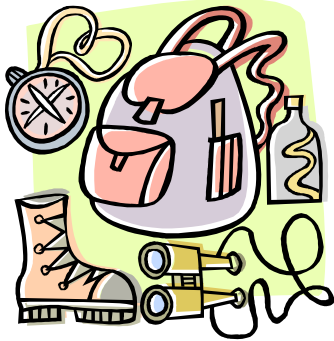


# Bosque Ecosystem Monitoring Program

Volume 3, Issue 1  
September 2007

Backpacks, Buses & BEMPin'



Don't forget your  
field pack!

## OUR MISSION

The mission of the Bosque Ecosystem Monitoring Program (BEMP) is collaborative long-term ecological monitoring of key abiotic and biotic processes and characteristics to promote continued education, understanding and stewardship of the riparian ecosystem to scientists, teachers, students, policy makers and the public.

[www.bosqueschool.org/bemp.htm](http://www.bosqueschool.org/bemp.htm)  
edited by: Kimi Scheerer

## Field Coordinator Schuetz to the Rescue

Ever wonder how 23 BEMP sites throughout the middle Rio Grande valley and their corresponding teachers and students are organized to be monitored the third Tuesday of each month? Who trims all those trails? Who replaces those gross dead bug-infested rain gauges? Who DOES all of that field work??? Well, that's just a sample of what BEMP Field Coordinator Jennifer Schuetz (pronounced "Shoots") is responsible for!

It is Jen's job to ensure that all sites are monitored and in good shape for monthly field work. She also helps out with our UNM Bosque Internship class by coordinating interns with their respective site(s) and doing field and lab work with them. When that's not keeping her busy, she enters data, processes litterfall, identifies insects (Jen loves bugs!), and does miscellaneous other tasks, like drilling holes in litterfall tubs and painting the wooden covers of pitfalls traps.



So how do you prepare for a position in field work coordination? Raised in Alabama, Jen studied environmental science at Davidson College in North Carolina and then received her Master's degree in Ecology and Environmental Science at the University of Maine! The majority of her undergrad and grad theses focused on environmental economics (yikes), but she pursued her interest in aquatic ecology and has found that's where her true passion lies.

Jen traveled to the southwest from Maine about nine years ago and decided to get a job at UNM, working outside and contributing to research in the bosque no matter what the cost. She got her dream job as a field technician for Drs. Manuel Molles, Cliff Dahm and good 'ole Cliff Crawford, studying the ecological differences in cottonwood sites that either flood or do not flood.

Four years later, funding for Jen's job dried up and she found time to volunteer for the U.S. Fish and Wildlife Service and BEMP! Lucky for her and us, she was offered a job with BEMP. She has been with us now for three years and loves it!

So, if you need any field supplies for your BEMP activities, have any issues with interns meeting you at your site, or if you just want to chat about how beautiful North Carolina and Maine are, Jen's the one to contact! Reach her at our UNM office, e-mail: [jschuetz@sevilleta.unm.edu](mailto:jschuetz@sevilleta.unm.edu); phone: 505-277-0758.



THE UNIVERSITY of  
NEW MEXICO

 **BOSQUE  
SCHOOL**

# Curriculum Corner

## Bosque Ecosystem Monitoring Program

*Fall 2007 Teacher Workshop*

Join our staff for a fun-filled day of "BEMPin' it UP!" Learn the ins & outs of our program and how to get your students involved in this unique learning opportunity.

As a participant you will learn how you and your students can be an important part of this long term ecological research program and how you can get your students out of the classroom and into the bosque!

### Already taking students to our BEMP sites?

You can never learn enough! As a participant you will be able to polish up on your monitoring procedures and receive up to date information about our program, as well as a glimpse at our newest classroom activities for grades K-12!

**Saturday, September 22<sup>nd</sup> 2007**

9:00 am – 3:00 pm

**\*\* come and get a bunch of educational goodies \*\***



Get comfortable in the field with BEMP monitoring!



Get your students out of the classroom and into the bosque!

**Bad joke of the newsletter – Q: Why don't cannibals eat clowns?**

**A: They taste funny!**

### Kids that Make a Difference:

- nominate them as an outstanding youth of New Mexico with the Association of Fundraising Professionals (AFP)  
*Website: [www.aft-nm.org/philanthropyday/2007nomination.pdf](http://www.aft-nm.org/philanthropyday/2007nomination.pdf)*

### Grants that get you Money:

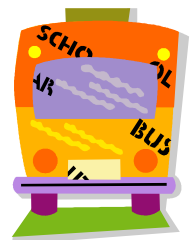
- The Brown Foundation – grants offered in conservation and the environment  
*Website: [www.thebrownfoundation.org/grants.html](http://www.thebrownfoundation.org/grants.html) – Due Date: September 30<sup>th</sup>, 2007*
- McCune Charitable Foundation – sponsor grants which enrich the environmental life of NM citizens  
*Website: [www.nmmccune.org/guide.php](http://www.nmmccune.org/guide.php) – Due Date: September 30<sup>th</sup>, 2007*

### Cool Curriculum Online:

- Don't be an ENERGY HOG... get student and teacher guides; PLUS online games  
*Website: [www.energyhog.org/adult/educators.htm](http://www.energyhog.org/adult/educators.htm)*

### Environmental Education Resources:

- free site for teachers and educators to find resources, events & curriculum (plus grants)  
*Website: [www.ecowiser.org](http://www.ecowiser.org)*



# Summer Surveying of BEMP Wells

~ keeping you in the know ~

Thanks to Cyndie Abeyta, with the U.S. Department of Fish & Wildlife, engineers surveyed the elevations of all BEMP wells (except for the BioPark site, due to its newness) along the middle Rio Grande valley during the month of July. The elevation data was measured using Global Positioning System (GPS) surveying instruments. GPS satellites help us determine an exact location, including latitude, longitude and elevation. GPS uses a series of numbers, instead of words to describe that location.

## Do your wells have some minor changes?

BEMP staff marked the exact location on the well to be surveyed (the black mark where we beep) and sawed hatch marks into the PVC. In addition, rebar with a **green plastic cap** on top was pounded into the ground next to the well and **pink flags** were put up to mark the location of the well.

## What does the survey data look like?

The surveyors, funded by the U.S. Army Corps of Engineers, noted the elevation of the **top of our wells** and the **ground surface** near each well. Elevation is measured relative to *mean sea level*, which is an average of hourly water elevation measurements over a specific 19-year cycle (<http://www.esri.com/news/arcuser/0703/geoid1of3.html>). Elevation of mean sea level is 0 m, Albuquerque's elevation however is about 1500 m above mean sea level.

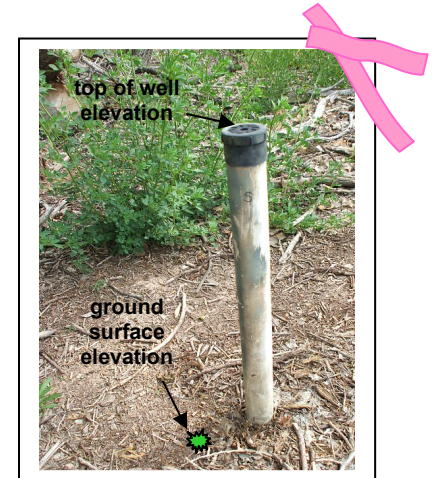
## What do we calculate using the data?

**Before...** If our beep was 200 centimeters (cm), and the well height above ground was 25 cm, we subtracted the well height from our beep and determined that groundwater was 175 cm below ground (200 cm – 25 cm).

**After...** Say that the surveyors determined that the top of our well (where we beep it) was 1525 meters (m) above mean sea level. To determine the **elevation of the water table**, we subtract our beep (200 cm or 2 m) from the well elevation (1525 m – 2 m = 1523 m). So we can now say that the elevation of the water table is 1523 m above mean sea level.

## So what does all this really mean?

It means we have more information to understand why wells have different beep depths! Sometimes we have varying beeps because well height above ground changes from site to site. Now we can look at changes in elevation from well to well. Are some wells or sites located on higher ground than others? How does elevation effect vegetation? We may also be able to tell what direction groundwater is flowing with regards to the river... did someone say underground topography? Over the long-term, we will have an amazingly accurate database that will be very valuable to the many students and scientists studying the middle Rio Grande bosque!



~ article by Jen Schuetz

the Environmental Education Association of New Mexico presents...

# NETWORKING Near & Far!

EEANM's Fall Conference

October 26<sup>th</sup>-28<sup>th</sup>, 2007

Held at: **NM Farm & Ranch Heritage Museum**

Las Cruces, New Mexico - [www.frhm.org](http://www.frhm.org)

With Special Keynote Speaker: **Laura Erickson**

- producer of "For the Birds" radio show, broadcasting throughout the mid-west
- author of *101 Ways to Help Birds, Sharing the Wonder of Birds with Kids* & *For the Birds: An Uncommon Guide*
- columnist, conservationist & former wildlife rehabilitator

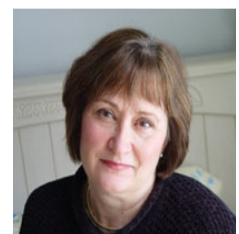


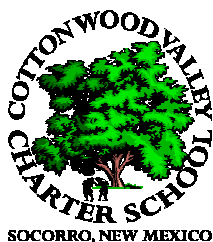
Photo © 2005 by Lisa Johnson



# NOTES...

## From the field!

Welcome to Mr. Don Gaitens of  
Cottonwood Valley Charter School  
in Socorro, NM!



Mr. Gaitens and his  
students will be taking  
over our field site to  
the far south: Lemitar!

### Participating Schools & Student Groups

Bandelier Elementary	John F. Kennedy Middle School
Bernalillo High School	La Cueva High School
Bosque School	Los Lunas High School
Cottonwood Valley Charter School	Montessori of the Rio Grande
Creative Education Prep Institute	Monte Vista Elementary
Dolores Gonzales Elementary	Montezuma Elementary
Duranes Elementary	Ohkay Owingeh Comm School
East Mountain High School	Pueblo of Santa Ana
Harrison Middle School	Rio Grande Elementary
High Desert Home School	Sandia High School
Holy Ghost Middle School	Santo Domingo School
Hoover Middle School	School on Wheels Alternative HS
Hubert Humphrey Middle School	Van Buren Middle School
Horizon Academy	Washington Middle School
Jimmy Carter Middle School	Wingate Elementary

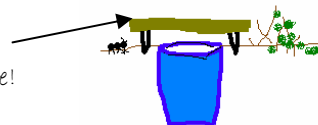


## Pitfall Professionals

A huge **Thank You** to UNM Summer Bosque Internship students Dominic Pettine (left) and Karen Russell (right)! These two put in 10 special project hours towards the cutting and creation of **over 300** pitfall trap lids!

Pitfall trap lids not only protect insects from the blazing hot sun and drowning effects of rain, but also keep larger (and sometimes predacious) animals out of our traps. Next pitfall session: September 24<sup>th</sup> – 28<sup>th</sup>!

They made a  
gazillion of these!  
😊



## IMPORTANT DATES

- Sept. 18<sup>th</sup> – BEMP monthly monitoring
- Sept. 24-28<sup>th</sup> – BEMP pitfall trapping
- Sept. 26<sup>th</sup> – NM Museum of Nat. History & Science Teacher Open House
- Oct. 16<sup>th</sup> – BEMP monthly monitoring
- Oct. 26-28<sup>th</sup> – EEANM conference (Las Cruces, NM)
- Nov. 6-10<sup>th</sup> – NAI national workshop (Wichita, KS)
- Nov. 13-17<sup>th</sup> – NAAEE conference (Virginia Beach, VA)
- Nov. 20<sup>th</sup> – BEMP monthly monitoring

## THANK YOU

to those that sponsor the BEMP program

Bernalillo County ♦ Bosque School ♦ Education Foundation of America ♦ McKee/Crawford Foundation ♦ Messengers of Healing Winds Foundation ♦ Middle Rio Grande Bosque Initiative/U.S. Fish and Wildlife Service ♦ Middle Rio Grande Conservancy District ♦ National Science Foundation's Schoolyard Education Program at UNM's Sevilleta Long Term Ecological Research Site ♦ New Mexico Association of Conservation Districts ♦ PNM Foundation Classroom Innovation Grant ♦ Sandoval County ♦ U.S. Army Corps of Engineers Bosque Restoration Program ♦ U.S. Bureau of Reclamation ♦ 7 Bar Foundation