part in an Arbor Month planting, with each class planting two trees on the school grounds.

Face-to-face, on-site meetings provided the opportunity to meet with site partners, such as principals, facilities/maintenance staff, parents, and neighbors. These conversations were sometimes serendipitous, and often conveyed a perspective not shared by the site coordinator (usually a teacher), which helped School Forest staff identify and address specific needs. In-person meetings and discussions between site volunteers and School Forest staff are vital to the success of individual sites and the program. These interactions can take place through site visits, trainings, focus groups, summits, or conferences.

**RESULT 2:** Establish 15 new School Forest sites throughout Minnesota.

**Description:**

Each School Forest site comes with its own set of legal parameters and community issues and must be dealt with independently. School Forests will be established as long-term, self-sustaining outdoor classrooms throughout all regions of the state. Particular emphasis will be given to engage schools in urban areas and southwest Minnesota. This involves a lot of leg work and thought on the front end. There is no cookie cutter approach. Each site will have its own natural resource features: forest, prairie, wetland, etc. Establishment of each site will involve significant staff time in the following areas: land acquisition; application process; teacher, administrative and school board meetings; school forest committees; teacher support; connections to local, regional, state, and national resources; Natural Resources Stewardship Plans; and site development. As needed, staff will participate in site-specific special events to raise school and community awareness of School Forest and its educational importance. Based on current program enrollment, it is expected that an additional 4,000 students and 200 teachers will participate in the School Forest Program upon completion of result 2.

**Summary Budget Information for Result 2:** ENRTF Budget: \$ 115,050  
 Amount Spent: \$ 115,050  
 Balance: \$ 0

<b>Deliverable</b>	<b>Completion Date</b>	<b>Budget</b>
1. Establish 15 School Forests statewide. 5 sites by December 2011 15 sites by June 2013	June 2013	\$58,050
2. Establish 15 well-supported School Forest Committees.	June 2013	\$55,250
3. Begin development of 10 Natural Resources Stewardship Plans. <i>(All 15 new School Forests will have a Stewardship Plan within 2 years of entering the program.)</i>	June 2013	\$ 1,750

**Result Completion Date: June 2013**

**Result Status as of January 2011:**

Delayed hiring of staff to complete work in this result has resulted in minimal work completion.

1. Two School Forests sites established:
  - A. Humboldt High School – urban site with unique educational demands; using School Forest as part of overall plan to restructure school after 5 years of failing to meet adequate yearly progress.

- B. Smokey Timbers – second school forest site for Miliona Science Magnet School to expand nature education offerings. This new 27-acre site offers water access and overnight opportunities and is provided in partnership with local, non-profit Smokey Timbers Foundation.

Gave presentations and involved in detailed discussion to establish a School Forest with:

1. Dowling Elementary, Minneapolis
2. City of St. Paul, Como Woods Project
3. Big Urban Woods & Ramsey County, St. Paul
4. St. Michael Albertville School District, potentially 3 sites at different schools
5. Birch Grove Elementary, Tofte
6. River's Edge Academy, St. Paul
7. Proctor Bay View Elementary – expansion on existing site

2. Two School Forest Committees established at Humboldt High School and Miliona Science Magnet School.

3. City of St. Paul forester is working with Humboldt to development a management plan and DNR forester is working with Miliona to establish a stewardship plan.

**Result Status as of September 2011:**

1. Two School Forest sites established. Both sites required facilitation of a Joint Powers Agreement between the landowner and the school district.

A. St. Michael Albertville Middle School Forest – 35-acre parcel of remnant big woods adjacent to school site and is rich with animal wildlife. Site is known as “Becker Big Woods.” Parcel owned by city of St. Michael as a result of a 1995 DNR Partnership Grant. Site will be co-managed by city and school. Teachers from multiple disciplines engaged.

B. City Academy Big Urban Woods – urban 5-acre site owned by Ramsey County, adjacent to county yard waste site and 1 block from school. This high school is developing many science and social studies lessons to use the School Forest, including a year-long project focused on assessing carbon sequestration rates of their forest. Two additional schools are considering establishing a School Forest on the same site.

Gave presentations and involved in detailed discussion to establish a School Forest with:

1. Crossroads Elementary, St. Paul – Como Woods site
2. Rockford Middle School
3. St. Johns Elementary, Duluth
4. Hermantown Elementary
5. St. James Elementary, Duluth
6. Great River Academy, St. Paul – Como Woods site
7. Natural Science Academy, Cottage Grove

Continued discussions and support for establishing a School Forest with:

1. Dowling Elementary, Minneapolis
2. Big Urban Woods & Ramsey County, St. Paul
3. River's Edge Academy, St. Paul
4. Proctor Bay View Elementary – expansion on existing site

2. Two School Forest Committees established.

St. Michael Albertville Middle School Forest Committee includes City of St. Michael staff and educators. This committee is interested in engaging the adjacent elementary school in outdoor activities!

The City Academy School Forest Committee has extensive community involvement, including leaders from St. Paul citizen groups and Ramsey County staff.

3. Becker Big Woods has a forest management plan developed by the City of St. Michael following DNR Stewardship Guidelines. The Big Urban Woods site is working with Ramsey County Forestry staff to establish a forest management plan. Initial focus will be on removal of hazard trees and trail development.

### **Result Status as of July 2012:**

1. In total, 12 new School Forests have been established. See attached, updated map of current School Forest locations for statewide site distribution.

New School Forests established between October 1, 2011 and July 31, 2012:

1. Rockford School Forest – Site will be used by all middle school students. This 4-acre site includes a large wetland.
2. \*Great River Como Woodlands School Forest - Great River is a high school Montessori. Students walk or bike to this highly urban 17-acre School Forest, which is owned and managed by the City of St. Paul.
3. Oneka Elementary is a large suburban grade 3-5 school. The Oneka-Hugo school forest is located adjacent to the school and included wetlands and a boardwalk.
4. \*Crossroads Elementary will use the 17-acre Como Woodlands School Forest. Two schools are housed in the same building and both schools will use the school forest.
5. Dowling School Forest is located adjacent to the Michael Dowling School and Mississippi River Gorge in Minneapolis. This 21-acre site contains an arboretum of trees planted by FFA students in the 1950s. It also contains the longest –running Victory Gardens in the state.
6. Hugo Elementary is a large suburban grade K-2 school which will use the Oneka-Hugo School Forest, which is located 3 miles from their building.
7. Triton School Forest – site consists of 11 acres of pond, prairie, and trees on school grounds in Dodge Center.

8. \*American Indian Magnet School will use the Big Urban Woods School Forest, managed by Ramsey County.

\*Joint Powers Agreements (JPA) were required for use of land. Process facilitated by School Forest Program Manager in conjunction with city, county and school staff. JPAs clarify which entity (school or land owner) is responsible for liabilities, site maintenance, etc. and provide for long-term partnerships.

#### Special Note:

This reporting period marks the formal establishment of several important partnerships. School Forests have been established by multiple schools on two different public parcels in St. Paul –owned by Ramsey County (Big Urban Woods) and City of St. Paul (Como Woodlands). These partnerships significantly increase public use and value of two degraded sites and are creating highly engaged, local student and family populations as site stewards.

In addition, significant partnerships with St. Paul Public Schools and the Minneapolis School District were finalized by establishment of School Forests within their districts. Both of these large and diverse school districts have been challenging bureaucracies to navigate. However, School Forest staff and individual school staff now all have a better understanding of administration interests, needs, and support levels. Most importantly, the site coordinators are feeling well supported by administration and DNR staff as a result of all the groundwork and activity that went into establishing the sites.

#### School Forest Closures

As a result of school closings or consolidations, nine School Forests have been terminated or consolidated with another site. This list represents all changes from the beginning of the grant. Further closures and consolidations are not anticipated.

##### Terminated School Forests:

- Askov School Forest
- Emily School Forest
- North School Forest, Talmoon
- Cook School Forest
- Orr School Forest
- Circle of Life School Forest, White Earth
- Delpha Hayes White School Forest, Park Rapids

##### Consolidated School Forests:

- Copley & Minerva consolidated to become Bagley School Forest
- Lake George & Two Inlets consolidated to become Park Rapids School Forest

Gave presentations and involved in detailed discussion to establish a School Forest with:

1. Minnesota Ag Academy, Shoreview
2. Transition High School, White Bear Lake Township

3. Bamber Valley Elementary, Rochester
4. Glacier Hills Elementary, Eagan
5. Cedar Park STEM Academy, Apple Valley
6. Garlough Elementary, West St. Paul
7. A Chance to Grow/Jane Goodall High School, Silver Creek Township

Continued discussions and support for establishing a School Forest with:

1. River's Edge Academy, St. Paul
2. Proctor Bay View Elementary – expansion on existing site
3. Natural Science Academy, St. Paul Park
4. American Indian Magnet School, St. Paul
5. Dowling Elementary, Minneapolis

2. School Forest Committees established:

1. The Rockford School Forest Committee involves teachers, a school naturalist (as a result of School Forest work!), and is lead by two teachers who are on part-time sabbaticals/TOSAs to coordinate outdoor and environmental education efforts.
2. Great River Como Woodlands School Forest Committee is comprised of City of St. Paul staff, students, teachers and parents. There is high student involvement in planning and site activity.
3. Oneka-Hugo School Forest committee includes teachers from both Oneka and Hugo elementary schools, local SWCD staff, local business owners, principals, & ground staff. Both Oneka and Hugo Elementaries share the same School Forest Committee.
4. Crossroads School Forest Committee involves lead teachers from both the Montessori and regular elementary schools, vice principal, and City of St. Paul staff.
5. Dowling School Forest Committee is led by several highly engaged and active parents and includes a few teachers and the principal. Currently working with the City of Minneapolis to increase participation for management and planning on this important remnant forest in a highly urban area.
6. Hugo Elementary shares a School Forest Committee with Oneka Elementary, see #3.
7. Triton School Forest Committee involves both the agriculture and science departments and school principal.
8. American Indian Magnet Big Urban Woods School Forest has a small committee of teachers that work with Ramsey County, a very active community volunteer base, and the School Forest Committees from Concordia Creative Learning Academy and City Academy (who also use the same site). Currently, this larger Big Urban Woods School Forest Committee is focusing on establishing a



framework, calendar, and meshing varying education and management objectives for the site.

3. To date, 3 School Forests have Forest Management Plans or Natural Resource Stewardship Plans. All plans follow the DNR Stewardship Management Guidelines.
  1. Miltona
  2. Great River Como Woodlands
  3. Crossroads Como Woodlands

The following School Forests have management plans in development or awaiting assistance from a DNR or local forester on plan development:

1. Triton School Forest
2. Big Urban Woods, for all three schools
3. Dowling School Forest
4. Hugo-Oneka School Forest
5. Trinity Lone Oak School Forest

#### **Result Status as of December 2012:**

1. In total, 15 new School Forests have been established. See attached, updated map of current School Forest locations for statewide site distribution.

New School Forests established between August 1, 2012 and December 31, 2012:

1. Glacier Hills School Forest in Eagan will use the 4.05-acre wooded area and field (current prairie restoration project) on school grounds.
2. \*Transitions Bellaire School Forest. This grade 7-12 school serves high-needs students. They will use the adjoining 9-acre Bellaire Park, owned by White Bear Lake Township, that contains wooded trails and a wetland. Plans are underway to transform an abandoned tennis court into an outdoor classroom/meeting area, using a Project Learning Tree grant.
3. \*Concordia Creative Learning Academy – CCLA is an inner-city charter school. School Forest activities have helped engage students and improve science test scores. CCLA is using the 5-acre Big Urban Woods School Forest, managed by Ramsey County. CCLA School Forest was designated last spring but was mistakenly left off in previous progress reports.

\* Designates sites requiring a Joint Powers Agreement for the school to use land owned by another entity – city or county land. JPAs involve an extensive amount of staff time to facilitate, but allow the school and landowner to clear up liability, use expectations, etc at the beginning of the partnership.

Gave presentations and involved in detailed discussions to establish a School Forest with:

1. Murray Junior High, St. Anthony Park
2. Hugo Elementary, Hugo (to designate additional property near Hugo Elem as their School Forest)
3. Robbinsdale School of Engineering, Arts, and Mathematics, in Golden Valley
4. Merritt Elementary, Mountain Iron
5. Twin Oaks Middle School, Prior Lake
6. Edgewood, Moundsview
7. Duluth East High School, Duluth
8. Lester Park Elementary, Duluth
9. Proctor Middle School, Duluth
10. Edgewood STEAM School, Mounds View

Continued discussions and support for establishing a School Forest with:

1. Garlough Elementary, West St. Paul
2. Glacier Hills Elementary, Eagan
3. Cedar Park Elementary, Apple Valley
4. River's Edge Academy, St. Paul
5. Proctor Bayview Elementary – expansion on existing site

2. To date, 15 School Forest Committees have been established, including the five committees that were established during this reporting period:

1. Lakewood School Forest – the current committee consists of most of the teachers and the principal. Plans are underway to involve parents on the committee.
2. Pine Bend School Forest – the committee has 2 teacher co-chairs who are actively recruiting other interested teachers, parents, and community members.
3. Glacier Hills School Forest – this committee consists of 4 key teachers, the district magnet coordinator, and the principal.
4. Transitions Bellaire School Forest – the committee involves the school principal, district education specialist, school teachers, and lead township planner.
5. Jefferson School Forest – the committee involves the instructional coach, inquiry specialist, administrative intern and school teachers.

3. To date, 5 School Forests have Forest Management Plans or Natural Resource Stewardship Plans. All plans follow the DNR Stewardship Management Guidelines. Plan created during this reporting period:

1. O.H. Anderson School Forest, Mahtomedi

The following School Forests have management plans in development or awaiting assistance from a DNR or local forester on plan development:

1. Triton School Forest
2. Big Urban Woods, for all three schools
3. Dowling School Forest
4. Hugo-Oneka School Forest
5. Trinity Lone Oak School Forest
6. Pine Bend School Forest
7. Dean Mackey School Forest
8. Glacier Hills School Forest
9. Goodridge School Forest

### **Final Report Summary June 2013:**

Twenty-two new School Forest sites, encompassing 256 acres of land, were established during this project. See attached map of site locations. This accomplishment exceeds the target of 15 new sites by 47 percent. The majority of new sites were urban areas. This reflects a growing interest of parents and teachers to connect urban students with nature and to use outdoor education as a means to address the achievement gap. Since the last progress report, School Forests have been established at the following schools:

1. Cedar Park School Forest, Apple Valley
2. Proctor Middle School Forest
3. Edgewood School Forest, Mounds View
4. Duluth East High School Forest
5. Lester Park School Forest, Duluth
6. Mountain Iron School Forest
7. Proctor High School Forest

Each new School Forest in the program has either entered with or recently established an effective and diverse School Forest Committee to provide solid support for site development and student and teacher participation in the future.

- Edgewood School Forest, Mounds View, developed a committee that includes several teachers, the district HR director, a U of M Forestry Professor, a paraprofessional, the principal, and two middle school students. Notably, the site coordinator is an art teacher who understands the importance of using nature to

inspire creativity and design. The School Forest committee has established a great working relationship with maintenance staff and district administration.

- Dowling School Forest, Minneapolis, has a School Forest committee that works closely with the school's Green Team. The committee is made up of parents, community volunteers, teachers, and the school principal. They frequently interact with the district's Science Content Coordinator and school board members to ensure activities meet district needs. Committee members also volunteer onsite with students in the woods.

To promote sustainable site management, all new School Forests are required to work with a DNR forester to create and follow a land management plan. The intended project outcome was to initiate a natural resources Stewardship Plan at 10 sites. At the close of the project:

- five plans have been completed
- five plans are in final development stages, expect completion in fall 2013
- eight sites are in early development or awaiting assistance from a DNR forester to begin

This work and information provided in the Urban School Forest focus groups, has illustrated the need for creation of new land management plan approach to better fit urban School Forest land management concerns. Issues unique to these urban parcels: typically small acreage (less than 20 acres), high invasive species concern, loose/off-leash dogs, high community visibility, higher frequency of vandalism, and significantly high use rates by students and the community.

About 70 percent of School Forests established during this grant period are in urban areas and the School Forest Program continues to receive inquiries from a high percentage of urban schools. There is a need to identify or create a management plan format that addresses the needs of urban School Forests. The traditional Stewardship Plan used by the DNR, U.S. Forest Service, and other partners addresses large acres of land in rural areas that have different management pressures.

A healthy committee is crucial to school engagement with the school forest site. Also, when a site lead leaves or retires, it is crucial that the School Forest Program maintain contact with the school to help the new site lead get up to speed and to make sure that sites continue to have a site lead and committee.

**RESULT 3:** Integrate outdoor environmental education activities into school curricula.

**Description:** There are many fantastic environmental and outdoor education programs that supply activities and lessons for schools to use in School Forests. Common barriers to using these activities are: teacher comfort teaching outdoors; teacher knowledge of materials and how to incorporate them into school curricula; lack of tools and supplies to conduct outdoor lessons. Teachers will learn ways to overcome such barriers through in-person outdoor education trainings. A series of School Forest site-specific workshops and specialized trainings will advance teacher comfort in teaching outdoors, provide access to climate change curriculum, and provide free access to programs such as Project Learning Tree, WILD, and WET. Project Learning Tree (physical environments and forests), WILD (wildlife), and WET (water) are the leading national environmental education activity guides, which are correlated to the Minnesota academic standards, and are designed to help students learn how to think, not what to think, about natural resources. An intensive multi-day School Forest course (residential course at a location like the Cloquet Forestry Center) will provide teachers with appropriate outdoor activities tied to the Minnesota academic standards from all DNR education programs and partner programs. Sessions will include outdoor lesson plans, outdoor recreation skills and connections, outdoor teaching skills, ways to teach about climate change, and outdoor education tools. A significant portion of the course will be dedicated to tying outdoor education lessons into existing school curriculum, so teachers leave with a well thought out action plan to incorporate outdoor education into their regular teaching schedule. School Forest sites will be encouraged to send a team of teachers to the course to promote school-wide approaches. Outdoor education kits will be developed and will contain lesson plans and outdoor education tools (diameter tapes, magnifying glasses, thermometers, etc.). The kits will be designed to allow teachers to “grab and go” outside and engage kids in the outdoors. All activities will be correlated to the Minnesota academic standards. Based on current program enrollment, an estimated 75 School Forest sites, reaching 900 teachers and 18,750 students, will be served directly through activities in result 3.

**Summary Budget Information for Result 3: ENRTF Budget:        \$117,050**  
**Amount Spent:                                \$ 117,050**  
**Bdalance:                                        \$ 0**

<b>Deliverable</b>	<b>Completion Date</b>	<b>Budget</b>
<b>1.</b> Develop and deliver 20 site-specific workshops and specialized trainings. 3 by December 2011 10 by September 2012 20 by June 2013	June 2013	\$42,575
<b>2.</b> Develop and deliver one intensive, multi-day	June 2013	\$33,915

School Forest course.		
3. Develop and distribute 100 outdoor education kits. 10 by June 2012, 75 by June 2013	June 2013	\$38,560

**Result Completion Date: June 2013**

**Result Status as of January 2011:**

Developed and delivered specialized trainings for

- A. Humboldt High School Forest in St. Paul for 70 teachers, August 25-26, 2010. This 2-day, site specific training was focused on ways to tie outdoor education activities with academic standards and state common and formative assessment requirements. Delivered in conjunction with Hamline University and Five Hawk School Forest staff. The training provided a great opportunity to focus on meeting the unique needs of a truly urban, inner-city school with natural resource and outdoor education while meeting academic standards in all disciplines (social studies, math, science, language arts, etc). Humboldt has a large population of students with disabilities and over 70% of their student body is from an underserved audience. Teacher and administrative response to the training was very positive.
- B. Miltona Science Magnet for 15 teachers, August 16, 2010. In lieu of training exclusively for their own staff, Miltona asked for an early childhood focused outdoor workshop offered at Miltona school and was open to schools from the surrounding community. This workshop was offered in conjunction with a one-day workshop sampler of environmental education to support elementary schools. Four of the attending teachers were from Miltona. Miltona School Forest was used as the site for the training and as a result many other teachers had the opportunity to experience the benefits of an outdoor classroom.

**Result Status as of September 2011:**

1. Developed and delivered a specialized river-focused workshop with Project WET for Humboldt High School. This second training was offered because Humboldt educators identified the need to have educational materials focused on their Mississippi River theme as one of their greatest challenges to using their outdoor classroom.

Developed a “How to Teach in Your School Forest” for Baudette School Forest. Unfortunately, due to a staff medical emergency, this training was canceled. It will be delivered in Spring 2012.

2. No activity.

3. Developed one outdoor education trunk for Baudette School Forest. But delivery was canceled – see above. Will be delivered in Spring 2012.

Coordinated delivery of classroom sets of field desks made by DNR Volunteers to the following schools:

1. Princeton School Forest
2. Linda Mickelson Outdoor Learning Center (Red Lake Falls)
3. Frazee School Forest
4. Waubun School Forest
5. St. David's School Forest (Minnetonka)
6. Bagley School Forest
7. Stillwater Area Environmental Learning Center
8. The Hidden School Forest (Prior Lake)
9. Baudette School Forest

A photo of the field desks is attached. These wooden field desks are an excellent tool to allow students to carry and use writing materials in their school forest. And they make a decent stool for smaller students when a break is necessary.

**Result Status as of July 2012:**

1. Six site-specific trainings were developed and delivered between October 1, 2011 and July 31, 2012. Each training is designed to meet staff needs, make best use of site features, and address any special natural resource or land use considerations (e.g., community recreation, boy scout or master gardener involvement). Two main formats were developed:

- A. "How to Teach in Your School Forest" Workshop – full-day site-specific event with significant outdoor delivery time involving instruction on best practices for outdoor education, integration with Minnesota Academic Standards, Project Learning Tree Guide, meet your DNR forester, and other components.
  1. Floodwood School Forest
  2. City Academy Big Urban Woods School Forest, St. Paul
  3. Bay View School Forest, Proctor – delivered 2, one-day trainings to accommodate staff
  4. Lake of the Woods School Forest, Baudette
  5. Trinity Lone Oak School Forest, Eagan – part 1 of two part training, part 2 scheduled for Feb 8, 2013 to finish up training.
- B. School Forest Session – specialized 2-4 hour training.
  6. North Shore Community School in Duluth. Training was designed to share additional activities to augment the work that is already occurring.

Site-specific trainings in reporting period: 6

Total trainings to date: 8

Teachers reached through site-specific trainings in reporting period: 85

Total teachers trained to date: 200

Connection to other ENRTF projects:

A. Minnesota Department of Education's (MDE) Environmental and Outdoor Education Project

- Developed and delivered a half-day training on teaching outdoors for MDE's Environmental and Outdoor Education Project during their December 2011 main workshop. Three of six MDE grantee schools are School Forest sites.
- Developed and delivered one short session on outdoor education, School Forest and DNR education resources at MDE 2012 Environmental and Outdoor Education summer series. Anticipate delivery of 3 more short sessions.

B. City of St. Paul Como Woodlands Outdoor Classroom Project

- Worked with City of St. Paul staff and Como Woodlands Advisory Committee member to recruit schools to establish a School Forest at Como Woodlands Outdoor Classroom. This initiative took quite a bit of effort, but resulted in a strong partnership with the City of St. Paul and a better understanding of desired site use.
- To date, two schools have established Como Woodlands as their School Forest:
  - Crossroads Elementary
  - Great River Academy (high school)
- Students either walk or take the city bus to Como Woodlands and use the site as an enhancement to activities conducted on their school grounds. Great River Academy is investigating option for mentoring and teaching at Como Woodlands with Crossroads students.

2. No activity.

3. Outdoor education kits

School Forest Specialist designed and developed contents for outdoor education kits. Each kit is equipped with a base kit with tools and activities applicable for all sites.

School Forest site coordinators choose additional items to round out the trunks with items most useful for their particular site.

Assembly of the 75 outdoor education kits began in July 2012 and will be completed in fall 2012. Delivery of outdoor education kits will begin in Fall 2012 and be completed by June 2013.

School Forest Base Kit:

- Plastic storage trunk
- Full PLT activity: "We All Need Trees" (includes lesson plan and all materials needed to do activity: variety of tree products)
- Full PLT activity "How Big is Your Tree?" (includes lesson plan and all materials needed to do activity: 15 rulers, class set of laminated student tree measurement sheets)



- Full PLT activity “Tree Cookies” (includes lesson plan and all materials needed to do activity: 12 assorted tree cookies, paper plates)
- Class set (25) of “Minnesota’s Forests and Trees: A Primer”
- Class set (25) of Beginner’s Guide to Minnesota Trees
- Class set (25) of Adopt a Tree journal
- Class set (25) of magnifying lenses

Additional Items that site coordinators may choose to round out kit:

- Class set (25) of binoculars
- Minn. PLT early childhood activity guide
- Minnesota tree identification books
- Woodworking/Landscaping for wildlife book set
- Clinometer (forestry tool used to measure tree height)
- Class set clipboards
- Compasses
- Diameter tapes (forestry tool used to measure tree diameter)
- “Minnesota: A History of the Land” DVD
- First Aid Kit
- Increment borer (forestry tool to age sample trees)
- Class set (25) of measuring tapes
- Durable metal tree/plant identification tags
- Flagging tape
- Air/Water thermometers
- Soil Thermometers

Note: All items have been ordered for kits, but billing and payment is not finalized. Majority of costs for this deliverable will present on next progress report.

#### Field Desks

In total, 22 classroom sets of field desks have been made and delivered to Minnesota School Forests.

Coordinated delivery of classroom sets of field desks made by DNR Volunteers to the following schools between October 1, 2011 and July 31, 2012:

1. Aitkin School Forest
2. Linwood School Forest
3. Pillager School Forest
4. Pine River School Forest
5. Trailview School Forest, Mora
6. Milaca School Forest
7. Lakewood School Forest, Duluth
8. Floodwood School Forest

- 9. Bay View School Forest, Proctor
- 10. Stonebridge School Forest, Stillwater
- 11. County Line School Forest, Mora
- 12. Cromwell School Forest
- 13. Bailey School Forest, Newport

**Result Status as of December 2012:**

1. To date, 18 “How to Teach in Your School Forest” trainings have been delivered at School Forest sites. Between August – December 2012, the following sites received a training:

- A. “How to Teach in Your School Forest” Workshop – full-day site-specific event with significant outdoor delivery time involving instruction on best practices for outdoor education, integration with Minnesota Academic Standards, Project Learning Tree Guide, meet your DNR forester, and other components.

- 7. Transitions Bellaire School Forest, White Bear Lake Township
- 8. Rockford School Forest, Rockford

7. School Forest Session – specialized 2-4 hour training.

\* Miliona School Forest – 2<sup>nd</sup> training for this site, does not count toward total number of trainings.

- 9. Linwood School Forest, Forest Lake
- 10. Como Woodlands School Forest, Crossroads Elementary, St. Paul
- 11. Bay View School Forest, Waconia
- 12. St. David’s School Forest, Minnetonka
- 13. Lakewood School Forest, Duluth
- 14. Oneka-Hugo School Forest, Oneka Elementary, Hugo – part 1 of two-part training, part 2 scheduled for April 2013.
- 15. Oneka-Hugo School Forest, Hugo Elementary, Hugo – part 1 of two-part training, part 2 scheduled for April 2013. Two school share the same School Forest, two trainings initiated
- 16. Pine Bend School Forest, Inver Grove Heights

Site-specific trainings in reporting period: 11

Total trainings to date: 18

Teachers reached through site-specific trainings in reporting period: 234

Total teachers trained to date: 434

2. A two-day, intensive School Forest course is planned for Feb. 5-6, 2013 at Cloquet Forestry Center. The goal of this event is to empower School Forest leaders to become more self-sufficient and give them tools to advance their School Forest and engage

other teachers. We are encouraging groups of 1-4 teachers from each School Forest to attend so that teams can actively strategize and advance their own School Forest.

This course consists of general sessions, short classes, and facilitated networking and team work time. All topics were carefully selected to reflect teachers' highest needs and concerns as identified through the online survey, conversations, and meetings. Topics include: leadership, committee building, how to teach outside, specialized teaching outside in to an urban audience, assessing needs and finding funding, how to get and use a stewardship plan to improve your School Forest, activity sharing, and using digital photography to engage learning. In addition to the sessions, significant time is reserved for teacher teams to discuss and strategize next steps for their School Forest, and for participants to actively network and share ideas and outdoor activities.

The Cloquet Forestry Center is an ideal location because it is located near many School Forests, is easy to drive to from the Metro area, provides on-site meals and lodging, has easy access to demonstration forests, and is an academic campus with their own school forest.

### 3. Outdoor Education kits assembled and delivered to:

1. Pike Lake School Forest
2. Lakewood School Forest
3. Bayview School Forest, Proctor
4. Pine Bend School Forest, Inver Grove Heights
5. Transitions Bellaire Park School Forest, White Bear Lake Township
6. Westwood Hills School Forest, Blaine
7. Pillager School Forest, Pillager
8. Baudette School Forest
9. Parkview Center School Forest
10. Floodwood School Forest
11. Forestview School Forest
12. Five Hawks School Forest, Prior Lake
13. Scenic Heights School Forest
14. Hidden School Forest, Prior Lake
15. Milona School Forest
16. Becker Big Woods, St. Michael-Albertville
17. Rockford School Forest
18. Oak Grove School Forest, Bloomington

### Field Desks

In total, 30 classroom sets of field desks have been made and delivered to Minnesota School Forests. Coordinated delivery of classroom sets of field desks made by DNR Volunteers to the following schools between July 31 and December 31, 2012:

1. Brownsdale School Forest

2. O.H. Anderson School Forest, Mahtomedi
3. New Visions School Forest, Minneapolis
4. Dowling School Forest, Minneapolis
5. American Indian Magnet School, St. Paul
6. Royalton School Forest
7. Concordia Creative Learning Academy, St. Paul
8. Bay View School Forest, Waconia

### **Final Report Summary June 2013:**

In total, 21 site-specific workshops were delivered during this project. All trainings were delivered at the School Forest site and focused on ways to teach outside. Trainings were customized to fit the needs and concerns of each school's staff. Anecdotally, participants seemed to gain the most knowledge from time spent actually doing the activities outdoors (in varying weather), discussing or demonstrating outdoor classroom management, and addressing teacher personal comfort working with kids outdoors. Workshop delivery times varied based on school needs and availability. About half of the sites, 48 percent chose a full day workshop involving six to eight hours of instruction. The remaining workshops were two to four hours in length, typically delivered after school, and had less outside delivery components. Workshops completed since the last progress report were conducted at:

17. Greenway School Forest, Coleraine
18. Oak Grove School Forest, Bloomington
19. Frazee-Vargas School Forest,
20. American Indian Magnet Big Urban Woods School Forest, St. Paul
21. Chaska School Forest

By and large, the trainings were a positive experience for school staff. Evaluations indicate that most participants' comfort levels teaching outdoors increased as a result of their workshop experience. Project Learning Tree, Project WILD, and/or other natural resource education materials were provided at workshops. Being able to leave the training with curriculum materials tied to Minnesota academic standards was of value to participants and will increase the likelihood of teachers replicating the activities with their students. In total, 523 teachers participated in trainings statewide.

Many of the "full day" workshops, consisting of six to eight hours of instruction, were delivered over multiple days. Multi-day trainings allowed teachers opportunities to practice taking student outdoors in between visits from School Forest staff. "More is better" is a guiding principle of professional development. Long-term sustainable

professional development, rather than one-shot workshops, is needed to change teacher behavior and attitudes and ultimately student performance.

The School Forest Summit and regional trainings provided site coordinators from different schools the opportunity to network, share ideas and activities, and respond directly to teaching concerns, such as testing requirements and time limitations.

In total, 100 outdoor education kits were delivered to School Forests. Seventy-five kits were focused on exploring a School Forest using natural resource tools and activities in science, math, and language arts. An additional 25 kits provided activities and resources to explore plants and soils in a School Forest. The outdoor education kits included a variety of tools, materials, and lesson plans to allow teachers to “grab and go” outside with minimal prep time. This need was identified in the School Forest survey and was a focus of the last 25 soil investigation kits developed and distributed in 2013. For teachers new to or unsure about taking students outdoors to learn, the kits provided the opportunity to do an activity with the proper tools, following a lesson plan that meets Minnesota academic standards in math, science, or social studies. Such support pieces allow the teacher to focus prep time on how to best deliver the lesson and not waste time on gathering appropriate tools and materials. All of the 22 new School Forest sites received at least one of the outdoor education kits. All materials distributed in the kits were adorned with the proper ENRTF logo on permanent labels whenever possible. School Forest staff plan to survey School Forest teachers regarding the use of outdoor education kits in the future to better understand the real use of the materials and improve the resources provided.

**Result 4: Identify Long-term Sustainability Plan**

**Description**

This project will give staff the opportunity to investigate internal and external options to ensure long-term sustainability for the School Forest Program. Staff will engage leaders from the Division of Forestry and other lead education divisions within the DNR (Parks and Trails, Wildlife, etc.) in discussions regarding strategic support for the program. Staff will meet with external partners to investigate potential government-private partnerships to best support the program, such as universities, environmental education no-profits and foundations.

<b>Summary Budget for Result 4:</b>	<b>ENRTF Budget:</b>	<b>\$8,900</b>
	<b>Amount Spent:</b>	<b>\$ 8,900</b>
	<b>Balance:</b>	<b>\$ 0</b>

<b>Deliverable</b>	<b>Completion</b>	<b>Budget</b>
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	<b>Date</b>	
1. Meet with internal education partners, identify potential “home” for program.	June 2013	\$3,000
2. Meet with external partners, identify substantial supporters and potential long-term partnerships to provide for ongoing program support.	June 2013	\$1,900
3. Develop a long-term support plan to keep the School Forest Program viable for future generations.	June 2013	\$3,000

**Result Completion Date: June 2013**

**Result Status as of January 2011:** Not applicable, result 4 added in July 2011.

**Result Status as of September 2011:**

1. Developed a project definition and plan to establish an internal Forestry Education Transition Group following the DNR Projects System. The group will examine options for an internal home for School Forest and Project Learning Tree. While both programs are highly valued within the DNR, the Division of Forestry is focusing efforts on core programs that are not specific to education.

2. Preliminary discussions with U.S. Forest Service staff were had regarding the future of the School Forest Program.

3. No activity

**Result Status as of July 2012:**

1. Continued internal conversations regarding options for School Forest and Project Learning Tree Program. Formal project scoping options has not begun yet.

2. No additional activity. Anticipate activity on deliverable during next reporting period. Majority of staff time has been dedicated to Goals 1-3, in keeping with teacher needs and interest.

3. No activity. Anticipate activity on deliverable during next reporting period. Majority of staff time has been dedicated to Goals 1-3, in keeping with teacher needs and interest.

**Result Status as of December 2012:**

1. Continued discussion with Division of Forestry Management Team regarding short-term funding options and long solutions to support School Forest and Project Learning Tree programs. Submitted two grant applications as short-term funding options.

2. No additional activity. Majority of work under this result has been focused on deliverable 3.

3. Coordinating solutions to potential land ownership changes as a result of Minnesota State Statute 282. This statute addresses conveyance of tax-forfeited parcels. Recent changes to *M.S. 282* have resulted in the following challenges to the School Forest Program:

- All tax-forfeit conveyed land owned by a governmental sub-unit (e.g. city or school) for at least 30 years shall be considered held in free clear title as of January 1, 2014.
- All tax-forfeit conveyance – for any reason – must be sold at market value.
- Reverter restrictions requiring tax-forfeit conveyed lands returning to county were removed.

There are 44 existing School Forest parcel affected by *M.S. 282*, and one project currently on hold as a result of the changes.

The changes to *M.S. 282* present the following challenges to long-term School Forest viability:

- Of the 44 existing tax-forfeit conveyed School Forest parcels, 38 will have no restrictions, obligations, or revertors on January 1, 2014 because they have been owned by the school district for at least 30 years. This means the school district can whatever they like with the land, but the sites in jeopardy.
- Looking to the future: County Boards are hesitant to convey any land to a school district if they will own clear title to the land (no restrictions or revertors) after 30 years. This means a district could sell the land or build on it as they see fit.
- School Districts will have to pay market value for future School Forest parcels, instead of the previous nominal processing fee.

The School Forest Program manager has been leading a DNR effort to fix the misintended changes to *M.S. 282*. Changes to *M.S. 282* and *M.S. 89.41* (School Forest statute) are anticipated during the spring 2013 legislative session.

### **Final Report Summary June 2013:**

Throughout the course of discussions with internal and external partners, the School Forest Program was identified as a high-value education program – something that is unique to Minnesota, provides maximum benefit for natural resource education, and is applicable to all students. Such discussions furthered the DNR's interest in retaining the School Forest Program. Moving forward, the DNR will continue to support the School Forest Program within the Division of Forestry.

Statutory concerns regarding tax-forfeited parcels were resolved and appropriate changes to *Minnesota Statutes*, chapters 89.41 and 282.01 were made. Note: ENRTF funding was not used to support legislative interaction on this activity.

## **V. TOTAL ENRTF PROJECT BUDGET:**

Estimated amounts for deliverables are listed below. Amounts may vary per deliverable/task but will not exceed total budget for the category.

**Personnel:** Total: \$240,250

School Forest Program Manager, salary and benefits: 0.75 FTE for 2 years = \$95,900

School Forest Specialist, salary and benefits: 1 FTE for 2 years = \$118,000

School Forest Specialist, salary: .75 FTE for 1 year = \$26,350, remainder of salary provided by DNR

**Equipment/Tools/Supplies:** Total: \$51,950

20 Site Specific Workshops and Specialized Trainings and focus groups: \$11,700

Includes: PLT, WILD, and WET guides, handouts, teaching supplies for facilitator (field guides, thermometers, etc.)

1 Multi-day residential School Forest Course: \$13,500

Includes: overnight expenses (lodging and food), curriculum guides, handouts, teaching supplies for facilitators (increment borer, clinometers, etc)

100 Outdoor Education Kits: \$26,750

Includes: bin, lesson plans, and teaching tools to conduct lessons (magnifying glasses, diameter tapes, thermometers, etc.)

**Acquisition (Fee Title or Permanent Easements):** \$ 0

**Travel:** \$7,000 in Minnesota

Travel expenses for DNR staff to: meet with school staff and administration, school boards, and School Forest Committees regarding startup and maintenance of site; site-specific workshops; specialized trainings; and setup and delivery of multi-day School Forest course.

Travel includes food and lodging estimates, where appropriate for overnight trips to meet with schools a great distance from office. Majority of travel cost is mileage.

**Additional Budget Items:** \$800

Other Direct Costs: \$800

Booth fees to attract new schools to the School Forest Program: \$100

Mailing for distribution of outdoor education kits, lesson plans, etc.: \$700

**TOTAL ENRTF PROJECT BUDGET: \$300,000**

**Explanation of Capital Expenditures Greater Than \$3,500:**

## **VI. PROJECT STRATEGY:**

### **A. Project Partners:**



Staff from the University of Minnesota Extension Service, Minnesota Pollution Control Agency, the Minnesota Association for Environmental Education, and many environmental learning centers will assist with delivery of workshops and trainings. City, county, and U.S. Forest Services natural resources staff will assist with School Forest site development and maintenance. Over 100 Minnesota school districts will participate in the project to provide local on-site support and site management. This request does not include funding for these partners.

## **B. Project Impact and Long-term Strategy:**

This project provides a solution to nature deficit disorder. Approximately 28,000 students and 1,200 teachers throughout Minnesota will have frequent outdoor learning experiences in nearby nature. Students will learn core subjects (math, science, social studies) through the lens of nature in their School Forests. Repeat visits to School Forests will promote a sense of identity in and connection to nature for both students and teachers, thus creating current and future natural resource stewards.

The School Forest Program began in 1949, through a legislative statute. The Minnesota DNR has invested many resources into the creation and maintenance of School Forests throughout the state and plans to continue to provide support for decades into the future. All School Forests served and created through this project will be able to rely on the DNR as a backbone of program support. The DNR has committed to providing the following services to all School Forests in good standing:

- Support mailings
- Forester and education staff assistance
- Education materials and workshops for teaching outdoors
- Program Web site and handbook
- Natural Resource Stewardship Plans
- Forestry education updates & other communication
- Conference or other networking/development opportunities

In addition, the School Forest Program model establishes strong local School Forest Committees that will provide site support for many years to come. By entering the School Forest Program, schools commit to the following responsibilities:

- Conduct at least 5 educational activities annually
- Submit an annual report
- Provide a School Forest Committee and Site Coordinator
- Provide appropriate funding to support site activities
- Follow recommendations outlined in Stewardship Plan
- Designation of site land use for outdoor classroom purposes
- Secure ownership of land or a management agreement with land owner indicating conditions of use that meet School Forest Program criteria

In Summary, DNR and local school staff and School Forest Committee members work together to keep the site running and ensure children are experiencing nature.

**C. Other Funds Proposed to be Spent during the Project Period:  
DNR In Kind**

DNR Web Support (.15 X 2 yrs)	\$24,375.00
DNR: Natural Resources Stewardship Education Coordinator (.10 X 2 yrs)	\$16,250.00
DNR Ed Staff (.15 X 2 yrs) curriculum & workshop delivery	\$24,375.00
Local DNR Staff (.06 X 2 yrs) site management & land acquisition	\$ 10,000.00
Contract consultant foresters site management & stewardship plans	\$10,000.00
Teacher Support Teacher substitute stipends, school forest conference/summit expenses, additional school forest course expenses	\$20,000
Forestry Management Staff (.05 X 2 yrs) Support for Result 4	\$8,125
DNR For Ed Staff (.5 X 1 yr)	\$ 40,625.00
Travel	\$10,000
Printing	\$500
Booth fees	\$500
School Forest Specialist (.75 X 1 yr)	\$10,000

**DNR In Kind \$174,750**

**DNR Governance & Shared Services \$50,375.00**  
 (1.75FTE X \$81250/FTE X 2 yrs) - (\$234000 grant salary covered)  
 Actual DNR Governance & Shared Services as of  
 September 2011 \$22,181.00

**Other In Kind \$110,000.00**

School, community, business, parent support  
(\$50/hour X 100/hrs/site X 22 sites)

**D. Spending History:** None

## **VII. DISSEMINATION:**

This project will expand and enhance the Minnesota School Forest Program Web site ([www.mndnr.gov/schoolforest](http://www.mndnr.gov/schoolforest)). Information and tools created by the project will be available at this Web site.

Presentations at 2 state and 1 national education conferences are planned.

Results will be promoted to the public through news releases. Targeted articles for educators and natural resource staff promoting and explaining the project will be submitted to appropriate education and natural resource magazines and newsletters.

### **Status as of January 2011:**

1. Let's Focus on EE Workshop, Miltona, MN August 16, 2010. One-hour "How to Set Up an Outdoor Classroom" presentation to approximately 40 people.
2. National Green Schools Conference, Minneapolis, MN October 12-16, 2010. One-hour "Outdoor Classrooms and School Forests" presentation to approximately 30 people. School Forest booth exhibit providing interaction with over 700 people. Event provided a good opportunity to show case outdoor classrooms in front an audience that traditionally thinks of "green education" as just green buildings and energy! School Forest booth exhibited at full conference.

### **Status as of September 2011:**

1. Minnesota Science Teachers Conference, Mankato, MN, April 1, 2011. One-hour "How to Set Up an Outdoor Classroom" presentation to approximately 15 people. School Forest booth exhibited in conjunction with DNR Education booth at full conference.
2. Midwest Environmental Education Conference, Rochester, MN, April 9, 2011. One-hour "Meeting Outdoor Classroom Challenges" interactive session designed to engage teachers at existing School Forests in a problem-solving dialogue around common outdoor classroom challenges. Session attendance: 12. School Forest booth exhibited in conjunction with DNR Education booth at full conference.
3. "Big Urban Woods Will Be Outdoor Classroom" article in St. Paul Pioneer Press, April 22, 2011.

### **Status as of July 2012:**

1. Education Minnesota, St. Paul, MN October 2012. One-hour "Outdoor Classrooms" presentation to approximately 25 educators. School Forest booth exhibited in conjunction with MN DNR booth.

2. Minnesota Association of Agriculture Educators/FFA Conference, January 2012, St. Cloud, MN. Two-and-a-half hour “Forestry and Outdoor Classrooms” workshop presented to approximately 70 middle and high school teachers.
3. Minnesota Science Teachers Association Conference, March 2012, Duluth, MN. One hour “How to Set up an Outdoor Classroom” presentation to approximately 50 people. School Forest booth exhibited in conjunction with MN DNR booth.
4. Minnesota Association for Environmental Education Conference, June 2012, Itasca State Park, MN. Conference opening session to approximately 100 people. School Forest booth exhibited.

**Status as of December 2012:**

1. Education Minnesota Conference. Oct 18, 2012. Presented “Teaching Outdoors: Getting Started,” a one-hour presentation, to approximately 60- teachers. Booth exhibited in conjunction with DNR Education booth.
2. St. Paul Public School teachers attending Outdoor Education course at Belwin Environmental Learning Center, August 2012.
3. Environmental and Outdoor Education workshop at Como Park, August 2012. Support for Minn. Dept. of Education current ENRTF grant on Outdoor and Environmental Education.
4. Newport Bailey School Forest constructed an outdoor teaching pavilion and sponsored a fun walk. Coverage appeared in the *South Washington County Bulletin* on September 18, 2012.
5. An article, “School Forest Adapts to Forces of Nature,” appeared in the *Bemidji Pioneer* on August 3, 2012. The story focuses on how the Horace May School Forest is cleaning up after the July blowdown.
6. Governor Dayton [highlights the School Forest Program](#) as one of 11 big accomplishments that helped students and teachers achieve the education and skills needed to succeed in a global economy. December 2012.
7. Press releases distributed for Glacier Hills School Forest Nov.15, 2012, Oneka-Hugo School Forest March 5, 2012, Crossroads School Forest August 15, 2012.
8. Rob Marohn was awarded [2012 Formal Environmental Educator of the Year](#) from the Minnesota Association for Environmental Education. Mr. Marohn was nominated by School Forest program staff-- much of the award was based on his efforts to advance the Bay View School Forest. Coverage of this award and Rob’s work appeared in School Forest and MAEE communications, the *Proctor Journal* on February 27, 2012.
9. *White Bear Press* featured an article on February 14, 2012 about students participating in a horse-logging demonstration at the O.H. Anderson School Forest in Mahtomedi.

10. "Volunteers Deliver Field Desks to Pine River-Backus," appeared in the *Lake County Echo* and *Pine City Journal* on May 2, 2012. Volunteers constructed and delivered 25 field desks to use in the Pine River-Backus School Forest.
11. UPM Blandin and Lion's Club plant over 5,000 tree seedlings with area fourth graders [Grand Rapids Herald](#) May 2012.
12. "School Forest Takes Shape," appeared in the *Quad City Press* on April 24, 2012. This article focused on students planting trees at the Centennial School Forest in Lino Lakes.
13. "Oneka Establishes a School Forest" appeared in the *The Citizen* on March 14, 2012 and on the KSTP website on March 8, 2012.

### Final Report

Activities and events from this project were covered in dozens of articles and website postings/blogs, and presented at several education conferences. The listings included in this section are not exhaustive, but represent major dissemination activities.

Below is a list of dissemination activities between January-June 2013.

1. Outdoors notes: Seeing the forest and the trees," *The Post-Bulletin, Rochester*, Jan. 3, 2013.
2. ["DNR touts its school forest success rate," DL-Online](#), Jan. 4, 2013.
3. "Duluth fifth-graders develop official school forest," *Duluth News Tribune*, Jan. 15, 2013.
4. "School Forest sought for Lester Park School in Duluth," *Duluth News Tribune*, Jan. 16, 2013.
5. Karl Kaufmann awarded "Formal Environmental Educator of the Year" from the Minnesota Association for Environmental Education. Mr. Kaufmann was nominated by School Forest program staff because of his work running the Pillager School Forest. Coverage of this award and Karl's work appeared in School forest and MAEE communications, and the [Staples World](#) and [Crow Wing Current](#), March 7, 2013.
6. "Crossroads Elementary Makes Como Woods 'Outdoor Classroom'," *Midway Monitor*, April 2013.
7. ["Edgewood Middle School Establishes 125<sup>th</sup> Minnesota School Forest," KSTP.com](#), June 4, 2013 and *Minnesota Ag Connection*, June 6, 2013.
8. "Jefferson's School Forest grows with help from students, Target, DNR, Smokey Bear," May 9, 2013, *Anoka-Hennepin School District*
9. ["Mountain Iron School Forest Established," WDIO.com](#), May 31, 2013.
10. ["Edgewood Middle School celebrates School Forest," Sun-Focus](#), June 18, 2013
11. 4<sup>th</sup> graders learn about forest management, *Stewardship newsletter*, Minn. Department of Natural Resources, Spring 2013

12. [“What Teachers Need to be More Active in the School Forest Program,”](#) session presented at Minn. Assn. for Environmental Education Conference, June 14, 2013
13. “School Forests: Outdoor Classrooms for Schools” learning lab presented at National Agriculture in the Classroom Conference, June 28, 2013.
14. [“20-minute interview about Bailey School Forest,”](#) *River Cities June 2013*, South Washington County Telecommunications.

**VIII. REPORTING REQUIREMENTS: Periodic work program progress reports will be submitted not later than January 2011, September 2011, July 2012, and December 2012. A final work program report and associated products will be submitted between June 30 and August 1, 2013 as requested by the LCCMR.**

**IX. RESEARCH PROJECTS: N/A**

Attachment A: Budget Detail for 2010 Projects

Project Title: Expanding and Strengthening Outdoor Classrooms at Minnesota Schools

Project Manager Name: Amy Kay Kerber

Trust Fund Appropriation: \$ 300,000

2010 Trust Fund Budget	<u>Revised Result 1</u> <u>Budget April 11,</u> <u>2013</u>	Amount Spent as of June 30, 2013	Balance June 30, 2013	<u>Revised Result 2</u> <u>Budget April 11, 2013</u>	Amount Spent as of June 30, 2013	Balance June 30, 2013	<u>Revised Result 3</u> <u>Budget April 11, 2013</u>	Amount Spent as of June 30, 2013	Balance June 30, 2013	<u>Result4 Budget:</u>	Amount Spent as of June 30, 2013	Balance June 30, 2013	TOTAL BUDGET	TOTAL BALANCE
	Develop and enhance School Forest networking opportunities and support services statewide.			Establish 15 new School Forest sites throughout Minnesota.			Integrate outdoor environmental education activities into school curricula.			Identify Long-term Sustainability Plan				
<b>BUDGET ITEM</b>														
<b>PERSONNEL: wages and benefits</b>														
School Forest Program Manager (.75 FTE)	21,500	21,500	0	45,000	45,000	0	21,500	21,500	0	7,900	7,900	0	95,900	0
School Forest Specialist (.9 FTE)	24,000	24,000	0	61,000	61,000	0	32,000	32,000	0	1,000	1,000	0	118,000	0
School Forest Specialist (.75 FTE, 1 year)	10,000	10,000	0	6,350	6,350	0	10,000	10,000	0	0	0	0	26,350	0
<b>Other direct operating costs</b>														
Mailing: distribution of grant products	0			0	0		700	700	0	0	0	0	700	0
Booth Space at Education Events	0			100	100	0	0			0	0	0	100	0
<b>Printing</b>				0	0		0			0	0	0	0	0
<b>Supplies (list specific categories)</b>														
Site-Specific Workshops and Focus Groups	2,000	2,000	0	0	0		9,700	9,700	0	0	0	0	11,700	0
School Forest Course	0			0	0		13,500	13,500	0	0	0	0	13,500	0
Outdoor Education Kits	0			0	0		26,750	26,750	0	0	0	0	26,750	0
<b>Travel expenses in Minnesota</b>	1,500	1,500	0	2,600	2,600	0	2,900	2,900	0	0	0	0	7,000	0
<b>COLUMN TOTAL</b>	<b>\$59,000</b>	<b>\$59,000</b>	<b>\$0</b>	<b>\$115,050</b>	<b>\$115,050</b>	<b>\$0</b>	<b>\$117,050</b>	<b>\$117,050</b>	<b>\$0</b>	<b>\$8,900</b>	<b>\$8,900</b>	<b>\$0</b>	<b>\$300,000</b>	<b>\$0</b>



# Minnesota School Forest 2012 Survey Report

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April 2013



Minnesota Department of Natural Resources is an Equal Opportunity Employer

Funding for this project was provided by the Environment and Natural Resources Trust Fund.



## **Introduction**

A School Forest is an outdoor classroom where preschool through high school students learn core subjects, such as math, science, social studies, through the lens of the natural world. There are 120 School Forests in Minnesota, comprising over 7,000 acres of land with over 30,000 students and 2,000 teachers participating annually in outdoor education activities. (December 2012). Each site has at least one designated site coordinator who is responsible for main communication with the School Forest Program, managing site activities, and completing the annual report.

To better serve School Forests, in September 2012 a survey was administered to investigate site coordinators' needs related to School Forest committees, land management, administrative support, and teacher engagement. The survey also researched the importance of resources provided in the School Forest Program's website and monthly e-newsletter. School Forest Program staff sought to gather information to improve program resources to better meet the needs of School Forests around the state and to determine differences based on location (urban or rural), grade level, and newness to the program (less than five years).

## **Demographics**

Of the 122 site coordinators<sup>1</sup> who were emailed, 66 began the survey. Six completed less than half of the survey leaving a total of 60 complete surveys, a response rate of 49 percent. Respondents reported their school community location as 62.7 percent rural and 37.3 percent urban/suburban<sup>2</sup> (n=58); 76 percent of sites had been in the School Forest Program for more than five years, while 24 percent have been in the program less than five years (n=59). Half of the respondents considered their schools to be Pre-kindergarten/elementary and the other half middle/high school level (n=58).

The survey population was similar to the total population of School Forest sites. Based on current program enrollment data, the total population consists of 120 sites with 124 site coordinators. Currently 68 percent of sites are located in rural areas and 32 percent are urban. 82 percent of sites have been in the program more than five years, and 18 percent less than 5 years. 54 percent are primarily Pre-kindergarten through eighth grade elementary schools, 45.2 percent are primarily middle/high schools, and 0.8 percent are Universities.

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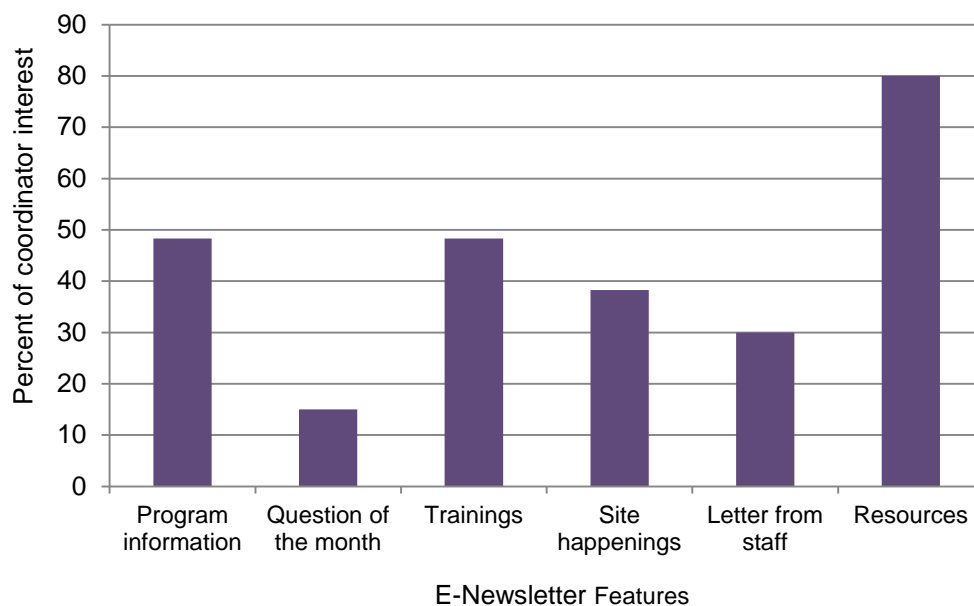
<sup>1</sup> At the time of the survey there were 119 School Forest sites. Three sites were Kindergarten through twelfth grade schools, which had two site coordinators; one for elementary and one for high school, for a total of 122 main site coordinators.

<sup>2</sup> For the purposes of our study the 14 suburban and 8 urban schools were combined for data analysis and will be referred to as urban schools.

## Newsletter

Respondents prefer to have the newsletter sent electronically by e-mail (91.7 percent). A majority prefer it continues to come once a month (70 percent). Most coordinators think the newsletter has importance with 60.4 percent saying it is important to very important and 38.3 percent somewhat important. Only two responded it had little to no importance.

Of the e-newsletter features, coordinators were asked to identify the resources of most interest excluding activities and grant information (Figure 1). Web statistics, site coordinator comments, and other evaluations have indicated these two areas are of high interest. Thus activities and grant info have been, and will continue to be, a major part of program resources and offerings. Most site coordinators valued the *Resources* section of the e-newsletter (80 percent). The *Resources* section contains information on teaching tools, curriculum, and technologies that can enhance outdoor and natural resource education. Information on teacher trainings and general program information were ranked next highest (48.3 percent). In another question, which asked site coordinators what features were of least interest, 50.9 percent chose *Question of the Month*, which was over 20 percent higher than any other feature.



**Figure 1. E-Newsletter Features by Coordinator Interest**

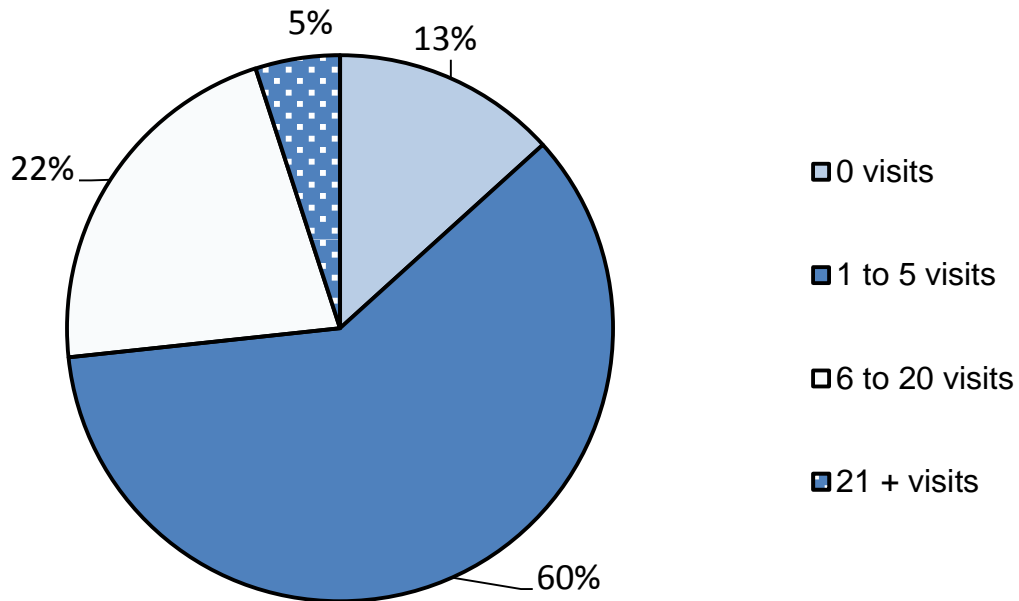
## Newsletter Conclusions and Recommendations

- The newsletter is valued and should continue to be sent monthly by email.
- *Question of the Month* is of least interest and should be removed.
- The *Resource* section is of high interest/importance and high investment in development should continue.

- Teacher trainings and general program information are also of high interest to site coordinators and should continue to be invested in.

## Website

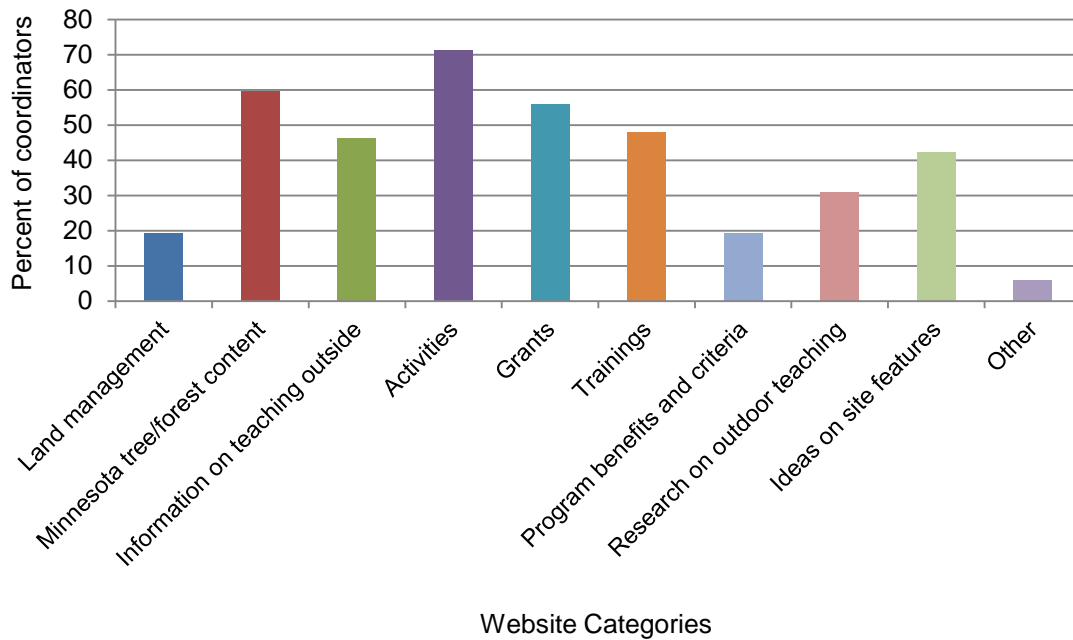
Most site coordinators are using the website five or less times per year (Figure 2). Of the seven respondents who did not visit the website, four stated they did not know about it (three of those noted they were new in the program). Another three participants wrote they did not have time to use the website. The *Coordinator's Section* password protection rarely or never prevents coordinators from accessing it (67.3 percent). Only 6.9 percent have trouble accessing this secured section of the website often (n=58).



**Figure 2. Coordinator Reported Visits to the School Forest Website from September 2011-September 2012**

When using the website, most coordinators (71.2 percent) are seeking outdoor education activities (Figure 3). Over half are using it to gather information on Minnesota trees and forests (59.6 percent) and grant opportunities (55.8 percent). Five coordinators wrote in features that were hard to find/not on the website noting: animal and plant identification, high school curriculum, more wide-ranging activities, and connections to standards and research. It is worth noting that at the time of the survey, the School Forest website did not have a Minnesota forest and trees or site features section. School Forest staff

felt both of these sections were of interest to program participants based on conversations and workshop evaluation comments, and thus they were included in the survey.



**Figure 3. Popular Website Categories**

When asked what else they would like to see on the website, seven coordinators mentioned activities and curriculum including “...Any MN native American resources...to help with new common core English...,” geocache and tree inventory curriculum. Two mentioned having contact information for people. Another two stated the desire for more Minnesota tree and forest information. Two noted site features or happenings and one coordinator mentioned wanting photography of students and stakeholders.

Compared to rural School Forests, site coordinators from urban School Forests had a higher percentage that used the website in these areas: how to teach outside, program benefits, and land management (Table 1).

**Table 1. Difference Between Rural and Urban Site Coordinators Use of School Forest Website.**

Information on the website	Percent of urban coordinators	Percent of rural coordinators	Percent Difference
Land management issues	27.3	10.8	16.5
Information on how to teach outside	63.6	27	36.6
Program benefits and criteria	31.8	8	23.8

More site coordinators from new School Forests used the website to gather information on program information and trainings, while site coordinators at established School Forests had a higher percent interested in Minnesota tree/forest content and research (Table 2).

**Table 2 Difference Between New and Established School Forest Site Coordinator Use of School Forest Website.**

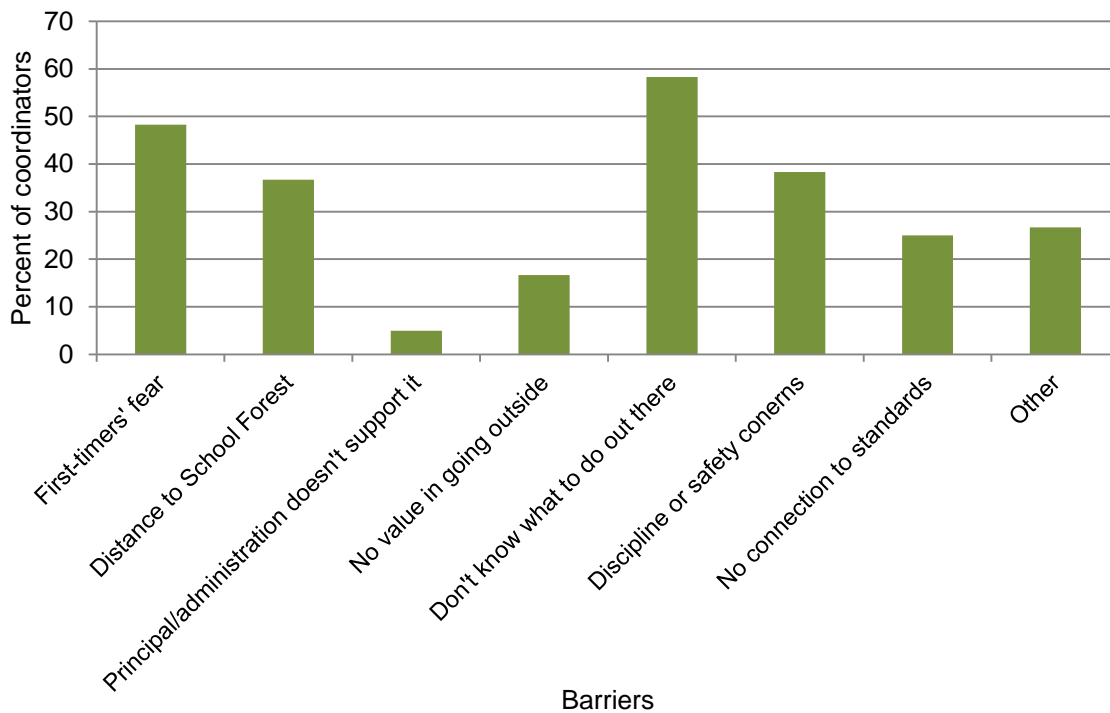
Information on the website	Percent of established sites	Percent of newer sites	Percent Difference
MN tree/forest content	64.9	38.5	26.4
Trainings	45.9	61.5	15.6
Program benefits and criteria	10.8	38.5	27.7
Research that supports outdoor teaching	37.8	15.4	22.4

### Website Conclusions and Recommendations

- The password protection does not prohibit a majority of site coordinators, but should be communicated frequently to new site coordinators.
- Most site coordinators are using the site to find activities, Minnesota tree/forest information and grant opportunities. The *Activity Board* and *Grant* sections should be updated. A survey to determine what Minnesota tree content teachers are looking for should be done to help develop a new website section.
- Almost half of coordinators are looking for information on how to teach outside and teacher trainings. Development and updates should continue in these areas.
- The features teachers are looking for and could not find on the website, or features that have a limited amount of information are: Minnesota tree and forest information, site features (benches, trails, amphitheaters, etc.), and activities/lessons. These should be taken into consideration for future website development.

### Teacher Engagement

Site coordinators estimated the percentage of teachers using the School Forest, which ranged from 0 to 95 percent (mean = 28.5 percent, median = 20 percent). Elementary schools (39.1 percent) have a higher percentage of teachers using the forest compared with middle/high schools (17.2 percent) – almost a 22 percent difference between the two groups. When asked to choose the top three barriers that keep teachers from using the site 58.3 percent responded “don’t know what to do out there” and 48.3 percent chose “first-timers fear” (Figure 4). Administrative support was the lowest perceived barrier (5 percent). Rural site coordinators chose “distance to School Forest” almost twice as often as urban schools. It is worth noting, that school consolidations and location of available tax-forfeited land for School Forest establishment, has left many rural School Forests 5-20 miles removed from their current school buildings.



**Figure 4. Coordinator's Perception of Barriers to Other Teachers Using the School Forest**

Sixteen coordinators wrote in a barrier. Most of the responses were time related (10). Two mentioned that working outside was new to their teachers. There was one comment on all of the following: cost of bussing, poison ivy, logistics, not being easy, "only biologists use it," need more activities, and they're working alone.

Resources to encourage teachers to use the School Forest were ranked by importance (Table 3). Ready-made activities came in first, followed by a naturalist co-leading lessons, and activity correlations with academic standards.

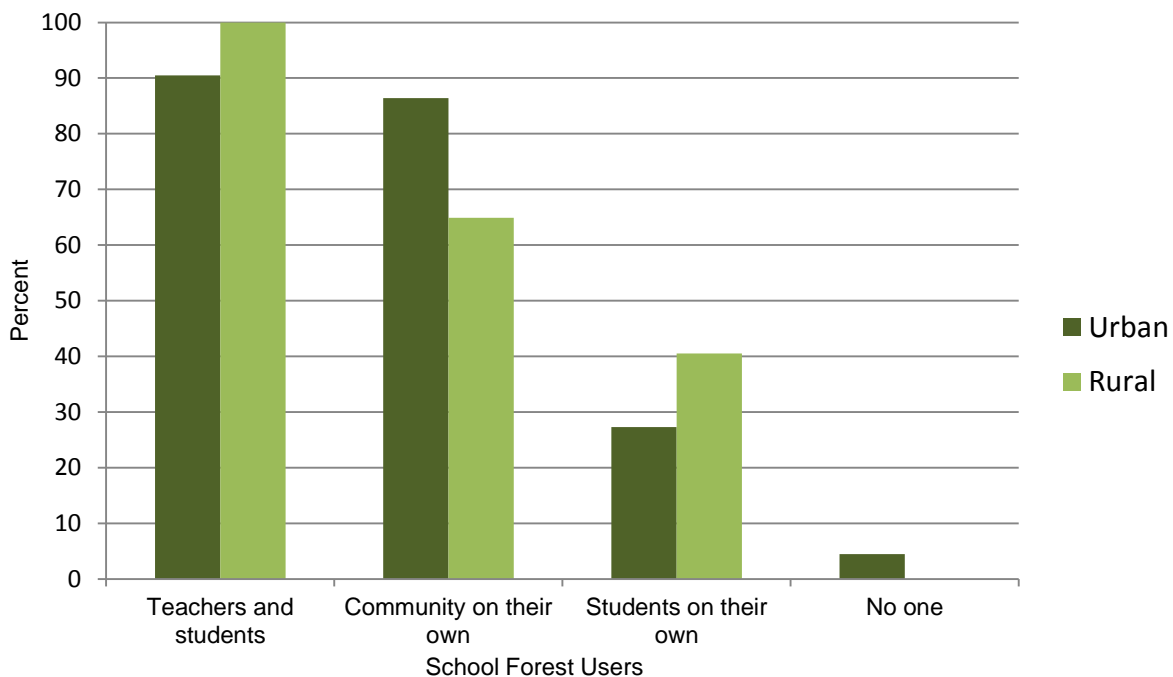
**Table 3. Resources to Encourage Teachers to Use School Forests**

Total score is the sum of all weighted rank counts found using a weighed calculation. Items ranked first are valued higher than following ranks.

Resources to encourage teachers	Total Score	Overall rank
Ready-made activities to do outdoors	340	1
A naturalist to co-lead a few lessons with teachers	260	2
Activity correlations with academic standards	246	3
Site-specific School Forest workshop with outdoor activities	219	4
Better site features: trails, signs, outdoor seating, etc.	190	5
A walk in the woods for teachers led by School Forest staff	149	6
1-2 hour presentation by School Forest staff at a staff meeting	128	7

Coordinators were asked about additional ideas on how to engage teachers. Twenty six responded with topics including: workshop/training (5), help getting teachers outside (3), paid time off to work on School Forest (2), assisting with individual teachers' classes (3), help understanding of how outdoor activities correlate to standards (3), activities and new ideas (2), and more research (2), connections to local individuals (2), administrative support (1), and committee involvement (1).

Coordinators responded that 97 percent of School Forests have teachers using the forest with students. One school responded no one was using the School Forest and another school only had the community using it. Urban sites have a higher percentage of community members (difference of 21.5 percent) and a lower percentage of students using it on their own time (difference of 13.2 percent) (Figure 5).



**Figure 5. School Forest User Types at Time of Survey**

### **Teacher Engagement Conclusions and Recommendations**

- Middle/high schools have a lower percentage of teachers using the forest. The program should continue to develop and obtain higher skilled activities to provide on the *Activity Board* and during workshops, and investigate ways to encourage middle/high school teacher participation.



- Site coordinators perceive the biggest barriers to teachers using the School Forest is not knowing what to do and first-timers' fear. These should be addressed through workshop, newsletter, and website pieces.
- Principal/administration support was the lowest perceived barrier. The program should continue with its current assistance of schools on a case-by-case basis.
- Distance to the forest, discipline, and safety concerns were also high and should be addressed.
- The top three resources to engage more teachers were: Ready-made activities, a naturalist co-leading lessons, and activity correlations with academic standards. Activities and activity correlations should continue to be invested in. The program should consider the naturalist idea and how best to approach schools on the feasibility and necessity of this resource.

## **Administration**

A five point Likert-scale was used to determine administration knowledge and support of the School Forest (1 being knowledgeable or supportive and 5 being not at all). Principals' knowledge of the School Forest site had an average of 2.9 ( $\sigma = 1.2$ ), mostly neutral with only 37.3 percent of coordinators selecting above neutral for knowledge. However, principals' support had an average of 1.8 ( $\sigma = 1$ ) showing most coordinators (72.9 percent) thought that principals had above neutral support for the School Forest. Superintendents were scored similarly. Their knowledge had an average of 2.9 ( $\sigma = 1.1$ ) with only 44.1 percent of coordinators choosing above neutral on knowledge. Superintendent's support had an average of 2.0 ( $\sigma = 1.2$ ) with 74.6 percent choosing an above neutral score. Compared with rural schools urban superintendents had a lower knowledge and support.

## **Administration Conclusions and Recommendations**

- Site coordinators perceived both principals and superintendents to have higher support than knowledge of the School Forest. New ways to increase knowledge of the program to administration should be considered.
- Urban superintendents are perceived to have a lower level of knowledge and support compared with rural superintendents. This might be attributed to the larger number of schools within urban school districts.

## Site Management

Resources to help coordinators become better land managers were ranked in order of importance. Site visits from a forester focused on management advice came in first (Table 4). It was followed by “connections to groups/people who can help manage land” and “help clearing trails, removing invasives, building benches, etc.,” third. Urban sites ranked stewardship plans second, much higher, compared with rural sites, which ranked it sixth. Newer schools ranked committees second while more established schools ranked them fifth. “Help with maintenance” was ranked third by older schools, compared to a ranking of seventh for newer schools.

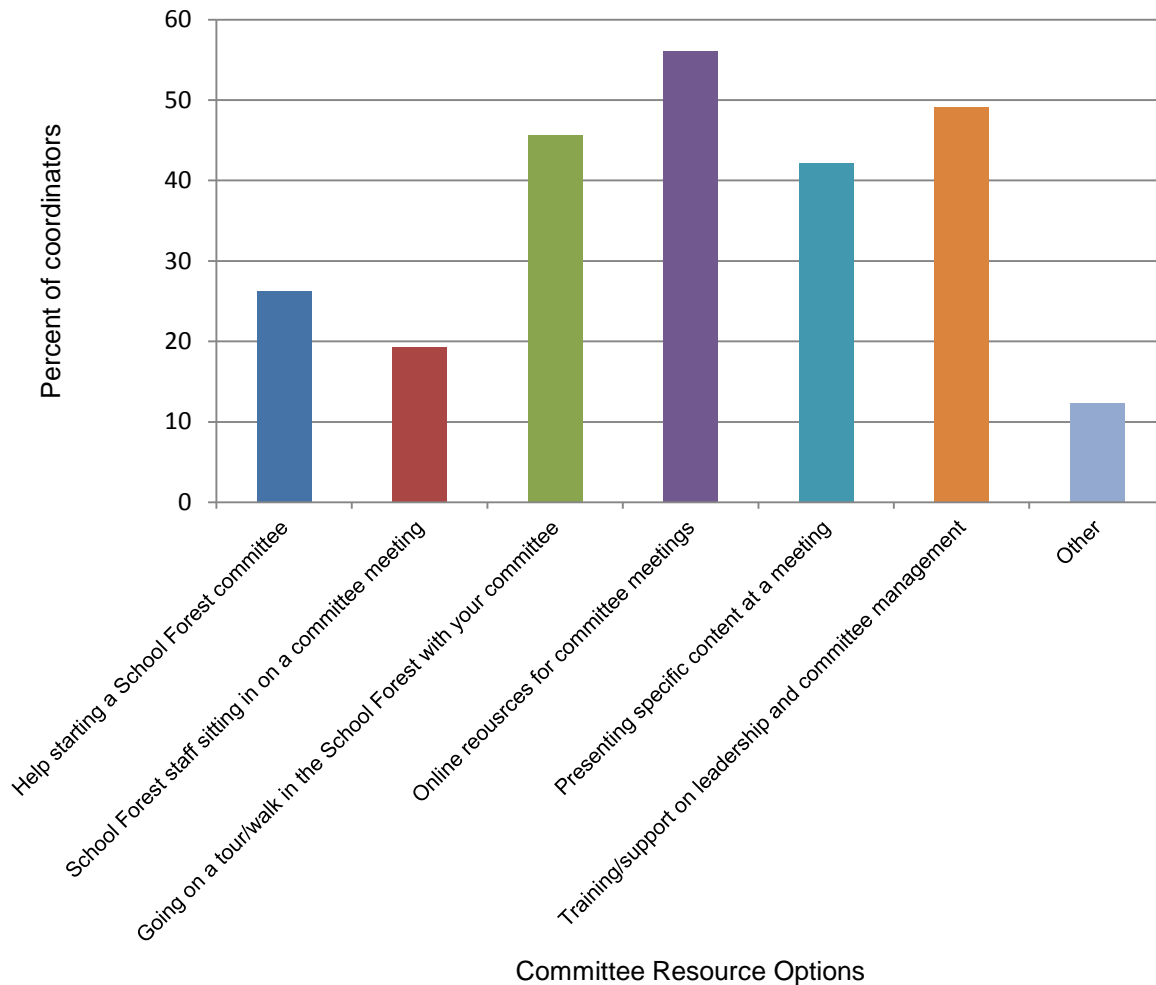
**Table 4. Land Management Resource Needs**

**Total score is the sum of all weighted rank counts found using a weighed calculation. Items ranked first are valued higher than following ranks.**

Land management resources	Total score	Overall rank
Site visits with a forester focused on management advice	300	1
Connections to groups/people who can help manage	293	2
Help clearing a trail, removing invasives, building benches, etc.	258	3
Tools (weed wenchers, chainsaws, brush hogs, etc.)	253	4
Active and engaged School Forest committee	249	5
Stewardship/Management plan	246	6
Skill training (feeling trees, removing invasives, cutting trails, etc.)	193	7
Web resources on site management specific to School Forest	191	8

When asked what other land management needs they have, six coordinators wrote about forestry assistance including: timber stand improvement, logging, changing the tree population, surveying the boundaries, maintenance, and removal of invasive species. Two mentioned assistance with site issues: vandals and dogs. Another two wrote about needing tools and materials. There was also one mention for each of the following: working with stakeholders, needing to look into their plan, and understanding legal and management responsibilities.

When choosing the top three resources for assisting School Forest committees, 56.1 percent of coordinators reported online resources would be most important (Figure 6). Almost half chose “training/support on leadership and committee management” (49.1 percent) and “going on a tour/walk in the School Forest” (45.6 percent). Six coordinators wrote in responses including: time (2), money (1), help re-establishing (1), School Forest staff available as a resource (1), and too new to know (1). There was a greater number of urban sites that chose School Forest staff “sitting in on a committee meeting” (21 percent more) while more rural chose “presenting specific content at a meeting: hunting, activity ideas, land management” (14 percent more). Preferences for rural sites to choose presenting specific content more than urban sites may have been due to the content options listed in the survey. Urban audiences wouldn’t be in need of content delivered on hunting or land management like rural sites would.



**Figure 6. Coordinator Preferences for Committee Resources**

### Site Management Conclusions and Recommendations

- The highest ranked resources to support land management were: site visits with foresters focused on management advice, connections to groups/people who can help manage, and help clearing a trail, removing invasives, building benches, etc. The program should think of ways to best create connections to foresters and groups/individuals who can help with management.
- Urban sites ranked stewardship plans higher than rural sites. Most of the urban sites are newer and do not already have stewardship plans. The program should consider how best to meet the needs of a growing number of urban sites.
- Newer School Forests consider committees to be more important for land management compared with more established schools. Development of the website to contain more committee information should be considered.

- “Help with maintenance” was ranked higher for more established schools. The best way to connect schools with natural resource groups and professionals who can help with site maintenance should be invested in.
- “Online resources”, “training/support on leadership and committee management”, and “going on a walk/tour of the School Forest with your committee” were the top three choices for assisting School Forest committees. The program should provide more online resources, think of ways to provide training and support for committee management, and continue to invest in visits with School Forest committees.
- Both urban and rural site coordinator responses indicated interest in School Forest staff participating in School Forest committee meetings – either just sitting in on a meeting or presenting specific content. Continued investment in site visits should continue, but with an emphasis on attending School Forest committee meetings instead of meeting with the site coordinator alone. The program should have specific presentation options for both urban and rural sites.

# Minnesota School Forest 2012 Survey Report Conclusions and Recommendations

April 2013



The School Forest Program wanted to determine how to best meet the needs of the many sites around the state. Through the 2012 September survey recommendations on how to invest time and resources were found. The newsletter was valued by site coordinators and should continue to be sent once a month, by email. *Question of the Month* ranked lowest in importance, and will be removed to allow time to invest in other more valued sections. The *Resources, Trainings for Teachers*, and general program information were all of high interest and investment in these areas should continue.

Although most site coordinators are only visiting the website less than five times a year, the password-protected area does not seem to be limiting them. And, less than one percent of site coordinators did not know about the website. To improve the current welcome process for new coordinators, a standardized email and mailed welcome packet should be considered. The welcome e-mail should include links to the program's website, coordinator's section, and activity board with login and password information. This would allow coordinators an easy way to forward the information on to teachers and administrators. The welcome packet would provide the school's program history, recently distributed program outdoor education materials, and general program resources.

When considering website revisions, it should be noted that activities are the number one thing coordinators were searching for. Regular activity updates to keep the *Activity Board* fresh with new ideas will be helpful. The second most common thing site coordinators are using the website for is to find information on Minnesota trees and forests. This is not something currently offered on the website. A survey to determine what content or materials coordinators want would be useful in narrowing the focus to what is of most interest. A new *Minnesota Forests* section of the Website should be added. Because over 50 percent of coordinators look for grants, the program should also consider revising and updating the *Grants* page. Currently grant info is primarily promoted via the monthly e-newsletter. *Site Features*, another option that is not currently offered on the website was rated at 42 percent. Urban schools rated site features at almost 50 percent and also ranked it forth in their land management resource options. Creating a *Site Features* section would benefit schools by providing ideas on benches, trails, classroom pull out spaces, pit toilets, bog walks, etc. Other popular pages that should have continued investment include the *How to Teach Outside* and *Training Opportunities*.

Elementary schools reported a 22 percent higher rate of teachers using the forest for teaching than middle/high schools. This might be attributed to elementary teachers instructing multiple subjects (math, science, social studies, etc.), which provides both content and time flexibility to accommodate School Forest use. While not addressed in this survey, there is a common misperception that science is the only subject easily taught in the forest. This misperception may prevent middle/high school teachers in none science disciplines from considering using their School Forest. The School Forest program offers outdoor lessons in all subject areas and should continue to develop and obtain high skilled activities in more subject areas.

The largest barriers for teachers not using the outdoors, based on site coordinators' perception, were "don't know what to do out there" and "first timer's fear." These should be addressed by continuing to offer training and workshops, website content, and e-newsletter pieces on teaching outdoors. Almost 40 percent also have concerns about safety and discipline. The right content and way to deliver this topic should be considered. It might be useful to have some time allocated for safety and discipline concerns during workshops or a focus for the e-newsletter one month. Another high barrier was "distance to the forest," primarily chosen by rural schools. The program should try to figure out if there is a way to decrease this barrier for schools.

To help engage more teachers the program should consider what most coordinators wanted: ready-made activities. Since the survey, trunks were developed and delivered to 75 schools that included teaching tools, resources, and activities to use in the forest. To further meet this need it's recommended that more ready-made, outdoor-focused activities be developed and distributed to schools. The third highest resource was correlated activities. During the last year, the program has developed multiple standard-based activities in math and science. It's recommended that the program should continue to develop and post standard-based lesson plans including language arts, social studies, and higher math skills.

It should be addressed that the second largest resource coordinators wanted was having a naturalist co-lead activities. School Forest staff observations have shown that using a naturalist doesn't promote a teacher to do activities on their own. The program should dissuade schools from replacing teacher-lead lessons with a naturalist. Instead, the program should communicate the vital role naturalists can provide to increase teacher ability to teach outside on their own and bolster teacher motivation. While naturalists are not needed at all School Forests, some sites may benefit from a naturalist's assistance. It is the School Forest program's desire that under the tutelage of a naturalist, beginning teachers will start to use the School Forest on their own.

Site coordinators perceived principals and superintendents to be more supportive than knowledgeable about their School Forests. It's common to hear from teachers they need help encouraging administration to be supportive but this result shows the issue may be more with administration knowledge. Going forward, the program should consider new ways to increase knowledge of the program and its benefits to administration.

The type of land management resources coordinators wanted were site visits with foresters and connections to natural resource groups and professionals. These match some comments coordinators wrote on what they want to have on the website: connections to people and foresters. It may not be possible to list forester contact on the website due to the frequent shift in DNR forester work areas. However, a better way to keep track of and communicate what forester is responsible for each site should be implemented. The program should also think about new ways to remind coordinators to contact their forester or program staff if they need assistance or connections. Urban sites differed by ranking stewardship plans as the second most important compared with rural sites, which ranked stewardship plans sixth overall. Urban schools in the survey included a large number of newer schools which might account for the increased importance of stewardship plans. With an increase in Twin Cities

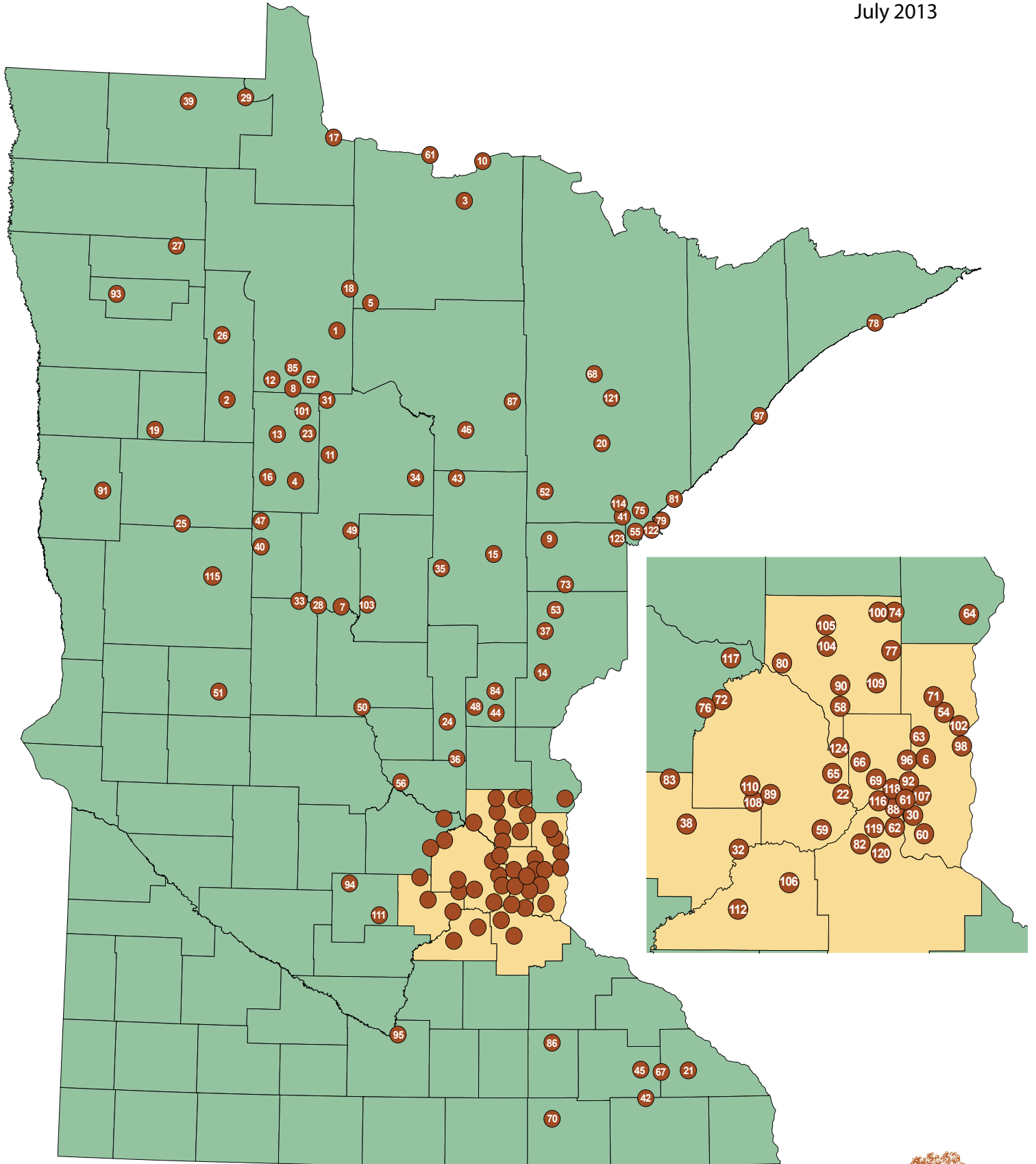
urban sites over the last few years and only one DNR forester assigned to this area, hiring an urban forester would assist in meeting land management needs. Rural sites also ranked “help with maintenance” higher than urban sites. Looking at the comments from coordinators, most rural schools already have stewardship plans and have an idea of what management is needed in their forest but want forester assistance or help from natural resource professionals to make this happen.

Newer schools ranked committees higher than older schools for helping with land management. This could be due to School Forest staff recent emphasis on committees, leading to newer coordinators desiring support from a committee to make decisions on land management and site use. When revising the website, additional content on committee management should be included. The program could add a *Managing Your Committee* section within the *Coordinator’s Section*. This will help meet site coordinator needs for assistance with their committees. “Online resources” was ranked the highest among coordinators for assisting them with their committees and “training/support on leadership and committee management” was ranked second. The program should consider training and support options for the committee chair.

“Going on a walk/tour of the School Forest with your committee” was ranked third. Urban sites chose having program staff sit in on meetings while rural sites preferred staff present specific content at meetings. All three response areas suggest that the program should continue to offer site visits during committee meetings. The program should consider offering specific content that may be of interest to urban or rural School Forest committees.

# School Forest Locations

July 2013





School Forest Photos July 2010-June 2013



Milaca School Forest, 2011. Students conducting site maintenance – following a DNR Stewardship Plan. Tree planting and invasive species removal.



Lakewood School Forest, Duluth, 2012. Students studying birds.



Dowling School Forest, Minneapolis, 2012. Students planting in new garden beds.



Edgewood School Forest, Mounds View, 2013. Student planting tree at School Forest celebration.



Oneka -Hugo School  
Forest, 2013.  
Teacher training.



Rockford School  
Forest, 2012.  
Teacher  
participating in  
outdoor education  
activities – reflection  
time.