

Health, Education and Sustainability

Three Wisconsin schools and one district named Green Ribbon Schools

Shelby Anderson

ABOVE Students take a virtual tour of Lake Mills Elementary School on an interactive screen where users can learn about the green features of the school.

In 2015, Wisconsin schools continued the state's tradition of showcasing the work of exemplary schools through the U.S. Department of Education's Green Ribbon Schools program. Three Wisconsin schools, one school district and one technical college were recognized for reducing their environmental impact and energy costs; improving the health and wellness of schools, students and staff; and providing environmental education opportunities.

Here is a look at some educational opportunities and green initiatives taking place at Wisconsin's 2015 Green Ribbon Schools.

Discovery Charter School COLUMBUS SCHOOL DISTRICT

Housed in Columbus Elementary School, Discovery Charter School was developed in 2007 with the aim of giving young students interested in science and nature opportunities to explore and study the natural world. Principal Sue Sewell is a former elementary teacher who saw science being overlooked in the early grades.

"The school was created to get more science happening at the elementary school level," Sewell said. "As an elementary science



teacher, I felt the passion that a lot of elementary students have for the sciences.”

It is said that children are natural scientists because they are curious about the natural world and how it works, and students at Discovery Elementary School have ample opportunities to be natural scientists. The school has several gardens including a butterfly garden, rain garden, and several vegetable gardens. The school also utilizes a nearby community park and woods physically several times a month and virtually using trail cameras to help study wildlife behavior. The school also has a greenhouse for students to start seedlings in the spring before planting in the school’s gardens.

Students at Discovery Charter School hone their reading and math skills through the various science projects. The school uses an inquiry-based learning method in

which the lessons and projects are driven by student interest.

“We get at the heart of what students want to learn,” Sewell said. “Students find answers to questions they are asking.”

With careful guidance by teachers, students are using and developing math and reading skills as they undertake projects. Sewell said, when students learn this way, math and reading aren’t seen as chores by students, rather they are ways for students to learn more about topics and questions that interest them.

While the school structure may be non-traditional, Sewell is proud of the fact that the students have scored well on state assessments. On the student achievement portion of the school’s 2013-14 School Report Card, which combines a school’s math and reading scores, the school scored 89.8, compared to the K-5 state average of 66.8.

“Some people were concerned that our focus on environmental education would mean test scores

2015 WISCONSIN Green Ribbon Schools

Lake Mills Elementary School
Lake Mills School District

Discovery Charter School
Columbus School District

Colby Elementary School
Colby School District

Middleton-Cross Plains Area
School District

would go down,” Sewell said. “That is not the case.”

One project that stemmed from the school’s inquiry-based learning, involved students and community members and expanded far outside the classroom walls. At the start of the 2012-13 school year, students and staff had to make a decision about what to do with a dying Norway Spruce on school grounds. Students studied the tree and took measurements to determine if it would survive another season or need to be removed immediately. The students made the final decision and watched as the tree was cut down that

BELOW Students from Discovery Charter School in the Columbus School District start plants from seeds in the school’s greenhouse in early spring to get a head start on the growing season.



December. It produced several large logs, which, with the help of a local sawyer, were milled on school property so students could see the process. A local furniture maker then fashioned the boards into a book nook for the school's library.

During the milling process, students discovered worms in several pieces of the wood. They sent a letter along with pictures of the insect to an entomologist at UW-Madison who informed students that the insect played a role in the tree's death. The previous summer's drought likely stressed the tree, allowing the insect to infest and destroy the tree.

After the tree was removed, students led the effort to replace the Norway Spruce with another tree. They conducted research and decided to plant a Sugar Maple.

With learning experiences such as this one, more students have been enrolling in Discovery Charter

School, Sewell said. Next year another section will be added to try and meet some of the demand.

"The interest in the school has been overwhelming," Sewell said. •

Colby Elementary School

COLBY SCHOOL DISTRICT

For the past three school years, staff and students at the high school, middle school, and elementary school in the Colby School District have challenged each other to see which building can reduce its electricity consumption the most. During the 2012-13 school year, Colby Elementary School won the challenge handily by reducing its electricity usage by 8.6 percent.

Recently, the focus by students and staff on energy savings at Colby Elementary School has expanded to include efforts to reduce waste through composting and recycling. The environmental focus has also extended beyond the school walls.

The use of area parks, natural resources, and the building of several gardens has added to the students' environmental education at the elementary school.

The school has made big strides in reducing food waste during meal times. The school worked with its waste removal service to allow them to recycle milk cartons, and compost hundreds of pounds of food waste. In one lunch period alone, the school collected 15 pounds of food waste — 15 pounds that were composted instead of sent to the landfill.

The school is committed to making these efforts a part of the school culture. Whenever necessary, they hold an assembly to discuss a new initiative. Once it is presented to the entire school, teachers give small group presentations at each grade level (19 of the school's teachers have received in-depth training on topics such as energy education, renewable energy, energy efficiency, biomass energy, and education for sustainability).



ABOVE LEFT Students from Colby Elementary School weed the school's raised beds.

ABOVE RIGHT Students enjoy lettuce from the school's gardens.



ABOVE The Lake Mills Elementary School is designed to maximize the use of natural light throughout the building.

Green & Healthy Schools

Wisconsin has been a leader in environmental education and providing students with healthy learning facilities. Schools in Wisconsin can be formally recognized for their efforts by participating in Green & Healthy Schools, which is Wisconsin's state recognition program for K-12 schools.

Participants choose their own goals and proceed at their own pace, with support and information from partner agencies and providers. Participants may work toward state recognition, toward nomination for a federal Green Ribbon Schools Award, or both. The same application form is used for all, and the eligibility questions let staff know to which group a school belongs.

Green & Healthy Schools Wisconsin has nine focus areas in which schools may document their achievements. Schools reaching the Sugar Maple level are reviewed each year for possible nomination to the federal Green Ribbon Schools Award program. Green & Healthy Schools Wisconsin does not give certificates for districts, but they may wish to compete for a U.S. Department of Education District Sustainability Award. District Sustainability Awards are given annually at the Green Ribbon Schools award ceremony. Since 2012, all 14 schools nominated by Wisconsin became Green Ribbon Schools, and three school districts have received the District Sustainability Award. □

For more information, go to GHSWisconsin.org or contact the Green & Healthy Schools Wisconsin coordinator at DNRGHSWisconsin@wisconsin.gov or 608-267-7622.

“The students understand why we are doing it and will more likely remember to do it, and then it just becomes a habit,” said principal Brenda Medenwaldt.

Another project that has caught on is the development of an outdoor classroom. This space includes benches and an area for an entire class and also features five “cold frames” for growing vegetables. The cold frames are small, raised beds that have a cover that can be easily opened or closed. When closed, the cold frames function like greenhouses and protect plants from cold temperatures. The structures allow the school to extend the growing season a couple of months. Vegetables such as onions and cabbage are used by the school kitchen.

Last year the second-grade curriculum included a topic on growing plants. They grew lettuce and had a “lettuce feast” with the local retirement center. For many people, “lettuce” and “feast” may not belong in the same sentence but teacher Jean Rosemeyer said her students were very excited about growing the lettuce.

“The students love to be outside and we’re growing something that is healthy for them.” Rosemeyer said. “It just makes everyone smile.”

Medenwaldt sees the students’ excitement as well.

“After school, while waiting for their parents to pick them up, they will run down to see if their plants are growing,” Medenwaldt. “Some students bring their parents and want to show everyone the garden they planted.” •

Lake Mills Elementary School

LAKE MILLS SCHOOL DISTRICT

The Lake Mills Area School District has been establishing itself as a leader in building cutting-edge, energy efficient schools. In 2008, the district renovated and expanded its middle school, in the process, turning it into a certified Platinum LEED, Energy Star, and Wisconsin Green & Healthy School.

The district took these efforts even further when it built its new elementary school. The school is the first and only school in the nation to pilot the LEED v4 Beta program. LEED, or Leadership in Energy & Environmental Design, is a program developed by the U.S. Green Building Council in an effort to promote and support the construction of green buildings. The LEED v4 program is a new program available to help organizations build the next generation of environmentally

sustainable buildings.

Every aspect of Lake Mills Elementary School, literally from the school grounds to the building's roof, is designed to maximize student learning and be a model of sustainability. The grounds are landscaped with native plants, which, in addition to not needing mowing, also don't need to be watered. The grounds are designed to contain 100 percent of the storm water

onsite via rain gardens. The roof features a layer of vegetation that absorbs heat and naturally insulates the building. The roof is also fitted with solar panels, which generate about enough energy to power the computer lab.

The school building was constructed with recycled and non-toxic materials. For instance, carpeting is made with a special low-volatile material and 98 percent of the steel used in the building is recycled. The school is also fitted with a geothermal

system for heating and cooling the building, which uses an estimated 50 percent less energy than traditional heating and cooling systems. Solar is also used to heat water.

All of these features are impressive but just as impressive is how the school is being used as an educational resource. Principal Amanda Thompson said that students have been educated on the various features and efforts taking place at their school.

"As we were introducing these different elements of the school,

Middleton-Cross Plains Area School District Nationally Recognized

For years, staff, students, and school leaders in the Middleton-Cross Plains Area School District have worked to make their facilities energy efficient, provide healthy learning environments for students, and offer enriching environmental education opportunities. For its work, the district, which has 10 school buildings, and serves 6,622 students, was recognized by the Green Ribbon Schools program with the District Sustainability Award.

Deb Weitzel, a former science teacher who taught at Middleton High School for 34 years, wrote the winning application. She said that at about the beginning of the 2000s, the district won an award to replace some infrastructure like old heating and air conditioning systems with energy efficient systems.

"Over the last 10 years, we've saved more than \$10 million in energy costs," Weitzel said.

This effort started the district down a path towards energy savings and eventually a focus on environmental education and behavioral changes. Once one building installed a couple of solar panels, Weitzel said, student learning really got started. She remembers one of the first efforts toward energy efficiency started with her students. Through a grant from Environmental Education in Wisconsin and a company called Rapid Improvement, Weitzel's science students received tools to monitor energy usage in the high school. Students discovered that with a slight change in behavior, energy consumption by the science area in the high school could be reduced by 12 percent if teachers were more mindful about when they had classroom lights on.

"Students went to the teachers and asked them to change their habits," Weitzel said. "It began with the students."

Today, each of the 10 schools in the district is an Energy Star school — one of only two districts in the state. Last year, Park Elementary School was recognized as a Green Ribbon School. One of the focuses of Park Elementary

School and other schools in the district is environmental education. When Weitzel taught at Middleton High School, she was an advocate for outdoor learning. That tradition continues at the school as classes like freshman biology, AP Environmental Studies, and various photography and English classes have regular outdoor projects.



Students at Middleton High School often visit the Pheasant Branch Conservancy, a 160-acre natural area that borders the school's campus. Students in the freshman biology classes visit the conservancy and do data collection in the prairies during a scientific methods unit. The students then revisit the natural area and help with conservation efforts, such as removing invasive species.

Classes in the humanities get involved as well. English classes visit the site to conduct research for essays about the conservancy and be inspired to write nature poems over the course of the four seasons. The high school's three photography classes learn how to take nature photos in the conservancy. Through a partnership with the Friends of Pheasant Branch Conservancy, students enter their photos into a contest to have their photos printed in an annual calendar. Poetry from English classes is also included in the calendar.

"When students work outside, they see and experience things they never would in a classroom," Weitzel said. □

students were learning about the green features in and outside of their classrooms,” Thompson said. “In our school, the energy conservation efforts and education efforts are closely tied together.”

One of the aspects of the school that teacher Deb Galsted appreciates is the amount of natural light that comes into the building. Each classroom is fitted with a large picture window. The school is constructed at an east-west angle to maximize daylight and windows are arranged so natural light makes its way into all parts of the building. In addition to the large picture windows in each classroom, a clerestory, or long row of windows, run the entire length of the second floor.

“Sunlight lifts the spirits and it’s good for teaching,” Galsted said.

Perhaps most importantly, the school is proving that it is a healthy learning environment and the rate of absenteeism has been reduced. As studies show, absenteeism among teachers and students plays a significant



ABOVE The Lake Mills Elementary School features a green roof, which helps reduce rainwater run-off and improves the building’s insulation.

role in student achievement.

Galsted said when you walk into the school, you can tell it isn’t your average school building. There are nooks for students to read, and small groups to learn, an open spiral staircase connects the first and second floor, and, in addition to an abun-

dance of natural light, colorful carpeting and walls brighten the school.

“You can’t help but be inspired teaching in a building like this,” Galsted said. ■

Shelby Anderson is editor of Wisconsin School News.

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