

School District of Marion School Forest Education Plan



Table of Contents	Page #
Cover Page	1
Table of Contents	2
Credits	3
Rationale	4
Mission Statement	4
Vision Statement	4
Value Statement	4
Target Message	4
Needs Assessment Results	5
Site Description and Opportunities	11
Legal Description	12
Site and Natural History	16
Site Management	24
Maps	25
Educational Connections	31
Key Concepts/Enduring Understandings	31
Classroom Curriculum Connections	31
Site Connections	32
Alignment with Wisconsin's Model Academic Standards	32
Staff Development	32
Resources	34
Assessment	35
Grade Level Activities and Curriculum Connections	35

Sustaining the School Forest Program	49
School Forest Committees	49
Communication Plan	50
Long-Range Plan-vision and goals	50
Implementation Plan	51
District Commitment	55
References	56

Credits

This Marion School Forest Education Plan was produced under a 2011-2012 grant from the Wisconsin Environmental Education Board.

School Forest Education Planning Committee:

Heather Wuske, Ben Smejkal, Dan Loken, Adam Koehn and Debra Rades

Consultants: Connie Abert, UW-Extension Faculty, Youth Development Educator

Ben Baumgart, DNR Waupaca County Forester

Gretchen Marshal, Wisconsin School Forest Coordinator



Rationale

Mission Statement

The Marion School Forests serve as multiple-use natural school and community resources, providing for people to increase awareness of and appreciation for the natural world, to become informed, responsible decision makers regarding our natural resources, and provide the opportunity to utilize and experience our natural places.

Vision Statement

“Understanding the environment
leads to appreciation of the environment
which leads to better care of the environment.”

Value Statement

The School District of Marion School Forest offers natural resource learning sites which facilitate the development of ecological and social sense of place for all grade levels. Integrating research based environmental education (EE) into all curriculum areas is an effective method to increase student achievement, decrease behavior issues, and increase attendance in districts like ours with high poverty levels.

Target Message

The following are broad themes that are covered by student experiences at the School District of Marion School Forest. It is through these “target messages” that the essence of our connection to the environment is made:

- 🌿 Humans are part of the natural world.
- 🌿 We rely on our environment for resources, recreation, and inspiration.
- 🌿 The Marion School Forest provides a direct connection to state and common core standards and environmental education (EE) standards, incorporating all subject areas, providing students with hands-on real world opportunities in the natural world.

- ✻ The natural world has inherent value for all living things.
- ✻ We have an obligation to be responsible environmental stewards for the current and future health of the land, wildlife, and of humans. Environmental stewardship, sustainability, and conservation are essential for ensuring a high quality of life for future generations on a local, regional, national, and global scale.
- ✻ Knowledge and proactive skills will allow students to make informed choices and develop lifestyles that contribute to a healthy society and environment.
- ✻ Taking an active role in responsible resource use will help to sustain and improve our environment and community.
- ✻ Responsible citizens will act wisely regarding the overall health of the environment and community.

Needs Assessment

The Marion School District needs to increase students' learning in environmental literacy. This can be accomplished through the utilization of newly designated school forests. Increased use of the school forest sites can be accomplished through establishing the connection between the district's curriculum and the school forest.

In the spring of 2010, all Marion School District teachers were asked to complete a needs assessment survey regarding the School Forest. The results from this survey will assist with future School Forest planning. The following section contains the results.

Interest in School Forest Use:

- ✻ 90% of teachers expressed interest in developing a school forest.
- ✻ 50% of teachers currently teach environmental education in the classroom. Topics include but are not limited to forestry practices and identification, ecosystems, conservation of resources, renewable and nonrenewable resources, recycling, etc.
- ✻ 85% of teachers are interested in environmental education workshops with an emphasis on connecting learning opportunities to area natural resources.

The Needs Assessment Survey showed that the high school uses outdoor facilities the most to teach environmental topics. This is mainly due to proximity, as the closest property identified as school forest property is located right next to the high school building and has access to forest and stream resources. Problems preventing teachers from using the school forest include administrative support, scheduling and transportation, as time is limited for external building activities, especially for the elementary building.

Facility Needs:

94% OF K-6 teachers are satisfied with the School Forest facilities. Suggestions for improvement include:

- ✿ Updating signs and trails
- ✿ Additional tree identification signage
- ✿ Improving bathroom facilities
- ✿ Improving wheelchair accessibility
- ✿ Additional outdoor teaching area
- ✿ Add a research library
- ✿ Add a composting demonstration area
- ✿ Modeling conservation through energy saving measures and recycling

Equipment Needs:

- ✿ ROCK DISPLAY BOXES
- ✿ PLATE TECTONIC MODELS
- ✿ BINOCULARS
- ✿ WEATHER STATION
- ✿ NEW GPS-CLASS SET
- ✿ TREE AGING SETS
- ✿ SOIL ID KITS
- ✿ OWL PELLET KITS
- ✿ BOXES (RUBBER MADE CONTAINERS) TO HAUL TO SITES
- ✿ DRY ERASE BOARDS AND MARKERS
- ✿ MEASURING TOOLS
- ✿ WATER TABLE
- ✿ DICHOTOMAS KEYS
- ✿ FOREST SUPPLIES
- ✿ TREES
- ✿ SCALE MODELS OF PLATE TECTONICS
- ✿ VOLCANO
- ✿ ROCK SAMPLES
- ✿ MARKING PAINT
- ✿ NEW FIELD SCOPES & FIELD GUIDES
- ✿ NEW SPOTTING SCOPES
- ✿ ADDITIONAL WATER TEST KITS
- ✿ SOIL TEST KITS
- ✿ HARD HATS
- ✿ RUBBER BOOTS

- ✱ WADERS/HIP BOOTS
- ✱ NETS/BUTTERFLY NETS
- ✱ FIELD ID BOOK (BUGS, ROCKS, LEAVES/TREES)
- ✱ PORTABLE SCALES
- ✱ HAND SAWS
- ✱ TAPE MEASURERS
- ✱ DIGITAL CAMERAS
- ✱ TERRARIUMS
- ✱ PH TESTERS
- ✱ BUILDING WITH CLASSROOM WARMING KITCHEN
- ✱ SUPPLIES-STOVE, FRIDGE, SINKS

Current Supplies:

- ✱ NETS/BUTTERFLY NETS
- ✱ TELESCOPE
- ✱ CLIPBOARDS
- ✱ WATER TABLE
- ✱ WALKIE TALKIES
- ✱ BACKPACKS
- ✱ PLASTIC BINS
- ✱ COOLERS

Professional Development Needs:

When asked if teachers felt they had enough knowledge of natural resources and environmental education to effectively utilize the School Forest:

- ✱ 71% of K-2nd grade teachers feel like they do and 29% do not
- ✱ 37% of 3rd-6th grade teachers felt they do and 63% do not

Teachers would like to acquire more background knowledge in areas such as soils, water, plant/animal identification, and wildlife.

Teachers would like more professional development opportunities in the following areas (percentage of teachers requesting):

- ✱ 33% content (background information on forest, wildlife, water, soils, etc.)
- ✱ 28% outdoor educational methods
- ✱ 9% environmental education (background information on EE, how it can be used, and state EE standards).
- ✱ 22% EE curriculum (Ex. LEAF, PLT, WET, WILD)
- ✱ 8% forest management

Marion School Forest Tour – May 6, 2010 – Summary

On May 6, 2010 Environmental Youth Connections (EYC) conducted a school forest and outdoor education tour in Marion. Seven sites were visited to evaluate use for outdoor education and for potential school forest designation. Participants included Heather Wuske – middle school science, Kelsey Sambs – high school Ag, Ben Smejkal – high school science, Dan Loken – high school science, Chris - school board member, Dave - Marion city park personnel, Larry – retired teacher, Connie Abert - UW-Extension Waupaca Co., Gretchen Marshall – UWSP Forestry and Outdoor Specialist and Carrie Esch - EYC.

In the morning, participants walked each of the sites and talked about possible outdoor education activities. The areas that were visited included the city property near the high school known as The Athletic Park, Veteran’s and Wallace city parks, Pigeon River, Keller Lake and Big Fall dam county parks and state owned public hunting land on Doty Creek. Ben and Dave led the tour of Athletic Park area giving a history of the park, upcoming plans for the park and an overview of outdoor education and recreational uses. Trails from Athletic Park lead to the city sewer treatment facility, which is toured by students during the school year. Dave led the tours through Wallace Park, located on the Marion millpond and Veteran’s Park prairie area located near the Elementary School. The tour then went outside of the city of Marion to explore outdoor educational opportunities in Pigeon River County Park, Doty Creek DNR property, Keller’s Lake County Park and Big Fall dam area.

In the afternoon, discussions included what types of habitat are found at each site, education opportunities for each site and ideas for physical improvement of each site. Gretchen discussed school forests designation, which included WEEB grant planning.

1. Athletic Park

A. North Branch Pigeon River – river habitat

Stream habitat improvement, Macro-invert sampling, Water sampling, Run-Off demonstrations, Watershed study, Accessibility – spots to get to the river, benches near the water

B. Prairie habitat – near sewage treatment plant

Prairie restoration, plant ID, animal track, bird ID, butterfly life cycles, Tech Ed Dept (in all habitat areas) build kiosk, benches, signs and covered shelter area

C. Forest habitat

Tree ID, Forestry Mgmt and Economic Classes, Math all grades – measurements, UWSP has travel kits forestry kits available, sitting area, conservations, maps – acreage, orienteering, GSP, geo caching, trail improvements, sledding hill – physics exp., handicap access, bike route,

snowshoeing, cross country skiing, Bird ID and habitat, trash pickup along trail, trash and recycling bins

- D. Wetland
Floating boardwalk/dock, env purpose –purify
 - E. Sandy south facing slope
Lizard-skink habitat and study
2. Pigeon River County Park
 - A. habitats – river, forest, field
Potential prairie restoration, water testing, watershed coop study with Clintonville Schools, canoeing classes, land formation/geology, trail with bridge
 - B. park advantages
Bathrooms, established trail, covered picnic areas, parking area
 3. Wallace Park (This environment could not be considered for a school forest site)
 - A. Habitats – pond and wetland areas
Fishing, water sampling, wetland study, runoff sampling – golf course, siltation study because of dam on a river system
 - B. Park advantages
Close to school
 4. Veteran’s Park
 - A. Habitat – open park area, prairie
Prairie plant study and ID, butterfly life cycle
 - B. Park advantages
Close to elementary school – high/middle school could work with younger students on prairie study, trails around park, parking area
 5. Doty Creek –DNR/public hunting lands (This public land could not be considered for a school forest site)
 - A. Habitat- river, forest, open meadow
Large boulders near stream – geology study, forest mgmt – cedar, wildlife mgmt – cedar, water study – comparison, natural shoreline, macro-invert water study, fallen tree study
 - B. Park DISadvantages
Watch for hunting seasons before visiting park in the fall for safety issues, no bathrooms
 6. Keller Lake County Park
 - A. Habitats – lake, forest, river

Natural rock formation – geology study, forestry and lake study (many ideas listed under the other parks above)

B. Park advantages

Large area for classes to explore, bathrooms, picnic areas, trails, waterfall

7. Big Falls Dam (This environment could not be considered for a school forest site)

A. Habitat – lake, forest, upstream wetland area

Canoeing, fishing, power company tour and demonstration by North American Hydro

Site Description and Opportunities

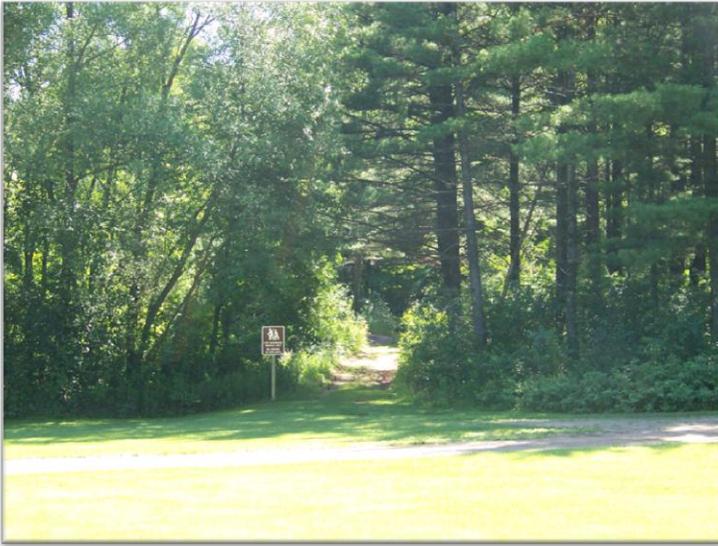
The Marion School Forest consists of five separate properties located within the City of Marion and surrounding Waupaca County.

- ✿ Two properties are owned and currently facilitated in cooperation with the City of Marion. Athletic Park property location by the High School is comprised of 85.5 acres of mixed forest, pine, plantations, swamp, river, and a variety of geologic features. The High School football, softball, and baseball field are located here. Approximately 50 acres of the property are wooded. Veteran's Memorial Park is the second location registered as a school forest property in the City of Marion and is located near the Elementary School. This park consists of 7.79 acres of prairie restoration.
- ✿ Pigeon River County Park has a total acreage of 40.29 with approximately 35 of the acres being wooded and located off of Knitt Road between Marion and Clintonville. The Pigeon River runs through this Waupaca County Property.
- ✿ Keller Lake County Park is located approximately 6 miles southwest of Marion on HWY G. The 81.9 acre park consists of over 64 acres of wooded property. Keller Lake is the center point of the property surrounded by woodlands and unique geological and water features. A playground, hiking trails, fishing, swimming and picnic areas are present here for public use.
- ✿ The Town of Wyoming Forest is an ideal location for forest sustainability. This small 1.6 wooded acreage is located off the corner of County Road E and Big Rock Road north of Big Falls.



Legal Description of Marion School Forest Sites

Athletic Park



(Natural attributes include woodlands, river, swamp, geological features)

County: Waupaca

Town Name: Marion

Township: 25N; Range 13E; Section 2

Marion Athletic Park: Located at 132 N. Parkview Avenue. The football field, softball field and baseball field with a grandstand is located at this park along with a lower warm-up diamond. Other activities include tennis courts, basketball courts, skateboarding area, walking trails, and sledding hill. Restrooms are available. One of the many entrances to the School Forest trails off of the lower baseball field. This west entrance offers a mixed forest with some low lying swampy areas along the river.

Veteran's Memorial Park

County: Waupaca

Town Name: Marion

Township: 25N; Range 13E; Section 2



(Natural attributes include prairie restoration)

Veterans Memorial Park: Located at 291 Mavis Road. An open shelter with picnic tables and restrooms is available. A half mile walking trail goes around and through the park with benches to sit and view the wild flowers and scenery. A water bubbler is also on the walking trail.

Pigeon River County Park



(Natural attributes include woodlands, river and swamp)

County: Waupaca

Town Name: Larrabee

Township: 25N; Range 14E; Section 8

The Pigeon River County Park: Pigeon River County Park is located along the south side of Knitt Road, near the intersection of Boy Scout Road in the Town of Larabee. The North and South Branch of the Pigeon River flows through the property. The river banks are very low, and in a flood plain. Much of the site is flooded at various times of the year with high water levels. The site contains five different soil types. The area around the property is a mix of wooded acreage with some open fields. There are several different habitat types within this park making it ideal for nature viewing and walking.

Keller Park



(Natural attributes include woodlands, lake, river, and geological features)

County: Waupaca

Town Name: Marion

Township: 25N; Range 13E; Section 18

Keller Park: Keller Park is located on CTH G in the north central portion of the county between Marion and Big Falls. The site is heavily wooded with a mixture of hardwood and coniferous species. Keller Lake, a 21-acre impoundment of the south Branch of the Pigeon River which flows through the park, adds greatly to the park's scenic beauty and provides swimming, boating and fishing opportunities. The dam and spillway are located in the park.

Town of Wyoming Forest



(Natural attributes include woodlands, lake, river, geological features)

County: Waupaca

Town: Wyoming

Township: 25N; Range 12E; Section 11

The Town of Wyoming: The Town of Wyoming Forest is located south east of County Highway E and includes Big Rock Road. It is comprised of 1.5 acres of mixed forest.

Site History & Natural History

Athletic and Veterans Park

Recorded site and natural history records of these properties do not exist. This could be a future local history project for one of our classrooms.

Pigeon River Park

This 40 acre site is located south of Marion on Knitt Road in the Town of Larrabee. The North and South branch of the Pigeon River converge on this site. This site is in the early

stages of development. There are several different habitat types within this park making it ideal for nature viewing and walking. Site features include:

- A parking area
- A trail system with multiple boardwalks
- A footbridge across the Pigeon River
- Two small picnic shelters
- 2 picnic tables
- A restroom
- 1 trash can

There is more trail work to be done on this site. The trails between the recent boardwalk additions need to be improved and signed. There is the opportunity for interpretive signs at this site for the many natural features found here. An open picnic area should be maintained near the parking lot to provide for activities that require some open space. Should adjoining land become available it should be pursued as a way of maintaining the unique undeveloped nature of this parcel. Trails for snowshoeing and cross country skiing could be developed and maintained in the future.

The Pigeon River County Park was owned by John and Elva Milbauer since October of 1966. It was sold and transferred by them to Larry and Susan Heling on August 22nd, 1990. This property was purchased from the Milbauer's, along with two other properties located in the City of Marion, WI. The allocated price for the property being appraised in the Town of Larabee was \$52,500. The area contains a parking area, trail system with multiple boardwalks, footbridge across the Pigeon River, Two small picnic shelters, 2 picnic tables, restroom and trash can.

There is more trail work to be done on this site. The trails between the recent boardwalk additions need to be improved and signed. There is the opportunity for interpretive signs at this site for the many natural features found here. An open picnic area should be maintained near the parking lot to provide for activities that require some open space. Should adjoining land become available it should be pursued as a way of maintaining the unique undeveloped nature of this parcel. Trails for snowshoeing and cross country skiing could be developed and maintained in the future.

Keller Park

In 2006, approximately 40 acres were added to the park, bringing the total acreage to around 80. This was a great addition in that it makes almost the entire road system of the park, actually on park property. Site features include:

- Restrooms

- Large open picnic shelter
- 20 picnic tables
- 4 grills
- Paved basketball court
- Playground equipment
- Paved parking areas
- Hiking trails
- Many separate picnic areas with tables
- 3 trash cans

There are many possible improvements that could improve this park. The playground equipment was replaced in 2008 with new safer equipment with recycled rubber chips for surfacing. The shelter concrete was also replaced in 2008. The restrooms will have to be overhauled sometime in the not too distant future. A kiosk with information about other park locations and opportunities would be a great addition.

This park could be developed into a park that offers many more services, and with the natural beauty of the location, could become a destination park. Camping could be accommodated at this site with the development of some of the newly acquired land into camping sites and the establishment of more restrooms. An enclosed shelter facility could be developed where the existing open shelter is that would be available to parties to rent. More extensive trail systems could be developed to offer a range of opportunities to visitors. A beach area could be developed to offer a safer swimming experience for families. Purchasing more adjoining land should be a priority as there is still undeveloped land around this park.

WAUPACA COUNTY LOOKS TO ENLARGE ITS BUSIEST PARK



Post-Crescent photos by Kirk Wagner

THE RED TINGE OF KELLER'S LAKE makes for a colorful view as Wendy Pringnitz (left) and her son, Jason, gaze into the distance from the water Wednesday. The Pringnitzes drove to the lake from nearby Clintonville.

Picturesque park ready to grow

Neighboring properties would add 45 acres, ensure future road access

By Roger Pitt

Post-Crescent Waupaca bureau chief

CLINTONVILLE — Keller's Lake, Waupaca County's oldest and busiest park, has a rare opportunity to double its size.

The county Park and Recreation Committee is taking steps to buy three parcels adjacent to the 26-acre park and 24-acre Keller's Lake.

"This is a chance we will not have again," said Supv. Lloyd Mares, a committee member. "It is something that we need to pursue. It will ensure the future of the park."

One property owner along County G has offered to sell his property to the county for \$15,000. He would donate

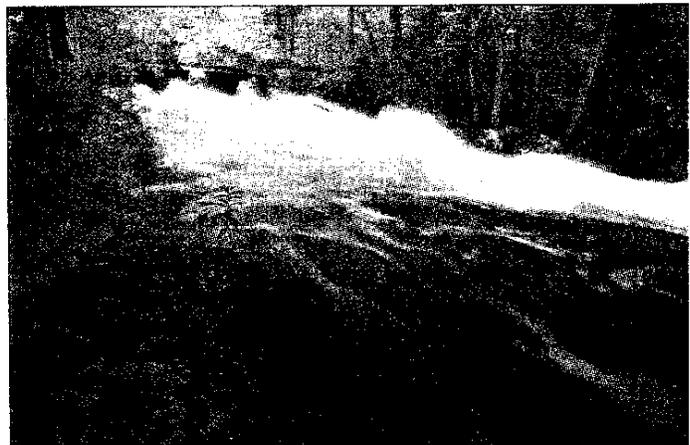
\$7,500 back to the county for tax purposes.

"It is very reasonable," Park and Recreation Director Roger Holman said. "A road into the park runs through the property. This would ensure future access to the park."

Two other landowners have offered to sell their property to the county. That land is located on both sides of the Pigeon River and Keller's Lake.

The parcels are 30 and 15 acres and are mostly wooded areas that have been partially deforested. Buying the land will give the county complete ownership of access to the park.

"We have gotten the go-ahead from the state Depart-



WATER FROM KELLER'S LAKE speeds down a waterfall created by a dam in this time-lapse photo. Waupaca County officials say a plan to purchase 45 acres would improve the county's most popular park.

Please see **PARK**, C-4

PARK: Property owner offering \$7,500 back to county in purchase deal

From C-1

ment of Natural Resources to get an appraisal on those properties," Holman said.

The Park & Recreation Committee voted to pursue all options on adding to the park.

The county Finance Committee approved a transfer of budgeted funds to purchase about two acres of land from James F. Bartz located along County G for \$15,000. Bartz will donate \$7,500 back to the county for the expansion of the park as a tax incentive.

About 1.75 acres is located west of the Pigeon River where the exit road enters County G while about one-quarter acre is located adjacent to the park entrance east of the river.

"It is our most heavily used park," Holman said. "It is a beautiful site with the Pigeon River, the lake, the outcropping of granite and a waterfall created by the dam. It is our most picturesque park."

Keller's Lake Park grew from two Depression-era programs — the Civilian Conservation Corps and Works Progress Administration — that provided labor to develop the park in the late 1930s.

The CCC cleared the land for

the park. The WPA employed 29 Waupaca County men to build the 15-foot concrete dam that created Keller's Lake.

Keller's Lake, in the sparsely populated Town of Dupont, has been the site of the Waupaca County Association of Retarded Citizens Day Camp for several decades.

It has shelters, fishing and a swimming area, plus the rock formation and waterfall.

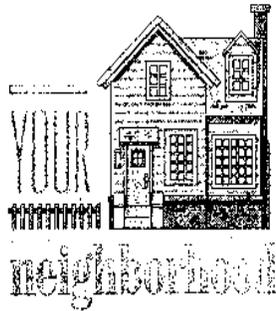
Paul Keller, the park's namesake and early owner, wanted to develop the property as park space open to the public. The South Branch of the Pigeon River flows through the property, but over the years, the land became overgrown.

He couldn't afford to develop the land himself, and federal government agencies were not allowed to work on private land.

Unable to pursue the development, he sold the land for \$1 to the Clintonville Fish & Game Club in the mid-1930s. Despite its 1,800 members, the club couldn't finance the project, either.

Waupaca County stepped in to allow CCC and WPA development, and the county's first park was dedicated in July 1940.

Roger Pitt can be reached at 715-258-5838 or by e-mail at bureau@execpc.com



*A weekly
glimpse at
the people
who make
up the Fox
River Valley*

Ghostly granite

All that
remains of
Granite City is
a fish-stocked
quarry and an
outcropping
of rock

By Sherry Breiting Rindt
Post-Crescent staff writer

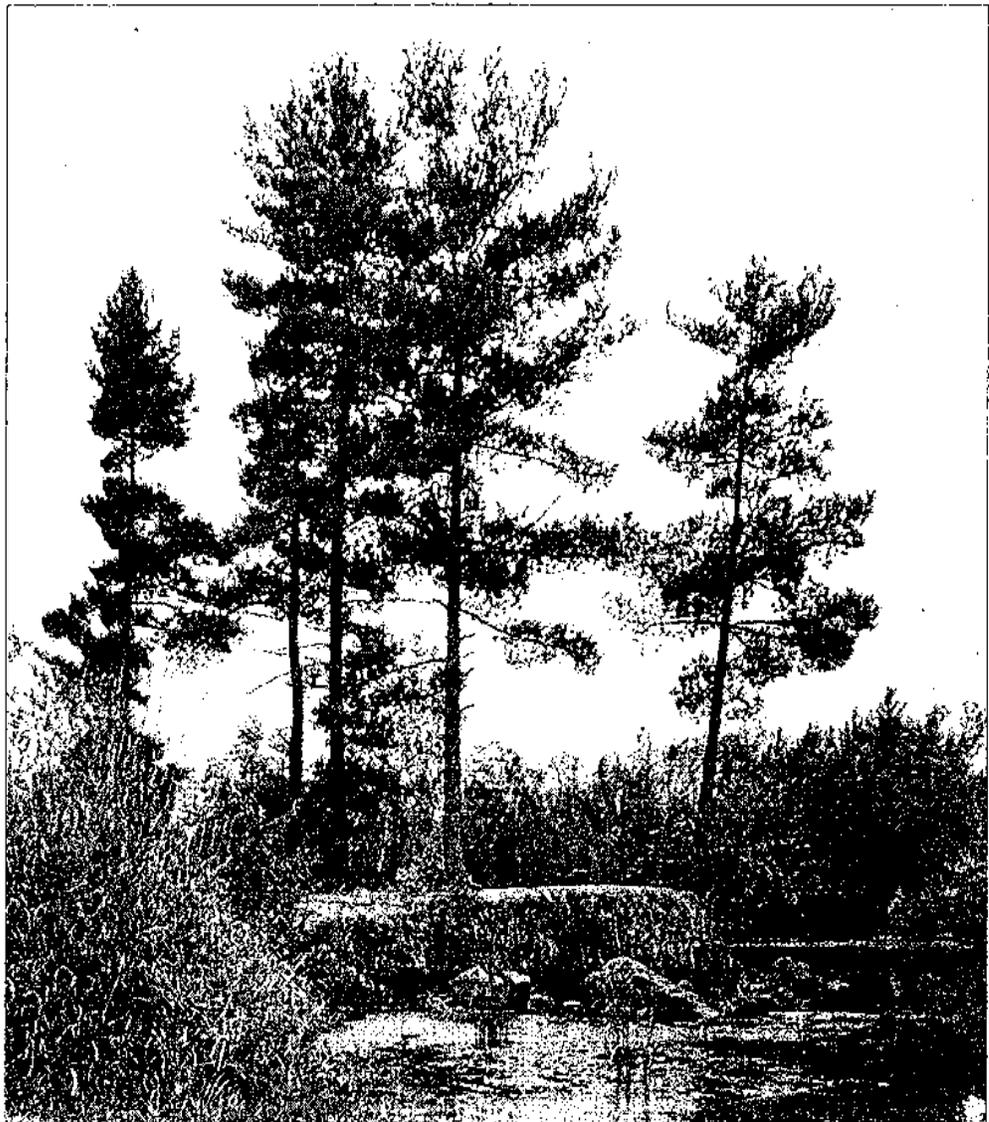
MARION

Visitors to Keller's Lake County Park on County G are often impressed with the massive outcropping of granite along the southwestern shore.

What most visitors to the park do not know is that the rock is something of a monument to a ghost town known as Granite City.

Granite City grew up around a quarry originally owned by John H. Leuthold. The local history books do not indicate exactly when or how Leuthold, a native of Iola, opened the quarry.

It is known, however, that when



the Milwaukee Lake Shore and Western Railroad extended tracks from Clintonville through Marion and on to Tigerton in 1879, Leuthold's operation enjoyed an economic surge. He persuaded the railroad to build a branch line that allowed him to sell and market his granite products throughout the country.

Things were going so well for the quarry that other businesses had emerged to meet the needs of the quarry employees, including a hotel, saloon and general store. Leuthold in 1889 registered a village plat that included six streets and 60 lots and officially named his community Granite City.

A few years later Leuthold's operation went out of business and the property was acquired by the quarry manager, James Cheyne. Cheyne, an expert architect and sculptor, was doing a good business until he had a fatal altercation with a quarry worker exactly 106 years ago today.

According to the book "From Sawmills to Villages" Cheyne and P.H. Murphy had a heated argument about quarry operations on

NEIGHBORHOOD profile

Aug. 22, 1893.

A very intoxicated Murphy gave up on the argument and retired for the evening at the nearby boarding house. Cheyne seethed with rage and eventually went to the boarding house and shot and killed his foreman.

Stephen Perry, the founder of Marion, commented on the murder in the local newspaper. "There was no self-defense about the affair," Perry said. "Cheyne could and should have kept away from his victim, and not in his sober thoughts followed up a drunken man one hour after the scrap, to shoot him down."

Cheyne was convicted and sentenced to life at the state prison in Waupun. In 1900 Cheyne became the first Wisconsin prisoner sentenced to life to receive a pardon from the governor. He returned to Granite City and reorganized his company to produce monuments, headstones and paving blocks.

Unfortunately, the business operation enjoyed only sporadic



Post-Crescent photo by Sharon Dekada

DONATED LAND along the Little Pigeon River became Keller's Lake County Park in 1938, Waupaca County's first park.

Granite City slowly faded from existence and a different type of neighborhood emerged.

success and in 1906 Cheyne sold part ownership of the quarry to investors. There were big plans for expansion, but the investors eventually went bankrupt and by 1911 the quarry had closed. It was briefly reopened in 1914 to produce paving blocks, but that operation also failed.

After that Granite City slowly faded from existence and a different type of neighborhood emerged.

Much of the land that had been used for the quarry operation reverted back to its natural form. Some was claimed for agricultural use.

The quarry site is today jointly owned by the descendants of Ervin and Verna Krohn, including Brenda Lynch, Gene and Joan Krohn and their sons, Mike and Chad Krohn.

Gene Krohn grew up in the boarding house where Murphy was murdered. At that time some scraps of the quarry equipment remained as rusting testimony to Granite City. In time, however, the former boarding house was razed to make place for a new home and the stray pieces of equipment disappeared.

The quarry itself is all that remains of the community founded by Leuthold.

"We have a nice quarry and we stock it with fish every so often. We plan to leave it as it is," Krohn said. Most of the remaining land supports a Christmas tree plantation. Krohn's son and daughter-in-law

reside in the house that replaced the boarding house.

"I thought it was kind of unique. It sounds like an old western town," said Krohn, noting that at one time the quarry provided more than 100 jobs in the area.

Once the activity stopped at the quarry, the Jack, white, and Norway pines that grew in the surrounding area became a natural shelter to an abundant amount of wildlife.

In 1936 Paul Keller donated a portion of his land along the Little Pigeon River to the Clintonville Fish and Game Club in the hope that the group would preserve that natural environment. The club then enlisted the aid of Waupaca County and plans were made to build a dam to create a 26-acre lake surrounded by trails and picnic areas.

When Keller's Lake Park opened in 1938 it was the first such facility to be owned and operated by Waupaca County.

The park today contains an open shelter, playground, basketball court, swimming area and pic-

nic sites. It is well used by individuals, families and groups for day outings.

The Waupaca County Association for Retarded Citizens uses the park on an annual basis for a week-long day camp for developmentally disabled adults and children.

Adults who have spent the day enjoying the park will often stop at Charlie and Dave's Lakeview, a tavern located immediately across the road from Keller's Lake. The business was purchased by Charlie Oehenschlager and his son, Dave, in 1982. The elder Oehenschlager sold his interest in the bar to his son several years ago, but continues to help out with daily operations.

Oehenschlager said there is still a lot of rock in the area. The topsoil is shallow and during storms, trees are easily blown over. Still, it is a nice place to live and work, he said.

The majority of Lakeview patrons are local residents - farmers, small business owners and factory laborers.

In the evening, when the work day is done, they stop at Lakeview to catch up on the latest news, or watch a televised sports event with friends, or to just simply unwind.

"It is nice and quiet here, out in the country, and we have a beautiful view," Oehenschlager said.

As the name implies, the view is of the lake, which is made more interesting by the rough dominance of the rock outcropping and the lore of Granite City.

Town of Wyoming

The Town of Wyoming School Forest was created many years ago when the county purchased the property for \$85.00 to reconstruct the corner on County Hwy E leaving this piece of land where the corner used to be on February 14th, 1950. The county sold the merchantable saw timber from this property in the 1960's. In 1989, Jack Bazile discussed this piece of land with the county treasurer. Jack asked Jim Geoser, the county treasurer at the time, if it would be possible for the Town of Wyoming to purchase it for possible site for a Town Hall, picnic area or a timber site for youth. The youth would be able to learn specie identification, tree growth, and timber stand improvement as there are several types of trees here. Jim told Jack he would bring it up to the county board. The county deeded the land to the township on May 23rd, 1989. Jack has brought the idea of a town forest up to the town board from time to time since the meeting. In 2009, contact was made with the DNR forester and a school board member. The idea was then presented to a teacher from the Marion School District and it took off from there. It was hoped that the students could use this as a hardwood study along with the pine plantation in the city of Marion. The town board signed an agreement to let the school use the land. Hopefully now this property will be used to help youth learn more about and appreciate becoming good stewards of this nature resource.

1950 – Town of Wyoming Property purchased by Waupaca County

1989 – Jack Bazile discusses property with county treasurer

1989 – Waupaca County deeded land to Township of Wyoming

2007 – Discussion of land between school board member and DNR Forester

Site Management

In order to fulfill the school forest objectives, the site management plan will include an active, sustainable forest management plan to provide timber, wildlife, educational and recreational opportunities.

Our key goals are to:

1. Provide a diverse and accessible site for educational use.
2. Provide a diverse and accessible site for school and community recreation.
3. Manage the land to maintain diverse ecosystems.
4. Manage land to maximize learning opportunities.
5. Promotion of best management practices.

Objectives:

The objectives for site management in relation to the educational plan are to:

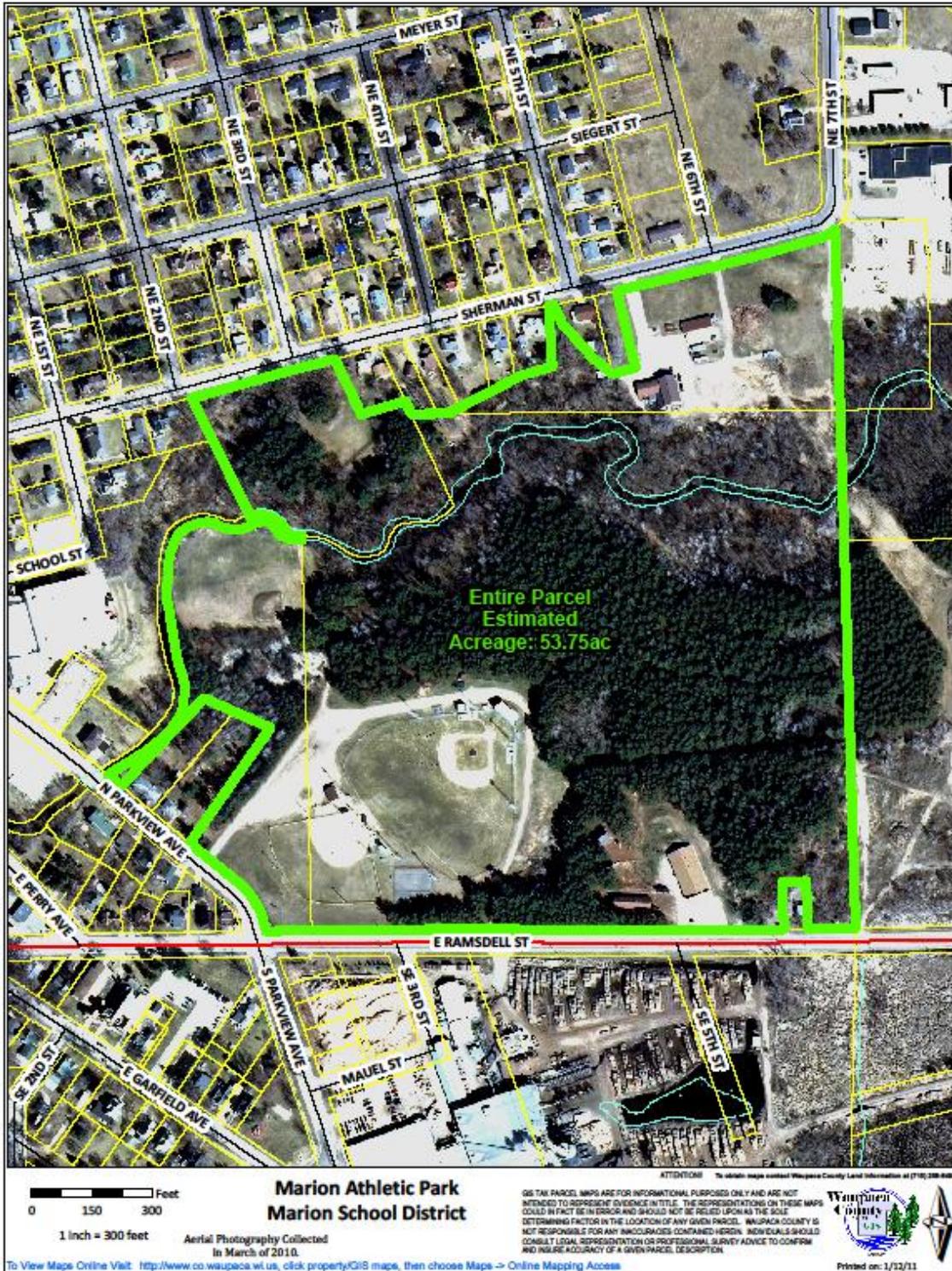
1. Involve students of all ages in the management of the site.
2. Develop in students a sense of ownership and accomplishment through involvement in management.
3. Manage the site to reach key goals as stated above.

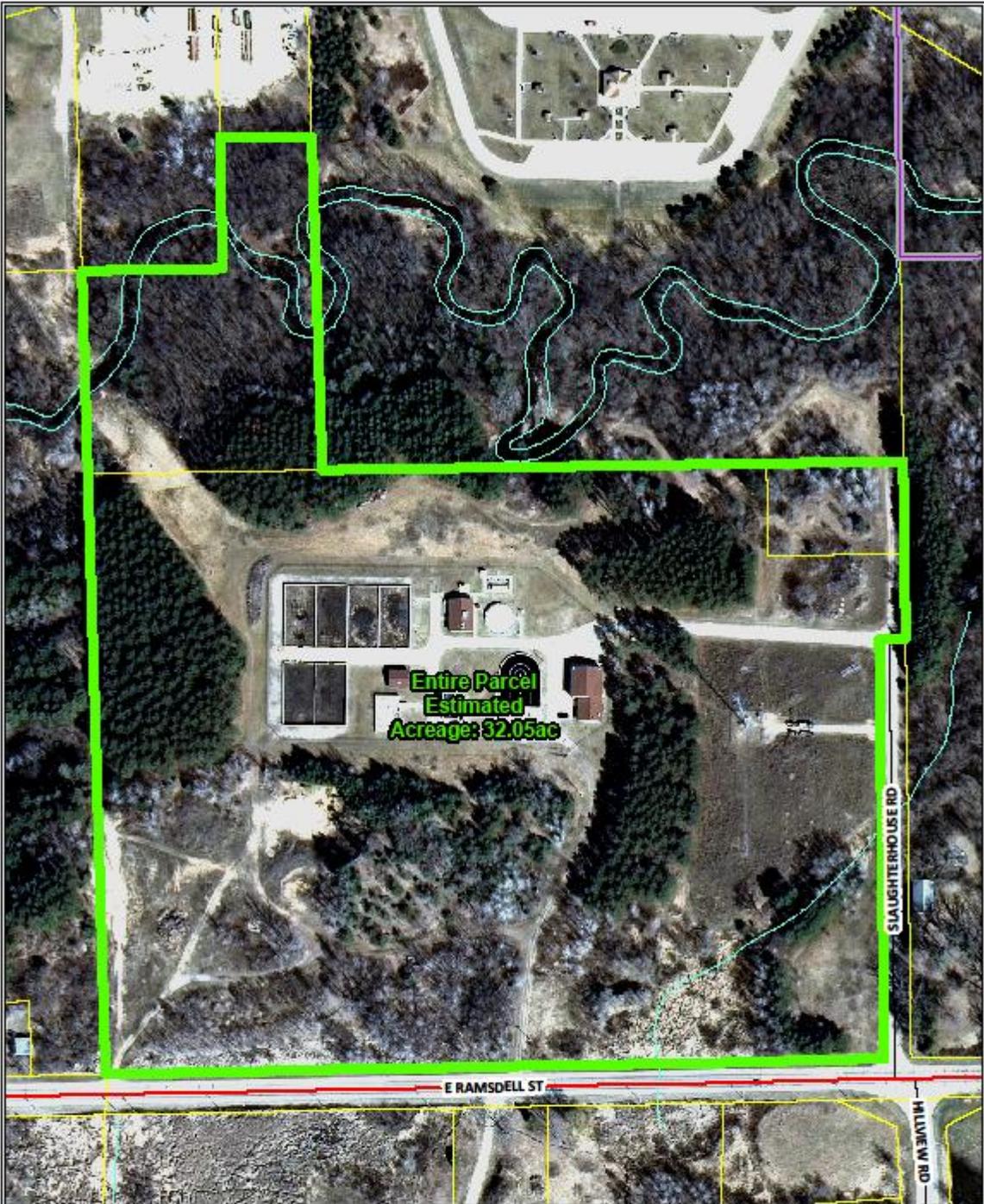
The plan includes management options that focus on providing educational opportunities for students and the community. Students are involved in forest management through activities such as tree planting and invasive species removal.

A detailed forest management plan can be requested from the School Forest Coordinator. The plan is updated and revised as needed by Marion School District staff and Waupaca County DNR Foresters.

Maps

Athletic Park: Township: 25N; Range 13E; Section 2





Marion Water Treatment Plant
Marion School District

ATTENTION: To obtain maps contact Waupaca County Land Information at (715) 258-4444

GIS TAX PARCEL MAPS ARE FOR INFORMATIONAL PURPOSES ONLY AND ARE NOT INTENDED TO REPRESENT EVIDENCE IN TITLE. THE REPRESENTATIONS ON THESE MAPS COULD IN FACT BE IN ERROR AND SHOULD NOT BE RELIED UPON AS THE SOLE DETERMINING FACTOR IN THE LOCATION OF ANY GIVEN PARCEL. WAUPACA COUNTY IS NOT RESPONSIBLE FOR ANY INACCURACIES CONTAINED HEREIN. INDIVIDUALS SHOULD CONSULT LEGAL REPRESENTATION OR PROFESSIONAL SURVEY ADVICE TO CONFIRM AND INSURE ACCURACY OF A GIVEN PARCEL DESCRIPTION.

0 100 200 Feet
 1 inch = 200 feet
 Aerial Photography Collected In March of 2010.

To View Maps Online Visit: http://www.co.waupaca.wi.us_clik_property/GIS_maps, then choose Maps -> Online Mapping Access

Waupaca County
 Wisconsin

Printed on: 1/22/11

Veteran's Memorial Park: Township: 25N; Range 13E; Section 2



Pigeon River County Park: Township: 25N; Range 14E; Section 8



Keller Lake County Park: Township: 25N; Range 13E; Section 18



Town of Wyoming Forest :Township: 25N; Range 12E; Section 11



Educational Connections

Key Concepts/Enduring Understandings

1. Awareness and sensitivity are vital to understanding life processes and the relationships of ecosystems in the natural world.
2. Appreciate that forests and ecosystems change through time.
3. Understanding of the natural world as a valuable resource that provides inspiration, encourages creativity, and offers opportunities for physical fitness and emotional health.
4. Provide opportunities to utilize technology to identify, investigate, and evaluate the environment.
5. Develop decision making and action skills to establish responsible environmental stewards of the land.

Classroom Curriculum Connections

These are some of the potential educational opportunities provided by the school forest sites included in this educational plan. Detailed classroom curriculum connections to individual sites are included within the grid on following pages.

- ✿ Air quality monitoring
- ✿ Art –photography, drawing, painting
- ✿ Data collection
- ✿ Descriptive writing
- ✿ Diversity calculations and comparisons

- ✿ Ecological disturbance
- ✿ Ecological restoration – prairie, forest, wetland
- ✿ Ecological succession
- ✿ Education material development
- ✿ Exotic species impact and control
- ✿ Food web analysis

- ✿ Forest management methods
- ✿ Forest measurements
- ✿ Forest products
- ✿ Forest regeneration
- ✿ Forest surveys
- ✿ Glacial geology

- ✿ Habitat surveys and classification
- ✿ Land use history
- ✿ Life-cycle investigations
- ✿ Management plan development
- ✿ Mapping
- ✿ Navigation skills
- ✿ Nutrient cycles
- ✿ Observation with a variety of senses
- ✿ Phenology

- ✿ Plant identification and classification
- ✿ Prairie management methods
- ✿ Prairie surveys
- ✿ Service learning

- ✿ Soil analysis
- ✿ Team building
- ✿ Trail hiking
- ✿ Water cycle
- ✿ Water quality analysis
- ✿ Watershed analysis
- ✿ Weather and climate measurements
- ✿ Wetland delineation and survey Wildlife identification and classification

Site Connections

The learning objectives are taught, demonstrated and experienced through a connection to the school forest sites. These are detailed in the Grade Level Grids.

Alignment with Wisconsin's Model Academic Standards

As connections are made between curriculum and sites, the school forest committee has also detailed in the Grade Level Grid the Common Core Language Arts, Reading, Mathematics and Environmental Education Standards. Because we are in transition with new Common Core Science and Social Studies Standards they will be added as they become available.

Staff Development

As the school forest program gains momentum, teachers will be invited to take part in staff development opportunities. Our goal is to offer at least one school sponsored training/ in-service annually. Teachers and staff will also be encouraged to take advantage of other environmental education offerings provided by other organizations and institutions such as UW Extension, WI DNR National Curriculum training, WEEB, etc..

Professional development will be approached in a collaborative manner to work with experienced teachers, resource managers, area organizations, and knowledgeable individuals to offer in-services/workshops.

The school forest coordinator will forward professional development opportunities to district staff.

It is the goal of the school forest committee to create and implement educational resources in the form of box kits, school forest binders and/or digital media at all grade levels.

Resources

State and County Resources

Connie Abert, Waupaca County University of Wisconsin-Extension Faculty, connie.abert@ces.uwex.edu

Ben Baumgart, Wisconsin Department of Natural Resources Waupaca County Forester, benjamin.baumgart@wisconsin.gov

Ted Dremel, Wisconsin Department of Natural Resources, Conservation Warden, theodore.dremel@wisconsin.gov

Jacob Fries, Wisconsin Department of Natural Resources, Conservation Warden, Wildlife Biologist, Hartman's Creek, jacob.fries@wisconsin.gov

Ian Grasshoff, Waupaca County Land Information System, ian.grasshoff@waupaca.co.wi.us

Roger Holman, Waupaca County Natural Resource Department, roger.holman@waupaca.co.wi.us

Jim Horn, Wisconsin Department of Natural Resources, Conservation Warden james.horne@wisconsin.gov

Bill Johnson, Master Gardener, UW-Extension, 715-256-9436 (Home)

Jeff Knorr, Wisconsin Department of Natural Resources, Conservation Warden, jeffrey.knorr@wisconsin.gov

Bryan Lockman, Wisconsin Department of Natural Resources, Conservation Warden Bryan.Lockman@Wisconsin.gov

Gretchen Marshall, School Forest, Specialist, gretchen.marshall@uwsp.edu

Alan Niebur, Wisconsin Department of Natural Resources, Conservation Warden, Fishery Biologist, alan.niebur@wisconsin.gov

Pat Ritchie, Master Gardener, UW-Extension, 920-867-3074 (Home) or 920-538-1426 (Mobile)

James Robaidek, Wildlife Tech, 715-258-4225, james.robaiddek@wisconsin.gov

Mark Schraufnagel, Wisconsin Department of Natural Resources, Conservation Warden, mark.schraufnagel@wisconsin.gov

Corey Schuelke, Soil Conservationist, Waupaca County Land & Water Conservation Dept. 715 258-6245, cshuelke@waupaca.co.wi.us

Susan Schuller, Wisconsin EE Center, Resource Librarian, susan.schuller@uwsp.edu

Eric Sherman, Ice Age Trail Alliance, eric@iceagetrail.org

Jeremy Solin, LEAF, Director, jeremy.solin@uwsp.edu

Marion Resource s

Local Government Resources

City of Marion Public Works Director, Dave Mattes, marioncitydpw@frontiernet.net

Business Resources

Luck of the Irish LLC, Todd Pamperin, tp22@frontiernet.net

Marion Plywood, Mike O'Connell, 715-754-5231

Besse Forest Products, Dana Gustke 715-258-5630 (Home) or 906-280-3137 (Mobile)

Besse Forest Products, Wisconsin Veneer and Plywood, Patrick Bailey, 715-489-3611

Tree Farm, Jack Bazille, 715-535-2692

Non-Profit or Voluntary Resources

Trout Unlimited, Lee Kersten, 715-754-2085

Whitetails Unlimited, Mike Mazemke, michael.mazemke@co.waupaca.wi.us

Fox Valley Tech-Clintonville Site, Larry Dieck --retired. New director is Sara Maass-Pate (715) 823-8324 (general tech number)

USGS Current Water Data – Daily stream flow conditions:

<http://waterdata.usgs.gov/wi/nwis/rt>

Website with woodland management information: <http://woodlandinfo.org/>

Survey Notes: Wisconsin Public Survey Records at

<http://digicoll.library.wisc.edu/SurveyNotes/Search.html>

Title search Register of Deeds (Fee \$25)

Maps: Plat Book, County Zoning Office w/ Legal description, Google w/ aerial photo or county land use planning department or WDNR forester , topographical map from Wisconsin Geological and History Survey

(www.uwex.edu/wgnhs), Groundwater, Bedrock, and Soil Survey Maps from Central Wisconsin Env. Ed Center (Lynn Ponto has emailed Susan Schuller UWEE).

Climate: www.aos.wisc.edu/~sco Wisconsin State Climatology Office.

History: <http://www.weyauwegachamber.com/history.html>

Leaf Website: <http://dnr.wi.gov/forestry/education/leaf.htm>

Assessment

The on-going success of the school forest program will be determined from a variety of sources, including surveys, observations and community engagement. Specific examples that may be gathered:

- 🌿 Number of students and classrooms utilizing the school forests
- 🌿 Student perceived value of the school forest as an educational experience
- 🌿 Ongoing student surveys of increased subject knowledge and specific student learning utilizing educational assessments (such as the upcoming Smarter Balance Assessment, WKCE, other)
- 🌿 Connection of students to local natural areas, importance of environmental literacy and stewardship of our community

Through the results of these assessments and during annual review by the school forest team, specific actions may be taken to:

- 🌿 Revisions to the Marion School Forest Educational Plan
- 🌿 Expand the use of the forest with curricula
- 🌿 Address curricular implementation concerns that may be arising
- 🌿 Implement an overall sustainability plan that would ensure quality educational experiences for students and the community of Marion

Grade Level Curriculum Connections, Standards, Activities and Site Determinations

4-Year/5-Year Old Kindergarten					
Subject	Enduring Understanding (Key Concepts)	Objective	Activity	Site	State Standards and Core Components
Science	Seasons bring many changes. (1, 2)	Students will learn about weather changes in each season.	Weather and Seasons	All	ESS1.B ESS2.D
Science	Forests have living and non-living elements. (1)	Student will sort items found on the forest floor into living and non-living categories.	Sensing the Forest (LEAF Unit K-1 Field Enhancement 2, Page 92)	All	LS2.A
Science	Different trees have different leaves. (1)	Students will notice differences between the leaves of different species of trees.	Leaf Rubbing	All	LS1.A
Science	Plants have a life cycle.(2)	Students will describe the stages of a plant's life cycle.	Planting Seeds	All	LS1.B
Science & Ecology	People affect the environment around them (1, 5)	Students will describe ways where people can harm places where plants and animals live.	Earth Day Clean-Up	All	ESS3.C
Science & Math	Snow can change its form. (4)	Students will melt snow in a cup and measure water.	Snow Melt	All	K.MD.2
Math	The same item, such as pinecones, has different weights and lengths. (4)	Students will measure and weight items found in the forest.	Scavenger Hunt	All	K.MD.1
Math	Objects found in the forest have different attributes. (1)	Students will classify objects into different categories.	Scavenger Hunt	All	K.DM.3
Writing	Living things have survival needs. (1)	Students will describe the ways plants and animals depend on each other.	Science Journal	All	K.W.2
Writing	Many different creatures live in the forest. (1, 3)	Students will find objects in the forest to match corresponding letters of the alphabet.	Nature Walk	All	K.W.2
Agriculture	Recognize forest resources. (3)	Students will identify various plants and animals and how humans benefit from them.	Forest Product Time Machine (LEAF Unit K-1 Lesson 4, Page 54)	All	E.4.1
Social Studies	People from long ago needed the forest. (1)	Students will identify products that humans get from the forest.	Forest Product Time Machine (LEAF Unit K-1	All	B.4.10

Environmental Education			Lesson 4, Page 54)		
	People have fun in the forest. (1, 3)	Students will list three activities people enjoy doing in the forest.	My Favorite Forest Use (LEAF Unit K-1 Lesson 3, Page 40)	All	B.4.10
Environmental Education	People need the forest. (1, 5)	Students will identify products that humans get from the forest.	My Favorite Forest Use (LEAF Unit K-1 Lesson 3, Page 40)	All	B.4.10
Environmental Education	People get jobs from the forest. (1)	Students will recognize that people get jobs from the forest.	My Favorite Forest Use (LEAF Unit K-1 Lesson 3, Page 40)	All	B.4.11
Art	Color is naturally occurring in nature. (3)	Students will identify naturally occurring colors found in nature.	Identification of Primary and Secondary Colors	All	H.4.1
PE	People need to be active to stay healthy. (3)	Students will monitor their heart rates as they hike in the forest.	Nature Hike	All	A.4.1

First & Second Grades					
Subject	Enduring Understanding (Key Concepts)	Objective	Activity	Site	State Standards and Core Components
Science	Camouflage is important for animal survival. (1)	Students will study how animals use camouflage for survival.	Camouflage in the Forest	All	LS4.C
Science & Environmental Education	Animals need food, water, space, shelter, and air.(1)	Students will recognize that forests must contain all of the basic needs of an animal for it to live there.	Basic Needs Search (LEAF Unit K-1 Field Enhancement 3, Page 98)	All	LS2.A B.4.4
Science	The homes of animals meet their needs. (1)	Students will find evidence of animals and their homes.	Animal Homes (LEAF Unit K-1 Field Enhancement 3, Page 98)	All	LS4.C
Science	Forests have living and non-living elements. (1)	Student will record items found in the forest into living and non-living categories.	Sensing the Forest (LEAF Unit K-1 Field Enhancement 2, Page 92)	All	LS2.A
Agriculture	Humans benefit from plants and animals.(1)	Students will identify various plants and animals and the way humans benefit from them.	My Favorite Forest Use (LEAF Unit K-1 Lesson 3, Page 40)	All	E.4.1
Science & Math	Different plant and insect species live in the forest. (1, 3)	Students will graph the numbers of plant or insects found within a specified perimeter.	Plant or Insect Search	All	1.MD.1 1.MD.4
Math	Similar items can be put in order by length. (4)	Students will order 3 objects by length.	Scavenger Hunt	All	1.MD.1
Math	Students can use non-standard units of measure to determine the length of an item. (4)	Students will compare the length of two objects indirectly by using a third object.	Scavenger Hunt	All	1.MD.1
Math	Students can use collected data to draw conclusions. (4)	After collecting a series of objects, students will tell how many more or how many less are in one category compared to another.	Scavenger Hunt	All	1.MD.4
Math	Different measuring tools are needed to efficiently measure items of varying	Students will measure the length of an object by selecting appropriate tools.	How Long Is It?	All	2.MD.1

Math	sizes. (4)				
	Estimation is useful to evaluate the lengths of different objects. (4)	Students will estimate lengths using units of inches, feet, centimeters, and meters.	How Long Is It?	All	2.MD.3
Math	Many items are found in the forest. (4)	Draw picture graph and a bar graph to represent up to 4 categories.	What's Out There?	All	2.MD.10
Environmental Education	Students depend on forest products and services. (1, 5)	Students will recognize that forest products are necessary for their life everyday.	Forest Product Time Machine (LEAF Unit K-1 Lesson 4, Page 54)	All	B.4.10
Social Studies & Science	Water and soil are natural resources. (5)	Students will describe how the soil differs as its location changes in relation to water.	Water and Soil Properties	K,P,A	ESS2.A
Agriculture & Writing	Forests helped establish the economy of Wisconsin. (1, 2)	Students will list and describe resources that early Native Americans and European settlers used.	Nature Survey	All	F.4.4 1.W.2/ 2.W.2 2.W.7
Writing	Organize information in a written manner. (3)	Students will use information gathered when in the forest to write a description of an assigned item found in the forest.	To Be a Tree (LEAF Unit 2-3 Lesson 1, Page 14)	All	2.W.2
Art	Use real life (the forest) to create art. (3)	Students create a mural about the forest ecosystem that they have learned about.	Create a Mural	All	K.4.3
PE	People need to be active to stay healthy. (3)	Students will monitor their heart rates as they hike in the forest.	Nature Hike	All	A.4.1

Third & Fourth Grades					
Subject	Enduring Understanding (Key Concepts)	Objective	Activity	Site	State Standards and Core Components
Science	Landforms differ from place to place. (1)	Students will search for different landforms found within the forest.	Landform Search	All	ESS2.A
Science	The environment affects the types of plants and animals that can live in a given location. (1)	Students will make predictions as to types of animal life based upon the habitat of a given location in the forest.	Habitation Hunt	All	LS2.A
Science	There are many different rocks, minerals, and soil types in this area. (1, 2)	Students will discover how geological activity forms rocks and minerals, and how weathering forms soils.	Typing the Rocks, Minerals and Soils of the Forest	All	ESS2.B
Math	Mature trees need a lot of space to live. (4)	Students will determine how many mature trees can live in a given area within the forest.	Data Collection: The circumferences/sizes trees within a given area.	All	3.MD.8
Math	The number of animals varies with the location within the forest. (4)	Students will gather data and create a graph showing the number of animals they have seen, comparing their graphs with classmates.	Graphing	All	3.MD.4
Math	Objects have weight and length. (4)	Students measure the distance, length, and weight of objects found in the forest.	Scavenger Hunt	All	3.MD.8
Social Studies	Forests are affected by many things. (1, 2)	Students study clues and collect data to determine how the forest was used by people in the past.	Unlocking the Forest's Past (LEAF Unit 4 Field Enhancement 1, Page 146)	All	A.4.4
Social Studies	Organizations, communities, and individuals play a role in forest management efforts. (5)	Students will identify some of the people who help manage forests.	Decisions, Decisions (LEAF Unit 2-3 Lesson 5, Page 66)	All	A.4.4 C.4.5
Agriculture	Wisconsin's climate affects growing crops. (2)	Students will explain why some farmland was abandoned.	Broken Dreams (LEAF Unit 4 Lesson 4, Page 56)	All	A.4.3 E.4.3
Agriculture	Wisconsin's climate affects growing crops. (2)	Students will discuss why the soil and climate of northern Wisconsin was not well suited for farming.	Broken Dreams (LEAF Unit 4 Lesson 4, Page 56)	All	A.4.3 E.4.3
Environmental	Many items can be	Students collect and	Forest Scavenger	All	A.4.1

Education	found within a forest sample plot which raises questions. (1)	interpret information from a forest sample plot to answer questions asked.	Hunt (LEAF Unit 2-3 Field Enhancement 3, Page 128)	A.4.2
Environmental Education	Energy flows through the food chain. (1)	Students will describe the transfer of energy within the forest, identifying the producers, consumers, and decomposers.	Comic Strip— Forest Energy Flow (LEAF Unit 2-3 Lesson 3, Page 48)	All B.4.1
Social Studies & Writing	Many forest products are used every day. (1)	Students will write a paper stating the student's why the forest is important to Wisconsin's economy.	Forests Are Important to Me (LEAF Unit 2-3 Lesson 4, Page 56)	All 3.W.2; 4.W.2
Reading	What life was like for immigrant families.(2)	Students will read and discuss the text in order to learn about the human experience.	Broken Dreams (LEAF Unit 4 Lesson 4, Page 56)	All 3.RL.1; 4.RL.1 3.RI.3; 4.RI.3
Oral Presentation	Wisconsin's forests have changed over time. (2, 5)	Students will report on a topic speaking at an understandable pace.	I Saw It on the 6 O'clock News (LEAF Unit 4 Lesson 5, Page 96)	All 3.SL.4; 4.SL.4
Art	Energy transfers from producers to consumers to decomposers. (1)	Students will create a comic strip about the flow of energy.	Comic Strip— Forest Energy Flow (LEAF Unit 2-3 Lesson 3, Page 48)	All E.4.3
PE	People need to be active to stay healthy. (3)	Students will monitor their heart rates as they hike in the forest.	Nature Hike	All A.4.1

Fifth & Sixth Grades					
Subject	Enduring Understanding (Key Concepts)	Objective	Activity	Site	State Standards and Core Components
Science	Numerous trees live in this area. (1, 4)	Students will collect and identify a determined number of leaves collected from a sample forest plot.	Leaf Collection	All	LS3.B
Science	Observable plants and animals change according to time and season. (1, 2, 3)	Students will collect data from observations in a specified area and record changes over time.	Plant/animal classification	All	LS2.A
Science	The environment changes when people introduce non-native species to an area. (2,5)	Students will collect data about the different types of plants found in a forest sample plot and determine if the plants are indigenous or introduced species.	Plant Search	All	ESS3.C
Math	Make and use a Biltmore Stick. (2, 4)	Students will use a Biltmore stick to measure the diameter of trees in inches.	Wood's Worth (LEAF Unit 5-6 Field Enhancement 1, Page 152)	All	5.MD.1
Math	Make and use a Merritt Hypsometer. (4)	Students will use a Merritt Hypsometer to measure the height of trees in feet.	Wood's Worth (LEAF Unit 5-6 Field Enhancement 1, Page 152)	All	5.MD.1
Math	How to find the dimensions of a tree using forester tools. (4)	Students will determine the number of board feet in a tree.	Wood's Worth (LEAF Unit 5-6 Field Enhancement 1, Page 152)	All	5.MD.3 6.G.1
Math	Trees are a valuable source of products. (1, 5)	Students will take measurements and perform calculations to determine the number of products made from a tree.	Wood's Worth (LEAF Unit 5-6 Field Enhancement 1, Page 152)	All	6.RP.2 6.RP.3
Social Studies	Past civilizations could have lived in this area. (1, 2, 5)	Students will look for areas in the forest in which past civilizations could have survived.	Environmental Observation	All	A.8.4
Agriculture	Much information is needed to determine the best way to use trees. (2, 4, 5)	After measuring trees and determining how many products can be made from them, students will learn how foresters gather information to best use	Wood's Worth (LEAF Unit 5-6 Field Enhancement 1, Page 152)	All	B.8.1

Environmental Education	Different animals can be found in the different layers of the forest. (1)	the trees. Students will identify the structural layers in a forest.	Studying Forest Layers (LEAF Unit 5-6 Field Enhancement 2, Page 170)	All	B.8.6
Environmental Education	Trees compete with each other for their basic needs. (1, 2)	Students will gather information and use critical thinking strategies to interpret and analyze how competition affects trees.	Competition in the Forest (LEAF Unit 5-6 Field Enhancement 3, Page 178)	All	A.8.4
Writing	Forests are an important part of Wisconsin's history. (5)	Students will write a paper stating the student's point of view (argument) on why the forest was an important part of colonization in Wisconsin.	Forest Ecosystem Observation	All	5.W.1 6.W.1
Writing	The forest is worth preserving. (3)	Students will present an argument based on the need to preserve or restore an area of the school forest.	Observation and research on an area in one of the school forests.	All	6.W.1
PE	People need to be active to stay healthy. (3)	Students will monitor their heart rates as they hike in the forest.	Nature Hike	All	A.4.1

Middle School (Grades 7/8)					
Subject	Enduring Understanding (Key Concepts)	Objective	Activity	Site	Standards and Core Components
Language Arts	Iditarod dog sled race is based on a historic event (1,5)	Students will read books by authors Gary Paulson and Jack London	Outdoor dog sled demo and winter walk in forest	All	A.12.3 LS 77
Language Arts	Haiku Poetry (3)	Students will write poems in haiku style	Write poems in forest using imagery and inspiration	All	W.4 L.7.3a
Social Studies	Location Descriptions (1,4)	Students will demonstrate the difference between absolute and relative locations	Make maps of school forests	All	A.8.1, 2, 3
Social Studies	Revolutionary War (1,5)	Students will describe the settings of the Revolutionary War	Mock set-up in school forest by students	All	B.8.5-7
Environmental Education	Birds play an important role in the environment. (1,2,4)	Students will observe and identify birds using binoculars, compare and contrast them, and describe the importance of birds.	Create journal identification books	All	EEA.8.3.4 L.S. 4.A L.S. 4.B
Environmental Education	Invasive Species (1,2,5)	Student will understand how invasive species can affect an environment	Identify and locate invasive species in our forested areas	All	LS 2.4 EE.A.8.1,2,5
Science	Different trees have different leaves.(1,2,3)	Students will notice differences between the leaves of different species of trees.	Leaf Collections	All	F.8.2, 4, 9 LS 3.B
Science & Math	Snow can change its form.(1,3)	Students will melt snow in a cup and measure water.	Snow Melt	All	8.5.1.B, C 8. G. 1. H
Special Education	Story writing and poems (1,3)	Students will write down nature words to add to a descriptive story	Journal Writing	All	W2,B,C
Special Education	Nature scavenger hunt (1,3)	Students will use descriptive adjectives to describe items	Nature hunt using descriptive words	All	EE A.8.2
Band	Sounds of the forest (3)	Students will identify sounds of the forest as they relate to music composition	Listen to forestry founds	All	F.8.2, 3,6, 7
Physical Education	Lifetime Outdoor Physical Activities (1,3)	Students will participate in a variety of outdoor activities	Disc golf, snow shoeing, archery, fishing, fitness trail, rope challenge course, etc.	All	2.3 3. A. 3 6:3: A2/A7
Art	Landscape Study (3,4)	Students will demonstrate drawing techniques using different mediums	Students will draw landscape designs	All	A. 1, A.2, B.4, E.1 H.8.6, C.8.6
Art	Lines and Shapes (3)	Students will use natural items to create 3-D art projects	Ceramic Chimes using real leaves to make impressions	All	A.B.4, C.4.5 H.8.4, C.4.8
Art	Natural Sculpture (3)	Students will differentiate between 2-D and 3-D art	Create 3-D works using natural items	All	C.5.5, C4. 8 D.8.5, H.8.4
Math and Social Studies	Logging in Wisconsin has been a significant part of its history (2,5)	Students will understand the historic importance of forests and logging industry	Students will research Wisconsin logging history	All	7.5.1a

Earth Science	Rock Cycle (1,2)	in Wisconsin Students will know the rock cycle and identify the types of rocks	Study geology of school forest landscapes, rock types and how erosion and weathering has changed landscapes	All	E.8.4.5
	Rational numbers and samples (4)	Students will use decimals, percent and fractions and be able to switch from one to another	Population surveys in school forests	All	7.SP.1, 2 8.D.1.D
Math	Determine distances using Pythagorean Theorem (4)	Students will measure right triangles using the Pythagorean theorem	Determine distance of a given location using known measurements	All	8.G. 6-8

High School

<i>Subject</i>	<i>Enduring Understanding (Key Concepts)</i>	<i>Objective</i>	<i>Activity</i>	<i>Site</i>	<i>Standards and Core Components</i>
Biology/ Life Science	Classification(1)	Students will identify and classify insect orders and species	Dichotomous Keys Insect Collection	All	F.12.7, F.12.8
	Bio Chemistry(1,2,3)	Students will understand the process of photosynthesis	Photosynthesis	All	F.12.9, F.12.10, F.12.11
	Water Chemistry(1,2)	Students will survey and identify aquatic organisms	Water sampling and ID microorganisms	K,P,A	F.12.7, F.12.8, F.12.1, F.12.2
Ecology	Ecosystems (2)	Student will identify soils components and types	soils	All	C.12.4, C.12.1
	Water quality/ Pollution (1)	Students will understand the chemical make up and water conditions	water monitoring	K,P,A	C.12.4, C.12.1
	Populations (3,4)	Students will estimate wild populations using math and survey	population dynamics and survey lab	All	G.12.2, F.12.7, F.12.8
	Air Quality (1,2)	Students will survey air quality and relation to forests		All	G.12.3, G.12.2, F.12.10, F.12.11, E.12.2
	Cycling of Matter (1,2)	Students will identify the steps of matter cycling; carbon, nitrogen, water, phosphorus, cycles	Observe nutrient recycling throughout the forest	All	F.12.9, F.12.10, F.12.11
Chemistry	Water Testing (all)	Students will investigate the quality of water	Nitrate testing	K,P,A	D.12.4, D.12.5, D.12.6
Chemistry	Oxygen levels (all)	Students will discover factors affecting oxygen content in rivers and lakes	Oxygen sampling	K,P,A	D.12.4, D.12.5, D.12.6
Chemistry	Soil Testing (all)	Students will investigate the make-up of soil.	Soil test	All	E.12.2
Physics	Measurements (4)	Students will develop an investigative approach to measuring items	Measuring and investigating	All	D.12.7, D.12.8, D.12.9
Physical Science	Metric Units (4)	Students will measure various items using the metric system	The study of the metric system	All	D12.7
Physical Science	Temperature (4)	Students will test various areas for temperature differences in both water and land areas	Temperature differences	All	D12.1 D12.11
Physical Science	Simple Machines (2,4)	Students will develop various simple machines	Making simple machines	All	D.12.7 D.12.8
Physics	Motion (3,4)	Students will complete labs based on Newton's Three Law's of Motion	Equations associated with motion	All	D12.7 D.12.8
Agriculture, Technology, Social Studies	Orienteeing (4) Mapping	Students will understand how global positioning systems works and list	Use GPS systems in the forest	All	A.12.1 B.12.4

Agriculture, Environmental Science	Biodiversity (1,2,5)	the benefits to GPS Students will survey the ecosystem biodiversity insect and macro invertebrates	Set pitfall traps and identify species	All	E.12.2 D.12.1, 2, 4
	Physical Education	Lifetime Outdoor Physical Activities (3)	Students will participate in a variety of outdoor activities	Disc golf, snow shoeing, archery, fishing, fitness trail, rope challenge course, etc.	All 1:4:A1, 1:4: A5 3:4:H3, 3:4: A5 6:4: A1, 6:4:A2
Art, Agriculture, Technology	Landscape Study (2,3,4,5)	Students will demonstrate drawings using a variety of mediums	Students will draw landscape designs	All	E.12.1, 2 B.12.1
Environmental Education	Energy & Ecosystems (1,2)	Students will explain the importance of biodiversity and human impact on planet	Ecosystem interactions	All	EE B.8.3, B.8.10
Environmental Education	Pollution (4,5)	Students will identify point and non-point pollution	Seek out point source pollution in community	All	EE B.8.19
Social Studies	US History World History Government (5)	Students will research economic effects of environmental consumption vs conservation on local, state and federal land	Consumption vs. conservation survey	All	A12.9
Social Studies	Government (5)	Students will research economic value of forest land	Students will create a list of pros and cons of having a school forest and defend economic and educational value	all	C.12.8, C.12.10
Science, Business Education	School Forest Management (4,5)	Students will help develop and manage the school forest properties	Management of school forest components	A	EE C.12.1-3
Science, Social Studies	Geologic Landforms (2,4,5)	Students will understand and recognize how geologic landforms are created and changed over time	Landform hunt and site geology	K,PR	A.12.2,5,8
Science, Math	Measurement (2,4)	Students will measure the distance, length, and weight of objects found in the forest.	Use metric and standard systems of measurement to describe distances	all	A-APR-7 G-MG-1
Science, Math	Speed of sound (4)	Students will gather data needed to compute the speed of sound. .	Determine if sounds travel differently based on geographic structures.	all	A-APR-7
Science, Environmental Science, Agriculture	Forest Succession (2)	Students will recognize that natural environments are involved in a process of continual change	Identify plants and trees as keys to forest succession and health	all	LS4.B
Science, Agriculture	Dichotomous Keys (1,2)	Students will identify tree and plant species	How to use a dichotomous key	all	LS4.D

Science	Plant Physiology (1,2)	using a dichotomous key Students will study plant structure and function	Locate types of plants and the function of the various parts	all	LS1.A
Science, Agriculture	GPS and Geocaching (3,4)	Students will demonstrate use of technology, understanding of latitude and longitude to locate a point	GPS and find geocaches in a specific location	all	A.12.2
English, Literature	Reading American Literature, Transcendentalism (1,3)	Students will determine central themes or ideas of foundational works of American Literature	Read Henry David Thoreau and Ralph Waldo Emerson to reference setting and nature in conjunction with their works	all	CC S.2 Lit R/L 9
Math, Agriculture	Trigonometry (4)	Students will survey distances	Understand biodiversity by measure distance between trees and other features	all	G-SRT-11
Math, Agriculture, Science	Algebra and Trigonometry (4)	Students will measure heights	Students will measure tree height using DBH and other ways of measuring	all	G-SRT-8 G-SRT-11
Math and Agriculture	Algebra (4)	Students will calculate board feet	Learn how forester measure and calculate value in board feet to estimate value of forests	all	G-SRT-8 A-CED-1
English	Poetry (3)	Students will write specific poems, such as haiku or other directed types	Create a specific poem types using nature themes	all	R/L:7, 10
English	Shakespeare (3)	Students will understand, read, and participate in Shakespeare literature	Participate in reenactments of a Shakespearean act in a nature-made amphitheater	A,K,V	R/L: 4,7
English	Settings (3)	Students will explain the importance and describe a setting for a story using descriptive words	Make a list of words that describe outdoors, nature, environment, etc., then write settings for a story	All	R/L :5
Special Education, Physical Education	Snowshoeing (3)	Students will develop an understanding of outdoor recreation as a way to stay physically fit	Go snowshoeing in the winter	V,A,K	6:4:A 1-5

Sustaining the School Forest Program

School Forest Committees-This is a list of existing and/or proposed school forest committee members with their affiliation (school and grade level or organization and position). It is the responsibility of this committee to see the educational plan is implemented and be stewards of its usage, visionaries of the school forest for the staff and community.

Project Directors	Affiliation	
Ben Smejkal	School District of Marion	Science Teacher-Grades 8-12
Staff	Affiliation	
Heather M Wuske	School District of Marion	MS Math/Science Teacher
Dan Loken	School District of Marion	HS Science Teacher
Adam Kohn	School District of Marion	MS/HS Agriculture Teacher
Brian Paulson	School District of Marion	MS/HS Physical Education Teacher
Bill Van Daalwyk	School District of Marion	Elem. Phys Ed/Health Teacher
Deb Rades	School District of Marion	Elem. Special Education Teacher
Mark Fredy	School District of Marion	MS Social Studies Teacher
Adalia Altiman	School District of Marion	HS English Teacher
Mark Maron	School District of Marion	HS Social Studies Teacher
Tim Osborn	School District of Marion	HS Technical Education Teacher
Dave Nordeng	School District of Marion	HS Math Teacher
Alyssa Bohlman	School District of Marion	MS Math Teacher
Joe Morrison	School District of Marion	Elementary School Teacher
Administration	Affiliation	
Mike Gaunt	School District of Marion	Superintendent
Chris Bettin	School District of Marion	School Board President
Dan Breitrick	School District of Marion	High School Principal
Community Members	Affiliation	
Dave Mattes	City of Marion	Public Works Director
Larry Dieck	City of Marion	Volunteer
Roger Holam	Waupaca County	County Park Director
Aaron Schoen	City of Marion	City Council Member
Nat. Res. Professionals	Affiliation	
Connie Abert	Waupaca County UW Extension Faculty	
Ben Baumgart	DNR-Waupaca County Forester	
Gretchen Marshal	Learning Experience and Activities in Forestry (LEAF)	

Communication Plan

- The School Forest Committee will be responsible for creating and maintaining a School Forest website link located at: <http://www.marion.k12.wi.us>
- The School Forest Committee, Marion School District staff, and students will all contribute school forest updates, community activities, and photos.
- The district will host an annual School Forest event for community members to learn about and participate in activities at the School Forest.
- Presentations about activities at the School Forest will be made at least annually to the school board.
- Information will be shared with the local media at the School Forest including community involvement, teacher training, and projects.
- The School Forest Coordinator will offer in-service training annually for teachers to become more familiar with the School Forest site and curriculum.
- The School Forest Coordinator will continue bi-monthly contact with the “Friends of the School Forest Group” through an e-mail update.

Thus far, communication about the school forest has taken place through email to school and community members and letters in the local news publication. Future possibilities for communication include holding community meetings, attending town meetings, a seasonal newsletter, and school/community dinners. All have potential for student education in outreach, planning, and leadership development.

Long-Range Plan

To fulfill our vision for the use of the School Forest, we have identified the following goals for the School Forest committees:

1. Train teachers and assistants to feel comfortable teaching students in the outdoors and about the School Forest curriculum.
2. Expand the School Forest curriculum for students to maximize learning at the School Forest.
3. Establish a “Friends of the Marion School Forest” group.
4. Continue to manage the School Forest to maintain and expand trails, control invasive species, and manage wildlife to optimize the diversity and health of the sites.
5. Create a plan for transportation to and from the school forest.
6. Increase School Forest attendance by 5% each school year.
7. Increase use of School Forest to 50% of school days.
8. Allow opportunities for every elementary student to visit the School Forest two times yearly.
9. Provide an opportunity for every secondary student to visit the School Forest two times annually.

10. Purchase supplies and materials to be used when implementing activities at the School Forest.
11. Upgrade School Forest technology to be comparable to the classroom.
12. Update older facilities/equipment.
13. Develop educational displays and signage.
14. Enhance trail systems
15. Make the School Forest more handicap accessible.
16. Create a part-time staff position to coordinate School Forest activities/events/programs in order to better accommodate usage. This could include current teacher to teach a School Forest/Ecosystem Management class to students during the school year or in the summer.
17. Create a plan for educational shelter/permanent bathroom facilities and a parking area at the school forest.

Our Long Term Vision and Goals for our school forest sites includes:

A natural place where students and community members are free to explore, investigate, and experience their natural landscape. Activities range from investigation of natural phenomena, exploration of our past and artistic expression, to recreation and meditation. As our school forest land has been donated for us to use, as a district and teaching staff we hope to instill a sense of stewardship and responsibility in students and community members that these become the places to go and gather in our community.

Implementation Plan

Event/ Activity	Summer 2013	2013/14	2014/15	2015/16	2016/17
Formation of Committees (Management & Education)	X	X	X	X	X
Formation of Student Group or Class for forest upkeep. (i.e. trails, invasive species etc.)		X	X	X	X
Provide two visits to forest for all students each year		X	X	X	X
Hold annual School Forest Event for Public		X	X	X	X
Provide In-service for teachers and training for community members		X	X	X	X
Transportation plan completion			X	X	X
Permanent facility plan completed			X		
Expand PreK-12 Needs Assessment Survey (Further develop and expand School Forest Curriculum)		X	X	X	X
Creation of School Forest Curriculum Binders for each grade level, revised biannually		X	X	X	X
Update School Forest Technology			X	X	X
Establish a Sustainability Fund for School Forest Education			X	X	X
Improve Handicap Accessibility				X	X

Committee Formation

Primary Activities

Contact potential members

Set dates & meeting locations

Establish agendas

Hold meetings

Establish annual management and educational goals

Create and sustain community connections

Resources needed

School Meeting Facilities

School District Support

Student Group or Class Upkeep, Development and Management

Primary Activities

Resources needed

Trail maintenance

Students

Invasive species control

Staff support/training

Trail sign creation & upkeep

Tools and appropriate supplies

Conduct education programs

Mentor younger visitors

Staff / Curriculum Development

Primary activities

Resources needed

Fulfill WEEB Grant Requirements

Staff in-service opportunities

Creation of binders for each grade level

Tuition/stipends where possible

Arrange In-service times and dates

School District Support

Transportation

Primary activities

Resources needed

School Forest Committee members will consult with school board, administration and transportation director to establish a plan for ongoing transportation to and from the School Forest Sites

Establish funds for transportation

Increased use of School Forest Sites

Primary activities

Resources needed

Promote learning opportunities for staff and students

Teacher support

Work with staff to overcome obstacles

Administrative support

Schedule school group activities

Provide student mentors and presenters

Provide a minimum of two visits each year for all students

Facilities

Primary activities

Management team will collaborate with
City of Marion to develop a plan for permanent shelter
Create or expand handicap accessibility

Resources needed

Collaboration and support with City
of Marion

Technology

Primary activities:

Determine and obtain technology for management
and education programs in the School Forest
(i.e. GPS, water testing, WiFi connections, etc.)

Resources needed:

Grants
Technology advocates

Establish School Forest Funds

Primary activities:

Seek, secure and establish permanent funding for
School Forest management and educational
programing for the students
and community of Marion

Resources:

School Forest Advisory
Management
Community Support
Grant opportunities
District Funding / Fundraising
Support

District Commitment

It is the District and School Board's commitment to support the education plan and to allow the school forest committee to continue to implement the education plan and start to fulfill all of our goals as described within this plan. Implementation of this educational plan does require support from the district to staff and students so that there is sufficient time, transportation and resources available to allow for a quality educational experience.

It is also an important commitment to periodically update this plan so it remains integrated with other district curriculum initiatives. As science core curriculum and environmental education resources change, it is necessary to continue teacher training and support of the school forest committee long term goals. Plus it is essential to support the relationships with community and county entities since all of these properties are owned by the public.

References

Wisconsin Model Academic Standards. Wisconsin Department of Public Instruction

Next Generation Science Standards. Achieve, Inc.

DNR (forestry plans)

LEAF-UWSP Forestry Program

Marion Historical Society

County Parks (land descriptions)

Marion Advertiser (pictures)

Ian Grasshoff, Waupaca County GIS System (maps)

Mike Mazemke, Waupaca County Register of Deeds (legal descriptions)