

THE McFARLAND SCHOOL FOREST



‘A place to learn, a place to grow.’

School Forest Education Plan

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McFarland School District School Forest Education Plan

Rationale

Value Statement

The McFarland School Forest offers an exceptional opportunity to increase student interest in and retention of concepts essential to environmental literacy through the integration of on-site environmental education and interdisciplinary activities. In order for our young people to develop a sense of connection and an ongoing relationship with a natural place, it is important to offer them a range of formal and informal opportunities to explore and learn in the school forest. This approach will foster not only an academic understanding of the environment but also a personal understanding of the interdependence of humans and nature, both of which lead to increased environmental responsibility and good stewardship of our natural resources. Due to its proximity to all four of the district's schools as well as its ecological diversity and rich Native American heritage and history, the McFarland School Forest is ideal for enhancing and expanding existing K-12 classroom curricula. Building on this concept of place-based education, the comprehensive plan (aligned to state EE standards) includes educational activities that will encourage both students and the community to understand and value this resource, and to participate cooperatively in management activities to restore and protect this extraordinary local ecosystem.

Target Messages

- The natural world has inherent beauty and value.
- Humans are a part of the natural world; we are dependent on nature for our health and survival.
- Human activity, through our management decisions and interaction with the environment, has a direct impact on the health of the ecosystem.
- Outdoor learning experiences greatly influence the development of environmental sensitivity, which ultimately leads to environmentally responsible behavior.
- Environmental education is best infused throughout the K-12 curriculum through direct, hands-on experiences that will develop an ongoing connection with nature.
- Participation in forest management and ecological restoration activities will foster a sense of environmental stewardship and empowerment in students and the community.

Needs Assessment Results

In September 2007, McFarland School District teachers were asked to complete an online survey regarding our newly designated school forest. The survey data are valuable in terms of assessing teachers' interest in using the school forest, in planning for future needs and projects, and in identifying priorities and activities linked to the successful implementation of our environmental education curriculum.

Sixty-five teachers (50 percent) responded to the survey. Highlights of the data include:

- Ninety-five percent of teachers responding were aware of the school district's new school forest.

- Forty-five percent were currently using, or intended to use the school forest, during the 2007-2008 school year.
- Teachers indicated they planned to utilize the school forest for the following activities:
 1. Science class experiments and studies (39.3%)
 2. Fitness training (32.1%)
 3. Nature education (28.6%)
 4. Recreational use (28.6%)
 5. Volunteer/Community service projects (21.4%)
 6. Summer school classes (3.6%)
- These teachers indicated their intention to visit the school forest:
 1. Once (42.9%)
 2. Twice (14.3%)
 3. Ten times (7.1%)
 4. Three times (3.6%)
 5. Four times (3.6%)
 6. Seven times (3.6%)
 7. Eight times (3.6%)

More frequent visits to the site were indicated by middle school and high school teachers, as the school forest is adjacent to both schools.

- Seventy-two percent of responding teachers not currently utilizing the school forest expressed an interest in doing so.
- Of these, 38.1 percent reported the following perceived barriers to greater use of the school forest:
 1. Transportation (57.7%)
 2. Scheduling (53.9%)
 3. Lack of training and /or knowledge of environmental education curriculum and activities. (34.6%)
 4. Lack of experience and/or comfort teaching in an outdoor setting. (19.2%)
- Of the teachers responding, sixty-four percent feel they do not have enough knowledge of natural resources and environmental education to confidently use the school forest as a learning tool.
- Teachers indicated the following professional development opportunities would be most valuable:
 1. Content: Background information on forests, wildlife, soils, water, etc. (67.2%)
 2. Outdoor education methods (58.6%)
 3. Environmental education curriculum (e.g. LEAF, DNR's Project WILD, WET and Project Learning Tree) (41.4%)
 4. Environmental education (background information on EE, state EE standards, how it can be used) (36.2%)
 5. LEAF environmental education workshops for teachers (36.2%)

In discussions with some of the district's teachers, several expressed a lack of time in the current curriculum for more frequent field trips to the school forest, as well as a lack of opportunities for teachers to pursue professional development in this area.

- Teachers indicated the following site improvements and additions would increase the likelihood and frequency of school forest use:
 1. Outdoor teaching station/shelter with seating for groups (63.2%)
 2. School forest site and trail maps (56.1%)
 3. Guidebooks and accompanying signs for self-guided tours. (54.4%)
 4. Indian mound restoration/protection and accompanying maps and guides to mound area. (49.1%)
 5. Fitness/challenge course (38.6%)

6. Improve existing trails (26.3%)
7. Develop new trails (24.6%)
8. On-site storage shed for tools and equipment (12.3%)
9. Pursue timber sale (5.3%)

Providing volunteer guides (e.g. school forest coordinator, trained parent volunteers) for school forest activities and field trips was considered helpful by 45 percent of teachers in providing educational and practical support. Parent volunteers in the district have expressed interest in training in outdoor education methods.

Site Description and Opportunities

Site Description and Location

The McFarland School Forest is adjacent to Indian Mound Middle School on Exchange Street in the Village of McFarland. It is within easy walking distance of McFarland High School, McFarland Primary School, and Conrad Elvehjem Early Learning Center; it is approximately one mile from Waubesa Intermediate School. The woods are surrounded by residential housing to the north, south, and west, and by school buildings and athletic fields to the east. The southern six acres are owned by the McFarland School District. The northern 10 acres, Indian Mound Park, is owned by the Village of McFarland and was incorporated into the school forest through a Land Use Agreement with the village.

The school forest is mostly upland with an open marsh component in the southwest portion. There is a diversity of natural communities represented including mature and young mixed hardwood forests, areas of partially restored oak savannah with native prairie species, marsh, and wetlands. The Indian Mound Park area contains the Lewis Mound Group, an ancient Native American effigy mound group listed in the National Register of Historic Places. The Yahara River is adjacent to the marsh, and can be easily accessed from the school forest. Tree species in the school forest include oak, hickory, walnut, ash, cherry, basswood, and silver maple. Native plants include several prairie species and spring ephemerals such as May apple, wood violet, and Jack-in-the-pulpit. Invasive plant species that are problematic include European honeysuckle, garlic mustard, buckthorn, and box elder. The school forest is home to many common Wisconsin animals and birds such as deer, red fox, squirrels, raccoons, snakes, hawks, woodpeckers, and many migrating songbirds.

Legal Description

County: Dane

Town Name: Dunn

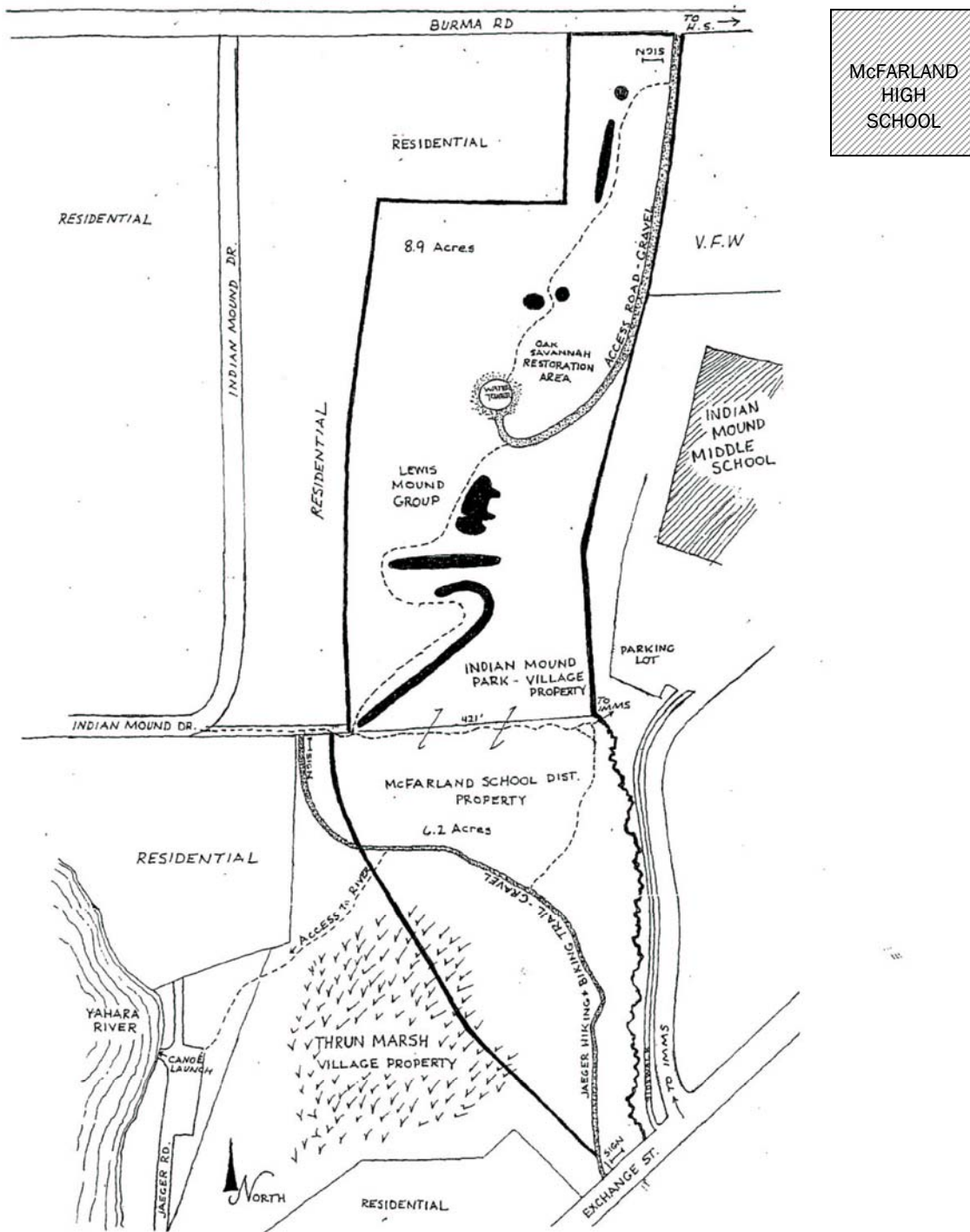
Town: 6N; Range 10 E; Section 3

Total Acres: 16

Facilities

There is system of developed trails throughout the school forest which includes a gravel hiking and biking trail and several smaller hiking trails. Ample parking is available in the Indian Mound Middle School parking lot and on adjacent streets. Informational signs at both the Exchange Street and Indian Mound Drive entrances contain self-guided tour information and site maps. There are no shelters or restroom facilities available on site.

MAP of McFARLAND SCHOOL FOREST



Educational Opportunities Provided by Site

The ecological diversity of the school forest offers the potential for a variety of environmental education activities including, but certainly not limited to:

- Tree and plant identification and inventories
- Identification and awareness of invasive species and their ecological impact
- Participation in restoration work and forest management activities
- Water and wetland studies
- Oak savannah restoration and the role of fire in management of this ecosystem
- Local Native American history and culture through site visits and mound restoration
- Wildlife studies and observations (e.g., tracking, birdwatching)
- Mapping and orienteering

In addition to the educational activities listed above, the school forest offers opportunities for ongoing interdisciplinary and recreational activities such as:

- Photography
- Nature drawing and journaling
- Fitness training (e.g., sports teams training, physical education classes)
- Summer school classes in outdoor skills, crafts and recreation.

Site History

The school forest site has had a history of habitation and use by Native Americans since pre-historic times. Some artifacts recovered from the area near the school forest have dated as far back as 7000 B.C. Probably due to the site's location near Lake Waubesa and the Yahara River, there was an abundance and wide variety of fish, wildlife, and other food sources, making it ideal for habitation. The Woodland Indians inhabited the area, and are thought to have built the effigy mounds in the Lewis Mound group. These mounds, some of which have been destroyed, were thought to have been built between 700-1100 A.D. Over eighty mounds, some which were stunning examples of animal and bird effigies, were once found in the area surrounding present day McFarland, a testament to the importance this area once had to the Native Americans who held the land and to the ancestors buried there on sacred ground. Early settlers' accounts told of an Indian village with over 70 dwellings just across the Yahara River from the school forest site. On the lowland areas of what is now the school forest was the "sugar bush," where Native Americans long ago collected maple sap for syrup.

After settlement of the land by European Americans, the land was divided into two parcels. The upper parcel, which eventually became Indian Mound Park, lies on top of a drumlin which was formed when glaciers carved out Lake Waubesa and deposited the till to form the highest point in McFarland. Rising 110 feet, this land was too steep for cultivation and was used for pasturing cattle and hogs. A later owner of the property used the southeast portion as a tree nursery; some exotic tree species such as European larch still remain.

In the 1970s the property was sold to the village "to be used as a wildlife refuge and outdoor learning area." Shortly before the sale, the owner hastily logged the property, harvesting many of the largest and oldest oaks, and causing damage to the younger oak and hickory trees. McFarland residents Conrad and Ruth Jaeger, whose property adjoined the present school forest area, were the driving force behind the purchase of the land by the Village for use as a park, and sought protection for the mounds it contained. It is due to their efforts and other volunteers who worked with them that the mounds were preserved and restored for future generations, and the land was protected from future residential development. An ambitious project was

undertaken by the Jaegers and Wes and Jane Licht, who worked with schoolchildren to re-route trails around the mounds and clear brush from them. Two of the mounds that had suffered past damage were reconstructed by students with project Operation Fresh Start, supervised by Jane Licht and Ernie Thieding, and later by members of a local 4H club to their original size and shape according to a 1915 map. An informational sign about the mound area was installed at the Burma Road entrance to the park.

The lower parcel of land was owned by a farmer and was used as a cattle pasture up until the 1970s, when it also was sold to the School District of McFarland. Most of the trees in this area, with the exception of a few larger oaks and hickories, are newly grown since the grazing stopped. Barbed wire can still be found in some trees in the school forest as evidence of its farming past. This area was largely neglected over the past few decades and was quite overgrown with undesirable tree species, invasive shrubs, and vines; recent efforts from school and community volunteers have begun the process of restoration.

Once both of these parcels were in public hands, the idea was proposed in 1975 by local resident Don Barnes and Superintendent Patrick Kennedy to cooperatively develop and manage the area with the Village as an “Outdoor Learning Laboratory” to be used by the school and community. During a twenty-five year period from 1979 to 2004, an outdoor summer school program offered woodland study activities for fourth graders in a week long half-day camp experience led by two local educators. Several teachers have used what is now the school forest for their regular classes over the years, but a more formal program was never developed.

In 2002, there was renewed interest in continuing the park and mound restoration by a group of neighborhood volunteers. Much work was done over the past few years to restore the hilltop as an oak savannah community; invasive shrubs were cleared and a demonstration area was established where prescribed burns have been conducted and several native prairie grasses and wildflowers have been re-established that once were present in the ecosystem.

Site Management

The McFarland School Forest Stewardship Plan was developed by the DNR in December 2007. This comprehensive ten-year plan serves as a guide for ecological restoration and management of the area and contains information on invasive species, important protocol for the Native American mounds, and establishes priorities and goals for the ongoing restoration work. A thorough evaluation of the mound area was conducted by the Wisconsin State Historical Society and several recommendations were made for re-routing trails and removing trees to comply with current laws for protection of Native American burial sites. Any school or volunteer group working on restoration activities must be thoroughly familiar with both the management plan and protocol for the mound area, both of which are available by contacting the School Forest Coordinator. A Volunteer Handbook is also available, which contains safety guidelines and other relevant information for conservation work in the school forest.

Utilizing a phased approach to management activities, the priorities for restoration and management that present opportunities and connections for environmental education and student involvement are:

- Phase One
 1. Control invasive species
 - Conduct population surveys and plant inventories of native and non-native plants
 - Participate in removing invasive species; learn to identify invasive species in the field

2. Block off and relocate trails that cross mounds; relocate trails
 - Map mound area and assist with developing proposed new trail system
 - Assist with developing and building new informational signs for mound area
- Phase Two
 1. Timber Sale and non-commercial thinning
 - Participate in site-visit with DNR forester to select trees for harvest; learn to identify desirable tree species and benefits of thinning
 - Estimate board feet and value of lumber in a few selected trees
- Phase Three
 1. Plant desirable trees, shrubs, forbs and cover crops in areas opened up from invasive species removal and thinning
 - Students of all ages and community volunteers can participate in a “planting day” in the school forest
 2. Plant prairie seeds
 - Collection and preparation of prairie seeds to be planted
- Phase Four
 1. Maintain oak savannah with prescribed burns
 - High School EE students can observe prescribed burn conducted by fire department
 2. Continue controlling invasive species
 - Conduct population surveys and plant inventories of burn areas vs. non-burned areas for presence of invasives and native plants
 - Monitor school forest site on an annual basis to evaluate existing control methods and identify any new invasives

Student participation in management activities with parents and other community volunteers will not only help students gain environmental knowledge and applicable skills, but also enhance their sense of ownership of and responsibility for their school forest. Students’ ability to see the impact of their efforts as they progress through the grades will also give them a sense of the positive influence that humans can have on the environment around them.

Educational Connections

The seven key concepts listed below have been developed to serve as a guide to developing learning opportunities and curriculum for environmental education in our school forest. Each concept represents an enduring understanding tied to activities on-site that will reinforce these key concepts while building a foundation for environmental literacy and a lifelong connection to nature.

McFarland School Forest Education Plan Educational Connections

Key Concepts	Site Connections
1. Ecosystems contain both living (biotic) and non-living (abiotic) components that interact with and depend on each other.	<ul style="list-style-type: none"> ● Water and nutrient cycles ● Soil analysis ● Geology ● Topography & plant/animal distribution ● Watershed analysis ● Weather and climate measurements ● Plant/ animal adaptations to abiotic factors
2. Ecosystems change over time due to both natural succession and human disturbances.	<ul style="list-style-type: none"> ● Natural process of forest, prairie, and wetland succession ● Land use history and human disturbances
3. Humans are part of the natural world and our actions impact natural systems and cycles, which in turn impact human health.	<ul style="list-style-type: none"> ● Watershed land use analysis and water quality testing ● Invasive species survey ● Air quality analysis
4. The natural world provides opportunities to enhance our physical and emotional health.	<ul style="list-style-type: none"> ● Hiking on trails ● Navigation skills ● Observations of wildlife – birding, tracking ● Finding entertainment or curiosity in observing nature
5. The natural world provides inspiration and creativity.	<ul style="list-style-type: none"> ● Nature-based art ● Journaling ● Finding the beauty in natural scenery
6. The diversity of organisms indicates the health of the ecosystem.	<ul style="list-style-type: none"> ● Plant identification ● Wildlife identification ● Plant and animal diversity surveys ● Plant and animals life cycles
7. Humans should be stewards of the land and work to maintain its ecological integrity.	<ul style="list-style-type: none"> ● Forest management techniques ● Prairie management techniques ● Water quality factors and management techniques ● Invasive species control ● Ecological restoration techniques

The following section provides an overview of the connections between and among the district’s K-12 curricula, environmental education concepts, and state environmental education standards. The units and activities listed are intended to be illustrative but not inclusive of the kinds of projects and activities in which students are involved. The templates are considered a work-in-progress, an easy way for teachers to get an overview of what is happening in other grades and to continue to fill in the blanks with new activities as they are created and implemented.

Kindergarten
McFarland Template

Subject	Unit/Objective	Activity	Key Concept	Standards
Science	<u>Living and Non-Living</u> Explore the differences between living and non-living creatures in nature.	Collect examples of living and non-living things in the forest and discuss how they are interdependent.	1	F.4.4
Science	<u>Insects</u> Introduce students to insects found in the forest.	Students will explore the forest to find insects in their natural environment. Students will draw their favorite insect.	6	C.4.2
Science	<u>Fall and Seasonal Changes</u> Identifying the leaf changes with the seasons.	Students will collect leaves from various trees at stages of Autumn changes. After returning to the classroom leaves are sorted for leaf art project.	5 6	E.4.6 F.4.2
Science	<u>Animals</u> Introduce animals living in the forest	Students will search for animals, birds, and their homes in the forest on a scavenger hunt.	1 6	C.4.2
Science	<u>Earth Week</u> Understanding how to care for the Earth	Students will clean up litter in the forest and discuss what ways we can care for the earth.	7	E.4.7

First Grade
McFarland Template

Subject	Objective	Activity	Key Concept	Standards
Science Language Arts	<u>Senses</u> Using our senses to learn about the world around us	Students will explore forest on a field trip to school forest then write examples of things they see, touch, smell, and hear.	1 4	C.4.2
Science Language Art	<u>Fall Walk</u> Fall brings changes to plants and animals	After reading <u>Mousekin</u> , students will explore school forest and look for signs of fall, then create fall tree writing project.	1 4 5	C.4.1 D.4.1 E 4.6
Science Language Arts	<u>Fall Walk</u> Logs decompose to make new soil	After reading <u>A Log's Life</u> , students will examine decomposing log on fall walk and create decomposing log project and poster.	1 2 4	C 4.1 D 4.1 E 4.1
Science Language Arts	<u>Fall Walk</u> Plants make new seeds	After reading <u>A Seed is Sleepy</u> , students will collect different kinds of seeds in forest then sort seeds according to their mode of travel	5 4	C4.1 D4.1 E4.1 F 4.1 F 4.3
Science	<u>Fall Walk</u> Soil is necessary for plant growth	Read soil book then examine soil samples found in forest, listing what is found in soil.	1 4	D 4.1 E 4.1

Second Grade
McFarland Template

Subject	Objective	Activity	Key Concept	Standards
Science	<u>Animals in Winter</u> Discover the different way animals adapt and survive in winter	Students will hike through forest to find tracks, scat and signs to show animals are active in winter. Students will look at plants and trees in forest for signs of animal activity to determine diet of animals	4 5 6	A.4.1 B.4.1 B.4.3 C.4.1 C.4.2 C.4.3
Science	<u>Animals in Winter</u> Discover what we can learn about animal's habits from the tracks they leave	Students will learn to identify animal tracks found in forest using field guides Students will use "tracking stories" in classroom to determine animal behavior from signs and tracks Students will solidify track identification skills through use of stencils and track molds	4 5 6	A.4.1 B.4.1 B.4.3 C.4.1 C.4.2 C.4.3
Science	<u>Animals in Winter</u> Examine the possible places for hibernation for animals in winter	Hike through the forest to find hibernation locations.	4 5 6	A.4.1. B.4.1 B.4.3 C.4.1 C.4.2 C.4.3

Third Grade
McFarland Template

Subject	Unit/Objective	Activity	Key Concept	Standards
Math	<u>Plants</u> Line plots, charts and data collection with plant growth	Students will observe and record data collected on plant growth in the school forest.	1	C.4.5 C.4.6
Science	<u>Plants</u> Introduction to native and invasive plant species in forest	Students will identify native and invasive plants and trees growing in school forest.	1 2	F.4.3
Science	<u>Plants</u> Plant growth is dependent upon many variables	Students will record and identify variables in school forest which impede or accelerate plant growth based on data collection.	2	F.4.3
Technology	Incorporated in to several objectives			
Language Arts	<u>Plant Life</u> Develop paragraph based on knowledge of plants	Review what students have learned about plants through observations in forest and write a paragraph about plants they observed.	1, 3	C.4.1 C4.5
Social Studies	<u>Native American Mounds</u> History of Wisconsin Indian Mounds	Students will hike on trails, identify, and record information about Lewis Mound Group	1, 4 ,7	C.4.2
Physical Education	<u>Outdoor Activities</u> Developing pride and social perspectives for the forest	Students will experience project WILD environmental activities.	2, 3	H.4.3 H.4.2

Fourth Grade
McFarland Template

Subject	Objective	Activity	Key Concept	Standards
Science	<u>Animalia</u> Wildlife identification in the forest	Students will explore the forest for signs of animals found in local Wisconsin forest habitats	1 7 6	F.4.1 F.4.4 E.4.5
Science	<u>Invisible worlds</u> Microscopic organisms are a vital part of natural ecosystem	Students will observe variety of microorganisms as part of forest ecosystem.	1 2	F.4.2 E.4.2 D.4.4
Social studies	<u>Lumbering</u> Examine human impact on natural world and implications of lumbering in Wisconsin forests	Students will locate, identify and observe different species of trees and plant life found in local Wisconsin forest.	2 3 6 7	A.4.8 A.4.4
Social Studies	<u>Native Americans</u> History, culture, and legacy of local Native American people	Students will view powerpoint presentation on local Native American history and Lewis Mound Group. Students will follow up with a guided tour of mounds in school forest Using activities from <i>Water Panthers, Bears, and Thunderbirds</i> , students will make 3D map of mound group	7	A.4.4 B.4.2 E.4.8 C.4.1 B.4.10

Fifth Grade
McFarland Template

Subject	Objective	Activity	Key Concept	Standards
Math Science	<u>Topography</u> Describe an area using its topography and recognize the differences between major land features	Students will use topographical map of school forest Students will measure the elevation (height) of Indian Mound park, the water tower, and other land marks.	1	E.4.3
Science	<u>Invasive species</u> Understand the importance of environmental stewardship in regards to invasive species	Students will learn to identify several invasive species and why/how they need to be controlled. Students will make a survey sample and note the species found in forest (same location in Fall and Spring).	3 7	A.4.3 C.4.2 C4.4 1
Science	<u>Water/ Weather</u> Understand that weather and climate affect the natural landscape Develop understanding of the role native vegetation plays in reducing runoff and erosion	Students will observe and identify areas of erosion and deposition from water run-off and also examine soil. Students will observe where water goes to develop understanding of how stormwater and runoff affects water quality in lakes and streams. Students will compare erosion in several areas of the forest with varying levels of vegetation.	1 7	A.4.5 E.4.2

Sixth Grade
McFarland Template

Subject	Objective	Activity	Key Concept	Standards
Science	<u>Orienteering</u> Demonstrate use of a compass by completing an orienteering course	Students will learn to use a compass and maneuver course through school forest.	4	A.8.1 C.8.3
Science	<u>Insects</u> Insect adaptations and surrounding environments	Students will capture an insect in school forest and identify reasons for being in habitat.	6	C.8.1 C.8.2 C.8.4 C.8.3
Science	<u>Food Web</u> All things are part of an ever-changing web of life	Students will actively participate in classroom food web activity then follow up activity in school forest.	1	F.8.2 F.8.7 F.8.8 F.8.9
Language Arts	<u>Poetry</u> Observe and experience the natural world to provide inspiration and creativity in writing	Students will observe natural world then discuss sensory words and write poems.	5	B.8.1
Social Studies	<u>Geography</u> Wisconsin has unique land features and formations	Students will study various land formations and observe these formations in our surrounding local areas.	7	A.8.11
Math	<u>Natural Connections</u> Discover relationships between math and plant/animal life found in school forest	Students will hike in forest to discover one relationship between math and nature (e.g. patterns, alternate branching and leafing, symmetry)	5	A.8.1
Art	<u>Nature based Art</u> To capture the natural elements in the school forest, develop understanding of nature through close observation	Students will observe and draw a plant or animal in school forest by using India ink and natural paint brush (follow up to drawings at outdoor education program in the fall).	5	I.8.5

Seventh Grade
McFarland Template

Subject	Objective	Activity	Key Concept	Standards
Science	<u>Tree Growth</u> Plant and tree ecosystems interact and depend on one another	Students will measure circumference of various trees in the forest.	4	D.3
Science	<u>Wildlife Identification</u> The diversity of wildlife indicates the health of the ecosystem	Students will identify and classify animals found in the forest.	6	C.8.6 C.8.10 F.8.7 D.8.4
Science	<u>Fall Changes</u> Why do leaves change color?	Students will collect, compare and classify various leaves in the forest.	6	C.8.1 C.8.2 D.8.4
Language Arts	<u>Nature Journal Writing/Reflection</u> Inspiration and creativity are generated through the natural world	Throughout the course of the school year, 7 th graders will compare themselves to a tree of choice. How have they changed? How have the trees changed? 7 th graders will visit the trees once a quarter.	5	B.8.1 D.8.1 D.8.2 F.8.1
Math/ Science	<u>Walk in the Forest</u>	Students will measure speed and acceleration of peers on the nature trail	4	D.8.5 D.8.6

Eighth Grade
McFarland Template

Subject	Unit/Objective	Activity	Key Concept	Standards
Science	<u>Fungus</u> Fungus is a vital part of the natural ecosystem	Students will collect and identify various fungi in forest.	1	B.8.3 E.8.4. F.8.2
Science	<u>Plants</u> Develop an understanding of various parts of plants and their function	Students will observe several different types of plants, (e.g. vascular, non-vascular, monocots, dicots)identifying and comparing structures found in each	1	F.8.1 F.8.2
Science	<u>Scavenger Hunt</u> Explore local environment through seeking natural objects	Students will collect or, when more appropriate draw or photograph, a list of natural objects and make field notes on them Students will assemble findings in album with notes	1 4 6	C.8.1 C.8.8 F.8.1
Social Studies	<u>Native American History</u> Develop an understanding of Native American culture, both past and present. Develop understanding of the relevance and value of Native cultures to the present day	Students will attend an assembly presentation on Native American culture, from a member of the local Native American community. Students will learn about history and land use of the school forest by Native Americans prior to European settlement. Students will visit school forest and mound area, write about observations and understandings gained from experience.	2 7	A.8.4 B.8.11 E.8.3 E.8.9 E.8.10

Grades Nine through Twelve

Subject	Unit/Objective	Activity	Key Concept	Standards
Physical Science 9 th Grade	<u>Measuring pH</u> Observe differences in pH of water, develop understanding of factors that affect pH	Measure pH of river and wetland water in school forest, Yahara River and Lake Waubesa Discuss how different products we use affect the pH.	1, 3	D.12.6 E.12.4
Biology 10 th Grade Environmental Science 11 th and 12 th Grades	<u>Invasive Species</u> Learn the ecological impact of garlic mustard, learn to identify it and discuss eradication techniques	Observe and identify garlic mustard in school forest Participate in garlic mustard eradication by pulling plants each spring	2, 3, 7	F.12.7 F.12.8 H.12.1
Biology	<u>Taxonomy</u> Develop understanding of taxonomy and its use	Practice taxonomy by classifying some of the main tree species in the forest.	4, 6	F.12.5
Biology	<u>Dichotomous keys</u> Develop knowledge of using dichotomous keys	Practice using dichotomous keys to identify plant species in the forest.	4, 6	F.12.5
Biology Environmental Science	<u>Biomes</u> Develop an understanding of different biomes by direct observation	Identify the biome we are in and the micro-ecosystems that are in the school forest (oak savanna, low-land hardwood forest, wetland, freshwater river).mes	1	F.12.7
Environmental Science	<u>Population Sampling</u> Develop knowledge of using population sampling	Learn how to do a population survey and practice using garlic mustard. Sample populations of garlic mustard; compare data from previous samples	1, 3	C.12.4 C.12.6
Environmental Science	<u>Succession</u> Develop understanding of factors that affect succession	Learn the importance of fire in maintaining oak savannas, discuss the ecosystem's succession, and compare species diversity in the part of the forest that has experienced a controlled burn to part that has not.	1, 2, 3, 7	E.12.2 E.12.4 F.12.8
Environmental Science	<u>Diversity survey</u> Gain knowledge of plants in a diverse ecosystem	Learn how to identify some of the native plants and do a diversity survey. Discuss factors that affect diversity in an area and the importance of diversity in ecosystems	6,	C.12.4
Environmental Science	<u>Soil ecology</u> Develop understanding of different types of soils	Collect and test soil samples from different micro-habitats in the forest and explain the results.	1	E.12.2 C.12.2 C.12.3

Environmental Science	<u>Watersheds</u> Develop knowledge of watershed area and its role	Use topographic maps to delineate the watershed that the school forest is in and discuss how the forest affects water quality. Discuss ways that humans can affect water quality	1, 7	C.12.2
Environmental Science	<u>Forest Management</u> Develop understanding of proper forest management	Tour school forest site, learn about the forest management plan and determine progress as well as the next steps. Learn about appropriate management techniques for different plan objectives (e.g. removal of invasive species, prescribed burns, timber harvesting) Participate in site visit with DNR forester when possible	7	H.12.5
Language Arts Mankind and the Environment Elective Course Grades 11 and 12	<u>Indian Mound Almanac</u> Develop an ongoing understanding of nature through journaling and photography	Read Aldo Leopold's <i>A Sand County Almanac</i> . Students choose three subjects: 1. A deciduous tree branch 2. A conifer branch 3. A 1 yd. x 1 yd. area of forest floor Throughout the spring (4 th quarter) students visit and photograph their chosen subjects weekly. Students write reflections on observances and changes. An almanac, in poster or powerpoint form, is created for final project.	4, 5	A.12.1 A.12.2 A.12.3 A.12.4 B.12.1 B.12.2 B.12.3 C.12.1 C.12.2 D.12.1 D.12.2 E.12.1 E.12.2 E.12.4 E.12.5 F.12.1

In addition to the regular curriculum opportunities outlined above, teachers have expressed interest in developing classes and activities for summer school. Currently, there are five summer school classes that will utilize the school forest for some of their activities: Outdoors Calling, Outdoor Pursuits, Forestry, Creative Journaling, and Native American Crafts & Games. Due to the popularity of these classes with the students, as well as the possibility of a greater number of the district's teachers becoming trained in teaching in an outdoor setting, it may be possible these offerings could expand to provide more opportunities to interested students.

Staff Development

Information gathered from the Needs Assessment, Science Curriculum Council, and School Forest Committee meetings, and well over two dozen informal conversations with the district's teachers, has shown a need for encouraging and offering teachers opportunities for professional development to become familiar with both the content and methods for outdoor education.

While some teachers in the district have independently taken advantage of training through LEAF, the UW-Arboretum, and DNR Programs, there is a need to involve as many teachers as possible (a minimum of two or three committed staff per building) to ensure interest in and longevity for environmental education in the district.

Our plan is to offer staff access to both on- and off-site opportunities on topics relevant to the key concepts and content of the curriculum at all grade levels. Topics to be covered include but are not limited to:

- Outdoor education methods
- Environmental education in the classroom
- School forest activities
- Environmental education curriculum including LEAF, UW-Arboretum Earth partnership for Schools, and DNR programs; Project Learning Tree, ProjectWET, Project WILD.
- Background information on ecology, species identification, restoration and management of natural community types found in the school forest
- Native American local history and mound information
- Place-based education and service learning

The School Forest Coordinator will schedule on-site professional development opportunities and notify teachers of upcoming workshops throughout the course of the year. All workshops will be offered on a voluntary basis. A tentative schedule for upcoming 2008-2009 workshops is as follows. Note that these are examples; we will be scheduling specific workshops beyond the LEAF and Wilderness Writing Workshop based on staff interest. LEAF workshops, covering topics that are specifically adapted to the needs of district teachers as our program grows, will be scheduled on-site annually through the next three years.

Topic	Date	Location	Presenter
LEAF K-12 Curriculum and Outdoor Education	8/12/08	McFarland School Forest	LEAF School Forest Education Specialist
Wilderness Writing	8/20/08	Boston School Forest, Plover	Jan D. Wellik
Native American History and Mounds	Fall Semester 2008	McFarland School Forest	WI State Historical Society
Forest Ecology and Restoration	Spring Semester 2009	McFarland School Forest	UW-Arboretum EPP

Resources

The following people and material resources are available for implementing the activities and objectives outlined in the education plan. Other professionals and resources, both print and on-line will be identified as our knowledge, understanding, activities and commitment increase.

Professionals and Key Contacts

- LEAF School Forest Education Specialist
Jeremy Solin
- DNR Forester
Steve Holaday
- WI State Historical Society Archaeologist-Burial Mound Protection Program
John Broihahn
- Ho-Chunk Nation Archaeologist
Jay Toth
- UW-Arboretum EPP
Cheryl Armstrong
- Environmental Education Consultant (former Madison School Forest EE coordinator)
Rick Kalvelage
- McFarland School District Personnel:
School Forest Coordinator - Janet Moore
Director of Instruction - Roberta Felker
- Community and Volunteer Resources:
Village of McFarland Public Works Director – Allan Coville
McFarland Scouts
Student and community volunteers

People Needed

- More consistent student involvement through the high school Ecology Club
- Adult volunteers to supervise students on work days
- Parent/community volunteers for field trips

Materials and Equipment Available

Restoration and Forest Management Equipment

Safety Goggles (24)

Gloves (24)

Pruners (4)

Pole pruner (1)

Bow Saws (4)

Weed wrench (1)

Hard Hats (6)

Forestry Helmets (2)

Protective Chaps (1)

First Aid Kits (2)

Chainsaw*

Brush cutter*

*For use by trained adults only, stored off-site

Materials for Activities

Primary School:

Animal tracking guidebook

“Track stories” materials

Track stencils, stamps and molds

Indian Mound Middle School:

Insect nets

Water collection bottles

Two 8 foot water nets

Soil testing kit

Perc test kits

pH tests

Animal tracking guide

Tree identification manuals

Insect identification manuals

Pond water manuals

Magnifying glasses

DNR Food chain game cards (2 sets)

DNR Food web game cards (2 sets)

High School:

Water Studies

Kick nets

Pails and dishpans

Plastic cups and tubs

Lab pans

Petri dishes

Spoons forceps

Microscopes

Dissecting microscopes

Biotic index charts

Water quality test kits

pH paper/test kits

Groundwater models

Wildlife studies

Mounted specimens

Animal tracks and molds

Nests and hives

Artificial nest box

Dissection kits

Small mammal box traps

Geology/ Soil studies

Soil samples
Soil test kits
Soil sieves
Trowels
Safety goggles
Reference specimens

Weather Studies

Thermometers
Weather station (at IMMS)
Heat Index charts
Wind scale charts
Wind chill chart

Educational Materials

- Fiction and non-fiction books in school and classroom libraries at Conrad Elvehjem Early Learning Center, McFarland Primary School, Waubesa Intermediate School, Indian Mound Middle School, and McFarland High School
- Periodicals in school and classroom libraries, K-12
- Access to Internet resources in school libraries
- DVDs and CDs in school libraries, K-12

Materials Needed:

Additional gloves and safety goggles
Additional fungi identification guides
Rain gauges
Sling psychrometers
Anemometers
Additional pH tests
Additional fungi guides
Disposable gloves
Compasses
Magnifying glasses
Art supplies, sketchbooks for nature journaling
Topographical maps
Weather station in school forest

Facilities Needed:

Teaching station
On-site tool storage shed
Additional trails

Assessment

The ongoing success and effectiveness of the school forest program will be assessed by both formative and summative assessments, including the following.

- An annual online School Forest Survey to teachers and staff to determine usage, needs, and overall satisfaction with the school forest program.
- An Environmental Literacy Test, developed and administered by high school science teachers, to be given to all incoming ninth grade science students. This will determine the effectiveness of the K-8 environmental education program and create a baseline for the high school curriculum.
- Annual review of standardized test scores, including item analyses in areas pertaining to environmental education.
- A log of volunteer hours and number of teachers and students using the school forest per year.
- Ongoing archival photographic documentation that will, over time, demonstrate the effectiveness and impact of student and staff participation in ecosystem management activities.
- Formal and informal conversations with teachers, students, and community members.

Sustaining the School Forest Program

In order to provide the structure and continuity needed to ensure the effectiveness and longevity of the school forest program, it is essential that a diverse group of teachers, school administrators, students, and community members support and participate in the development and decision making process. The School Forest Committee will continue to meet approximately once per quarter, with ongoing communication concerning important issues and events as they arise.

School Forest Committee Members

The McFarland School Forest Committee currently consists of 15 members, including 11 school staff, two non-staff community members, and a minimum of one student representative. The current membership roster includes the following.

Janet Moore, School Forest Coordinator

Anne Barker, Deputy School Forest Coordinator, IMMS 6th Grade TA

Roberta Felker, Director of Instruction

Jeff Mahoney, District Business Director

Bill Foust, Building and Grounds Director

Kathy Siegmann, School Board Member

Leon Moore, Management Team Leader

Raquel Knops, HS Biology and Environmental Education Teacher

Jared Redders, IMMS Seventh Grade Science Teacher

Mike Buhalog, WIS 3rd Grade Teacher

Gloria Frank, WIS 5th Grade Teacher

Nancy Juszczak, MPS 1st Grade Teacher

Sharon Payne, Village Board and Natural Resources Committee member

Jennifer Heaton-Amrhein, Community Member

Judy Sauer, Community Member

Student Representative

The following individuals will serve in an advisory capacity to the School Forest Committee:

Ernie Thieding

Wes and Jane Licht

Dennis Blackmore

Responsibilities

The responsibilities of the various players involved in the promotion, development, maintenance and curriculum development related to the McFarland School Forest are delineated in the next section. It is important to note that the tasks as listed are representative of those for which each of the teams and individuals assume responsibility. We expect that they will evolve as time goes on and the forest work continues.

Management Team

- Site development and maintenance, including planning and implementation of both restoration work, as outlined in the School Forest Management Plan, and projects for site improvement (e.g. trails, signs and facilities)
- Recruitment, training, and supervision of volunteer crews
- Annual review of Management Plan

Education Team

- Curriculum and staff development; coordinate and develop educational activities, opportunities, and programs to utilize school forest
- Annual needs and personnel assessment for teachers and staff
- Annual review of student assessment data
- Education Plan review every three years

School Forest Coordinator

- Serve as chair of school forest committee; schedule and conduct meetings.
- Coordinate activities of Education and Management Teams to ensure both forest management and educational activities work together to meet overall objectives of the school forest program
- Publicity for and promotion of the school forest
- Liaison with the Village of McFarland and the McFarland School Board
- Identification and coordination of grant and other funding opportunities
- Coordination of community support, including connections with local non-profit and youth groups
- Liaison with various agencies (e.g. DNR, State Historical society, Ho-Chunk Nation, LEAF) to obtain appropriate professional support for site management and development of school forest activities
- Coordination of field trips and service projects for school classes, including assisting teachers with logistics, development of content and obtaining necessary resources
- Research and coordinate staff development opportunities
- All other activities and responsibilities as required to ensure coherent and robust program offerings

In addition to the School Forest Committee, continuing interest and support for the school forest program will be sustained through activities such as the following.

- A student Ecology Club will be established, beginning at the high school level, that will foster student ownership and participation in activities in the school forest, as well as provide an opportunity for interested students to take part in field trips and develop projects of special interest to them.
- Community support will be maintained by actively seeking out and encouraging the participation of groups such as Boy Scouts, Girl Scouts, Lion's Club, Optimists, McFarland Youth Center, and Friends of McFarland Parks.
- Presentations on the School Forest to new teachers through the district's Mentoring Committee programs, and to the business community through the Business Education Partnership Committee.

Communication

The School Forest Committee will maintain communication with school and community members through methods such as the following.

- A School Forest web page has been developed on the district's website (www.mcfarland.k12.wi.us) that provides general information about the school forest as well as downloadable copies of our School Forest Volunteer Handbook, Management Plan, and a school forest map. The site is updated regularly with current events and photos, as well as upcoming School Forest Committee meetings and work days. Contact information for the district's School Forest Coordinator and links to the LEAF school forestry program and the DNR are also provided.
- Information will be shared with local media on all noteworthy events; an article on school forest activities will appear a minimum of once yearly in *The McFarland Thistle*.
- A presentation of school forest activities will be made annually to the School Board; information and photos of events will be provided regularly to the Superintendent for inclusion in "District Events" presentations at school board meetings.
- A presentation will be made annually to the Village Board on school forest activities.
- Events and information will be posted on signs at two entrances to the school forest.
- Staff and students will be notified of events and opportunities through a School Forest email list, as well as postings on district-wide email and Edline.
- School forest information will be included in monthly school newsletters.

Long-Range Plan

Our vision is to restore and maintain the school forest to serve as an example of good stewardship of our natural and cultural resources as well as support a variety of educational opportunities for students and community members of all ages. The following is a list of both short and long term goals for the school forest. We expect that these goals will reinforce one another and fit together in order to ensure that we meet the objectives of the School Forest Management Plan and Education Plan as well as provide a firm foundation for educational activities and the ongoing development of meaningful environmental education curriculum for the district.

Educational Goals

- Organize field trips to the school forest, at least one per grades K-8, to carry out activities and objectives outlined in the Education Plan.
- Identify areas where further curriculum development is needed or desired by teachers.
- Identify additional areas where school forest could be utilized (e.g. summer school, after school programs)
- Offer workshops and professional development to staff for environmental education curriculum and activities, with a goal of at least one teacher per grade level participating.
- Organize and train a core group of interested parent and community volunteers to assist with field trips and classroom activities.
- Form student Ecology Club at McFarland High School; students to assist with field trips, serve as mentors to younger students, as well as build student interest and support. Fall 2008
- Develop solid environmental education curriculum that is in alignment with Wisconsin's Model Standards for Environmental Education.
- Maintain ongoing support for Environmental Education in district to ensure longevity and continuation of program

Management Goals

- Continue to remove invasive species and carry out objectives for restoration as outlined in the School Forest Management Plan.
- Continue to recruit and train a diverse volunteer base for work in the school forest.
- Develop set of guidebooks and build accompanying signs for school forest.
- Repair and add new gravel to trails in lower area (school property) of school forest
- Map out a system of new trails for Lewis Mound area, as recommended by State Historical Society to comply with newer regulations for preservation of mounds.
- Conduct timber sale as recommended by DNR.
- Restore mounds, build new trails, outline mounds, and install educational signs in mound area.
- Build outdoor teaching station and on-site storage for tools and equipment.

Implementation Plan

The following chart provides an overview of the implementation plan for continuing growth and development of the McFarland School Forest and related activities.

Implementation Plan

Educational Goals				
Goal	Representative Activities	Resources	Timeline	Person(s) Responsible
Field Trips to School Forest	<ul style="list-style-type: none"> -Coordinate and lead field trips, at least one per grades K-8 -Develop and plan activities for field trips based on curriculum content -Research and obtain needed supplies and materials for activities 	<ul style="list-style-type: none"> -School Forest Coordinator -Parent and community volunteer guides -Transportation services 	Fall 2008, ongoing	School Forest Coordinator Classroom teachers
Assess Need for Curriculum Development	<ul style="list-style-type: none"> -Review of existing curriculum -Interview teachers to assess areas where development is needed -Assess effectiveness of existing field trip and classroom activities through experience and feedback from students and staff. 	<ul style="list-style-type: none"> -Curriculum binders -LEAF Curriculum -Other EE Curriculum (Project WILD, WET, Learning Tree) 	Fall 2008, Ongoing throughout 2008-2009 school year	School Forest Coordinator SFC Education Team Director of Instruction
Identify Areas for Further Utilization	<ul style="list-style-type: none"> -Needs assessment to teachers -Formal and informal conversations with teachers, students, and community 	<ul style="list-style-type: none"> -Summer school programs -Youth and community groups 	Spring 2009	School Forest Coordinator SFC Education Team
Workshops and inservices for Staff Development	<ul style="list-style-type: none"> -Research and coordinate workshops -Needs assessment to teachers -Assess curriculum and education plan on ongoing basis to determine needs as program progresses -Communicate available opportunities to staff 	LEAF, DNR, UW-Arboretum Aldo Leopold Center	Summer 2008, ongoing	School Forest Coordinator SFC Education Team
Organize and train parent/community guides	<ul style="list-style-type: none"> -Develop informational flier -Recruit volunteers through classroom teachers and community organizations -Explore workshop opportunities -Offer hands-on training in school forest 	<ul style="list-style-type: none"> -Parent volunteer forms given out at start of each year during registration -Newsletters -Existing groups, such as girl and boy scouts -Training opportunities through LEAF, DNR, etc. 	Fall 2008, ongoing	School Forest Coordinator Classroom teachers

Student Ecology Club	<ul style="list-style-type: none"> -Identify interested students through teachers, Student Council, Venture, Scouts, etc. -Establish email list of interested students -Develop club structure, mission statement, etc. -Write informational materials/recruitment materials -Sign up for club at beginning of school year -Identify and develop projects and activities 	<ul style="list-style-type: none"> -student activity group program at MHS; student activity account for fundraising, ability to take field trips, etc. -School Forest coordinator as advisor -High School Biology and Environmental Ed. teachers for recruitment and support 	2008-2009 school year	<ul style="list-style-type: none"> School Forest Coordinator SFC Student Representative Student club members
Develop Solid Environmental Education Curriculum	<ul style="list-style-type: none"> -Form EE subcommittee for curriculum development -Based on prior assessments and experience, target areas where development is needed -Identify sources of funding -Research developed curriculum from other districts and sources -Consult with LEAF and other professionals 	<ul style="list-style-type: none"> -Funding for teachers for curriculum development (WEEB grants) -Curriculum developed by other districts -Curriculum from LEAF -Curriculum from DNR's Project WET, WILD, Learning Tree 	2009-2010	<ul style="list-style-type: none"> Director of Instruction School forest Coordinator Teachers
Ongoing Support	<ul style="list-style-type: none"> -Communication with school and community Members -Teacher training in use of new curriculum through mentoring and professional development -Assess results of program over time to show value of program -Ensure longevity through School Forest Committee -Maintain school board support for program through regular communication 	<ul style="list-style-type: none"> -Ongoing assessments -Ongoing funding for activities -New teacher mentoring committee -Staff Development opportunities through LEAF,etc. 	2010, ongoing	<ul style="list-style-type: none"> School Forest Coordinator School Forest Committee

Management Goals				
Continue to remove invasives and carry out management plan objectives	<ul style="list-style-type: none"> -Coordinate and schedule regular work days for restoration work and project -Coordinate school classes and service projects -Schedule regular site visits from DNR forester for assessment of progress and need for adjustments -Seek sources of funding and support for materials and resources needed 	<ul style="list-style-type: none"> -School and community volunteers -Restoration tools and equipment -Professional support from DNR forester, LEAF and local experts -Funding opportunities through grants and private donations 	Spring 2008, ongoing	<p>School Forest Coordinator</p> <p>Management Team Leader</p>
Continue to build and maintain volunteer base	<ul style="list-style-type: none"> -Actively seek out volunteers from school and community group -Train and supervise volunteers; provide opportunities for rewarding experiences through Participation -Work with court-ordered community service youth -Maintain list of interested groups and individuals -Communicate successes of projects to maintain interest -Log volunteer hours 	<ul style="list-style-type: none"> -Ecology club -Community groups such as Scouts, Lions, Youth center -Local media and school newsletters, School forest website -Liaison with Village Court system 	Spring 2008, ongoing	<p>School Forest Coordinator</p> <p>Management Team Leader</p>
Develop School Forest Guidebooks and Signs	<ul style="list-style-type: none"> -Site visits with teachers, students and consultant to develop site-specific guidebooks for each building -Identify plants, trees and features of site to be included, according to objectives at each grade level -Write guidebooks -Develop sign information -Print copies; make available to teachers -Build and letter signs 	<ul style="list-style-type: none"> -Grant funding through WEEB -Consultant (Rick Kalvelage) -Assistance from Environmental Education students -Lumber, paint, and supplies for signs 	Summer 2008	School Forest Coordinator
Repair trails	<ul style="list-style-type: none"> -Research proper trail building methods -Clear brush where needed -Build foundation for new section by lower mound -Install culvert -Add crushed limestone gravel to all trails on school property 	<ul style="list-style-type: none"> -Grant funding for gravel from WEEB -Bobcat, wheelbarrow, tools -Labor! 	Summer 2008	<p>School Forest Coordinator</p> <p>Management Team Leader</p>
Timber Harvest	<ul style="list-style-type: none"> -Site visits by DNR forester, perspective logger -Trees marked for cutting -Receive bid(s) from logger -Communicate with neighborhood residents and community about concerns or impact -Trees harvested from mounds and selected areas -Re-seeding of harvested areas 	<ul style="list-style-type: none"> -DNR Forester -Professional loggers -Ho-Chunk archaeologist and State Historical Society -Communication resources such as local media, website 	<p>Summer 2008 through Spring 2010</p> <p>Harvest would not begin until Winter 2009</p>	<p>School Forest Coordinator</p> <p>District Business Manager</p>

Map trails for Lewis Mound Group area	<ul style="list-style-type: none"> -Develop accurate map of existing trails and Mound locations -Map out new trails and sign locations per SHS Burial Preservation Board assessment -Submit plan to SHS for approval -Develop cost estimate for project -Seek and secure sources of public and private funding 	<ul style="list-style-type: none"> -Ho-Chunk Nation and SHS Archaeologist for site visits and consults -Mapping materials (GPS, measuring devices,etc.) -Student volunteers to assist with project -Teachers to provide assistance and technical support for mapping,etc. 	Fall 2008	School Forest Coordinator
Restore mounds, build new trails and add signage to mound area	<ul style="list-style-type: none"> -Clear brush and woody vegetation from mounds -Remove large trees as part of timber harvest -Seed mounds with native grasses -Build new trails -Develop content of signs -Build and install signs -Outline mounds with chalk or bark chips 	<ul style="list-style-type: none"> -Public and private funding for materials and development of sign content -Ho-Chunk and SHS archaeologist -SHS Education specialist (Native American Mound information) 	Fall 2009 Develop Signs Spring 2010 (After timber harvest) Trail repairs, re-seeding	School Forest Coordinator Management Team Leader SFC Education Team
Build outdoor teaching station and onsite tool storage	<ul style="list-style-type: none"> -Assess needs of teachers and groups using forest -Research building plans -Locate funding -Obtain proper permits as required -Recruit volunteers, school shop classes 	<ul style="list-style-type: none"> -Funding from public and private sources -Support from local community groups such as Boy Scouts, Optimists - School shop facilities and tools 	Fall 2009 Begin initial Planning Spring 2010 Prepare site and build structures	Management Team Leader

District Commitment

The McFarland School Forest Education Plan was reviewed and adopted by the McFarland School Board on June 2, 2008 with expectation that the plan will be the foundation for further development of the school forest and will be updated on a 3-5 year basis. Development of the school forest will include professional development for teachers in environmental education, development of a school forest curriculum based on the scope and sequence of the education plan, improvements of facilities and trails, mound restoration, and sustainable management of the school forest lands.