



# Science Research School to Open Fall 2005

Beginning September, 2005, students from Augusta and other districts in the Eau Claire County area will have a new type of school to consider. Wildlands, the Augusta Science Research School, is slated to open its doors on the grounds of Beaver Creek Reserve in rural Eau Claire County. As a Wisconsin Charter School, Wildlands is designed around educational innovation, student needs, and core interest areas. The primary focus of the programs offered at the school is science and research as a tool for understanding our world.

Two programs will be offered 7th and 8th graders will be offered a two year, multidisciplinary

program focused on the core academic areas. Students will be prepared to meet the state's challenging content and performance standards. 11th and 12th graders will be offered an advanced research program

The 7th and 8th grade will focus on the achievement of the Wisconsin State Learning Standard for 8th grade in all the areas of study. Students will experience a new way of learning as they develop reading, writing, math, science, social studies and other knowledge and skills within the context of the local, regional, and state natural environment.

The High School portion of the school offers credits for the self motivated student including, Field Biology, Ecology, Field Geology, Astronomy, and Biological Research; Geography and Geographic Information Systems; Advanced Computer Applications; Advanced Chemistry; Communications including Public Speaking, Technical Writing, and Publications; and Applied Math.



## Mobile Lab opens up the Natural World for use as a Classroom

Students at Wildlands Science Research Charter School will have a special opportunity to learn out in

the natural world. The school has a "Mobile Lab" bus. The bus was remodeled by students and teachers using grant money. The "Mobile Lab" has seating for up to 36 students, storage for

equipment, lab countertops, electricity for lab instruments, and roof storage for field trips. Students at Wildlands will get very used to using the "Lab" as they travel around the region to various study sites.



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### Highlights:

- Wildlands is a project based school designed for students who are interested in the natural world.
- Partnerships with other schools, agencies, businesses, and individuals will provide professional mentors for our students.
- Wildlands is a multigenerational learning environment, creating a learning community.



## Dear Parents

If you are reading this, you must have some interest in what Wildlands has to offer your child. The most direct answer is this school offers a different path for students to follow and a new way to obtain the knowledge and skills needed to compete in the ever increasing technological world.

Project based learning (PBL) is the centerpiece of student learning at this school. PBL (and related instructional approaches) has generally been shown to be effective in increasing student motivation and in improving student problem-solving and higher order thinking skills.<sup>1</sup> The approach we use to help students learn and master skills and knowledge has been time tested in many schools including the past 15



years of working with students here in Augusta through the Summer Science Research Program and the school year Field Research course. Our goal as a charter school is to provide a context for learning and a flexible atmosphere for students to achievement. This experience is one which will attract students of all backgrounds with various levels of skill and ability. Sometimes students don't fit the typical school mold; alternately some students want a more challenging atmosphere and access to a unique educational experience. In either case pro-

ject based learning can benefit the students. If you and your child are interested in this opportunity, you should attend one of the informational meetings. The schedule is on page 5 of this newsletter. Parents play a very important role in the education process at this school. We encourage and welcome parent participation in the daily activities of the school and we include parents when developing a personal learning plan for the student.

Take time to find out more about Wildlands. This may be an opportunity you and your child have been looking for.

1. Regie Stites, 1998, What does research say about outcomes from project-based learning? SRI, International



## What is a Charter School ?

Charter schools are public schools that must implement open enrollment, employ educators who hold valid teaching licenses, and comply with most of the same regulations as other public schools. The purpose of charter schools is to (1) continue to improve student learning, (2) encourage the use of different and innovative teaching models, (3) create new profes-

sional opportunities for educators to design and implement learning programs, (4) increase choice of learning opportunities for students, (5) establish new models of public schools and a new form of accountability, and (6) provide for greater parent involvement.

*Charter Schools can take many different forms. Wildlands is a school using the natural world as the context for student learning.*

The School District of Augusta has a charter contract with Wildlands. The school board performs the same role as it does for the other Augusta schools. Wildlands also has a steering committee of parents, teachers, and community members.



## School Accountability

How will we know if students are really succeeding at Wildlands? First of all, accountability and student progress are the centerpieces of project based learning. Students will be assessed in all core academic areas in the fall and fol-

lowing spring. Fall results will help us

*Successful students have a team: student, parent, teacher, and community.*

identify student strengths and needs. Spring results will measure growth. Students will also take the Wisconsin Knowledge and Concepts Exams.

The high school student population will be assessed similarly with other norm-referenced tests and performance based assessments. All students and parents will work with staff in the development of a personal learning plan based on the Wisconsin State Academic Standards.

Each project students are working on has a specific set of standards covering the core academic areas of math, language arts, and science. Other academic areas are integrated in each project as well. Student assessments take many forms and range from writing, to public speaking, technology development, and other traditional and non-traditional evaluation methods.

# Dear Students



## So, you're wondering, what is this Wildlands school thing?

First of all, it's an opportunity for you to follow your interests as a learner. If you are interested in the natural world, curious about stuff, willing to figure things out, you could find Wildlands a good fit. You should like being outside, working as a team, and willing to pitch in to get the job done. Because at this school, things don't run the way you're used to.

This school puts the responsibility for most of the learning on you, where it belongs. A project based school relies on your personal interests to drive the learning experience. It also puts the teachers into the role of helper, and consultant for your learning. If you want

somebody to constantly tell you what to do every minute of the school day, don't sign up here. We don't have bells, typical classes one after another, or many of the things you are used to. We work more like an office, or a business, where you have a job to do, and we help you learn the skills and knowledge to complete your jobs.

If you like to be in charge of your own destiny, this school could be for you, but you have to work at it. It's not a place for slackers and lazy people. At Wildlands you can expect to do science and English at the same time, use computers in ways you never imagined, learn life-long recreation skills like skiing, and canoeing while you are involved in field studies. Quite simply, this is not your old

school.

We will make sure you learn, and that you can demonstrate your knowledge and skills. Not with only tests, but with projects, performance, and participation. If you want to join us, we would be honored, but we understand this isn't for everyone. We will challenge you, push you, support you, and help you get the best from this experience, but you first have to decide if you want to become part of the Wildlands team.

**"If we knew what it was we were doing, it would not be called research, would it?"**  
- Albert Einstein

## A Project Based School



Project based learning must provide for involvement, interaction, and socialization, dovetailed with a can-do, step-by-step approach to getting the job done. At Wildlands we strive to:

- Implement projects so students need to construct their own understanding of science, technology, and the world in which they live.
- Assure that content will promote a more holistic, interconnected view of

learning, rather than the traditional division of science, math, technology, communications, and social science subject matter.

- Create a variety of project-based opportunities for students to achieve academic success and develop life-long learning skills.
- Establish high expectations for academic rigor based on state and national standards

- Build strong accountability that guides continuous improvement.
- Engage strong community experts to help carry out the mission of the school, partner on projects, and mentor the students.
- Project based learning creates a context in which students develop a need to know. Opportunities to "learn how to learn" for the ever changing 21st century abound in the project based school.

## How Do I join the Wildlands Team?

There are several ways to become a student at Wildlands.

1. Be an Augusta middle or high school student interested in the Wildlands opportunity, talk with parents and teachers, and apply by the February 15th early enrollment date.
2. Be a student from another local district in Eau Claire County and the Chippewa Valley and apply for open

enrollment to the School District of Augusta between the February 7th and 25th, 2005 open enrollment window for the 2005-2006 school year.

3. Check with your school's principal to see if your district has an agreement with Wildlands for student slots. You can still be a student at your local district and attend Wildlands. Again, apply by the February

15th early enrollment date.

### Enrollment options:

- A. Middle School 7th or 8th grade fulltime.
- B. High School 11th or 12th grade fulltime.
- C. 11th or 12th grade part-time for selected credit offerings.



# A Day In the Life of Wildlands.....

*A typical field day for a 7<sup>th</sup> or 8<sup>th</sup> grader at the school.*

Arrival at 9:00 am after participating in Band at the High School. Sue (a fictitious 8<sup>th</sup> grader) and her classmates go to the homeroom and prepare for the days activities. First she checks her planner and remembers today the large group is taking the lab bus out to the lake for zooplankton and algae sampling. She grabs her coat she keeps in her locker and heads over with her peers to the lab at the science center.

All the students are forming the groups they joined yesterday and preparing the sampling equipment. Students head out to the lab bus and stow equipment and begin writing the daily journal entries as they wait for everyone to board. Teachers go through the preparation checklist and ask each of today's team leaders to account for their people and equipment. The class departs for the lake.

On the way to the lake the students watch and listen to a short DVD on lake biology on the bus. When they arrive each team reports on two key factors they saw in the video related to today's work. They break up into the sampling groups. One group goes with each teacher

*A student at Wildlands becomes part of an extended family, a 21st century one room school.*

and the third group is with a Lake Association Volunteer who assists the program by supplying his pontoon boat and knowledge of the lake. The sampling trips take about two hours and students are busy with the sampling gear, the meters and secchi discs, and all the while complaining about having to wear life preservers when they feel they can swim. Their

teacher reminds them they can also sink.

The 4 high school students who are peer tutors remind the teacher that each team needs to grab samples of any floating aquatic vegetation and mark it on their GPS to contribute to the high school student's vegetative survey and GIS map of the lake. The peer tutors each go with a team out on the lake as guides and helpers. Later in the day they will present their homemade lesson on how to measure and calculate the density of zooplankton in the lake habitats.

As the three teams arrive back at the lab bus the students get out their sample processing directions and begin to preserve the samples. Since one team is still out the other two teams begin to take a quick look at what organisms they have found using the digital microscope linked to the laptops on the bench in the lab bus. Excitement is everywhere as waterfleas, copepods, ostracods, and many types of algae are flashed across the computer screen. Students begin capturing the images for analysis later.

The third team arrives and processes their samples and it is about time for lunch. Some students break out their sack lunches, and Mr. Hadorn gets the containers sent by food service for the students on hot lunch. During lunch two more lake association volunteers show up and talk with the students about what they are trying to find out. Sue talks about making a project out of the history of the lake, what was there before it was a lake, why it was built, the age and condition of the dam, and how the lake has been used since it was formed. The Lake Association volunteer has lots of meeting minutes, pictures, and many members

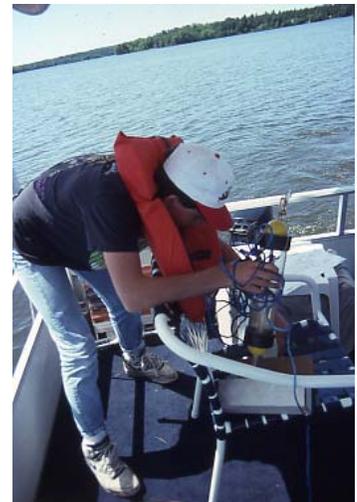
who could help Sue out. Since all the students need to have an independent research project to go along with the lake studies focus area, Sue feels pretty good about finding such a willing resource during lunch.

Lunch is over and the whole group loads the bus and heads down to the county park by the dam on the lake. Tom Mayer the dam operator is there to show the students how the dam works, how he calculates the flow based on hydraulic head, and what maintenance issues he faces on an annual basis. Students document the talk with their digital cameras and audio recorders right on their palm pilots for use later in the debriefing session back at the lab.

The bus departs and

*At Wildlands the teachers will be guides and facilitators of student learning.*

heads back to the lab. During the ride the students are asked to review the words of the week vocabulary sheet so they can use the words in their summary of the week in their journals. After the 15 minute ride the





# A Day in the Life...continued...

students take all their samples into the lab, store them, and assemble into their study groups.

Back at the lab each group is ready to give a short presentation assigned last week on one chapter of the book "Understanding Lake Data." After the presentation a math lesson taught by the high school peer tutors focusing on volume, density, and percent composition is done using a sample from the days field work. All the students stop to write a summary in their journals on how the calculations were done. Tomorrow they will all have to apply the math to their own questions generated during the brainstorming session yesterday before the sampling trip. All the students are reminded that tomorrow everyone should have their personal learning plan and standards list updates with parent signatures in by Friday so everyone can meet with the teachers on progress one day next week.

Time for a break, and a hike down to the river. Students grab binoculars, field guides, and get their hiking shoes on. Each team will be responsible for field observations they will input to "Wisconsin NatureMapping", a statewide vertebrate database of wildlife observations. The teams will be hiking on the well marked nature trails of Beaver Creek Reserve equipped with GPS and radios so they can record their trips and stay in touch with instructors.

They all remember the independent field work contract they had to sign at the parent meeting earlier in the fall, and as they are ready to depart Mr. Tweed goes through the field work preparation and safety check off. All the groups are ready and they head out for the

hike. Upon returning each group reports on their vertebrate observations, logs onto the web and inputs the data into Wisconsin NatureMapping.

When the data is in the computer the students can pick up a brainstorm question sheet for tomorrow's guest speaker from the county planning office. The topic will be "Our surface



waters: public and private". Jean from the Eau Claire County Land Conservation Department will discuss rules, regulations, committees actions, and management issues surrounding the lakes in our county. Jean also coordinates with this month's presentation team to confirm their presentation to the County Conservation Committee at the end of the month. The students will present the data and conclusions from the limnological work done on the lake this fall.

At the end of the day students are given independent reading and research time. Some elect to read a chapter or two of "My Boyhood and Youth" by John Muir, because they will be discussing the chapters later in the week dur-

ing book talk.. Others are reading their self selected books they will be using for book review papers. Three students are wondering if they can go through a couple more rounds of the Lake Management Simulation program on the computer. They are told that as long as they are ready at clean up time they can see if they can improve their management skills.

30 minutes until the bus leaves for town. Housekeeping teams have formed and are busily working on this week's responsibilities. The lab is being swept, kitchen cleaned and picked up, bathrooms moped and supplies checked, classroom rearranged into the table and chair diagram left by the Citizen Science administrator for tonight's club meeting in the center classroom we share. The computer lab is picked up and all the students put their individual materials in the homeroom for storage.



## Wildlands Informational Meeting Schedule

Date	Location	Time
Dec. 20., 2004	Augusta High School	7:00pm
Jan. 19, 2005	Beaver Creek Reserve Citizen Science Center	7:00pm
Jan. 26, 2005	Augusta High School	7:00pm

# A Day In the Life of Wildlands..... Part 2

## A typical high school day at the School

Bill and Natalie arrive at 7:45am and immediately grab their collection gear and head out to the south side nature trails to check their cover-boards. It only takes about a half an hour to walk the route and check for the reptiles and amphibians that have gone under the boards during the night. After recording their data, they are back to the lab for the 8:15 morning meeting. The rest of the group has arrived and is chatting around the fish tank stocked with the native fish of



**Examining a yearling black bear before releasing her to be radio tracked by students.**

Wisconsin. Everyone wants to put some minnows in to see the perch and walleye feed.

The morning meeting is called by the teacher and all the students check the planning board on the wall to see that their plans for today are accurate. A few change their plans to reflect progress or troubles they had on projects in the preceding days. "Today's peer tutors are Jeff, Bill, Natalie, and Sarah" announces Bill. The four students will get together in a few minutes with the teachers to make sure they are ready for the zooplankton and algae sampling trip to the lake. Jeff announces he has a couple cool ideas about how to get the idea of density and percent population composition across to the 7<sup>th</sup> and 8<sup>th</sup> graders. He wants to do this lesson to meet one of his communications standards. He

tells the group and they all agree to use his method. The teacher agrees it could work and he has a couple activities ready if Jeff's idea starts to flounder. But, he has encouraged them to

**High School students will have the opportunity to explore their interest areas, conduct their own research, and chart their own course.**

try because it sounds like a novel, yet effective way to illustrate the math concepts.

Everyone is asked to report on weekly progress, and today's plan. Natalie has a question about her project with the county board on zoning regulations for industrial and commercial areas near public waterways. She is not sure which English standards to check in relation to the section on drafting zoning regulations. A discussion ensues about the meaning of the standards in question. She decides she will have basic experience in two areas and will definitely be proficient in the standard that states she should, "Conduct interviews, taking notes or recording and transcribing oral information, then summarizing the results" after attending all those meetings.

Jeff has his background paper on soil ecosystem organisms in second draft form, but it is not organized, and the structure of the paragraphs is poorly organized. Not to mention, he still hasn't fixed many of the sentence fragments and run-on sentences that his first review pointed out. The Teacher asks that Jeff take a highlighter and identify the poor sentences. Then put together a key word outline by Thursday for discussion of the flow of his paper. Jeff reluctantly agrees

but tries to negotiate it to a next Monday due date. Jeff is reminded that if he can get this done by Thursday he will have much more free time to make his soil sampling equipment before the weekend and get them out earlier because the frost is approaching soon. Jeff agrees.

9:00 am, the Mobile Lab bus pulls up and the 7<sup>th</sup> and 8<sup>th</sup> graders pile out. One teacher directs them to the home-room so they begin to get their materials organized for the day. The peer tutors for the day ready their materials. Both teachers quickly discuss some of the details for the sampling trip. The high school students who are not peer tutors today are meeting with another instructor and an intern from the university at 9:30am to spend time planning this fall's community service projects. Then they will also have open computer lab time for GIS tutorials, and research statistics case studies if



**Testing stream water for Phosphates**

they need it. Two of the students ask if they can help the director of Beaver Creek Citizen Science Center, build the PowerPoint tutorial on identifying Wisconsin mammal scat for use at the NatureMapping mammal workshop next month. The teacher agrees but needs to see how the activity will fit into their overall personal learning

## A day in the life, part 2, continued...



plan. One of the students suggests it could qualify for one of the mini-projects due for the requirements of the Ecology credit. They are also reminded that they are late with the GIS/GPS basics project. They know, and will get it in by the end of the week.

The bus pulls out with the 7<sup>th</sup> and 8<sup>th</sup> graders on their way to the lake. The university intern arrives and the high school students spend the remainder of the morning planning their fall service projects, in the lab working on the GIS curriculum, and then before lunch they all get together to try and solve the research statistics problems.

After lunch the bus is back and the lab is buzzing with activity. The 7<sup>th</sup> and 8<sup>th</sup> graders are back and they are breaking the concentration of the high school students with their constant buzzing about and endless chatter. Team leaders announces the advanced chemistry group will be meeting to go over the second installment of spectrophotometric analysis of surface water. Everyone in the group will also be asked to present their results from the standard curve development lab. All results will be compared to the quality assurance protocol we picked up during our talk with the DNR lab manager a

**Students have many opportunities to work with mentors in various professions. Projects are connected to the community.**

few weeks ago.

During the chemistry group meeting the rest of the students are working on their independent projects. Some will meet tomorrow with the biodiversity group, and others in two days with the geography of

the badger state group. Later in the day all the high school students meet to discuss plans for the overnighter at Crex Meadows where they will focus on fall migratory birds for 2 days. The weather may turn cold, so the camping should be planned accordingly. Group 2, the "Screaming Turtles" as they have named themselves, will be in charge of the menu and shopping for this trip. Everything has to be ready by October 12 so the Turtles can go to the store. Menu options presentation and costs will be presented a week ahead of time for group vote. Everyone is then reminded that



**Students use GPS, laptops, and other technology regularly in the field.**

the Friday seminar is on making snowshoes and that many of the journal entries from last weeks seminar on winter biology of reptiles and amphibians could be improved by expanding the key words and questions sections.

As the students finish the afternoon work they ask if the canoe trip down their adopt-a-river section is still on for Thursday. "If the weather holds", is the reply. Soil organism coring will be done all along the floodplain forest sections by the river to compare to the upland communities already sampled. Jeff has the sample bags ready and will show the protocol at the first stop point. Jeff reminds the group that he

also will need vegetative cover data at the sampling sites to compliment the soils and collected organisms.

The students break into their housekeeping groups and spend the last few minutes of the day picking up the lab, computer lab, and home-room. One young man asks to go over to the observatory to see if he can copy his files off the telescope's computer so he can take them home on CD today and show his parents the images he captured so far.

The students are done for the day. A few hang around and work on projects, others drive off to jobs, home, and town. Three students wait for rides from their parents and head over to the nature center for a can of juice from the machine. It all starts again tomorrow with a GPS geocache team.

## High School Course Credits Available

High School students can earn credits toward graduation in the following areas.

Science:

1. Advanced Biology
2. Advanced Chemistry
3. Geography and Geographic Information Systems (GIS)
4. Field Geology
5. Astronomy

Other areas

4. Communications
5. Applied Math
6. Advanced Computer Technologies
7. Independent Research
8. Field Internship Experience

Each credit area is divided into a 11th and 12th grade achievement levels and a 2 year sequence.

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# Wildlands

## SCHOOL DISTRICT OF AUGUSTA

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On the Web @

[www.wildlandsschool.net](http://www.wildlandsschool.net)

*Wildlands Science Research Charter School is an instrumentality of the School District of Augusta, in Augusta, Wisconsin.*

*We believe that equal educational opportunity is the right of all children without regard to sex, sexual preference, race, creed, ancestry, national origin, physical, emotional or mental handicap or socioeconomic status.*

*Wildlands is a public school open to all 7th-8th and 11th-12th grade students in the Augusta and surrounding school districts. Enrollment in Wildlands is open and will be capped at 30 students for the 2005-2006 school year. If applications exceed space available, a lottery system will determine enrollment.*

**To Request an Application:**

**Wildlands Science Research School**

**School District of Augusta**

**E19320 Bartig Rd**

**Augusta, WI 54722**

**Or Email**

**[wildlands@augusta.k12.wi.us](mailto:wildlands@augusta.k12.wi.us)**



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## Meet the Wildlands Staff

Good schools have good teachers and Wildlands will be no exception. The school will be staffed with 2 full-time certified teachers, and a part-time certified teacher. The Wildlands charter school philosophy puts great emphasis on parent, community volunteer, and professional mentors contributions to the student's learning experience.

The very experienced certified staff is equipped to handle a broad range of subject areas so to meet student needs.

Paul Tweed serves as a lead teacher, and school coordinator. He has been teaching high school science including, biology, chemistry, physical science, ecology, anatomy and physiology, and

field research for 20 years. Early in his teaching career Tweed led four to six week field ecology trips into the wilderness areas of the U.S., and he brings both a classroom teacher's and a backcountry leader's experience to the school. For 16 years he was the Augusta varsity track coach. He has also authored many professional articles, been a text book author, taught at universities, and served as a science consultant for several Wisconsin school districts and the Department of Public Instruction.

Jeff Hadorn, is also a lead teacher at Wildlands. Jeff has more than 20 years of experience in the classroom, from elementary, middle school, and high school levels. Jeff has been a leader in

planning and implementing field studies into the middle school curriculum for years. His expertise in the middle school subject areas, the use of digital technology in education provide the school with a unique opportunity for student project guidance.

Hadorn has led teacher inservice courses in lake and river studies, field research with students, and digital video and audio production. He has also presented at professional conferences, and coached football, basketball, and track at middle and high school levels over the past 20 years.



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## Facilities for Wildlands

The "home base" for this school is located at Beaver Creek Reserve in Eau Claire County. We work out of the state of the art laboratory at the Beaver Creek Citizen Science Center, and also have high speed internet and a

very up-to-date computer lab. The school has a classroom on wheels, known as the "mobile lab". This rolling science lab can take students out to work in any environment. The school also has 3 watercraft for lake studies, canoes for river travel and studies, cross-country skis, showshoes, and bikes for student transportation and recreation. The natu-

ral world is our real classroom as students in this school spend a good portion of their time learning outdoors. We work on a 420 acre field study area within 5 minutes of the school, and also have access to the Hobbs Observatory.

