How to Grow a School Forest:

A Handbook for Wisconsin Educators

Credits

In 2003, coordination and distribution of the "How to Grow a School Forest" handbook was transferred from the Wisconsin Forest Resources Education Alliance to the LEAF program.

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> *From* **How to Grow a School Forest: A Handbook for Wisconsin Educators** *produced by LEAF, Wisconsin Forest Resources Education Alliance (WFREA) and Wisconsin Environmental Education Board (WEEB)"*

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Introduction

Whether your school forest is covered with trees or meadows or swamps or abandoned farmland, it can grow. It can grow in educational value, ecological significance, timber productivity, and recreational quality. We hope this handbook will help you!

Each Wisconsin school forest situation is unique. Some teachers and administrators will find themselves wondering where they can find 10 acres that someone is willing to donate to their school. Others might have 80 acres and are looking for a starting point. Still others might have a well-developed school forest in need of a few minor improvements to the education program, natural resource management plan, or site facilities. Whatever your situation, we hope you take on the challenge of "growing" your school forest.

This handbook starts at the beginning. It assumes you have nothing. No land, no active school forest committee, and no plans. The handbook will guide you through the steps of establishing a school forest committee, searching for land, inventorying your site, and developing a master plan. It is designed to help you collect and organize the bits of information you need to grow your forest. Put it in a binder, fill in the information pages, and add other resources. We hope we left plenty of room for you to personalize this handbook and make it work in your situation. So . . . check out the table of contents, open to the place you need to start, and good luck!

Eden Koljord
Former Executive Director
Wisconsin Forest Resources Education Alliance

kindle \'kin-d l\ vb kindling

1 : to start (a fire) burning : LIGHT 2 : to stir up : AROUSE 3 : to cause to glow : ILLUMINATE

Throughout this handbook you will find snippets and snapshots from school forests around the state. We thank the school forest coordinators who shared their insights, trail guides, manuals, and secrets. We hope they light a fire under your committee, stir you up, and illuminate your trail through this growth process.

Preface

The people of Wisconsin place a high value on their forests and other natural resources. In many ways, we are a leader in natural resources management and environmental education.

In 1928, Wisconsin established the first school forest program in the nation. At that time, the goal of school forests was to encourage student involvement in replanting forests and to instill a conservation ethic in young people. Today, school forests are exceptional outdoor education sites that are available to:

- Integrate environmental education into schools' curriculums
- Provide experiential learning
- Meet state education standards
- Demonstrate sustainable natural resources management
- Strengthen school-community relations
- Provide income for education activities

In 2003 the state affirmed its support of the school forest program by establishing a statewide school forest coordinator. The position is a partnership between the Department of Natural Resources – Division of Forestry and the Wisconsin Center for Environmental Education in the College of Natural Resources at UW-Stevens Point. The Wisconsin School Forest Education Specialist serves as a resource to help school forests achieve their goals. This updated handbook is a major component of these efforts.

The handbook has been beneficial to many school forests since its publication. The updated version maintains the basic format of this excellent and very popular resource while providing:

- Updated, live website links
- Additional resources on vandalism and professional development opportunities
- Categorized appendix
- Complete electronic availability on the LEAF website

I am confident that you will find this handbook to be an invaluable resource as you grow your school forest program to achieve its full potential.

Gretchen Marshall
Forestry and Outdoor Education Specialist
Wisconsin School Forest Coordinator
LEAF Program
Wisconsin Center for Environmental Education

LEAF

Wisconsin's K-12 Forestry Education Program

LEAF is a long-term program designed to bring together existing forestry education efforts in Wisconsin and provide the resources necessary to help schools infuse forestry education into their current curriculums. Program highlights include:

Lesson Guides

The LEAF K-12 Forestry Education Lesson Guides
- Divided into 6 units: K-1, 2-3, 4, 5-6, 7-8, 9-12
- Contains classroom lessons and field-based enhancements
- Based on Wisconsin Model Academic Standards
- Designed with an interdisciplinary approach

The LEAF K-12 Supplemental Lesson Guides
- Wildland Fire Lesson Guide
- Urban Forest Lesson Guide

Outreach

The LEAF program offers many resources for those interested in expanding their forestry education:
- Graduate level courses for educators
- Activities and training for foresters
- On-line resources including a dichotomous tree key, teacher opportunities, and school forest information available at www.leafprogram.org
- Special programs, contests, and more!

School Forests

The LEAF School Forest Education Specialist is available to provide:
- Guidance in developing school forest education plans
- Connections to forest management resources
- Professional development for educators and resource managers
- Information and networking opportunities through a newsletter and website
- Connections to funding sources

Assistance in registering school forests

LEAF is a partnership program between the Wisconsin Department of Natural Resources—Division of Forestry and the Wisconsin Center for Environmental Education.

To contact us: LEAF (715) 346-4956, leaf@uwsp.edu, www.leafprogram.org

Wisconsin School Forest Program

What Is a School Forest?

A *school forest* is an outdoor classroom. Officially, a school forest is a specialized type of community forest in which land is owned or controlled by a public or private school and used for environmental education and natural resource management. Wisconsin State Statues give school districts the authority to obtain school forest land and registered them through the state community forest program.

A *community forest* is defined as any tract of forest land owned by a county, town, city, village, or school district whose directors or trustees formally designate by resolution or otherwise the desired use of the land for forestry purposes. (Authority: Section 66.27, Wisconsin Statutes) (1947) Repealed by 1949 C.474, Wisconsin Statutes 1969, section 28.20 Community Forests. For more information, see the School and Community Forest Registration Information in the Appendix or the Wisconsin Community Forest Law at www.legis.state.wi.us/statutes/stat0028.pdf.

Section 120.13(18) Property for ecological, agricultural, or vocational instruction. Subject to the authority of the annual or special meeting to approve the acquisition of real property, acquire real or personal property for ecological, agricultural or vocational instruction, experimentation or other school-related purposes.

As of 2011, there are more than 450 community forests, including school forests, scattered over 68 counties in Wisconsin. The tracts of land vary in size from 2 to 7,389 acres with most between 40 and 60 acres. Combined, these forests total over 67,000 acres.

The Wisconsin School Forest Program

The school forest program serves as a resource for all school forests in the state. The program is coordinated by the Wisconsin School Forest Coordinator, who is a member of the LEAF program. The school forest program and the Wisconsin School Forest Coordinator position are the result of a partnership between the Department of Natural Resources - Division of Forestry and the Wisconsin Center for Environmental Education in the College of Natural Resources at UW-Stevens Point.

The LEAF program maintains the records of registered school forests. There are currently 382 registered school forests. The largest school forest is 740 acres while the smallest is 2 acres in size. A listing of all registered school forests can be found on the LEAF School Forest website at http://www.uwsp.edu/cnr-ap/leaf/Pages/School-Forests.aspx.

If you have land that you would like to consider registering as school forest property, refer to the "Register Your School Forest" section on page 22.

Birth of the School Forest Idea

Attitudes are not born; they are acquired by experiences. Nor are habits born; they are acquired by training. With these words of inspiration and high expectation, Wakelin "Ranger Mac" McNeel, an early school forest visionary, sent students and teachers out across the state to reclaim cut-over, burned-over land with shovels and seedlings.

In the 1920s, much of northern Wisconsin had been exposed to over-harvesting and forest fires. Even though the cutting and burning cleared the land for would-be farmers, it was too rocky and too far north to be suitable for farming. Abandoned farmlands became tax-delinquent. Any bright spot in the economy of northern Wisconsin depended on either the slow, natural forest regrowth or an aggressive reforestation program.

McNeel, a state 4-H leader in the 1920s, had a vision for Wisconsin's resources - for both land and youth. And so, through sweat and dedication, Wisconsin schoolchildren became conservation stewards, or caretakers, as they replanted a Wisconsin their children and grandchildren could be proud of.

The idea of school forests was not a new one. It was borrowed from Australia and introduced to Wisconsin in 1925 by the late Dean Russell of the University of Wisconsin College of Agriculture. While visiting Australia, Russell watched schoolchildren planting trees on public tracts of land as an educational project. He thought it would be an idea that could be put to practical use in his home state.

By 1927, Russell's plan was on its way to becoming reality through legislation he spearheaded that permitted school districts to own land for forestry programs. Motivated by this legislation, and supercharged by McNeel and his colleague, Fred Trenk, a UW-Extension forester, and the Forest County residents, Wisconsin adopted the idea of school forests to promote an urgent reforestation program. Within the year, three tracts of land were donated or purchased for the first school forests in Wisconsin – in Laona, Crandon, and Wabeno. They were dedicated in the spring of 1928.

Legislation was passed in 1935 mandating that conservation education be taught in all high schools, vocational schools, and universities or colleges. School forests provided great outdoor classrooms for this type of education, and now seemed to have a firm place in a new and exciting educational movement.

Bill Sylvester, a professor emeritus of forestry at UW–Stevens Point, says, "I became involved with school forests in 1938 when I was employed by the Wisconsin Conservation Department as a cooperative forest ranger. I worked in the central and north central parts of Wisconsin, teaching schoolchildren about conservation. I showed movies on a 16-millimeter movie machine that ran on six 6-volt batteries, since most of the one-room schools didn't have electricity. For many of those school kids, it was the first time they saw a movie."

Sylvester's work naturally led to getting involved in the establishment of school forests. In 1946, he joined the staff of a two-year-old conservation organization called Trees For Tomorrow. As chief forester, Sylvester was, again, in a natural position to guide and oversee the development of northern school forests.

School forests gained another boost in 1949 when Wisconsin school forest statutes were revised. Schools became eligible to receive free planting stock from state forest nurseries and use the services of foresters for forest management plans.

School districts acquired lands in a variety of ways. Some were purchased, while others were donated or willed to them. Because the quality of donated lands varied greatly, school boards learned to look at such donations with caution first and gratitude later.

But most tracts of land were gained when school districts took title to tax-delinquent lands deeded by counties. When titles were given to school districts, they were generally transferred for a small purchase price, often only $1.

Keeping school forests going required some creative financing on the part of school administrators and teachers. "By bending the arms of local service clubs and other possible donors, capital improvements were made on many school forests," said Sylvester.

In addition, school districts picked up part of the tab to pay for employees, and for transporting students to and from forest lands. Sylvester added, "The Medford School Forest found a creative solution to their need for roads...they called in the National Guard to build them."

Success of the school forest system depended on the sense of ownership gained by the students. A "School Forest Covenant" was repeated and signed by students before working on their school forests.

Founders intended for school forests to provide students with hands-on experience in tree planting and forest management. Their foresight made outdoor laboratories available to all students, and gave them a real understanding of the interrelationships of natural resources. Although conservation education has evolved and taken on several new names, the concept remains the same today.

According to Sylvester, the school forest idea caught on right away and quickly spread throughout the state. But with the approach and arrival of World War II,

things slowed down. "Many of the little country school districts were swallowed up and disappeared from the map." In most cases, those school forests reverted back to county owned land.

In addition, much of the early success was attributed to the enthusiasm of key people charged with administering their local programs. Some school forest programs simply ended with the passing of early, spirited leaders.

But many school forests are still alive and well over 70 years after their seeds were planted. Sylvester is optimistic. "I don't think the program has peaked yet, at least not from the standpoint of possible activity," he said. "School forests have probably far exceeded any of the expectations of the founders, but they still have tremendous educational possibilities."

Reprinted with permission from an article written by Gail Gilson-Pierce which appeared in the Winter 1994 addition of Northbound, Volume 13, Number 4.

School forest planting and dedication photographs of the Laona School Forest established in 1928.

School Forests Have Incredible Educational Value

They are used to:

- **Meet state education standards** - Education programs at school forests help to meet diverse state-mandated education standards including science, language arts, math, social studies, environmental education, and agriculture education.

- **Integrate environmental education into the curriculum** - Research has shown that using the environment as a theme across subject areas increases standardized test scores, improves attendance, and decreases behavior problems (Lieberman and Hoody 1998). Environmental education shouldn't be seen as another subject area, but as an approach that can help students learn across the curriculum. A school forest should be an extension of the classroom that is used to enhance learning through hands-on, experiential approaches that can't be accomplished in the school.

- **Connect teachers and students to place** - As a counter to increasing attention focused on standardized and nationalized education and decreasing time spent outdoors by children, school forests can help localize education and connect students to their natural and human communities. We typically identify ourselves through our relationships - with family, friends, neighbors, the land, a community, etc. As Wendell Berry says, "If you don't know where you are, you don't know who you are." A sense of place is essential to create relevancy in education as well as assuring that we strive to live well in our communities.

- **Demonstrate sustainable natural resource management** – The goal of sustainable natural resource management is to supply ecological, economic, and social benefits now and into the future. For most students, the school forest will provide the only opportunity to become involved in resource management. Ideally, students will play an integral role in the management of their school forest through developing management plans,

implementing management activities (when practical), and utilizing forest products. School forests serve as the context for understanding how management decisions and life-style choices are related.

- **_Strengthen school and community relationships_** - School forests are a less formal setting for parents and community members to become involved in students' education. Recent research found that continuing involvement in outdoor education also "increased the willingness of parents to come into school for events and meetings" (Peacock 2006). Partnerships with businesses can be formed at the school forest by utilizing the knowledge and experience of local companies and potentially supplying these companies with products. The school forest can also serve as a community resource by hosting community education events, demonstrating sustainable natural resource management techniques, creating products for community use, and providing a recreation site.

- **_Provide income_** - Forest products, non-timber forest products, and rental of facilities can generate income for the school. Ideally these funds would be invested in the school forest to maintain and support the program. There is also opportunity to more fully utilize school forest products at a local level - enhancing income and the connection between the school forest and the community. For example, students could build bird houses or furniture from lumber harvested at the school forest and sell these products in the community.

Benefits of a Strong School Forest Program

Benefits to Students

- Fosters a sense of pride and belonging within students.
- Encourages the development of research, communication, problem solving, consensus building, critical thinking, and leadership skills.
- Offers students real-life, hands-on experiences in responsible citizenship and citizen action.
- Demonstrates the complex interrelationships within the natural world and the complexity of environmental issues.
- Develops within students a working knowledge of natural resource conservation, management, and stewardship.
- Demonstrates what can be accomplished when dedicated groups of people work together.
- Connects academic studies to real-life learning experiences and to the community.
- Allows students to learn in a variety of ways, including cooperative learning, mentoring, active learning, and service learning.
- Encourages students to develop care and concern for the environment and to examine their environmental values.
- Frequent visits allow students to thrive in a stimulating environment.

Benefits to Teachers

- Allows teachers to model their care for the environment instead of simply talking about it.
- Helps teachers infuse environmental education into their curriculums and address state academic standards.
- Encourages creative teaching methods and techniques.
- Offers opportunities for professional development in the fields of environmental education, resource management, and curriculum writing.
- Gives teachers a chance to see their students in a different light – often witnessing the growth of students with problems who blossom in the outdoor classroom.
- Promotes problem-solving with peers and networking with colleagues throughout the state.
- Allows teachers to learn alongside their students.
- Promotes interdisciplinary studies that tend to infuse new life into subjects.
- Provides a site for long-term environmental monitoring.

Benefits to the School District

- Improves public relations between the school district and the community.
- Provides a wide range of educational offerings for students and teachers.
- Helps school districts put their district-wide environmental education plan into meaningful use.
- Offers an active learning environment and a positive physical setting for learning.
- Promotes partnerships with the community.
- Provides a source of income for activities at the school forest.
- Incorporates environmental topics and nature activities into the curriculum.

Benefits to the Community

- Brings together organizations, businesses, and educational institutions to form partnerships for stewardship.
- Provides a place for families to explore the great outdoors.
- Contributes to the ecological health of the area by offering watershed protection and habitat improvement.
- Enhances the psychological health of the community by providing "green space" and aesthetic beauty.
- Provides educational, cultural, and recreational opportunities.
- Serves as an example to other landowners in the area by demonstrating effective natural resource management techniques and planning.

Kindling
Madison School Forest

"When you want to see people come alive, get 'em out to the school forest." *Rick Kalvelage,* former Director

"What they experience is the outdoors. They have the pleasure of interacting with birds, trees, grass, and of being away from concrete. Everything that is wonderful about being outside! There are many children that never have this opportunity. It's critically important that they understand the environment by being in the environment." *David Wandel,* Parent

"Most of our kids don't have an opportunity to come to a place like this without coming to the school forest. They learn about being a part of a community, taking care of each other, and life skills. The naturalists that come out do wonderful programs on mammals, birds, and plants. The kids get to see a part of nature that they can't see in the classroom. It's impossible to do what they do out here in the classroom. They love it!" *Tara DeSciscio-Fussell,* Teacher

Get Started

Just a word of warning - getting started might be the easy part! A school forest project is probably like building a house – it is never really "done." When you get one project completed, your committee might see five new things that you would love to do!

And there's no one right way to do it. This handbook outlines one approach. You might change the order or skip steps. That's okay! Just work together as a team and do it!

Step 1: Get Your Hands on Land!

Do you already have a school forest? Sometimes only administrators or senior staff members remember where the school forest is. A county plat map can help you locate a forgotten forest.

If you are unsure of your school forest's status, a list of registered school forests is available on the LEAF website at http://www.uwsp.edu/cnr-ap/leaf/Pages/School-Forests.aspx

If your school does not own any land, start looking! Your initial school forest committee might be a land search committee. Be sure you include natural resource and legal specialists throughout the land search process.

Evaluate Possible Forest Sites

Here are a few of the factors you can use to evaluate possible sites:

- Distance from schools in the district – Check to be sure bus costs or scheduling problems will not limit the use of the land. School forests that are on school grounds or within walking distance are used more frequently than other forests.[1]
- Diversity of natural communities (e.g., woods, prairies, wetlands, lakes) – The greater diversity of habitats a school forest has, the more often it is used by students.[1]
- Existing structures and utilities – The more facilities available at the school forest, the more frequently students and community groups use it.[1]
- Past land uses – This can be positive or negative. The site might be rich with Native American history or it could be a former industrial site.

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[1] School Forests in Wisconsin: A Report on the 1999 Statewide Survey of Wisconsin's School Forest Coordinators, June, 2000. Prepared for the Wisconsin Department of Natural Resources, Division of Forestry, in partnership with UW-Extension, the Conservation Education Program of the U.S. Forest Service, and the Wisconsin Department of Public Instruction by Rebecca Krantz, M.S., Wisconsin Survey Research Laboratory, University of Wisconsin – Extension, Madison, Wisconsin.

Check into Sources of Land

You will want to work closely with a legal advisor as you investigate possible sources of land. School forest land has come into district possession in various ways. Some examples are:

- **Tax-forfeited Land:** Many of the early school forests were started when school districts received title to tax-delinquent lands. The titles were generally transferred for a small purchase price, often only $1. Unfortunately, times have changed and all land – including tax-delinquent land – is in high demand.

  Schools can still receive tax-delinquent lands, but they no longer seem to receive the same preferential treatment. If you are interested in tax-delinquent lands, you should contact the County Clerk and ask that your district's name be added to the list of interested purchasers. Once your school district's name is on the list, you will receive notice of land as it becomes available. Your district will then bid on the land, usually through a sealed bid. The highest bidder will be awarded the property.

- **Donated Land:** Many school districts in Wisconsin were fortunate to be the beneficiaries of forest land after a resident within the district passed away and donated the land to the school. Sometimes the beneficiary stated in the deed that the land must be registered and utilized as a school forest by the school district.

- **Foreclosed Land:** When landowners can no longer pay mortgage on their land, the lands are foreclosed. The County Sheriff's office handles foreclosure. Foreclosed lands are listed in local newspapers. Land is usually auctioned off to the highest bidder. Caution: Successful bidders are usually responsible for late mortgage payments and any back taxes. Be sure to get legal advice before bidding on foreclosed property.

- **Conservation Easements:** A conservation easement is a legal agreement a property owner makes to restrict the type and amount of development that may take place on his or her property. In signing an easement, the landowner gives away certain rights to the land and places restrictions on its future use. The owner and the prospective easement holder identify the rights and restrictions on use that is necessary to protect the property – what can and cannot be done to it. The owner then conveys the right to enforce those restrictions to a qualified conservation recipient, such as a public agency, a land trust, or a historic preservation organization. A conservation easement is a great way for qualifying landowners to conserve their land while realizing income, property, and estate tax benefits. For more information on conservation easements, contact:
    - *Gathering Waters Conservancy.* This is a land conservation organization, located in Madison, formed in 1995 to assist land trusts, landowners, and communities in their efforts to protect Wisconsin's land and water resources. This state organization should be your first point of contact. Staff can refer you to your local land trust. www.gatheringwaters.org
    - *Land Trust Alliance.* This is a national organization, located in Washington, DC that can offer information on land trusts. www.lta.org

- **_Land-Use Agreements:_** Some districts do not have the opportunity to own their own land, but instead partner with local municipality land. A land-use agreement with a city, town, or village to use and register their land as a school forest is sometimes an option. Many times this land also can be leased or rented from the municipality for $1.00 per year. An example of a land-use agreement between a municipality and school district for school forest registration can be found in the Appendix.

- **_Purchased land:_** Your school district may have the opportunity to purchase land to include in the program. Also check to see the boundaries your current school building resides on. You may have a few acres of forest right outside your door or behind the football field!

Ensure the Future of the School Forest

You will want to ensure that your school forest will always be a school forest! A deed restriction will prevent future development or rezoning of the area. You will want the wording to be strong enough to protect the school forest, but loose enough to allow your school district to construct classrooms or lodging as your program grows.

Kindling
Madison School Forest

Rick Kalvelage, former director, strongly recommends that you have a deed restriction to protect the future of your school forest. Here is the wording placed in their deed: "This land or property (legal description) will remain forever as a School Forest as we have defined school forest. It will remain a School Forest even in the event the school district is dissolved or comes under private, state, municipal, or corporate ownership or control of any other heir to said property."

Kindling

Tri-County School Forest

The Tri-County School District in Plainfield school district received 160 acres through a conservation easement. Here is part of their official document:

Quit Claim Deed

BY THIS DEED, (names of landowners) , husband and wife, Grantor, quitclaims to Tri-County Area School District, Grantee, for a good consideration, an easement on the following described real estate in Waushara County, State of Wisconsin:

Parcels of land located in Section 1, Township 19 North, Range 8 East, as follows:

PARCEL I: The East 1/2 of the Southeast 1/4 of the Southwest 1/4. . .

END OF DESCRIPTION.

This easement is what is commonly known as a conservation easement and runs with the land. By this conveyance the above described land shall be subject to the following restrictions and covenants:

1. No more than 4 residences may be maintained.

2. No commercial use may be made of the property other than proper maintenance and sale of timber and related uses.

3. The land shall be maintained as woodland and all reasonable efforts will be used to maintain a wildlife habitat.

4. A shelter may also be constructed on the site for student and community education. Any construction plans would have to have the written approval of both parties or their heirs, successors and assignees.

5. All reasonable efforts will be used to husband the vegetation on the parcels including proper trimming and replanting of trees.

Executed at Hancock , Wisconsin, this 8th day of August , 1991.

(You'll need to have an attorney draft your conservation easement . If your attorney is not familiar with this type of easement, contact *Gathering Waters* for copies of model documents.)

Step 2: Register Your School Forest

Registered school forests qualify for:
- Free trees from the state forest nurseries for reforestation.
- Free technical assistance from WDNR foresters in carrying out tree planting and forest management plans.
- Assistance from Wisconsin School Forest Coordinator
- WEEB school forest grants.(http://www.uwsp.edu/cnr/weeb)

Criteria for Registered School Forests
You will need to meet the following criteria to register:
a. Property must be owned or under legal control (e.g., lease, easement) of a municipality or school district. Land use agreements with other municipalities, leases from private landowners, and conservation easements are examples.
b. The school board or governing body of the municipality must adopt a resolution to dedicate a parcel as a school forest.
c. Wisconsin statutes do not establish a minimum acreage or productivity requirement for school forests. However, considering the criteria below, the property should contain at least one acre of forest.
d. The municipality or school district must indicate intent to actively manage the forest, where applicable.
e. School districts must indicate intent to provide sustainable forestry education as a component of their education programs.
f. A management plan or property description must be completed and approved. (Conditional acceptance can be granted prior to completion of a management plan based on forester recommendations.)

Registration Process
1. Owner (or an authorized property representative) completes the Application for Registration of a Community Forest form (see Appendix), attaches minutes from school board meeting indicating dedication of property as a school forest, and submits it to the local DNR forester.
2. DNR forester visits site to ensure property meets criteria.
3. DNR forester completes the bottom recommendation section of the application form and sends it to the Wisconsin School Forest Coordinator within LEAF.
   a. If land does not meet criteria, forester sends letter of explanation to the property representative and to the Wisconsin School Forest Coordinator indicating why it may not be registered.
4. The LEAF Wisconsin School Forest Coordinator **conditionally approves** acceptance based on forester recommendations. *Upon conditional approval, a management plan will need to be submitted by a DNR forester within one year to gain final school forest registration status.*

5. **Final approval** will be given to the school forest after a completed application, school board meeting minutes, and completed forest management plan have been submitted.

Submission and Question Information:

Submit all registration paperwork to:
Wisconsin School Forest Coordinator
c/o LEAF Program
800 Reserve Street, Room 110 TNR
Stevens Point, WI 54481

If you have questions about registering a school forest, don't hesitate to contact the Wisconsin School Forest Coordinator within LEAF at 715-346-4956 or leaf@uwsp.edu.

Step 3: Form a School Forest Committee

Form a School Forest Committee

Let's face it. This isn't going to be easy. One or two people can't do this alone. You are going to need a broad base of support – interested people committed to seeing the project through to completion. Involving a wide variety of people from the beginning will help prevent burnout and keep interest high. It will also ensure that teachers, students, administrators, and the community feel a sense of ownership in the school forest.

The school forest committee will initially be responsible for:
- Selecting a school forest coordinator.
- Inventorying the cultural and natural features of the site or arranging for the inventory process.
- Investigating curriculum development, resource management planning, and facility improvements.
- Writing the master plan.

The long-term responsibilities of the school forest committee include:
- Coordinating the development of environmental education programs at the school forest with district or school curriculum needs.
- Making recommendations to the school board for the development, maintenance, and use of the school forest.
- Implementing and evaluating the master plan.
- Writing articles for local newspapers, school newsletters, and media about the educational opportunities for students at the school forest.
- Coordinating community events (such as open houses) and educational programs at the school forest.
- Ongoing communication with the Wisconsin School Forest Specialist at leaf@uwsp.edu

Be sure expectations are clear from the beginning.
- Establish frequency and length of meetings. This may vary as you develop your school forest. Your group might initially need to meet more often. Don't meet just for the sake of meeting!
- Define the role of the school forest committee. Will the committee be an advisory committee or a decision-making committee?
- Define the role that students will play in the planning and development process.
- Define the expectations of each member. Are individuals on the committee to support the program, provide funding sources, coordinate work projects, or provide leadership?

Potential Committee Members

This is an extensive list of all the potential players in the school forest planning process. You will want to be sure your school forest committee is large enough to be inclusive, yet small enough to be effective. Committees of seven, nine, or eleven people seem to be more productive. Remember that many of these people can be involved in subcommittees or included in other ways.

- School board members
- School administration representative – Include your school superintendent, a school district administrator, or a building principal.
- Teachers – Try to include at least one elementary, middle, and high school teacher.
- Students – They add a fresh perspective to the committee and participating on the committee provides an opportunity for them to gain valuable leadership experience.
- Parents – Active parents are a great resource.
- Retired school district teachers and administrators can bring a historical perspective and sense of commitment to your school forest committee.
- Foresters – Try to include at least one forester who will be able to be a resource for forest management. If a forester does not have time to be an active part of your committee, ask to see if they would simply be available to answer questions about management of the forest as they arise.
  - Consider local foresters from:
    - Wisconsin Department of Natural Resources
    - Forest Industry http://dnr.wi.gov/topic/ForestBusinesses/
    - Urban Foresters http://dnr.wi.gov/topic/UrbanForests/
    - Municipal (city) foresters
- Other resource specialists – Include other natural resource specialists who could help to address the special qualities of your school forest. Wildlife or fish management, water resource conservation, wetland/grassland/prairie management, endangered species preservation, landscape architecture or design, archeology, soil and water conservation districts, Natural Resource Conservation Service (formerly SCS), Bureau of Indian Affairs, County Land Conservation Departments, and your county UW–Extension.
- Community representatives – Many organizations in the community are potential sources for support, funding, or muscle power. Including them in the planning process might pay off in the end.
  - Consider: youth organizations (4-H, Boy Scouts, Girl Scouts, YWCA, YMCA, Pioneers, Boys and Girls Clubs, day care centers, after school clubs, church youth groups), Civic groups (Elks, Jaycees, Kiwanis, Lions, Rotary), garden clubs, businesses in the community, neighboring public and private schools that do not have a school forest of their own or have a piece of land with different natural resources, universities, colleges, and technical/vocational schools, state or national organizations dedicated to land conservation or wildlife habitat improvement that may have local chapters or representatives, other school forest users – Don't forget to draw upon the resources of other potential users not

already listed above. This might include local churches, bird-watching groups, joggers, hikers, hunter safety instructors, and neighborhood associations.

- School forest neighbors –These neighbors can be valuable "watchdogs" of the property, especially if it is not adjacent to the school.

Select a School Forest Coordinator

One of the first tasks of the committee should be to select a school forest coordinator. This may be a voluntary or paid position, check with your district to see what your possibilities are. Once your school forest coordinator is identified, notify Wisconsin School Forest Coordinator at LEAF, at Gretchen.Marshall@uwsp.edu so that you receive timely information about managing your school forest program.

This person should be able to:

- Chair the school forest committee.
- Coordinate communication with the school board.
- Assist teachers in using the school forest.
- Coordinate and schedule activities.
- Supervise the maintenance of facilities and trails.
- Oversee the implementation of the forest management plan.

Work with the School Board

a. Keep the school board informed of each step in the process. Involve students in preparing fact sheets or giving presentations at school board meetings.
b. Find creative ways to present school forest information to the school board.
c. Educate school board members on the location, size, and basic features of the school forest. Anticipate their questions and be ready with answers.
d. Be sure a school board member serves on your school forest committee. Choose a member who has an interest in the outdoors and will be a good advocate for environmental education at the school forest to the rest of the school board.

Going Further with your School Forest Committee...

Form Subcommittees

Your school forest committee may want to break-up into subcommittees when essential work needs to be done. It is more efficient to work in these smaller sub-groups and then report back to the larger school forest committee.

Membership and roles are merely suggestions. Your group may realize they don't need subcommittees, however, pay special attention to the roles listed under each subcommittee. The roles listed are actions that will most likely need to be taken at some point in time during your school forest programming.

Listed below are some possible subcommittees and a brief description of their roles. Some will be standing committees that should meet on a regular basis. Others are more organizational and may form for the purpose of developing the master plan only. Others will form to accomplish a specific activity and then disband or redirect their energies. Choose the subcommittees that fit your situation best. Don't be afraid to combine or split committees.

Curriculum Subcommittee

Potential Members:
- Representative teachers from each grade level, building, and/or discipline. We recommend choosing at least four teachers, one each from K-2, 3-5, 6-8, and 9-12.
- School Forest Coordinator

Roles:
- Reviewing sample school forest curriculums and environmental education curriculum guides and activities.
- Determining the scope and sequence of the school forest curriculum and how it connects with existing curriculums and state standards.
- Coordinating with the resource management and facilities subcommittees to be sure the school forest meets educational needs.
- Training teachers so that they are comfortable with and knowledgeable about using the school forest as an educational resource.
- Acquiring the teaching materials needed at the school forest.
- Continuing to research new curriculum guides and other educational resources.
- Inform the school board members and public about the educational opportunities students are experiencing at the school forest.

Natural Resource Management Subcommittee

Potential Members:
- Teachers and students
- School Forest Coordinator
- Resource specialists such as foresters, wetland/grassland/prairie managers, wildlife managers, and water resource specialists
- Community representatives

Roles:
- Coordinating the inventory of the school forest's natural resources.
- Working with professional foresters and school staff to develop a management plan that enhances the educational potential of the resource.
- Implementing the plan by overseeing land management activities.
- Evaluating and updating the management plan.

Facilities Subcommittee

Potential Members:
- Teachers and students
- School district maintenance staff
- Local contractors, builders, or other members of the business community

Roles:
- Inventorying existing facilities.
- Working with the curriculum committee to design facilities that enhance the educational potential of the school forest.
- Recommending facility improvements to the school board.
- Maintaining the site facilities.

Finance Subcommittee

Potential Members:

- School board members or school administrators
- Teachers and Students
- Representatives from the community

Roles:

- Accounting for receipt and disbursement of all funds.
- Applying for and administering grant monies.
- Budgeting for transportation, maintenance, utilities, in-service training, equipment, development, and special projects.
- Arranging or approving all external contracts for work on the school forest property (e.g., timber harvest and building construction).
- Generate ideas for facilitate fundraisers.

Utilize the template on the next page to keep track of school forest committee member contact information.

Members of the School Forest Committee

Name	Role on Committee	E-mail Address	Phone Number

Step 4: Gather Information

Visit the Site

Plan to visit your school forest property as a committee early in the master planning process. Visit with resource management and education specialists. Don't be overwhelmed by the process. This initial visit will help you prioritize needs, assess what is there, evaluate the workload, and focus your purpose. Use this visit to gather information about the resources on your site.

You will need some basic information about your school forest land to begin planning. It may not be necessary to conduct all this research before beginning the master planning process. However, sometime in the process, involve your students in researching the past uses of the land that is now their school forest. Involving students allows them to feel empowered and have a sense of ownership about the forest property.

Determine the Legal Description

Understanding the Public Land Survey System

You will need to know the town, range, section, and quarter section for your school forest in order to obtain many maps and legal documents.

The Wisconsin Department of Natural Resources has information that will help you and your students understand the way our state was surveyed and make sense of the numbering system: visit
http://dnr.wi.gov/topic/forestmanagement/documents/plsstutorial.pdf

Finding Your School Forest's Legal Description

First, check with the district administration office. A title, deed, or land abstract should be on file. Make a copy of it to include in your school forest's permanent records. If you are unable to find a record of ownership, call the County Register of Deeds. You will probably need to go to the County Courthouse and work with the Real Property Lister or Register of Deeds to obtain the description.

You can also contact the WI School Forest Coordinator at Gretchen.Marshall@uwsp.edu to obtain a copy of the original school forest registration paperwork.
Your legal description should at least include the town, range, section, and quarter section. It might be very simple. For example, a 640-acre school forest in central Wisconsin might be described by Section 26 of Township 28 North, Range 7 East. On the other hand, if your forest is an odd shape, you might have a legal description that is several pages long.

This diagram shows how a section of land is divided into smaller parcels and indicates how parcels would be described.

NW 1/4 (160 acres)		
	W 1/2 of NE 1/4 (80 acres)	E 1/2 of NE 1/4 (80 acres)
N 1/2 of SW 1/4 (80 acres)	NW 1/4 of SE 1/4 (40 acres)	NE1/4 of SE 1/4 (40 acres)
S 1/2 of SW 1/4 (80 acres)	SW 1/4 of SE 1/4 (40 acres)	N 1/2 of SE 1/4 of SE 1/4 (20 acres) / S 1/2 of SE 1/4 of SE 1/4 (20 acres)

OUR SCHOOL FOREST...

Is located in:

The state of: _____   The county of: _____

The township of: _____

Legal Description: Section _____ Township _____ _____ (N or S) Range _____ _____ (E or W)
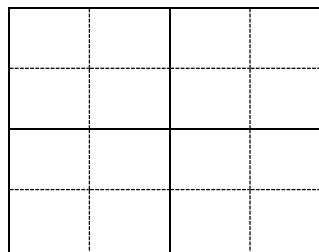
County Map

Draw a map of your county. Sketch in where your school forest is located.

Identify and mark your school forest's section number on this Township Map

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

Section Map

Draw your school forest location within the gridlines of the section provided here.

Note: If your school forest is made up of several parcels of land, complete this page for each property. If your school forest crosses over township or section boundaries, you will need to copy these diagrams and tape several together before you can sketch in your forest.

Map the School District and Forest

Use a detailed road map or on-line map (e.g., a county map or Gazetteer map) to locate the school forest in relation to your school district. On the map, indicate the locations of all of the schools that would be using the school forest. Determine walking/driving distances and times from each location to the school forest. A map of how to get to the school forest is very helpful for bus drivers and teachers who may have never led students on a field trip to the school forest before.

A map of the school forest is also extremely beneficial to help teachers and students find their way while exploring the forest. Many teachers are nervous and supplying them with even a hand-drawn map of the forest, including points of interest and facilities will help teachers feel more comfortable when taking students to the forest.

Obtain a Variety of Site Maps

Plat Maps

Plat maps will show your school forest's property boundaries and indicate who owns the surrounding parcels of land. You can find plat maps by contacting the:
- School Administration Office.
- County and City Government Offices. Most local government offices can sell you a plat map for your area.
- Library. Your local library should have copies of county plat books.

Topographic Maps

A topographic map shows the land contours and elevations on your school forest. It also shows waterways, glacial features, and much more. You can obtain topographic maps from:
- Wisconsin Geological and Natural History Survey. Contact: www.uwex.edu/wgnhs.

Aerial Photos

Aerial photos show roads, buildings, vegetation types, stream locations and general land uses. A series of aerial photos taken over many years reveals changes in land use in the area. You can probably obtain aerial photos from one or more of the following sources:
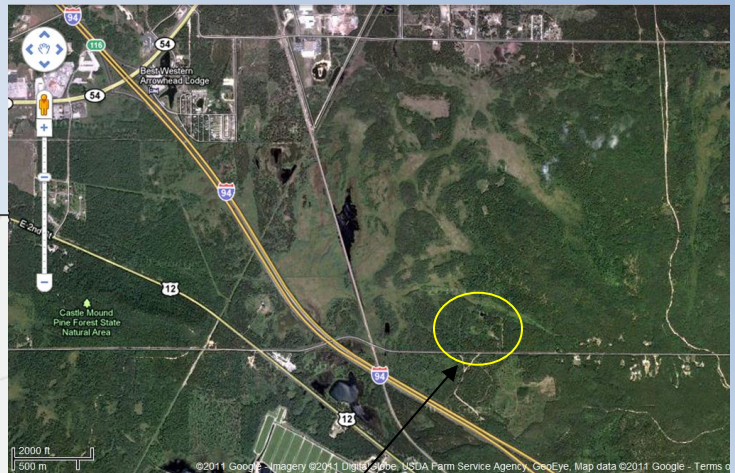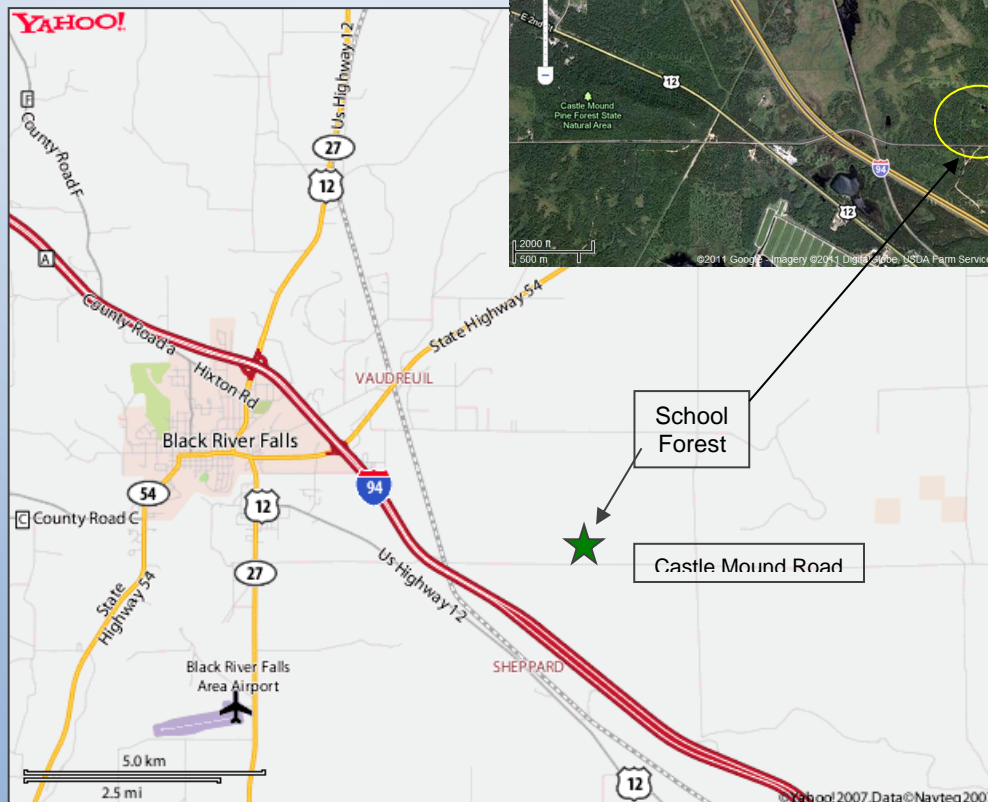- Google maps at http://maps.google.com
- County Land Use Planning Department. Contact the land information officer or Land Conservation Department for your county.
- WDNR forester

Other Maps that may be helpful:

- Wetland Inventory Maps
- Watershed Maps: Locate your watershed on a state map and discover its water quality assessment at this "Surf Your Watershed" website: Environmental Protection Agency at http://cfpub.epa.gov/surf/locate/index.cfm.
- Groundwater and Bedrock Maps
- GIS (Geographic Information System) Maps
- Soil Survey Maps: County Soil Survey maps define the characteristics of the soil types found in each county of the state. Soil surveys provide the basic information needed to protect water quality, wetlands, and wildlife habitat.

Directions to the Black River Falls School Forest

You can reach the school forest by traveling south out of Black River Falls on Hwy 12 and then turn left on to Castle Mound Road. It is approximately one mile up the road on the left hand side.

School Forest

Castle Mound Road

Map of the Rahr Memorial School Forest
Manitowoc Public School District

Lake Shore Rd

Tracks Trail

Sandy Bay Rd

DUNES

Wild Pond Lane

Pond

Leafy Lane

N

North Star Trail

Backwoods Blvd

Hemlock Trail

Milky Way

Coho Lane

1

5

2

Forest Lane

Driftwood Way

3

Red Oak Trail

4

Frog Lane

Coniferous Cut

Turkey Trail

County Hwy V

LAKE MICHIGAN

Deer Lane

Birch Drive

Rahr Memorial School Forest

Key

1 - Krejcarek Study Center
2 - Ivon Greene Cabin
3 - Ehlert Lodge
4 - Enviromental Learning Center
5 - Observatory
★ - You Are Here

Big Dipper Pass

Sand Bowl

Forest Lane

County Hwy O

0.2 mi

2007 Eagle project by Matthew Lohr from Troop 925 Two Rivers, WI
GPS equipment and software donated by Magellan
Timber and hardware donated by Two Rivers Building Supply
Signs donated by Mr. Otek Sign & Textile

Search for ROOTS

Look back in time to find out as much as you can about your school forest. Dig into deeds at the local courthouse. Check with your local historical society to find any information about cultural history of the land. Explore local geology to discover glacial and other natural history of the landscape.

Find Original Land Survey Notes

Locating Early Survey Notes
Surveyors' field notes are very interesting and will reveal a lot about what your area looked like prior to European settlement. You can obtain copies through the Board of Commissioners of Public Lands in Madison.

Interpreting Field Notes
The surveyor's field notes were hand written in the field. The surveyors wrote in cursive – often using terms and symbols that are unfamiliar to us today. The small notebooks that the surveyors used were exposed to all types of weather. If those factors weren't enough to make interpretation difficult, the microfilming process has also added to the lack of clarity. In short, interpretation is often challenging. You can find out more about the story behind the surveyors and how to interpret the field notes in these resources:

- Contact your county's Register of Deeds or County Surveyor to see if copies are available locally.
- Order copies at your local library through interlibrary loan.
- Search for survey notes within the Wisconsin Public Land Survey Records at http://digicoll.library.wisc.edu/SurveyNotes/Search.html
- Contact the State Historical Society of Wisconsin at www.wisconsinhistory.org

Complete a Title Search
Searching back through time to discover past owners and uses of a piece of property will reveal all kinds of information about the land and the community. You and your students will be able to connect the information from the title search with what you see on the site (e.g., foundations, roads, plantations, and much more).

Your search will probably start at the County Courthouse in the office of the Real Property Lister or the Register of Deeds. Most often the county clerk has charge of maintaining the records, and they are usually stored in the clerk's vault.

If you are lucky, the records will be computerized, based on tax ID numbers. You will need your school forest's address and/or

> **Kindling**
> Tri-County School Forest
>
> When the school forest committee did a complete search of their deed, they discovered that Cyrus and Nettie McCormick owned their property way back in 1871. Forty years earlier, Cyrus had invented the mechanical grain reaper that revolutionized harvesting.

legal description to determine the tax ID number for the land. As you uncover relevant records, make copies for future reference. If you are copying from old documents, check to be sure everything is copied clearly enough to be read.

Collect History

You will want to gather as much historic information about your school forest as you can. This information can be used for on-site interpretation and to help make history lessons more relevant to your students. Here are some things you and your students can do:

- Visit historical societies – Start locally in your village, town, or county. Plan a real or virtual visit to the State Historical Society of Wisconsin in Madison at www.wisconsinhistory.org.
- Ask a lot of questions – Interview longtime residents of the area.
- Read local and state history books and browse through historical archives at the local library.
- Answer as many of these questions as possible – What Native American Indian tribes inhabited the land? Was the area logged? When? Were there logging camps, railroads, dams, or fires in the area? Was the land farmed? What crops? Have there ever been buildings on the land? When did the last person live on the school forest land?

Kindling

Tri-County School Forest

Check out this project that freshmen in General Science tackled in a unit on environmental ethics. It helps them research, record, and preserve the history of their school forest.

Title: Past Land Use of the Tri-County School Forest

Mission: Determine what the school forest was like in the 1930's and 1940's.

Students spent four to five hours "surveying" the school forest property, making an inventory of past land uses or evidence of uses. In particular, they looked for fence lines, fence rows, barbed wire embedded in trees, rolls of wire, corner fence posts, high water marks, evidence of fire, evidence of soil erosion, concrete work, foundations, landscaping plants and old garden areas, outhouses, evidence of grazing by cattle or horses, remnants of farm implements, old dump areas, different habitat types, dominant tree species, plantations, even-aged stands, different-aged stands, shelterbelts, successional areas, adjacent property land uses, old signs and markers, boundary/property line markers, section corners, witness stakes, old buggy trails, footpaths, and travel lanes. As a group, they documented this evidence and its location using a single-use camera and recorded the data on current maps.

After this survey/inventory, they collected oral history from elderly community members -"old-timers" - who grew up in the area and knew a great deal about the land. Students asked questions of these individuals and often surveyed part of the property with them.

After the photos are developed, students examined old plat books, old school forest records, deeds, and aerial photos. In combination with their photos, compiled notes, and oral history, they reconstructed what the school forest property was used for and what it looked like in the 1930's and 1940's. Student groups constructed large floor maps, attached photos to respective areas, and wrote in notes from interviews and observations they made. They made hypotheses about what crops were grown and where, what lands were pastured, and when pine plantations and shelterbelts were established. Then they made correlations of dates to federal, state, and local legislation and common "gentlemen's agreements" governing farmland (e.g., Soil Bank Act, local fencing practices).

Finally, students presented their findings to their fellow classmates.

Record and Describe Your Forest Property Features

You will need help with this one! Before you seek the advice of any specialists, do your homework. They will feel better about their commitment of time and you will reap more benefits if you have gathered as much of the following information as possible. Try to visit the site several times during the year to get a complete picture of the land. Visiting in each season will also help you find out about areas that flood in spring or trails that are too muddy to use.

Involve students in extensive inventory activities whenever possible. They will be able to develop good identification, problem solving, and identification skills. However, depending on your timeline, you may need a basic inventory to begin planning.

Structural Features
Note the location, type, and size of any of the following:

- Roads and trails – Are there logging roads, fire lanes, hiking trails, or snowmobile trails? Which are accessible year-round?
- Parking lots – Are they covered with grass, gravel, or pavement? How many cars or buses will they accommodate?
- Buildings – Are there restrooms, classrooms, cooking facilities, storage areas, or maintenance facilities? Are they winterized?
- Utilities and services– Is the school forest serviced by water, sewer, phone, gas, or waste collection? Where are the utilities located? Are they overhead or underground? Are cell phones available for use by teachers on field trips? Do they work at the school forest? Are there containers for garbage disposal and recycling? Is there a pickup service?
- Outdoor facilities – Are there outdoor seating areas, picnic tables, or benches?
- Play equipment – Are there playground structures or ball fields?
- Fences – Are there fences around the land or gates over entrance roads? Is the area always "open"?

Cultural Features

Check the land for evidence of human uses. Make note of the following:

- Paths, campfire rings, or other signs of human use – What evidence do you see of current land use?
- Places of beauty – Are there any "WOW!" spots on the school forest that should be preserved because they are especially beautiful or inspirational?
- Archeological sites – Are there any indications that Native Americans used the area extensively?
- Old foundations – Can you tell if they are from houses, barns, silos, or sheds?
- Fencerows – Are the fences made of rock piles, wood, or wire?
- Garden plants – Do you see tulips, peonies, or other plants that would indicate someone had lived on the land?
- Dumpsite – Do you see solid waste in piles or littered on the land that would indicate a former dumpsite?
- Vandalism – Are there signs of past or current misuse of the land (e.g., graffiti, litter, damage to vegetation, or erosion caused by vehicles)?

Topographical Features

Describe the overall lay of the land by noting the following:

- General topography – Is the land flat, rolling, and/or steep?
- Elevation – Are there dry uplands and/or low wetlands?
- Slopes – Are slopes steep or gentle? What are the aspects (directions) of the slopes?
- Drainage – What direction does water flow on the site? Are there ditches, gullies, or streams?
- Elevation change – What is the difference in elevation between the highest and lowest points on the land?
- Safety concerns – Are there any dangerous places in the school forest such as very steep slopes, steep stream banks, or holes?

Geological Features

Explore the geology and soils of your school site by looking for the following:

- Bedrock – Is the bedrock exposed anywhere on the land?
- Fossil rock – Do you see limestone deposits where fossils might be found?
- Rock diversity – Collect sample rocks from the site. Is there enough diversity to make this a site for rock studies?
- Glacial evidence – Do you see evidence of glacial activity such as glacial landforms, glacial deposits, or boulders?
- Soil thickness – Use a soil auger to determine the presence and thickness of the topsoil, subsoil, and parent material in several locations.

- Soil type – Describe the texture, color, and composition of the soil. Determine the relative proportions of sand, silt, and clay. Determine the soil's organic components (i.e., roots, fungi, and fauna). Compare information in the County Soil Survey with what you find on the site.
- Soil chemistry – Collect soil samples from several locations to determine the pH and the chemical components of the soil.

Water Features

Inventory the seen and unseen water resources at the school forest:

- Surface waters – Identify and map the location and size of rivers, streams, lakes, ponds, springs, swamps, marshes, and bogs.
- Year-round sources – Do on-site water resources contain water during all seasons or do they dry up during summer or drought conditions?
- Water quality – Test each water source for water quality (e.g., temperature, pH, dissolved oxygen, and biotic indicators).
- Accessibility – Is it safe to approach and investigate the wet places on the property or is there a need for boardwalks, decks, or bridges to provide access?
- Groundwater – Determine the depth and direction of flow using groundwater maps of the region. Are there any groundwater monitoring wells present on the site? Are there private or commercial wells that draw on the groundwater?
- Watershed – Determine the location of the school forest in the local watershed.

Habitat Features

Investigate the presence and abundance of the following habitat features:

- Plant communities – Map the locations of woods, tree plantations, shelterbelts, wetlands, grasslands, prairie restorations, and cultivated fields. Ask for help from a forester or other resource specialists in identifying the plant communities and recognizing them on aerial photos.
- Edges – Indicate where communities meet to form transition zones and edges.
- Successional stages – Look for variety in the stages of succession of various plant communities. Could you study succession of plant communities at the school forest?
- Wildlife habitat features – Map the locations of den trees, snags, fallen logs, wildlife paths, trees that bear fruits or nuts, burrows, tree holes, nests, and travel corridors.

Plant Species

Collect information about the plants present on the site. To get a complete listing, you will need to inventory the site many times throughout the year. Look for:

- Native trees, shrubs, vines, wildflowers, grasses, aquatic plants, mosses, and ferns – Compile a listing. Ask for help from a forester or other resource specialists!

- Endangered species – Check your species list against the state's lists of endangered, threatened, protected, and watch species.
- Landscape plantings – Are there landscape or ornamental plants around buildings or in other areas?
- Invasive plants – Make note of the identification and locations of invasive plant species. For a complete list of state invasive species, check out the WDNR-Bureau of Endangered Resources website at http://dnr.wi.gov/ type invasive species in the search box.
- Hazardous plants – Are there any plants such as poison ivy, poison sumac, wild parsnip, or stinging nettle that could cause problems? Are there any hazardous trees (i.e., trees in danger of losing large branches or falling over) in areas where people will be walking or learning?

Animal Species

Compile species lists for all animals present on the site. Indicate if listings are confirmed sightings or signs left by animals. To get a complete listing, you will need to inventory the site many times throughout the year. Look for:

- Wild animals – Mammals, birds, reptiles, amphibians, fish, mollusks, insects, and other animals. Indicate on the list in which plant community each animal is found. Call in experts, like a wildlife manager, to help you know how, when, and where to look. Some animals live their whole lives in a small section of your forest; others may only pass through once a year. Your only record of some animals may be footprints, scat, or other clues they have left behind. Inventory at different seasons and different times of the day. For example, searching after leaf fall will reveal nests, snow will capture footprints, spring will bring migrations and frog calls, and a twilight visit will reveal crepuscular and nocturnal animals.
- Endangered species – Check your list against the state's lists of endangered, threatened, protected, and watch species.
- Research projects – Look for possible wildlife research projects such as breeding bird surveys or butterfly counts. You should also establish a collection policy and criteria for specimen identification.

Other Living Things
Search for other living things that are not in the plant or animal kingdoms. Look for: Algae, fungi, molds, lichens, mushrooms and other things that are strange, yet wonderful! Use the list below to assess your forest's biodiversity.

Kindling

Pride Pond Nature Area

Becky Wegner takes Tomahawk 6th graders into one of their school forests three times each year to record plant and animal species. Their seasonal visits are part of a longitudinal study. After their first visit, students get a chance to review the data that previous students collected on the same plot of land. Becky reports that their next step is to compile the information so they can compare years in a more scientific way.

Check Out Biodiversity

Use this list to check out the diversity of life at your school forest. How many different species (kinds) of trees, insects, birds, and other living things can you find and identify?

Plants	**Animals**	**Other Living Creatures**
Coniferous Trees	Birds	Bacteria
Deciduous Trees	Mammals	Protists
Shrubs and Vines	Reptiles	Algae
Wildflowers	Amphibians	Fungi
Grasses and Sedges	Insects	Lichens
Aquatic Plants	Fish	Molds
Liverworts	Arachnids	Mushrooms
Mosses	Crustaceans	
Ferns	Earthworms	
Horsetails	Slugs	

Note: This list includes most of the groups of living things that can be found in North America. Wow! Just the list alone reminds us of all the living things that share this planet with us. You won't find representatives of each group in the area you inventory. Take your microscopes to the school forest to explore the organisms in the Kingdoms of Life. Good luck!

Gather Climate Information

Information about your local climate will be helpful in discussing vegetation present on the site. You can also use the information as a baseline in weather studies. You can find climate information by contacting:

- Local television stations
- National Weather Service
- Wisconsin State Climatology Office. Available at www.aos.wisc.edu/~sco.

Investigate Educational Needs and Resources

Assessing the educational needs and resources of your school district is just as important as inventorying the school forest itself. You need to find out how the forest is being used and how students and staff view the land. This information will help to guide your future planning.

Obtain District Information

Find out the total number of students and teachers who could potentially use the site. List students and teachers by grade level or discipline.

Study District and National Core Standards

Review National Core, district and/or state academic standards. Take a critical look at the scope and sequence of instruction at each grade level. Look for concepts and standards that could be addressed at the school forest. Indicate areas of current or potential curriculum development.

Inventory Equipment

Get a handle on the types of environmental education equipment that exist in your district. Use the following pages of the handbook to help complete this inventory.

Survey Administrators, Faculty, and Staff

Send a survey to every person at school from the school board superintendent to the nighttime custodian. A needs assessment survey is found on the following pages. Utilize the information collected to build a school forest program unique to your district's needs.

Consider Facility Development

The facilities present at a school forest will limit or enhance the educational uses of the land. Dream big. What types of facilities are possible at your forest? Brainstorm and ask yourselves – if we want this type of programming, what kind of facilities do we need?

Think about the following questions:

- After considering the data collected during the inventory process, what are the strengths and weaknesses of the current facilities?
- What are the maintenance needs of current facilities? Are there any structures beyond repair? Any that are hazards? Are there any historical features that we should preserve?
- How can you make this forest accessible to all people? What legal obligations (e.g., ADA) for accessibility do you have? Remember, if you remodel or add to a building, the whole building must meet current codes.
- Does the school's insurance cover teachers, students, and volunteers working on the school forest grounds?
- What permits will you need to put up structures near waterways, wetlands, or lakes?
- How will site development decisions impact the education programs at the school forest? Ask the curriculum committee what kinds of facilities could enhance the experiences of students at the school forest. Consider facility designs that will demonstrate an environmental ethic you hope to develop in your students.
- How will site development decisions impact the resource management plan of the school forest? Talk with the resource management committee about where development should take place.

Condition of Existing Facilities

Determine the condition and potential of existing facilities. Decide whether to repair, remove, or replace them.

Development Recommendations

Based on your current facilities and the future plans for the school forest, develop a list of recommended improvements to the facilities. For each project, determine a projected budget, an implementation timeline, and a maintenance schedule.

Permits and Permissions

Be sure to check local zoning regulations and any deed restrictions on your property before you begin planning a building project.

If you are planning to build anything on or near water, you should also contact the closest WDNR Service Center. Speak with someone from the Bureau of Water Regulations about whether you need state or federal permits for your project.

Consider Maintenance

Care should be taken not to plan and implement more than can be maintained. Always compare maintenance and utilities costs to the budget, staff, and other resources available when planning site developments.

For each part of your plan, list what will need to be done, how it will be accomplished, and who will need to do it. It might be helpful to make a schedule listing monthly, seasonal, and annual maintenance tasks.

Brainstorm the Possibilities

The following list is provided to inspire you and generate new ideas for your forest.

Site Amenities
outdoor classroom – open shelter or
    year-round building?
restrooms – flush, portable or
    compostable toilets?
drinking water – indoor or outdoor?
overnight lodging
office space
equipment storage
museum
greenhouse
cooking facilities
fireplace
campfire ring
amphitheater
outdoor art sculptures
benches
picnic areas
observation towers
camping areas for scouts and students
sledding/snowboarding hill
dam for creating a wetland/ pond

Site Access
entrance road – gated or not gated?
parking lot – large enough to
    accommodate buses?

Trails
accessible trails
nature trails with markers/signs/booklets
hiking trails
cross-country ski/run trails
mountain bike trails
snowmobile trails
boardwalks and piers
culverts
bridges

Teaching Stations
ropes course/challenge course
fitness course
weather station
wildlife blinds
bird-feeding station
animal tracking plot
wildlife exclosures
orienteering course
demonstration areas
rifle and/or archery range
soil profile
stumps, logs, and/or brush piles
sundial
arboretum
groundwater monitoring well and/or
    piezometer

Equipment Inventory Checklist

Take inventory of the equipment that is available for use at the school forest. This list will also help you to create your wish list later in the planning process.

General
_____ maps of school forest
_____ user's guide/teacher's guide
_____ clipboards or drawing boards
_____ paper
_____ pencils
_____ pens
_____ markers
_____ crayons
_____ masking tape
_____ glue
_____ scissors
_____ paper bags
_____ ziplock bags
_____ plastic containers
_____ plastic bottles

Safety
_____ first aid kits
_____ disposable examining gloves
_____ weather radio
_____ flashlights and extra batteries
_____ candles and matches
_____ blankets
_____ cell phones

Technology
_____ digital camera
_____ video camera
_____ GPS

Basic Exploring
_____ magnifying lenses
_____ bug boxes
_____ insect nets
_____ stereomicroscopes
_____ pails and other containers for all
        sorts of uses
_____ funnels
_____ ice cube trays for sorting specimens

_____ garden hand tools
_____ 100' measuring tapes
_____ stopwatches
_____ ID books and field guides

Forestry Measurement
_____ tree cookies
_____ wood samples
_____ board foot samples
_____ Biltmore sticks
_____ prisms
_____ diameter tapes
_____ increment borers
_____ angle gauges
_____ clinometers
_____ tree keys
_____ rulers

Timber Management
_____ tree marking gun
_____ flagging tape
_____ pole saws
_____ bow saws
_____ pruners
_____ loppers
_____ chain saws

Plant Studies
_____ plant presses
_____ herbarium specimens
_____ plant keys

Aquatic Studies
_____ pond nets
_____ kick nets
_____ minnow traps
_____ pails and dishpans
_____ plastic cups and tubs
_____ lab pans
_____ petri dishes

_____ spoons
_____ forceps
_____ microscopes
_____ bioscopes
_____ biotic index charts
_____ water quality test kits
_____ pH paper / pH test kits
_____ Secchi disks
_____ waders
_____ groundwater models

Wildlife Management
_____ binoculars
_____ spotting scopes
_____ echolocators
_____ radio telemetry equipment
_____ skulls
_____ study skins
_____ mounted specimens
_____ animal tracks and molds
_____ plaster of Paris
_____ nests and hives
_____ artificial nest boxes
_____ dissection kits
_____ small mammal box traps
_____ mist nets

Geology/Soil Studies
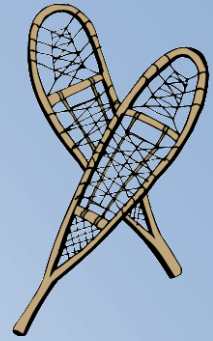_____ soil samples
_____ soil test kits
_____ soil sieves
_____ soil thermometers
_____ soil color charts
_____ trowels
_____ chisels
_____ rock hammers
_____ safety goggles
_____ reference specimens

Weather Studies
_____ weather station
_____ thermometers
_____ heat index charts
_____ sling psychrometers
_____ rain gauges
_____ cloud charts
_____ wind scale charts
_____ wind chill charts
_____ barometers
_____ anemometers
_____ light meters
_____ air quality testers (CO_2, SO_2, NO_x, ozone, radon)

Recreation
_____ raincoats/ponchos
_____ skis
_____ snowshoes
_____ compasses
_____ topo maps
_____ archery equipment
_____ fishing rods and reels

Construction/Maintenance
(List on a separate page)
_____ hand tools
_____ power tools

Books
(List on a separate page)
_____ curriculum guides
_____ reference books
_____ field guides
_____ children's literature

Multimedia Resources
_____ slide sets
_____ videos
_____ CD-ROM programs
_____ teaching kits

School Forest Needs Assessment

Name: _____   School: _____

Position or subjects taught: _____

School Forest Use

1. Do you know that the school district has a school forest? ___yes ___no

2. Have you ever taken students to the school forest? ___yes ___no
    *If **NO**, what hinders you from using the school forest?*

3. If you aren't currently using the school forest, do you have an interest in doing so? __ yes __no

4. Do you intend to use the school forest this school year? ___yes ___no
    *If **YES**, how many times will you take students to the school forest this year?*

5. Did you ever encounter problems that prevented your use of the school forest? __yes __no
    *If **YES**, what were the problems?*

6. How might you use the school forest to enhance your classroom instruction or other school-related activities?

School Forest Facilities

7. Are the current facilities at the school forest adequate? ___yes ___no

8. The following is a list of potential improvements to the school forest. Check all of the improvements that will enhance your use of the school forest.

    ___Improve existing trails (clear and make accessible)

    ___Develop new trails

    ___Build/repair stream crossings

    ___Build pond access

    ___Prepare map of school forest (and directions to get there)

    ___Improve parking lot

    ___ Build a fire pit

    ___Have bench seating areas

    ___Build restrooms

    ___Build an education shelter

    ___Develop a challenge course

    ___Develop a ski trail

    ___Pursue timber sales and harvesting practices

    ___***Others – Please list:***

School Forest Logistics

9. *What areas do you feel need to be improved to better utilize the school forest?*
___Transportation to and from the school forests.

> ***Transportation Suggestions:***

___Scheduling of classes at the school forest

      a. Do you need help developing lesson ideas to use with your classes at the school forest? ___yes ___no

      b. If there was more time available, would you be better able (or willing) to take students to the school forest? ___ yes ___ no

> ***Scheduling Suggestions:***

___Safety considerations while at the school forests
      a. What safety equipment should be required on field trips to the school forest?

> ***Safety Suggestions:***

___***Others – Please list:***

School Forest Equipment and Materials

10. Please list materials and equipment that would enhance your activities at the school forest:

Professional Development

11.   Do you feel you have enough knowledge of natural resources and environmental education (forestry, soils, wildlife, water, etc.) to effectively utilize the school forest? ___yes ___no

12. What topics would you like to learn more about that would enhance your school forest lessons?

___ wildlife tracking
___ tree identification
___ wildflower identification
___ wildlife in general
___ forest industry
___ insects
___nature writing

___ geology of area
___ environmental music ideas

Other ideas: (please list)

13. Which professional development opportunities would be most valuable to you (select as many as you wish)?

___Content (background information on forests, wildlife, water, soils, etc.)
___Environmental education (background information on EE, how can it be used, state EE standards)
___Environmental education curriculum (Select specifics you are interested in below…)
___ LEAF (WI's K-12 Forestry Education Curriculum… LEAF connects formal and non-formal educators in Wisconsin with quality forestry education materials.)
___ PLT (Project Learning Tree…. Is a multi-disciplinary environmental education program for educators and students in PreK-12. PLT is a program of the American Forest Foundation.)
___ WET (The mission of Project WET is to reach children, parents, educators and communities of the world with water education.)
___ WILD (A wildlife focused conservation education program for K-12 students)
___ Flying WILD (Introduces students to bird conservation through standards-based classroom activities and environmental stewardship projects)
___ KEEP (The Wisconsin K-12 Energy Education Program (KEEP) was created to promote energy education in Wisconsin.)
___ Pollinator LIVE (Educational materials sponsored by the US Forest Service that focus on pollinators. Includes lessons, grants, and teacher opportunities.)
___Forest management
___School forest development and administration

Other Professional Development Ideas – Please list:

Thank you for taking the time to provide feedback on the current status of our school forest program. If you would like to be involved in further designing and developing our district-wide school forest program, please contact _____.

Assess Current Community Uses

It will be important to recognize all the ways the school forest land is being used. Enhancements that you make to the property should not eliminate current positive uses. On the other hand, you may want to make some very conscious changes to eliminate or discourage undesirable activity on the land.

Here are some examples of questions you may want to ask:
- What other users/groups are currently using the site? How?
- How is the school forest being used for recreation? For example, are people skiing, snowmobiling, hiking, hunting, or bird-watching?
- How is the community benefiting from the forest as a resource? For example, are people harvesting firewood, game, fish, maple sap, mushrooms, or other wild edibles?
- Are there any concerns about the school forest from the perspective of people in the community? For example, are there signs of vandalism, parties, or fires?

Take Field Trips

Part of your information gathering process should include visiting other school forests and networking with school forest coordinators. Choose school forest situations that are similar to yours in acreage of land, size of school district, or level of staffing. A list of registered school forests is maintained by the LEAF program at the University of Wisconsin-Stevens Point at http://www.uwsp.edu/cnr-ap/leaf/Pages/School-Forests.aspx.

Representatives of your school forest committee should also consider attending workshops and conference sessions focusing on school forests. Workshops offer great ways for you find out what is being done and can be done around the state.

Develop a School Forest Education Plan

Required Components:

☐ Rationale
☐ Site Description
☐ Educational Connections
☐ Sustaining the School Forest Program

The School Forest Education Plan

Why develop a school forest education plan?

Having a written education plan for your school forest is a crucial step in developing your school forest program. The school forest education plan will act as the firm foundation the rest of your program will be built upon. The plan will provide clear direction for development and sustenance of the school forest program. Having an approved education plan is also required by the Wisconsin Environmental Education Board in order to apply for School Forest Grants.

Too often teachers, administrators, and the community have not determined how the school forest fits into the district's curriculum and how it can be used to enhance student learning. The school forest education plan is the tool to make these connections.

The next section of this document presents an established, approved outline for school forest education plan development. This outline provides the structure and description for the components of a school forest education plan. The majority of the components of the outline are required to be completed to have an official education plan. However, a few components, marked with an asterisk (*) are simply recommendations that will enhance the plan, but are not required for approval.

If you have any questions about this education plan outline, please contact the Wisconsin School Forest Coordinator with the LEAF program at: 715-346-2633 or Gretchen.Marshall@uwsp.edu.

All completed education plans should be submitted to Wisconsin School Forest Coordinator at LEAF for review and approval.

Grant Money is Available

Are you wondering how to find the time, resources, and energy to develop this school forest education plan document? The Wisconsin Environmental Education Board (WEEB) has grant money available for the specific purpose of writing your school forest education plan. Up to $5,000.00 is available for staff and educators in your district to get together outside of contract time to write the education plan. Visit www.uwsp.edu/cnr/weeb to learn more about the School Forest Education Plan Grant.

Part A: Rationale

As a committee, discuss why the school forest is an important asset to the school district. What are the benefits of an outdoor classroom to student learning? What are the benefits of an outdoor classroom for teachers?

Rationale Components:
- ☐ Value Statement
- ☐ Target Messages
- ☐ Needs Assessment Results

The rationale will provide the background information and justification for why and how the school forest education program will be developed. The rationale should give readers a basic understanding of why your school forest is important, what topics the education programs will cover, and why the school forest program needs to be developed.

1. Write Your Mission Statement

The mission statement is not a required component of the education plan, but it is important to have a clearly stated mission. The process of crafting your statement will clarify the vague feelings and thoughts that are swirling in each person's head. It will give your group a common vision that you can refer to when questions arise about what direction you should be heading.

A mission statement should clarify:
- Who you are
- What you do
- Why you do it

Think about what it is that you want your school forest to do for students, teachers, the district, and the community. Why are you trying to develop the school forest? If you can answer these questions, then you have a handle on your mission. As a committee, talk about the concepts and direction of the statement. Assign a small group of two or three to actually write the statement and bring it back to the group for approval or further editing.

2. Develop a Value Statement

The value statement describes why outdoor environmental education (EE) and the school forest are important to your school district. This should utilize the existing research that has determined that environmental education increases test scores and attendance while decreasing behavioral problems. The statement should be broad enough to include all grade levels and subject areas in the school district.

3. Brainstorm Target Messages

Target messages are the broad themes/topics that will be covered at the school forest and are relevant to your school district. Educational goals and specific learner objectives will be addressed in the "educational connections" section.

An example target message: Humans are part of the natural world.

4. Analyze and Summarize the Needs Assessment Results

It is time to look at data that has been collected. If you have not yet surveyed district staff, a sample needs assessment can be found on pages 50-52. The sample can also be found online at: http://www.uwsp.edu/cnr-ap/leaf/SiteAssets/Pages/School-Forest-Education-Plans/School%20Forest%20Needs%20Assessment.pdf.

Start to break it down. What do your teaching staff, administrators, students, and community members think about the school forest? Your simple survey, asking about the district's school forest needs, will help identify the direction your education plan should go.

The needs assessment results provide the basis for developing the school forest program. This is a very important step that shouldn't be skipped. It is crucial that other district personnel (besides those on the school forest committee) have a voice in developing the program. The more interest in the program, and the greater amount of needs that are addressed at this stage, the more successful your school forest program will be within your school district.

This section should include information such as:
- Interest in using the school forest among teachers, administrators, and/or students
- Barriers to using the school forest
- Knowledge base and comfort of teachers related to outdoor EE
- Logistics needs, e.g., restrooms, transportation, safety
- What do teachers need in order to utilize the school forest for student field trips?
- What are the first priorities the school forest committee should "tackle" in order to begin moving the school forest program forward for the district?

Part B: Site Description

A full description of the location and major features of the site will prove to be beneficial for your committee, but also for all district personnel. Remember when you gathered the site features information earlier? This is where much of that information will be summarized.

Consider bus drivers, new teachers, experienced teachers who are new to the school forest, substitute teachers, and administrators when recording information in this section. The site description is not only a detailed recording of the physical school forest, but should be informative to anyone unfamiliar with the school forest. A bus driver will be grateful with clear directions to the school forest. A teacher new to the forest can use this information to get a feel for the school forest before stepping foot in it with students. Pictures are always helpful. Consider taking pictures of the school forest site, facilities, and trails to incorporate into this section.

You will summarize information gathered into three sections (Site Description, Site History, and Site Management) for this part of the education plan. If there are missing components the school forest committee hasn't gathered already, consider having students help research and document the missing information.

1. Site Description
Include information about these different components of the school forest.

- Legal description
- Size of the school forest. How many acres?
- Directions to the school forest in relation to the school district facilities
- Maps
    o Include a map from the school to the school forest
    o A map of the actual forest property (include any existing trails and facilities)
- Map of major community types (e.g., forest, wetland, lakes, prairie)
- Description of the major community types present on the school forest.
    o What are the most common species of trees, shrubs, wildflowers, and grasses?
    o What types of animal species are found at the forest?
    o Describe the biodiversity present
- Description and location of unique site features
    o Are there any unusual/rare plants, exceptional wildlife habitat, or scenic areas?
- Facilities on the school forest
    o Are there restrooms and does a shelter area exist?
    o Is there a place for students to sit?
    o Do trails and trail signs help visitors find their way through the trees?

2. *Site History

The stories provided by the natural and cultural history of the site can provide exciting educational opportunities. You may need to dig through your community's resources in the library, courthouse, and historical society. This section can be expanded as the program is developed – it's a great opportunity to get students from social studies classes involved. Include both:

- Cultural history (pre-historic to present day human use of the school forest)
    - Who are the previous owners of the land? Can you trace ownership of the property through the register of deeds?
    - How was the land previously used or managed? Has it been logged? Was it a working farm? Is there any evidence left behind?
- Natural history (e.g. geology, ecology, climate)
    - Did glaciers etch the forest landscape?
    - What type of bedrock or substrate is found under the forest?
    - What soil types are found on the forest property?
    - What major Wisconsin forest zone classification is the forest located in?
    - Have there been any natural disasters (wild fires, tornado, floods, etc.) that have altered the school forest?

3. *Site Management

Your local Wisconsin Department of Natural Resources forester most likely has a forest management plan, also called stewardship plan on file for your forest property. This DNR management plan is very comprehensive and outlines the forest types found on your land and recommendations for managing a healthy forest. A sample school forest management plan can be found in the Appendix.

Make sure you are familiar with your forest management plan and are in contact with your DNR forester when needed. If you do not have a management plan for your school forest, contact your DNR forester and request one.

This section asks you to combine management recommendations and educational goals for the school forest. Ultimately, educational goals should drive the management of the school forest. Look at the forest management recommendations and identify ways to include students in those management recommendations. How can students help manage the forest? What learning opportunities are available to students through these management recommendations?

Include the key goals, objectives, and other recommendations for management. Also, indicate how management activities will be used to educate students.

> **Example: Invasive species removal**
> Students will learn about the life cycle of garlic mustard, its impact to local forest ecosystems and how to minimize its effects. Students will help manage the forest by helping remove garlic mustard from the school forest.

Part C: Educational Connections

This section is the heart of the education plan. The educational connections will build on the rationale and site description and will provide the foundation for development of a school forest curriculum. The school forest should be an extension of the classroom. Utilize the school forest to teach what can be best taught outdoors through experiential activities.

This is a school forest – your school forest education program should dictate the management and development of your forest, not vice versa. Some committees make the mistake of concentrating primarily on the physical parts of the forest, but it is the programming that will make a difference in the lives and learning of your students!

> **Educational Connections Components:**
> ☐ Educational Goals
> ☐ Classroom Curriculum Connections
> ☐ Site Connections
> ☐ Alignment with State Standards
> ☐ Resources
> ☐ Staff Development
> ☐ Assessment

Lessons planned for the school forest should:
- Connect directly to academic standards in the district and the state.
- Follow a logical scope and sequence tied to curriculum goals.
- Enhance current curriculum.
- Allow students to participate in real-life situations.
- Get students outside doing things they can't do in the classroom.
- Utilize natural resources management activities to explore sustainable natural resource management.
- Incorporate as many subjects as possible. Music, math, language arts, social studies, physical education, and art curriculum can all be incorporated into the school forest program too. It is not just a place to learn about science!

You may not be able to complete this section as a single committee, but take the time to meet with individual teachers or groups of grade-level teachers to see what works best for them. Give other teachers a "voice" in this section so they become comfortable with lessons they may be teaching on student field trips.

Your goal is to have a plan for each grade within your school so that when teachers take students on a field trip, they know exactly which activities or lessons they will be doing at the forest.

1. Educational Goals

List the key learning concepts for students at the school forest. These are broad educational goals from which learning objectives will be developed.

2. Classroom Curriculum Connections

Take a look at grade-level curriculum. Identify concepts in the curriculum that can easily be learned at the school forest instead of just inside the classroom. Once you have a big list, meet with these grade level teachers and discuss which concepts they would like to incorporate into a fieldtrip for their students. List the <u>grade</u> level (and, if useful, during what time of the year), subjects, and <u>concepts</u> covered.

It's not all about science! The school forest is an appropriate place to learn about measurement, history, geology, poetry, art, music, and so much more. Look closely at your curriculum. Which concepts do you teach that students could learn outdoors? See the example below to understand what types of curriculum connections can be identified.

3. Site Connections

Once you have identified the curriculum concepts that can be taught at the school forest, begin to think of how to teach them to students in the forest. First identify the learning objectives you want students to walk away from the lesson understanding. List the learning objectives that can be taught, demonstrated, and/or experienced at the school forest. Then identify an activity or lesson which students can participate in to fulfill the learning objectives. See the example below to understand the difference between curriculum connections and site connections.

4. Alignment with State or Core Standards

School forests are outdoor classrooms and are held to the same standards as classrooms inside the school building. Quality learning experiences are crucial. Lessons and activities at the school forest are held to high educational standards. Align the curriculum/site connection with appropriate state standards. Remember to list all standards covered by a particular lesson, not just science!

Kindling

Below are some examples of the curriculum connections, site connections, and state standards which have been included in school forest education plans.

Grade	Subject	Curriculum Connections	Site Connections *Students will be able to:*	Activity	State Standards
6th	Math	Measurement, unit conversion	Measure and graph the diameter of trees in a pine plantation.	Measuring and Graphing Trees	Math E.8.2
1st	Science	Habitats	Name the parts of a tree.	LEAF-All About My Tree	Science 1.2.2; 1.2..3, 1.3.1, 1.5.2
HS	English	Poetry, Creative Writing	Write poems describing the school forest.	School Forest Poetry	English B.12.1, B.12.2

Do you need some help brainstorming site connections?

Here are a few ideas....Dream on!
From what you currently know about your school forest, think of all the curriculum connections you could make! The following list is not meant to limit you, but to inspire you and challenge you to connect the outdoor classroom to your school's educational plan.

Music
- schedule concerts at the school forest
- conduct practice sessions in the outdoors
- listen to music inspired by nature
- learn how to tape animal sounds
- incorporate natural sounds into original compositions
- create musical instruments from natural objects
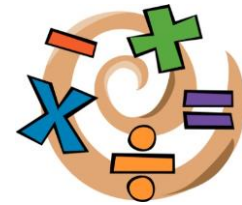
Career and Technical Education
- construct a shelter, bridge, or other structure at the forest
- develop safety awareness with hand and power tools
- build benches and teaching stations in the forest
- learn about education and resource management careers

Health and Physical Education
- practice survival skills
- experience a challenge course
- compete in cross-country events
- learn new outdoor skills (e.g., camping, canoeing, hunting, ice-fishing, archery)
- build and maintain trails for recreational and educational use
- snowshoe and cross-country ski

Math
- survey forest land
- map the forest
- interpret data
- manage a budget
- evaluate population studies
- master use of compass and topographic map
- calculate species frequency
- graph the growth of vegetation

English/Language Arts
- write the education plan
- deliver oral presentations to organizations
- keep a nature journal
- write newspaper articles
- communicate with organizations and individuals
- produce a school forest newsletter
- write trail guides
- share personal reflections about experiences in the forest with others through discussions and writings

Visual Arts
- study the work of wildlife artists
- experiment with different media in the field
- sketch, paint, or draw scenes, plants, or animals
- use native plants to make dyes and paints
- create field guides for the school forest
- develop photography skills
- develop site maps
- illustrate signs, trail guides, and other educational publications
- illustrate newsletters

Computer Technology
- create maps for planning and archival purposes
- maintain databases
- develop and maintain a website for the school forest
- produce brochures, publicity materials, and other documents

Earth and Space Science
- view celestial objects and identify constellations
- conduct geological studies
- observe glacial formations
- collect fossils
- study soil characteristics and analyze soil samples
- witness the water cycle at work
- study and control erosion
- analyze weather patterns
- record climate trends
- construct a weather station
- investigate microclimates
- explore water resources in the form of ponds, wetlands, creeks
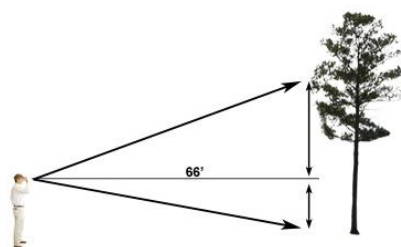
Environmental Education
- conduct independent research
- monitor environmental quality
- improve wildlife habitat
- investigate local watersheds
- monitor change in ecosystems over time
- develop a compost site
- investigate human impacts on native communities
- work with professionals in the field
- remove invasive species

Forestry / Agricultural Education
- plant trees
- participate in management decisions
- inventory trees
- conduct timber surveys
- manage timber stands
- scale logs
- conduct forest health surveys
- monitor insect pests such as the gypsy moth
- prepare for selective harvesting and/or clear cutting
- restore or establish native plant communities
- measure trees to search for champion trees

Life Science
- identify trees, shrubs, and wildflowers
- evaluate wildlife habitat
- observe wildlife and wildlife signs
- compare natural communities
- investigate forest ecology
- conduct deer browse studies
- experiment with wild edibles
- identify poisonous and hazardous plants

- investigate microhabitats
- follow and interpret tracks and other animal signs
- experience the woods at night
- collect insects
- research plant succession
- correlate plant communities with animal presence
- analyze forest, meadow, or wetland food webs
- collect, identify, and press plants
- develop a list of threatened and endangered species
- count the plants and animals in a small plot of land
- investigate ponds, wetlands, streams

Social Studies
- research previous owners of the school forest property
- learn about the geology of the forest landscape
- reenact historical events
- determine human uses of plants for art, medicine, food, etc.
- conduct an archeological dig
- engage in local government processes
- identify historical uses of the school forest land
- work cooperatively with others to accomplish school forest goals
- investigate the economics of timber sales
- develop an historical guide for the forest

5. Resources

What do you have available and what is needed to carry out your school forest program? If you have already completed the equipment inventory from the "Getting Started" section, you have a good start on this list. List the people, materials, on-site facilities, etc. that are currently **available and those that are needed** to implement the lessons and activities identified in your site connections.

This may take some time, but is well worth it in the end. Go through each site connection lesson idea and list any supplies that you will need to complete that activity. Compile your list and recognize any duplicated supplies you will need. Cross-reference that list with what is already available in your district.

Having this compiled listed of available resources and needed resources will make any grants you apply for so much easier as your supply needs and quantities will already be identified.

6. Staff Development

Providing opportunities for your staff to become comfortable and knowledgeable about the school forest is a key component to the success of your program. Work together with your staff development committee to provide professional development regarding the school forest and your education plan. Provide time for district staff to become familiar with the forest, its trails, and facilities. Allow teachers the opportunity to practice any new activities they plan to incorporate into field trips with students. Go back and take a look at your needs assessment results. What needs did teachers identify that professional development would help meet?

In this section, create a professional development strategy for district staff based on the needs assessment results and ideas generated in the site connections section. Include topics that will be covered (forest ecology, etc), format, location (best if at school forest), time, and who will deliver the professional development.

Kindling
Black River Falls School Forest

Professional development at the school forest in February is a risky endeavor. School forest committee members worked to make the day an enjoyable one for district staff who were unfamiliar with the forest site. Instead of strapping on snowshoes or skis to tour the 40 acres of forest, a community member donated his horses and wagon to give teachers a "guided tour" through the forest. After the tour, staff were able to warm-up with hot chocolate and smores over a campfire.

7. Assessment

Assessment of your school forest program is important to provide immediate feedback and provide a baseline for your programs success over the long-term.

How will you determine the success of your district's school forest program?
- What types of data can you collect regarding student learning at the school forest?
- Can you measure how often the forest is being used by students or community members? Utilize the School Forest Use Tracking Tool found in the appendix.
- What impacts are the school forest experiences having on the teaching styles of district staff?

Explain and provide examples of evaluation techniques and tools you will use to assess your school forest program, both in the short and long-term, and how you will modify the program according to the feedback received.

Part D: Sustaining the School Forest

Part A of the education plan provided justification for your school forest program. Part B describes the school forest property. Part C identifies the educational activities which will take place at the school forest. Now Part D will lay the foundation for sustaining the program over time. Too often school districts only plan for the short-term and many school forests fall by the "wayside" as other priorities develop within the district. Having a strong plan for sustaining the forest will help the school forest survive throughout tough times, staff turnover, and district priority shifts.

Sustaining the School Forest Components:

☐ School Forest Committee & Responsibilities
☐ Communication Plan
☐ Long-Range Goals
☐ Implementation Plan
☐ District Commitment

The information in this section will assist in long-term maintenance of the school forest program and will provide for continuity in case of staffing or funding changes.

1. School Forest Committee & Its Responsibilities

In the "Getting Started" section, you were encouraged to create a diverse school forest committee and identify the roles the committee will fulfill in the life of your school forest program. Establishing a school forest committee is perhaps the most important activity to assist in the development and maintenance of the program. Remember, the school forest committee should include individuals that represent diverse grade levels, subject areas, administration, and community partners.

List the school forest committee members and their roles or responsibilities. If any subcommittees exist, also list them, their roles, and the members of each subcommittee.

2. Communication Plan

Community support is important in the life and value of your school forest program. When troubles arise, a community that values its school forest will rise to the occasion to help sustain it.

The importance of good, consistent, informative communication cannot be stressed enough. There is no guarantee of success, but your project will be further ahead if you can keep fellow educators, the school board, students, the community, and your supporters informed of progress.

If your school forest is "in the news," it will also be easier to ask for and receive funding and other forms of assistance.

How will you let those in your community know about the educational opportunities at your school forest? Begin to brainstorm avenues for sharing the work and success of your school forest program. What media sources are available to showcase students learning in the forest?

Develop a strategy for how the value, needs, and successes will be shared with teachers, administrators and the community to build support for the school forest program. The communication plan should span the length time of the education plan and beyond.

Here are some ideas to communicate the success of your school forest program:
- Let students tell the story.
- Use photographs and PowerPoint presentations.
- Create a school forest newsletter.
- Write articles for school/staff newsletters.
- Work with local newspapers to ensure coverage of events.
- Develop displays and bulletin boards.
- Coordinate parent/ staff dinners and programs.
- Hold an open house at the school forest.
- Give presentations to community groups.

3. Long-range Goals

Short-term goals are good to have, but don't forget to plan for the future as well. What do you want the school forest program to look like in two years?...five years?...ten years? What tasks, projects, or forest management needs to take place to reach those goals?

Feel free to dream. Many dreams may seem impossible for your district right now, but you'd be surprised how many districts are able to make their wildest dreams come true. Remember, there is also grant money available through the Wisconsin Environmental Education Board (WEEB). WEEB grants have allowed many dreams to become reality.

In this section, list long-range goals for the school forest program. Include goals that will take varying lengths of time and effort to accomplish, i.e., more easily attainable goals and "pie in the sky" long-term goals.

4. Implementation Plan

Now take those long-range goals and develop a plan to fulfill them. Create a timeline to implement the education plan and long range goals. Include key activities and resources (human and/or financial) needed to implement the specific components and goals.

5. *District Commitment

Once your school forest education plan is complete, take it to the school board to get their support and approval of your education plan. Stated or written support of the District's commitment to the school forest program will allow your school forest committee to begin implementing the education plan and start to fulfill all of your goals!

Remember to send your education plan to the Wisconsin School Forest Coordinator at the LEAF Program for final approval. This approval is important and allows the education plan to be marked as completed. A completed and approved school forest education plan needs to be on file with the LEAF Program in order to apply for WEEB school forest grants.

Whew, once the education plan is complete and approved by the Wisconsin School Forest Coordinator….what is the next step?!

Implement the Plan!

School Forest Administrative Tasks

Now it is time to put your plan into action. Begin taking students and teachers on fieldtrips to the forest and watch the evolution from a written plan to excited student learning. However, don't forget about other tasks that still need to be accomplished.

You will find that administrative tasks are an important part in implementing the education plan and having a successful school forest program. Some of these tasks should be established before you are ready to take students to the school forest and others will continue throughout the life of the district's forest program.

If you have questions about how to jump in and implement a successful school forest program, contact the Wisconsin School Forest Coordinator with the LEAF program. LEAF has collected many samples and ideas from the vast array of school forests throughout the state and can help generate ideas to get your program off the ground.

a. General Policy and Procedure

It is always good to have policies and procedures identified for your school forest program. The school forest committee should work together to draft information listed below. These policies and procedures should be understood by the school board, administrators, and teachers within the district.

- School Forest Rules & Regulations -- Visit the LEAF School Forest website at http://www.uwsp.edu/cnr-ap/leaf/Pages/School-Forests.aspx for sample policies.
- School Forest Curriculum – How will you make sure all teachers have copies of the lessons and activities they will do at the forest? Some schools put all of the activities used at the forest in a binder for teachers to reference.
- Procedures for scheduling groups at the forest.
- Procedures for recording use. Utilizing the School Forest Use Tracking Tool (see Appendix) can help collect and organize this information.
- Policy for income generated for and from the school forest.

b. Monitor/Assess/Evaluate

How will you evaluate the success of your School Forest Education Plan? What benefits do you expect to receive? What methods and procedures will you use to assess how well your goals and objectives are being met?

Your school forest committee should review the plan and the budget annually to assess your accomplishments and progress. Be ready to issue updates or revisions based on experiences and feedback. And don't forget to share your progress, success stories, and program evaluation with the school board, district staff and administrators, and the community.

c. Record Growth

You will want to keep a complete record of your school forest program.
Keeping records will:

- Help to ensure the continued growth of the school forest despite changes in administration, staff, and committee members.
- Help parents and the community see the value of the school forest.
- Remind students of all they have accomplished.
- Provide valuable background for future committee members.
- Come in very handy when you need to show potential donors the great work you have been doing.

Some administrative information that you will want to keep includes:

- Lists of committee members and their affiliations.
- Attendance and use statistics for each year (to show growth in the program).
- Copies of newspaper articles and other media coverage related to the school forest.
- Copies of all policies.
- Proposed and actual budget reports.
- Financial records, receipts, and warranties.
- Good notes of what worked and what didn't work.
- Copies of all grants submitted (even if they weren't successful).
- Contacts that have been made and the responses.
- All of the maps, photos, and inventory sheets should also be a part of your record.

Try to also collect personal reflections and impressions as part of your official record! Poetry, art, and other forms of expression will give your school forest records a personal touch.

d. Adapt

Your school forest program will be constantly evolving as the years go by. Don't be afraid to change things if they aren't working they way you'd like. As time goes on your school forest needs and priorities will change. Be sure to take time each year to reflect on your successes and discuss potential improvements. Add these new ideas to your implementation plan.
Every 5 years, revisit, modify and update your school forest education plan. Send modified education plans to the Wisconsin School Forest Coordinator with the LEAF Program so that your school forest records can be continually updated at the state level.

Appendix

School and Community Forests – Registration Information

This is an abridged version of Chapter 15 of the DNR Private Lands Handbook. For complete description of the school forest program, see that document. The School and Community Forest Law, section 28.20, Wis. Stats., enacted in 1947, allows schools, villages, cities, and towns to own land and practice forestry. There are over 400 properties registered under the program.

What is the purpose?
The original intent of the law was to demonstrate the economic advantages of managing timber and to allow municipalities to receive an income from these lands. Over the years, forestry and forestry education have changed. Lands entered under the law provide an excellent opportunity to demonstrate sustainable forestry and to teach about land stewardship.

Who is eligible to apply?
Any city, village, town, or school district that has legal control of forested property

What are the benefits?
Upon registration with the Department, the school or municipality is eligible for (1) free trees and seed from the state forest nurseries, (2) technical assistance from Department foresters for carrying out tree planting and forest management plans, (3) to apply for Wisconsin Environmental Education Board (WEEB) school forest grants, and (4) to receive assistance from the Wisconsin School Forest Coordinator.

Note: Free trees and seeds from the state nurseries and eligibility for WEEB grants are contingent upon meeting the forest management and education plan guidelines.

Entry Criteria
1. Property must be owned or under legal control (e.g. lease, easement) of a municipality or school district.
2. The school board or governing body of the municipality must adopt a resolution to dedicate a parcel as a school or community forest.
3. Wisconsin statutes do not establish a minimum acreage or productivity requirement for school or community forests. However, the property should contain at least one acre of forest.
4. The municipality or school district must indicate intent to actively manage the forest, where applicable.
5. School districts must indicate intent to provide sustainable forestry education as a component of their education programs.
6. A management plan or property description must be completed and approved. (Conditional acceptance can be granted prior to completion of a management plan based on forester recommendations.)

Application Procedures
1. Owner (or an authorized property representative) completes an application form, attaches minutes of meeting dedicating property as school or community forest, and submits it to the local DNR forester.
2. DNR forester visits site to ensure property meets criteria.
3. DNR forester completes recommendation section of the application.
4. DNR forester sends application meeting criteria to Wisconsin School Forest Coordinator.
5. If land does not meet criteria, forester sends letter of explanation to the property representative and to the Wisconsin School Forest Coordinator indicating why it may not be registered.
6. The Wisconsin School Forest Coordinator conditionally approves acceptance based on forester recommendations.

Upon conditional approval, both a management plan and an education plan, where applicable, will be completed. If possible, these plans should be developed together and should be interrelated.

Forest Management Plan Procedure
A management plan must be completed and approved within one year of acceptance. Note: any individual, group, or organization can be involved in developing the plan. If a Department forester does not develop the plan, it will be submitted to a Department forester for review.

Education Plan Procedure
1. School district or municipality (if using property for education purposes) develops an education plan utilizing guidelines supplied by the Wisconsin School Forest Coordinator.
2. School district or municipality sends the completed education plan to the Wisconsin School Forest Coordinator.

Assistance and Submissions
For more information or assistance in completing your application, forest management plan, or education plan, please contact the Wisconsin School Forest Coordinator at 715-346-2633 or Gretchen.Marshall@uwsp.edu, visit the LEAF School Forest website at http://www.uwsp.edu/cnr-ap/leaf/Pages/School-Forests.aspx, or contact your local DNR forester. **Submit your paperwork to LEAF at 800 Reserve Street – Room 110 TNR, Stevens Point, WI 54481**

The statewide school forest program is a partnership between the DNR-Division of Forestry and the Wisconsin Center for Environmental Education at UW-Stevens Point.

School or Community Forest Registration Application

Form 2400-088 (Rev 4/12)
State of Wisconsin – Department of Natural Resources

Applicant

Name of Applicant (School District or Municipality)	Is the property legally in control of the applicant? Yes No
Contact Person	Address (street, city, state, zip)
Telephone Number	E-mail
Date of resolution dedicating property as a school or community forest *(Please attach copy of minutes.)*	

Property Description

Name of Property	County property is located in
Legal Description	
Total Acreage	Wooded Acreage
Date of most recent forest management plan for this property	Is there an education plan for the property (school forests only)? Yes No
Do you intend to actively and sustainably manage the forest? Yes No	Do you intend to use the property to provide education on sustainable forestry (school forests only)? Yes No

The undersigned hereby apply for registration of their school or community forest with the Department of Natural Resources.

Signature of Applicant (Municipal or School District Administrator)	Title Date signed

DNR FORESTER'S REPORT – DO NOT WRITE BELOW THIS LINE – DNR USE ONLY

Acceptance Recommendation Yes No	
Supplemental Information	
Signature of DNR Forester	Date

FOR LEAF ADMINISTRATIVE USE ONLY – DO NOT WRITE BELOW THIS LINE

Final Determination: Approved Not Approved	
Date Forest Management Plan was Approved	Date Registration Approved by the Division of Forestry

Submit application and board meeting minutes to:
LEAF, 800 Reserve Street – Room 110 TNR, Stevens Point, WI 54481

Natural Resource Management

Sustainable Forestry

Wisconsin's forests cover 46% of the state. That's 16 million acres of forests! With all those trees, forests should be able to meet everyone's needs, right?

We demand a lot from our forests. We expect our forests to be beautiful places in which to relax and enjoy the great outdoors. At the same time, we want forested lands to remain wild—undisturbed and able to support diverse species of wildlife. On top of that, we demand that forests produce wood, paper, and other products for our use. That's asking quite a bit—even from 16 million acres!

Today, we realize more than ever that forest resources are limited. With the growing population and increasing demands, the resiliency and productivity of forests will be put to the test. It's time to plan for the future!

Sustainable forestry is a goal that many foresters and owners of forested lands are striving to attain. It reaches beyond the traditional focused goal of timber production. Sustainable forestry tries to balance the economic, ecological, and social goals of today with the needs of the generations to come.

Ecological Goals: Forests are an important part of Wisconsin's environment. They provide habitats for plants and wildlife and help keep our air and water clean. **Social Goals:** Forests are great places for people to have fun and relax. They give us many social benefits. **Economic Goals:** Forests are important to Wisconsin's economy. We need the products and jobs that trees provide.

Today's forest managers and resource professionals try to manage forests to meet ecological, economic, and social goals both today and in the future. That's what sustainable forestry is all about—planning to ensure that there will always be diverse and productive forests. It means making choices. The choices aren't always easy ones, but through sustainable forestry, we can enjoy all the benefits of forests.

Adapted from "Picture the Forest" in Wisconsin Forests Forever Teachers' Guide produced by Wisconsin Forest Resources Education Alliance. ©2000 WFREA.

Connect with Professional Help

Locate your local WDNR forester at for direct on-site planning, harvesting, reforestation, pest control, and other forestry assistance. You can also ask for assistance from other government agencies, forest industry specialists, and private foresters…however, your local DNR forester will need to have a final look at the management plan before it is submitted to the Wisconsin School Forest Coordinator.

A sample management plan completed by the Wisconsin DNR for the Goodman School Forest can be found in the Appendix.

Brainstorm the Possibilities

Included in this list are many options that will enhance the educational value of the land and improve wildlife habitat. While they are probably considered part of the management plan, work closely with the education committee to determine which are most valuable to the educational use of the site.

Timber Management
- Harvesting timber through selective cutting.
- Clearcutting of aspen, jack pine, red pine, etc.
- Regenerating oaks through shelterwood cutting.
- Improving the forest through thinning, pruning, culling, or weeding.
- Planting trees for future harvests.
- Controlling insects and diseases.
- Conducting a prescribed burn to control invasive species or manage forest debris.
- Controlling the spread of invasive species through other methods.
- Creating firebreaks.
- Establishing a nursery.

Grassland Management
- Introducing or restoring native prairie plantings.
- Setting aside an area for natural plant succession.
- Burning, mowing, or applying herbicides to maintain existing grassland communities.

Wetlands/Water Management
- Protecting water quality.
- Introducing aquatic habitat in the form of a pond or wetland.
- Cleaning up litter from stream banks.
- Revegetating a damaged waterway.
- Enhancing existing water resources with native aquatic plants.
- Improving fish habitat.
- Controlling erosion along stream banks, trails, and roads.
- Controlling the spread of invasive species.

Wildlife Management

- Planting trees and shrubs to add diversity or improve wildlife habitat.
- Creating wildlife habitat for an individual species or a group of species – including non-game, game, and endangered species.
- Constructing wildlife openings.
- Planting wildlife food plots.
- Building brush piles and rock piles.
- Putting up wildlife exclosures.
- Constructing nesting boxes and feeders for specific wild animals.
- Planting windbreaks, fencerows, or shelterbelts.
- Leaving dead trees (both standing snags and downed logs), den trees, and wolf trees for wildlife habitat.
- Creating artificial hibernacula for reptiles and amphibians.
- Managing grassland areas for grassland birds.

Kindling

Tri-County School Forest

Students have built over 2000 wildlife houses (i.e., bat houses and nest boxes for bluebirds, kestrels, and wood ducks). But the students don't just build the houses! They selectively mark the trees. They watch as a portable sawmill operator cuts the logs. Students scale the logs and determine board feet. The wood is dried. Then students in career training classes use the wood to build houses. Students place some of the houses and monitor them throughout the summer. They give others to individuals who will place them in appropriate habitats and monitor them. They collect and compile data and send it to the Bluebird Restoration Association of Wisconsin for inclusion in a statewide database.

State of Wisconsin Department of Natural Resources

FOREST STEWARDSHIP MANAGEMENT PLAN Form 2400-111 Rev. 3-92

Name(s) and Address of Landowner(s):

Goodman School Forest #1

702 Main Street

P.O. Box 160

Goodman, WI 54125

County: **Marinette**   Town Name: **Goodman**

Town: 37**N**; Range 17**E**; Section(s): 30   Total Plan Acreage: 7.16

Attached maps show the location of stewardship forest lands.

The purpose of the Forest Stewardship Program is to encourage the growth of future commercial crops through sound forestry practices which recognize the objectives of individual property owners for aesthetics, wildlife habitat, erosion control, protection of endangered or threatened plants and animals, compatible recreational activities, economic returns, etc. By state law, "forestry" means managing forest lands and their related resources, including trees and other plants, animals, soil, water and air. To guide the Department in developing a management plan to help fulfill this stewardship objective, a statement of the owner's forest management objectives is required in the plan. The following statement has been provided either by the landowner or developed with the help of the Department. By signing this plan, the landowner(s) agree to comply with it.

Landowner Objectives for Management of the Enrolled Lands:

   Use as an outdoor educational tool

The following pages include descriptions of related vegetative or physical areas called "stands." Recommended forestry practices are listed. Landowners are encouraged to actively complete the practices recommended. The plan may be revised with consent of <u>both</u> the landowner and the Department.

"Forest Stewardship" means managing the forest environment for <u>all</u> of it's resources. Good forest stewardship begins with <u>YOU</u>, the owner. <u>YOU</u> can realize your forest land as a source of personal enjoyment, invest in your forest as a source of potential income <u>and</u> leave a legacy for future generations. This management plan is a first step toward meeting your objectives for your land.

Productive

A	Aspen
BH	Bottomland Hardwoods
BW	White Birch
C	Cedar
CH	Central Hardwoods, locust
FS	Fir-spruce, white spruce
HH	Hemlock-Hardwood
NH	Northern Hardwood
O	Oak

Non-Productive or non-forest

AX	Off-site Aspen	LB	Lowland Brush
F	Farmland/Crop Land	LBA	Tag Alder
FG	Grazed Pasture	LBB	Bog Birch
G	Grass	LBD	Dogwood
GH	Herbaceous vegetation	LBW	Shrub Willow
GLS	Low growing shrubs	LM	Minor Lake
I	Residential or Commercial	LMS	Minor Stream
IA	Parking Area	O/	Other Ownership
ICG	Campground	P	Pasture

OX	Scrub Oak	K	Keg/marsh	ROW Right of Way
PJ	Jack Pine	KB	Muskeg bog	SX Noncommercial Swamp
PR	Red Pine, Scotch Pine	KEV	Emergent Vegetation	SXC Noncommercial Cedar
PW	White Pine	KG	Noncommercial Lowland	SXSB Noncommercial Black Spruce
SB	Black Spruce	KH	Noncommercial Herbaceous	SXT Noncommercial Tamarack
SC	Swamp Conifer		Vegetation	UB Upland Brush
SH	Swamp Hardwood	L	Lake	Z Rock Outcrop
T	Tamarack			
W	Wooded (one or more types)			

Key to Size Classes (DBH) – Diameter in inches at breast Height:

0-5.....................Seedling and Sapling   9-15/11-15.........Small Sawtimber (Conifer/Hardwood)

5-9/5-11..............Pole timber (Conifer/Hardwood)   15+..................Large Sawtimber

Key to Stocking Levels (shown by superscripts after the size class):

Size Class	Units Per Acre	Density Classes[3]		
		3	2	1
Seedlings[1]	Trees	1,501+[2]	601-1,500[2]	200-600
Saplings[1]	Trees	901+	301-900	100-300

Size Class	Units Per Acre[3]	Density Classes				
		5	4	3	2	1
Pole-timber and Saw-timber	Basal area (sq.ft./acre)	180+	131-180	81-130	41-80	10-40

1/ Seedlings and saplings should be combined to a reproduction (restocking) class 0-5.
2/ Primarily for natural stands. With uniform spacing such as plantations approximately 600 trees per acre qualifies as good density of stocking.
3/ Minimum "medium" density stocking for tax law eligibility differs slightly and can be found in NR 46.02(24M)

Forest Management Assistance:
Your DNR Forester, as well as Cooperating Consultant Foresters, are available to assist in the implementation or establishment of all forest stewardship practices outlined in your plan. It is highly recommended that landowners seek the assistance of a professional Forester before cutting any harvestable timber, both to assure that the timber is cut within sound management guidelines and to protect the landowners financial interest.

Forest Management Guidelines:
Additional information on the management practices outlined in this Plan may be attached for your information and should be considered a part of this plan

GENERAL PROPERTY OVERVIEW

This property is located in the Town of Goodman adjacent to Hwy 8. This property was owned by the Goodman Lumber Company and donated to the Goodman-Armstrong Creek School District in August 1928. It is the oldest school forest in Marinette County and the second oldest in the state. The terrain is level to rolling. This area is unique because of the variety of tree species which occur on a relatively small area. The tree species include red pine, white pine, aspen, balsam fir, white spruce, black ash and yellow birch. Various timber types in a small area is quite beneficial and attractive to wildlife.

Records are unclear, but indicate that open high land planting occurred in 1929-30 with replacements in 1932. The last record of planting was in May of 1969 at which time white pine was under planted in hardwoods on the north end of the pine plantation, along with 300 yellow birch near the creek.

In 1977 a timber sale was set up by a DNR forester. The red pine plantation was selectively thinned.

In 1999 a timber sale was set up by a DNR forester. The red pine was selectively thinned and the aspen was clearcut.

BMP's

Prior to conducting forest management activities, carefully consider Forestry Best Management practices for Water Quality (BMP). Operations such as trail construction, timber harvesting, and site preparation must utilize these practices to minimize non-point source pollution and protect soil and water quality.

FIRE HAZARD

This property is within a DNR Fire Management Intensive Fire Control area. Severe damage to the natural resources could happen if a fire occurs on the property. Be careful with all fire when outside. If a fire occurs call either 911 or the Pembine Ranger Station at (715) 324-5492.

PLAN INFORMATION

The following management prescriptions define common characteristics of each timber type, referred to by a "stand number". Stands attempt to clarify differences between forest vegetation or soil drainage, some quite subtle and others profoundly different. Note that the borders between stands are often a gradual transition and not as abrupt as it appears on the map.

STAND P1: Red pine small saw timber 3 acres

(PR 0915[5])

Description: This is a good quality red pine plantation with an excellent stocking of small saw timber. The stand was last thinned in 1999. The stand currently contains 196 ft^2/acre of basal area (a measure of stocking). The stand volume is at 2 cords/acre and 27,500 board feet/acre. The average stand diameter is 14 inches.

Objective: Manage for quality red pine saw timber using a series of intermediate thinning.

Recommended Practices:

In the year **2010** this stand should have the next intermediate thinning. This harvest will remove every third or fourth tree, or the smallest of each group or trio. The order of removal for the thinning is 1) high risk, 2) release crop trees, 3) cull trees, 4) low

vigor, 5) improve spacing. This thinning should reduce the basal area (a measure of stocking) to not less than 120 ft^2. Never remove more than 50% of the stocking in any thinning operation to reduce the risk of wind or snow damage.

Every 10 to 12 years following the above thinning the stand should be thinned again following the recommended order of removal.

Approved Practices:

Following each thinning, more sunlight is available to the forest floor within the red pine plantation. This typically encourages development of dense grass and herbaceous cover as well as tree seedlings. Do not purposely destroy this undergrowth as it does not impede the growth of the pine and greatly enhances wildlife habitat.

STAND 2: Bottomland Hardwood pole timber 1 acre

(BH 0511^2)

Description: This 1 acre stand is a mixture of swamp hardwood species, including black ash, red maple, and aspen.

Objective: Due to BMP's there will be no management activities in this stand. Care should be used to preserve the low ground around the drainage which runs through the stand.

STAND 3: Aspen pole timber 3 acres

(A 0005^3)

Description: This is a well stocked aspen stand that was harvested in 1999. The stand is composed of aspen, red maple, spruce and balsam seedlings and saplings.

Objective: Manage this stand on an even-aged basis for the production of aspen pulpwood.

Recommended Practices:

In the year **2049** this stand should be due for a regeneration harvest. Clearcutting aspen is the way to regenerate it. Aspen is a fast growing species that sprouts vigorously from the existing root system. All live trees over two inches in diameter at the base must be cut down in those areas to allow all available sunlight to reach the ground to ensure aspen regeneration. Approved Practices:

Leave several downed logs for grouse. Grouse use "drumming logs" during the mating season to do their displays on to attract females.

Recommended Practices

STAND	YEAR	PRACTICE
P1	2010	PLANTATION THINNING
P1	2022	PLANTATION THINNING
3	2049	REGENERATION HARVEST OF ASPEN

Provide the name, address, and telephone number of the preparer of this plan:

Bruce Djupstrom
Forester/Ranger
N18225 Hwy 141
P.O. Box 298
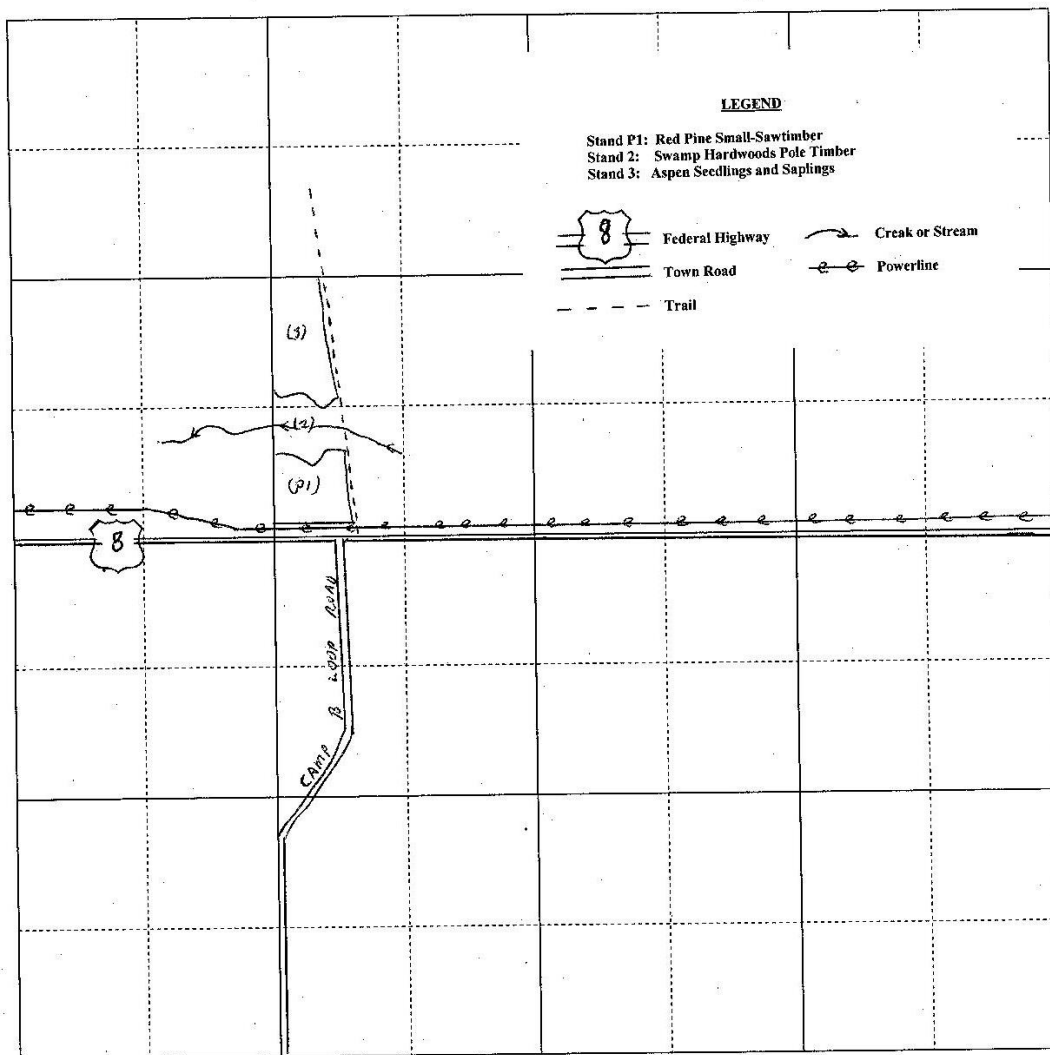Pembine, WI 54156
(715) 324-5492

The owner hereby agrees to this Forest Stewardship management plan. The landowner further agrees to proceed diligently to accomplish his/her stated objectives.

STEWARDSHIP PLAN MAP

GOODMAN SCHOOL FOREST #1

Owner's Name Goodman-Armstrong Creek School District	Town or Village Name Goodman		County Marinette	
Street or Route 702 Main Street, P.O. Box 160	Township No. 37N	Range 17	X E ☐ W	Section 30
City, State, Zip Code Goodman, WI 54125			Acres 7.16	

Section Diagram
8" = 1 Mile

↑ N

Prepared By   Bruce Djupstrom

Date   12/17/2009

LEGEND

Stand P1: Red Pine Small-Sawtimber
Stand 2:   Swamp Hardwoods Pole Timber
Stand 3:   Aspen Seedlings and Saplings

Federal Highway   Creak or Stream
Town Road   Powerline
Trail

School Forest Use Tracking Tool

School District Name: _____

School Forest Name: _____

Year _____

School Forest Coordinator: _____

Coordinator Contact Info: email _____

phone _____

Date	Grade Level	Lead Teacher	Number of Students	Total Number of Teachers	Number of community/parent Volunteers	Activities Utilized	Notes: (responses from teachers, improvements to be made, etc.)
Total:							

Sample Land Use Agreement

LAND USE AGREEMENT
Designating Indian Mound Park Lands as a School Forest

This is to certify that the School District of McFarland, hereinafter called the "Permittee", is hereby authorized by the Village of McFarland to enter upon and use the lands in Indian Mound Park as a "School Forest" in a manner consistent with the community forest provisions of Chapter 28.20-23, Wisconsin Statutes, under which said lands are now entered. In addition, the use of these lands shall be subject to the following terms and conditions:

1. Permittee will use the lands as a School Forest in conjunction with a planned curriculum related to natural sciences or conservation management.

2. Permittee will have a forest management plan for the lands prepared by the Wisconsin Department of Natural Resources that will continue the process of restoring the lands to a high quality traditional forest and oak savannah.

3. Permittee will help facilitate efforts to involve students and community volunteers in the implementation of the forest management plan and future maintenance of the forest lands.

4. Permittee will maintain the area subject to the Agreement in a safe and suitable condition for public use.

5. This Agreement does not abrogate in any manner the right of the public to use Indian Mound Park.

6. Permittee will provide an annual report to the Village at the completion of each school year briefly summarizing the educational and volunteer activities undertaken and the number of students using the area.

This Agreement will become effective on May 1, 2007 and shall remain in effect as long as, in the opinion of the Village, the land is being used in conformance with the above terms and conditions.

VILLAGE OF MCFARLAND   SCHOOL DISTRICT OF MCFARLAND

Michael Harried   5-30-07   *Uilyn Halvorson*   6-4-07
President   Date   Date

Debra R Neal   05/30/07   *Tony Cole*   6-4-07
Clerk   Date   Date

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School Forest Contact Information

For school forest information, assistance, educational opportunity ideas, or natural resource management questions, contact the Wisconsin School Forest Coordinator.

Wisconsin School Forest Coordinator

c/o LEAF - Wisconsin's K-12 Forestry Education Program

800 Reserve Street – Room 110 TNR

Stevens Point, WI 54481

715-346-4956