

2008-09 Cooking Up Success

Photo by Aaron Forde



Special thanks to our major sponsors:



Mike, Ann, Erin, and Stephanie Arneson

WWW.FISH.COM



WILDLANDS SCHOOL
SCHOOL DISTRICT OF AUGUSTA
AUGUSTA HIGH SCHOOL
AUGUSTA, WI 54722



The 2008-09 school year at Wildlands has flown by. With 42 students enrolled in grades 7-12 the school has been a bee hive of activity. The student population this year has been involved in a wide variety of activities and projects. Middle school students have worked on projects in the areas of forestry, astronomy, stream ecology, invasive species (Worm Watch), and many others. The high school students have been busy with projects ranging from deer population studies with remote sensing cameras to watershed research and remodeling the trapper's cabin behind the school for a living history display.

Wildlands is graduating 4 seniors this year and all are going on to school next year. Jordan Miller is heading to Vermillion College in Ely,

Minnesota to pursue studies in outdoor leadership and wildlife ecology. Nick Perkovich is headed to Chippewa Valley Technical College in electro-mechanical technology. Molly Hurt is going to attend Evangel University in Springfield, Missouri for business or nursing. Mike Kortness who graduated at the semester in January has been attending UW Stout this spring and is working on a degree in the health technologies field.

Enrollment trends at the school are up. There were 41 new applications for the 2009-10 school year. Only 21 of those students were accepted due to enrollment limits. This leaves 20 students on the waiting list for next year. With 23 returning students next year's enrollment will be 44 students.

In other news, Liz Seubert one of the Wildlands teachers recently had a baby. Liz and her husband Brian are the proud parents of Colin William Seubert who arrived Easter Sunday. A new addition to the Wildlands family. Congratulations Liz and Brian.



Middle school students practice the fine art of camp cooking on the spring Flambeau river outdoor recreation trip.

Watershed Studies

Have you ever wondered what kind of creatures live in a certain stream? Wildlands students have been working on a new project that has to do with streams, and one of the questions we are trying to answer with the project is "What kind of insects live in these streams?"

Of course, the only way to find the answer is to go to streams and catch insects that live in the water. So we gathered our equipment, put it on the bus, and find streams that we can take samples from. Once we got there, we put on our hip waders, grabbed our equipment, and head down to the water.

A very important

piece of equipment for catching insects is a D-frame net. It has a long handle like a shovel with a net on the end. Catching insects with it is fairly simple; we walk backwards in the stream and pull the net through the water. As we walk, we shuffle our feet to stir up the water and help insects go into the net. Once we have walked for a little while, we take the net over to a tray and knock insects out of the net and into the tray. Then we poured water onto the tray to wash insects off of the tray and into a bottle. We repeat this process several times for each stream.

When we get back to school, we identify as

many insects as we can. We use a book and a microscope to help us. Whatever insects aren't identified have to be preserved in Petri dishes and ethyl alcohol.

One of the reasons we are doing this project is to find out how clean some of the streams are. The presence of certain insects can help determine this, because some can only live in clean water. I have been really enjoying this project. It's fun to get outside and learn some things about insect life at the same time.

-Asher Velin 10th Grade

Guitar Amp 2.0

Followers of previous newsletters might remember how I wrote about making a 20 dollar guitar amp last year. It was a really simple design to follow. It was made of a few capacitors, resistors, a pc chip, and wires to connect them all. This year I made full three stage, tube powered guitar amp from scratch. I started sometime in the middle of December and finished in March. Overall it was a long, tedious process but very enjoyable.

Starting out I had to get a list of components and products to order. My list came from "The Guitar Amp Handbook" written by Dave Hunter. The Guitar Amp Handbook is a really good read if you want a better understanding of tube guitar amps and how they get their sound. Along with the product list I also got the schematic (layout) of the guitar amp from this book. The schematic is almost identical to an old Fender Princeton model.

After assembling my list of parts that was needed I went and ordered all my parts off of various web sites. The most useful web site I found was tebweber.com. That is where I got a majority of my components from.

When all of my parts got to Wildlands I had to check to make sure I ordered everything. Once I made sure everything was there I started in on putting my amp together. First I started soldering my components into my eyelet card (circuit board). Soldering is what connects the wires on the components together. It heats up the tip of the soldering iron and when you touch the tip against the holes in the circuit board solder comes off and files the whole of solder. Then the solder hardens and holds the wires together. It is highly conductive, lets electricity run through it, so that is one reason why solder is used to connect circuit boards.

Once I soldered all of my capacitors and resistors to the eyelet board I had to cut holes in the chassis, a rectangular metal box, to screw in my tube sockets, potentiometers (volume, tone knobs), triple position switch (clean, normal, or gain tone), Double position switch (on/off), fuse, input jack (guitar plug), the power cord, and the light. I also had to cut out spots to plant my transformers in. A trans-

former is something that power runs through, and it can increase or decrease the power by a factor. The factor depends on how many times the wire wraps around the core.

After everything was screwed in I screwed in the eyelet card to the chassis and started wiring all the tail ends of the circuit board to the tubes, potentiometers, and other components. Then I had to ground some circuits to a grounding strip. Grounded circuits are parts of the circuit you don't use and if they were not grounded there would be wires with power just floating around.

When all my components were wired together, the amp would turn on, and beautiful sound came out, I built the cabinet for the guitar amp. I made it out of pine, and made two back pieces out of birch plywood. The dimensions of the cabinet were 24 by 22 inches and the sides were finger jointed.

Once the cabinet was glued together and clamped over night to dry, I measured out strips of wood to screw on the inside so I could screw the back panels and the baffle board to the cabinet. Those strips of wood are known as wood braces. The baffle board is a board of plywood which the speakers get screwed into.

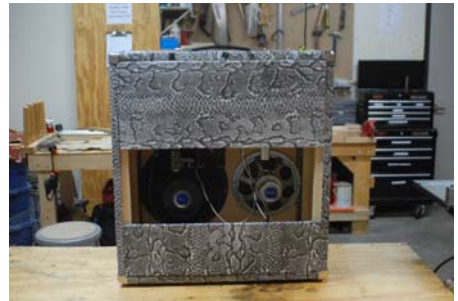
After all of that was screwed and glued I covered the cabinet and back panels in snake skin tolex. Tolex is basically vinyl with a design on it and I choose my design to be snake skin. I covered the back of the tolex in concrete cement so it would glue real tight. Then I stapled grill cloth to the baffle board. Grill cloth is a strandy cloth material that allows more sound to escape.

Once the tolex was glued in place I put the finishing touches on by screwing some metal corners onto the corners, rubber feet on the bottom, and a leather handle on top. Once everything was put together the guitar amplifier looked really good and sounded even better.

-Aaron Forde 10th Grade

Top: Guitar Amp Front

Bottom: Guitar Amp Back



Trout Stocking

In my 8th hour class, Ecology, we started to do Trout Stocking. Trout stocking is placing trout in a stream, this is known as fingerling

Before we started to place the fingerlings into the stream we needed to gather some information. We gathered the information before winter so that we had an early start for the trout stocking project. Some of the information was about the insects that were in the water, type of stream, bottom of the stream, Dissolved Oxygen, and location. The actual day that we started placing the fingerling into the stream was Friday, May 1st.

We were given money from the Augusta Rod N' Gun Club that was donated to the ecology class to purchase the fingerlings for the big project. The donation was on Wednesday, April 22nd, 2009 located at the Augusta Rod N' Gun Club in Augusta.

-Derrick Lewellan 11th Grade

Bow Making

The bow project consisted of three other students and I making traditional long bows. This project was very time consuming and needed a lot of research in to how they were used and made. The things I learned were the history of the Indian long bows and how to make a bow.

The first step in making a long bow is doing research on the wood, how to make it and how to pick the wood. The second step in making a long bow is two pick out the wood that gives you the most strength and flexibility so you can pull it back. Step three is to start thinning out the

wood you have selected to the thickness that you want to use. Step four is sanding the bow to make it smooth. Step five is to get a string and shoot the bow you have made.

We made the long bows to test the speed of the arrows and how accurate they are. We also looked into the history of how they were made when the Indians made them.

-Isaac Nitz 9th Grade



Top: Sam Wold (9th grade) testing out the bow

Medieval Madness

Kings, lords, peasants, and young folk could be found at Wildlands School on Friday, May 8th where the entire middle school participated in the making of a medieval fair. To prepare for this fair, we needed to fulfill requirements such as picking a person from that time period, writing about that person, and dressing up as that person. We also made a coat of arms about ourselves, a model of that time, and game or food. There were many different interesting game ideas centered on medieval times.

With the help of the Augusta 5th graders to sample food and play games, the fair became complete. After a while, we performed our plays and shot the giant trebuchet. (A trebuchet is like a catapult, but has a sling attached to the end of the throwing arm.) After all this, the day had come to an end and my classmates agree that it was worth it.

-Joey Konzen 8th Grade

Right: Activities of the Medieval Fair



Research Paper

Recently the Wildlands High School finished writing their research papers. Each high school student chose their own topic to research and write about. By writing the research papers they learned many new, interesting things about their topic and about writing a paper. The skills they learned will be useful when they go off to college and when writing future papers for school.

The moans and groans that the boys let out when they learned they had to write a research paper made one think that this was going to be the death of them, but really it turned out to be a good learning experience. The first thing we did for the research papers was think about ten topics that had to do with science that they would be interested in writing about. There were many different topics

chosen by everyone such as sars disease, the process of learning, tornadoes and crawfish.

With all of the ideas running around in our heads we had to pick one to actually research. To help us pick which idea to write about we got into small groups and shared our ideas. The people in our groups helped us brain storm about every idea and they shared which one they thought we should do.

During the process of writing the research paper we learned many new skills. For example we learned how to use del.icio.us. Del.icio.us is a website that has social book marking. When someone finds useful information they can book mark the web site on del.icio.us and other people can also use that book mark if the information is useful to them as well. It was a good way to

find information and keep in together. Some people already knew how to source their information, but many did not, so that was another useful skill that was learned in the process of creating the research paper.

Before turning in our research paper we shared a little bit about our papers with the other students. It was very interesting to hear what everyone had chosen to write about and the cool things that they had learned. We started the progression of writing the papers on the 17th of February and most students had their research paper turned in on the due date of the 10th of March.

-Megan Raether 11th Grade

The Way Back Machine

The freshman/sophomore group has been studying World War II and the Holocaust for their history unit. This article will sensitively summarize what they have learned about the holocaust. The term Holocaust is derived from the Greek words holos, meaning "whole" and kaustos, meaning "burnt." The term is almost always associated with genocide of Jews, and refers in this case to the systematic slaughter of 6,000,000 Jews in Europe during World War II.

They watched a series of documentary videos about the Auschwitz death camp, discussing and researching the unforgettable lessons of history. The students then got permission from parents and viewed the 1993 historical film Schindler's List, a mov-

ing portrayal of the reality that Jews in Nazi occupied Europe faced at the time. They also learned about the effort of the allies to improve conditions in the immediate aftermath of the war. With the collapse of the German war effort, about 250,000 Jews were left homeless. Displaced persons camps were improvised in abandoned barracks, hotels, former concentration camps, and private homes.

In 2006, Germany agreed to open their vast holocaust archives after 20 years of effort from the United States Holocaust Memorial Museum and other countries. In the 2007-2008 school year, Wildlands students visited the resulting Deadly Medicine exhibit at the Science Museum of Minnesota and learned about the Nazi effort to

"cleanse" German society of certain races and disabilities.

The history project's holocaust unit has provided insights about the nature of society that the students won't soon forget. In learning about the events that took place, students had many concise resources. Students in the history group have doubtlessly gained from these lessons of racism's ultimate fallacy.

-Josiah Wahl 10th Grade

Banding of the Birds

Every Thursday morning, I go over to the Wise Nature Center to participate in bird banding. I really enjoy doing this and I've learned a lot. My goal in this is to become a licensed bird bander myself by the spring of 2010.

We catch the birds in mist nets which are very fine nets with small openings. We carefully remove the birds from the nets and place them in drawstring bags. We record the birds sex, age, weight, and wing chord (wing length). We then place a numbered band on the bird's leg.

Banding birds allow us to track migratory patterns, estimate populations, and track their longevity. If we catch a bird that has already been banded we are able to track this data ourselves. For example we recently caught a female Hairy Woodpecker who had been banded in 2002. she was identified as a two years old then, so we know that she's at least eight years old now. She was also originally banded at Beaver Creek, so we can assume she lives here.

In order to obtain a license I must be able to show that I am able to safely trap,

handle and band the birds. I have to be at least 18 years old and I must be able to identify the common birds in their different seasonal plumages. I must also have at least three bird banders who can vouch for me.

-Brandon Felton 11th Grade

Nuclear Energy

This February, the whole Wildlands High School was required to write a research paper for 3rd quarter. I decided to do mine on Nuclear Energy.

In my nuclear energy project, I learned a lot about ways nuclear energy could be a benefit or a hazard. I also learned about some important dates in history, Einstein's $E=mc^2$, and radioactivity.

One historical event that I came across was the Chernobyl accident in Soviet Ukraine in 1986. The workers at the Chernobyl nuclear plant did an experiment to see how long the turbines in the nuclear reactor would spin after a power outage, forgetting that nuclear reactors are unstable at low power settings. They also disabled the automatic shutdown mechanisms. The reactor exploded, releasing hazardous radioactive

material. Twenty-eight people died within 4 months of the accident, and many more later on due to radiation poisoning. The Soviet government later admitted that the reactor's design was faulty and that the worker's were poorly trained.

The most interesting thing that I came across was $E=mc^2$, developed by Einstein. In this theory (which was proved to be true by the atomic bomb) he found that energy and mass, rather than being two different things, they are actually variations of the same thing. As a result, mass can be turned into energy. To find out how much energy is in something, multiply it's mass by the square of the speed of light, or 300 million meters per second. The way that the A-bomb proved this to be true, was that it worked by a process called atomic fission. In fission, the nucleus of an atom is 'shot' at

the nuclei of another atom. When they make contact, the nuclei is split and some of its mass disappears as energy because of $E=mc^2$.

I learned a lot in doing this project, about nuclear energy, but also a few important history dates, and probably one of the most famous scientific discoveries in history.

-Riley McCormick 9th Grade

On The Pipe Production

During the winter months inside projects can be done. One thing I was able to do is make a movie called The Great Outdoors. This is a movie that Alex Gajewsky and I have been working on for a few months. We are making it on dirt biking and four wheeling and mostly racing. We made this movie because I have been racing for a while and wanted to show people what the sport was about and how fun it can be.

The filming was lots of fun because we were able to get out and learn some camera angles and great shots. We had some helmet camera shots, aerial shots, side shots, and over the camera shots. The race tracks featured in the movie are in Kellogg, MN and Millville MN. Millville is one of the biggest

races that was on the video but if you want to see some entertaining racing you will want to see the race in Kellogg. Because it was one of the muddiest races you will ever see.

During this project I learned many new camera skills and how to set up shots. I also learned how to do digital video editing on the Mac computer. The final project will be on a DVD for all to enjoy.

-Tyler Degenhardt 9th Grade

Below: Bear Skull Cal Johnson (9th grade) has worked on



Bears!!!

This winter I have been working on a European bear mount. It is one of the things that I have wanted to do in my entire life. I am able to do this bear mount because my brother shot a bear and he would like me to create the skull mount for him

The European bear mount process is one that creates a very clean white bear skull to be mounted on a plaque. There are many steps involved in this process.

You first have to take the bear skull and start cutting off most of the meat. Then as you finish cutting off the meat from

the skull you take a large boiling pot (like a turkey fryer pot) and you boil the rest of the meat that was hard to get to. Now you have all the meat off of the skull. Then you have to put the skull in ammonia and keep it in there for twenty four hours. The ammonia removes the grease and oil from the bone. After you have kept the skull in there for twenty four hours you have to then put the skull in hydrogen peroxide for twenty four hours so when it comes out of the hydrogen peroxide it will look white and try to make it nice as possible. Next you take the skull out and let the skull dry for a long time so

that if you have pieces broken off of your skull it is dry enough to glue them back on.

Now that I have shown you how I did my European mount I hope that if you want to do this, your first one will look really good and white. When you do the bear mount remember to take your time because you want it to come out as nice as possible.

-Cal Johnson 9th Grade

Learning Deoxyribonucleic Acid

This semester students Devin Sprinkle and Max McCormick have been developing a familiarity with the equipment in the Small Mammal DNA Project. This has been done by using the equipment to run smaller versions of the tests that will be done with the small mammal hair. These tests usually involve human hair, as this is easier to acquire.

The method to acquire the hairs is very simple; they are just pulled out with a pair of tweezers. Each hair that is tested has to have a small bulb of skin at the bottom, this way they know that the hair has DNA that can be tested.

After the hair has been taken, it is put into a small test tube with a combination of Instagene matrix and protease; both of

these chemicals help in the DNA amplification process. After the hair has been put into the test tubes, they are put into a hot water bath at 50 degrees Celsius for five minutes, then they are put into the vortexer (a machine that shakes the tube kind of like a centrifuge) for a few seconds, and they are put back into the water for another five minutes. After this they are put in the vortexer for a few more seconds, and then they are put in another hot water bath at 100 degrees Celsius for five minutes. After this, they are vortexed for a few seconds. At this point they are put in the PCR machine for a few hours. The PCR machine heats and cools to certain temperatures for certain amounts of time, this happens at a preset time and temperatures, and aids in the DNA amplification sequence.

What we are now planning to do with the DNA project is to start on working with the small mammal DNA, and not just getting familiar with the equipment. We are also planning to start a list of the mammals we have caught, and which have been tested. Once we have done that, we can write our results and finish the project.

Devin Sprinkle-Max McCormick
-10th Grade -10th Grade

Pictures!!!



Special thanks to our school supporters

- Charter Bank Eau Claire
- Mega Pick and Save
- Scott and Deborah Humrickhouse
- Ted and Jan Tweed
- Terry and Susan Miller
- Walter's Buildings, John Kelly
- Chuck Forseth
- Tom Crow
- Rick Koziel
- Herb Comstock
- Robin Walsh
- Ken Frost
- Gary Speich
- Mary Beth Wold at Dean and Associates
- Paul and Joni Holmes
- The Beaver Creek Staff
- Lake Eau Claire Association
- Nate and Nichole Smith
- Don Spraetz

Leather Strap

During the winter I made a strap, but the special thing about the strap is that it's made of leather. I got the leather from a deer I harvested back in December. The first step I took the hide and cleaned it and tanned it.

To tan a animal skin you have to put it in to a mixture of acid and water to take all the hair off. Than you need to apply a tanning liquid with oils in it to make it last a long time and not stink. That took about 2 weeks.

After I did that I cut it in to one long strip and folded it and sewed the hide

that last 37 hrs.

I made it to fit on any bag that has clips. The strap is 45'' long and 2 1/2 ''wide. I also used a type of antique paint to make it look old. I found it works well for carrying my computer.

Dan Weirsgalla 9th Grade

Chimney

For almost a month now some of the high school students at Wildlands School have been working behind the school building on the cabin. They are slowly making it look like an old trapper's cabin. One of the many projects included in turning the cabin behind the school into an old trapper's cabin is the chimney. The chimney project includes steps such as cutting a piece of wood to make the whole bottom half of the chimney wood, covering the wood with felt, covering the felt with chicken wire, and putting stone mortar mix over all the chicken wire.

The students also have to clean old dried up mortar off the stones that they will use to cover the chimney. They will do that by hitting and scraping the mortar off using hammers. Once they are finished cleaning the mortar off the stones they will mix new mortar and put it on the back of the stones. They will then press the stones onto the chimney. After they have the whole chimney covered with the stones they will have the chimney project completed and the cabin will be one step closer to being an old trapper's cabin.

-Brett Lewallen 9th Grade

Below: Brett and Riley (9th grade) look upon their finished project



Finished, FINALLY!

Some readers of previous newsletters might recognize the Leaf Project from other articles I have written. I have been working on it since last fall, and have written on it in a couple of newsletters. This was my major solo-project this year, so I thought I would give one final update as to its conclusion.

For a quick review, my project was based on figuring out which tree leaves put out more oxygen, Maple trees or Oaks. I started by going out into the field last fall and recording oxygen data on twenty trees, all within the family of Maples or Oaks. Then I brought back the leaves I had recorded the oxygen data on and calculated their area in centimeters squared. Finally, I ground up a portion of each leaf into a mix-

ture and measured the concentration of Chlorophyll it contained (Chlorophyll being a major part in photosynthesis, or the process plants use to convert sunlight to usable energy and oxygen).

Unfortunately, much of my data is inconclusive because some of my methods of sampling were inaccurate. I knew this might happen from the beginning, but I figured it was a learning experience and the actual data at the end isn't really that important. Anyway, I did find some interesting information from my study. I found that Oak and Maple trees put out about the same amount of oxygen per centimeter squared. And since the Oaks in my samples are on average 87 centimeters squared, whereas Maples are about 50 centimeters squared,

Oak leaves produce more oxygen. This has been an interesting, but long project. I hope to do a similar study next year, but change my methods so that my data is more accurate, and the process doesn't take as long.

-Sam Larson 10th Grade

Below: Sam Larson working on his chlorophyll studies





Augusta School District
E19320 Bartig Rd
August, WI 54720
www.wildlandsschool.net

Phone: 715-877-2292
Fax: 715-877-2234
Email: Wildlands@august.k12.wi.us

Help Support

Donation Amount

<input type="checkbox"/> \$10
<input type="checkbox"/> \$20
<input type="checkbox"/> \$25
<input type="checkbox"/> \$35
<input type="checkbox"/> \$50
<input type="checkbox"/> Other

Indicate how you'd like your donation to help Wildlands!

<input type="checkbox"/> equipment/supplies	<input type="checkbox"/> fieldwork/fieldtrips
<input type="checkbox"/> student scholarships	<input type="checkbox"/> Wildlands can decide

Your donation to Wildlands School will provide students with up-to-date research equipment, support field work opportunities, fund local fieldtrips, or support our senior scholarships. Anyway you look at it, the money directly helps our students.

Wildlands needs your support.

Wildlands has established a 501c(3) non-profit organization to support student research and activities. If you would like to help us provide students with unique learning opportunities please use the form below. All donations are tax deductible.

Benefits of supporting Wildlands:

1. With a donation of \$50.00 or more, you will be recognized as a contributor in our Wildlands' Newsletter.
2. With a donation of \$500.00 or more, you will be recognized on our Wildlands' Equipment Trailer as a Major Contributor.

Name of Contributor(s):

Address:

(Internal use only. We will not give away or sell your information)

Thank you for your support!

Mail this section with your donation to:

Wildlands School * E19320 Bartig Road * Augusta, WI