



Focused on the **Environment**

How one high school has taken environmental studies to the next level

| Shelby Anderson

A quick look around **Middleton High School** and you can see that students and staff have been busy. The greenhouse, previously out of use, has been reclaimed and is sprouting seedlings. The school garden, once overtaken with brush, is now cleared and includes raised beds of vegetables and provides a great space for classrooms to gather outside. And a new school garden, called the Middleton Youth Farm, is an impressive 5,000 square feet and will create even more opportunities for students and the community.

All of this and more has been taking place at the high school. Part of it is the result of the vision of a single teacher, part of it is the work between the district and a new community organization, but most importantly it is the result of a district wanting to provide the best opportunities for its students.

The school is one of only a handful in the state to offer an Advanced Placement Environmental Studies (APES) course. In addition, a series of courses tie environmental studies and social studies classes together. The school has

an active Ecology Club that maintains school gardens and hosts a popular organic dinner each year. The high school also has an Environthon Team that has placed as high as second-place in national competitions.

For these and other accomplishments, Middleton High School was one of three Wisconsin schools recently recognized by the U.S. Department of Education as a Green Ribbon School (*see top of next page*).

Debra Weitzel, a retired educator from Middleton High School, wrote the district's successful Green Ribbon School application. Weitzel is one of the state's environmental education pioneers. She was a member of the first class of educators to receive a master's degree in environmental education from the University of Wisconsin Stevens Point in 1993. Along with a colleague at Middleton, she also formed the first team-taught environmental education course in Wisconsin.

— W I S C O N S I N G R E E N R I B B O N S C H O O L S —

This spring, Middleton High School, Dimensions of Learning Academy in Kenosha, and Purdy Elementary School in Fort Atkinson were named **Green Ribbon Schools** by the U.S. Department of Education.

The Green Ribbon Schools award recognizes schools that save energy, reduce costs, feature environmentally sustainable learning spaces, protect health, foster wellness, and offer environmental education to boost academic achievement and community engagement.

Purdy Elementary School, located in the Fort Atkinson School District, is recognized as one of the most energy-efficient schools in the state. In 2006, the school replaced its old heating system with an energy-efficient, geo-thermal system. The school also has a Green Team, a student-led group that leads green-school efforts recycling, planting trees, and reducing energy usage at the school. Other environmental education opportunities at the school include Mallard monitoring, a solar kiosk, and a naturalist-in-residence program, which works with students and staff to bring environmental education opportunities to students.

Dimensions of Learning, a K-8 charter school located in the Kenosha Unified School District, has been

working on green initiatives since it opened its doors in 2000. The school's Green Committee Plan drives the environmental education and environmental stewardship opportunities. According to the school's website, its goal is to "help provide enrichment opportunities for our staff, students, families and local community that focus on the diversity of what it means to be "green" in our society today."

Middleton High School was recognized for its extensive environmental education curriculum, energy-efficient school, and community engagement efforts. School leaders have worked hard to make Middleton High School a net zero environmental impact school. In fact, all schools in the Middleton-Cross Plains Area School District are Energy Star Schools and the district has saved more than \$1 million in energy expenses.

"Middleton High School is an exemplar of efforts across the district to be energy efficient, engage students in relevant environmental curriculum, and provide a healthy place to learn," Middleton-Cross Plains Area School District Superintendent Don Johnson said.

A total of 78 schools from across the U.S. were recognized as Green Ribbon Schools. Representatives from the schools were honored at a ceremony June 3-4 in Washington D.C. ■



■ 'APES'

When Weitzel began her career in 1978, she started a couple of classes aimed at environmental education. Her ecology class covered topics such as overpopulation, energy usage, environmental ethics, and pollution. After Weitzel received her master's degree in environmental education, she started the Advanced Placement Environmental Studies course, known as APES, at Middleton High School.

Two sections of Advanced Placement Environmental Studies are now offered at the high school. According to the school's syllabus, "It is a lab-oriented, experiential class that looks at the environment, its function, and human impacts affecting its well being. Topics include: ecology, soil, water and air quality,

human and wildlife populations, water resources, urban planning, food and energy systems."

The courses include in-depth projects and trips, including an overnight research trip to the University of Wisconsin's Trout Lake Research Station in northern Wisconsin. Students test water quality, study invasive species such as the Rusty Crawfish, and learn about research going on at the station.

Another popular overnight trip takes the class to the Sandhill Wildlife Area near Nekoosa. Students assist state biologists as they track Blanding's Turtles, a state threatened species, and view migrating Sandhill Cranes.

Weitzel remembers a number of other successful hands-on projects that brought environmental education to life. One year, when the

district was pursuing a referendum to secure funding to build a new high school, she had her students design a new, energy-efficient school. The design had to follow strict LEED (Leadership in Energy and Environmental Design) standards. She invited school architects to talk to the class. Students formed teams, each charged with a different responsibility. While the referendum didn't get approved, students had the opportunity to present their design to the school board.

Even though Weitzel retired last year, environmental studies are still going strong at the school. In addition to the APES courses, the school offers two, team-taught social studies and environmental studies classes. These special classes provide

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Middleton High School's Advanced Placement Environmental Studies classes include field research projects.



an in-depth focus on larger environmental issues such as climate science and environmental policy, or water use and pollution. Like the APES courses, these classes include field trips and field work.

Ecology Club and Environthon

The Ecology Club at Middleton High School offers students another way to be active in environmental education. Students in the club participate in community service projects, including working in the gardens that surround Middleton High School.

Each year, the club also hosts the Organic Dinner, which has become a popular community event. The dinner, which features local organic foods, showcases sustainable dining to the community. Through events like the Organic Dinner, the club has raised more than \$16,000 for local environmental efforts and programs.

"The Ecology Club has been an outstanding activity for our students," said Ellen Lindgren, school board president for the Middleton-Cross Plains Area School District. "They learn a tremendous amount and they work together as a team. The dinner they sponsor every year

gets community members involved in their work, and connects folks with our students and school."

Middleton High School also participates annually in Wisconsin Environthon, which is a day-long competition where a team takes on four, hands-on field challenges designed by natural resource professionals and educators. The challenges can focus on a number of areas including aquatic ecology, forestry, soils and land use, and wildlife.

In addition to the challenges, teams also present on an annually rotating topic. The 2012 topic was nonpoint source pollution and

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Environmental Education in Wisconsin

In the last couple of years, the Department of Public Instruction (DPI) has renewed its focus on environmental education. It got a big boost when Victoria Rydberg was hired as an environmental consultant. Previously, Rydberg helped establish River Crossing Environmental Charter School in the Portage Community School District, which provided a valuable model for environmental charter schools in the state.

Working with DPI, Rydberg and others are working to align state environmental education programs, such as the Wisconsin Green and Healthy Schools Program, with national programs. Other work has included developing the state's Environmental Literacy Plan, which could help the state secure funding for environmental education. Most importantly, Rydberg said the state has been working to bring a renewed focus on environmental education.

"We've had environmental education in the curriculum for awhile but it kind of gets forgotten," Rydberg said.

Part of this effort is work from the newly formed Wisconsin Sustainable Schools Coalition. Led by the WASB, this group of organizations includes the Wisconsin Association of School District Administrators, the Wisconsin Association of School Business Officials, the Wisconsin

Department of Natural Resources, DPI, and more. The group's goal is to revitalize environmental education.

Rydberg said she is already starting to see some enriching programs and projects get started in schools across the state. For instance a school in the Appleton Area School District has been busy reclaiming a former landfill site and turning it into a park, complete with walking trails and other features.

Rydberg said the advantage of environmental education projects is that they can provide opportunities for students to apply math, science, writing, and other skills learned in the classroom in real-world situations. "It makes learning so much more relevant," Rydberg said.

Districts interested in learning more about how they can reenergize environmental education in their schools are encouraged to turn to the DPI.

"Our role is to provide some leadership and to make environmental education efforts more clear for schools," Rydberg said. ■

For more information, you can visit the DPI's Environmental Education website at dpi.wi.gov/cal/environmental-ed.html or contact Victoria Rydberg at (608)266-0419 or victoria.rydberg@dpi.wi.gov.

low-impact development. The top team from Wisconsin Environthon qualifies for Canon Environthon in New Brunswick to face Environthon teams from the U.S. and Canada.

Middleton High School has won the state competition several times and has placed as high as second at the Canon Environthon where the top teams earn college scholarship money. In 2011, the Middleton High School Environthon team took eighth at the Canon Environthon, winning \$1,200 in college scholarships for each of the five participating students.

■ Sustainability Middleton

Two former Middleton High School students have started a program in Middleton called Growing Food and Sustainability. The program was started by sisters Gabrielle and Natalie Hinahara. Both are Middleton High School alums and both served as president of the school's Ecology Club. Since graduating from Middleton High School, they have become increasingly aware of and passionate

about sustainable agriculture.

Last fall, Gabrielle and Natalie won a grant to establish their program in Middleton. The Hinahara sisters describe their program as a new youth-led, community-based sustainability initiative.

"We engage middle and high school youth in hands-on environmental education through food production, nutrition, cooking, art, biking, and multi-age relationship building," Gabrielle said in an email.

The program is far-reaching and includes many activities for the summer, including a Summer Program for middle and high school youth, high school internships, daily lunch in the garden and open garden hours for all ages, and weekly community workdays and potlucks.

The organization has been working very closely with the Middleton-Cross Plains School District. Growing Food and Sustainability held workdays to clean up and repair the Middleton High School garden, and they have also revived the high

school's greenhouse. The group also broke ground on the new 5,000 square foot garden located on the high school campus.

Growing Food and Sustainability has accomplished these projects by engaging students and working with the district. This summer, the collaborative work will continue with a program for 6th-12th grade students full of workshops, garden workdays, harvest days, and group bike rides.

"Essentially, our organization provides important opportunities for Middleton's students to learn and build relationships in a hands-on, project-based, community-oriented setting," Gabrielle said.

■ Keys for Success

School districts interested in establishing environmental studies opportunities for its students can look to schools like Middleton High School for good practices.

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Green in Lake Mills

Middle school a leader among remodeled buildings in the nation

The newly renovated Lake Mills Middle School has become a source of pride not only in the district but also in the community. The school

is one of the highest-ranked remodeled buildings in the nation for energy efficiency under the U.S. Green Building Council's LEED ranking system. Specifically, the school received a Platinum LEED ranking, which is a very high certification for a remodeled building.

The school district worked with Miron Construction Co. Inc. and Bray Associates Architects Inc. to design and build a 59,865 square foot expansion and renovate the 36,632 square feet of the existing school. Among other improvements, the expansion alleviates crowding issues at the elementary school by moving fifth grade students to the expanded middle school, where fifth and sixth grade students now have their own wing.

Dean Sanders, superintendent of the Lake Mills School District, says the real highlight is seeing how his students have taken ownership of their school.

"The students have taken a great deal of pride in understanding how sustainability was integrated into their building," Sanders says. "They are keenly aware that it's a healthy and safe learning environment because environmental responsibility has been infused into their classroom curriculum, and they use the school as a teaching tool."

Students are so well versed in the school's energy-efficient features, such as its geo-thermal system, that student ambassadors give tours when people come to see the newly remodeled school.

Another positive outcome of the remodeled middle school has been an improved learning atmosphere. The new Lake Mills Middle School features more windows and lets in more light than the previous school.

"The school board is very proud to give the community, and future generations, a high-quality building that focuses on the health and safety of their children, minimizes annual operating and maintenance expenses, and reduces environmental impacts," Sanders said. ■



Lindgren said there have been a few key elements that have helped environmental education flourish at her district's high school.

"As with every success, there needs to be an outstanding teacher who will engage students meaningfully in this discipline," Lindgren said. "The support of the community is needed to connect what is taught in class with real life experiential learning."

District leadership also plays an important role in establishing opportunities for students.

"The school board should provide support and the needed resources to establish these courses and clubs," Lindgren added. "Support for multigenerational activities like a community garden should be resolved through policy and board members connecting with community members and businesses."

■ Every Graduate

Many students at Middleton High School will pass through the school's doors without taking one of the schools environmental studies course or participating in Ecology Club, the Environthon team, or any of the opportunities offered by Growing Food and Sustainability. However,

school leaders are still determined that every graduate participate in environmental education in one form or another.

Beginning with this year's freshman class, students will be required to complete 40 hours of service learning to graduate. While the school provides several projects throughout the course of the school year, one of the most popular options is one of the eight restoration days at Pheasant Branch Conservancy, located near the high school. Weitzel who sits on the Friends of Pheasant Branch board, helps coordinate the restoration days. It's something that she has done for years.

"It's amazing how much work they get done," Weitzel said. "And it gives them a connection to the land. Students can go back there years later and see the work they did."

Over the years, Weitzel said the focus on environmental education has made a difference in her students' lives. She has received emails or run into former students who have or are pursuing careers in environmental studies or natural resources, "All of the experiences they gained at Middleton are shaping what they are doing now." ■

Anderson is editor of Wisconsin School News.