

Bosque Ecosystem Monitoring Program

Black Institute for Environmental Studies at Bosque School

April 2015

www.bosqueschool.org/bemp.aspx

2015 Crawford Symposium

The 5th annual Crawford Symposium was held for the first time at the University of New Mexico with support from the UNM Biology Department and the Cebrin Goodman Youth, Education and Environment Project. Bosque School and UNM Biology plan to rotate hosting this event every other year. Thank you to all the Biology Department staff who helped make an excellent night come together!

Student Presentations

- Albuquerque Institute of Math and Science High schooler Jarek Kwiecinski presented his TedxYouth talk on soil and carbon
- Albuquerque Academy students presented their work on the Desert Oasis Teaching Garden
- Amy Biehl HS senior Ede Borrero presented her work monitoring porcupines in the bosque with BEMP.
- Bosque School Wildlife Biology & Conservation students presented research on local turtle populations and Sandia black bear scat analysis
- South Valley Academy students presented an update on their work with BEMP and Intel to learn how to design and program devices that can be placed at BEMP sites to monitor factors like temperature and humidity.



Above Left: South Valley Academy students discuss their work with Intel. Above Right: BEMPer Sean O'Neill works the crowd.

Keynote Speaker Laura McCarthy from The Nature Conservancy shared how people in New Mexico and around the world are protecting their water with Water Funds and managing entire watersheds to ensure better water quality.



Above: AIMS student Jarek Kwiecinski Left: BEMP Biologist and UNM biology graduate student Kim Fike presented data from her master's thesis examining the effects of intermittent stream flow on the riparian ecosystem.

Citizen Science: Here, There and Everywhere!



From February 10th-12th, Rowan Converse (BEMP Biologist), traveled to San Jose, California to present at the inaugural conference of the Citizen Science Association. Citizen science is the practice of involving members of the general public in scientific research-- what BEMP is all about! About 650 university researchers, natural resource managers, K-12 teachers, and students of all ages from 25 countries gathered together to share ideas about this rapidly expanding field. Rowan presented a poster about BEMP's work in New Mexico, offering BEMP as a possible model in the design of other citizen science programs.

Tamarisk

In February, scientists and land managers from all over the western U.S. met at the Hotel Albuquerque for the Tamarisk Coalition 2015 Conference. The Tamarisk Coalition brings scientists, land managers, land owners and students together to discuss the issues facing riparian restoration in the west - especially invasive plant management. Attendees heard from local land managers, shared ideas across watersheds in workshops, and visited the bosque, including 3 BEMP sites.



Left: Bosque School 6th graders and Dan Shaw share what they have done with BEMP at the 2015 Tamarisk Coalition Meeting

Right: Ondrea Hummel from U.S. Army Corps and Jen Schuetz from BEMP discuss salt cedar near Valle de Oro National Wildlife Refuge



BEMPers of all ages attended and presented at this year's conference. Along with BEMP co-director Dan Shaw, three Bosque School 6th grade students gave a presentation on BEMP's citizen science monitoring and student research. Grace, Lauren and Rosa (pictured left to right above) shared their experiences collecting data at 4 different BEMP sites in Albuquerque. BEMP co-director Kim-Eichorst also delivered a talk with Santa Ana Pueblo Land Manager Nathan Schroeder on the cottonwood die-off that has occurred at BEMP's Santa Ana site. BEMP monitoring has captured the reduction in cottonwood production and arthropods that is associated with the die off.

News from the Field

Where is the water? At BEMP's southernmost site near Las Cruces, it has been getting hard to reach groundwater. In fact, BEMP students there have often, especially in dry winter months, been unable to detect any water in our BEMP wells. So a team of Albuquerque-based BEMP biologists headed south to dig deeper and find water. They reinstalled wells and added about an extra meter to each of the existing 3 meter deep wells to improve groundwater detection.



Bosque Seniors Present Their Wildlife Research

This past February, five Bosque seniors in Mr. Dan Shaw's Wildlife Research Seminar class presented their research findings at the Joint Annual Meeting of the New Mexico and Arizona Chapters of the Wildlife and American Fisheries Societies. Casey, Elijah, and MacKenzie presented "Operation Turtle: Investigating Aquatic Turtle Populations in Albuquerque, NM." Anna and Zoe presented "Understanding Sandia Mountain Black Bears Through Citizen Science Efforts." Both teams conducted hundreds of hours of research and shared their results to scientists from across the southwest.

The trip was led by BEMP Biologists Rowan Converse '10 and Katie Elder '08 and science teacher Dan Shaw. Converse and Shaw also presented "Developing Natural Resource Career Pathways Through Citizen Science" in which they showed how BEMP can serve as a model for preparing young people for careers in science.

Legislative Update: BEMP Students advocate for State Funding

During this past NM legislative session, State Senator John Sapien sponsored Senate Bill 582, which outlined a plan for the state to appropriate \$150,000 for BEMP. Among other elements, the funding would have enabled BEMP to better serve underrepresented students in the sciences, particularly at our northern New Mexico BEMP sites on tribal lands and our southern work at La Mesilla Valley Bosque State Park in Las Cruces. Unfortunately, despite concerted efforts from Senator Sapien, our BEMP partners and supporters, the bill did not pass. However, BEMP and partners remain hopeful for progress next year.



Left: State Senator John Sapien and BEMP participants in Santa Fe

On February 27, th a group of BEMP students, teachers and staff went to Santa Fe to show their support for SB 582 during a hearing about the proposed bill in the Senate Education Committee. After the committee meeting, the group met with Senator John Sapien and Senator Howie Morales to share their BEMP experiences.

BEMP Congress: Call for presenters...

BEMP Congress brings students who have been BEMPing all year together to share their research and experiences and celebrate the plants, animals and water of New Mexico!

Do you or your organization have an activity you would like to share with BEMP students? If you would like to lead a 30-minute, hands-on activity we would love to have you!

May 1st 9:30-1:30 at Bosque School

Contact BEMP educator Kelly Steinberg:
kelly.steinberg@bosqueschool.org or
505-898-6388 ext. 151

The Next Generation

Conservationist Career Fair

Do you know students in high school, college and beyond interested in careers in conservation?

Come connect with over 30 natural resource and conservation professionals interested in educating, employing and developing the next generation of conservationists!

April 25th 1pm - 4pm
at

Valle de Oro National Wildlife Refuge
South Valley Abq, 7851 2nd St SW 87105
For details email:
nfwf@talkingtalons.com

BEMP Needs Your Help

BEMP maintains 30 sites along 350 miles of the Rio Grande, stretching from Ohkay Owingeh Pueblo in the north to Mesilla Valley Bosque State Park in the south. Sites are monitored by K-12 students, and the research they do provides both valuable information to our river managers and much needed outdoor science education. **Core monitoring and education activities at each site cost \$16,000 per year.** Please consider donating to help us continue this important work. Tax deductible donations, directed 100% to BEMP, can be made online through the Bosque School.

Visit http://www.bosqueschool.org/Annual_Fund.aspx for ways to give.

If you would like to see BEMP in action, you can join a BEMP monthly monitoring excursion in the bosque near you. Please contact May Leinhart at may.leinhart@bosqueschool.org for more information or to schedule a visit.

THANK YOU THANK YOU THANK YOU

to those that sponsor BEMP

Albuquerque Community Foundation ♦ Bernalillo County Open Space ♦ Bosque School ♦ EPA Urban Waters ♦ Greater Rio Grande Watershed Alliance ♦ Goodman Family ♦ Intel Corporation ♦ McKee/Crawford Foundation ♦ Middle Rio Grande Conservancy District ♦ McCune Charitable Foundation ♦ Mid Rio Grande Stormwater Quality Team (AMAFCA; Bernalillo County; City of Albuquerque; CUIDAD Soil & Water Conservation District; NM Dept. of Transportation; SSCAFCA & the Town of Bernalillo) ♦ National Science Foundation's Schoolyard Education Program at UNM's Sevilleta Long Term Ecological Research Site ♦ New Mexico Association of Soil & Water Conservation Districts ♦ New Mexico State Parks ♦ The Nature Conservancy ♦ U.S. Army Corps of Engineers ♦ U.S. Bureau of Reclamation ♦ USDA Forest Service ♦ Valencia Soil and Water Conservation District

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OUR MISSION

The mission of the Bosque Ecosystem Monitoring Program is science, education, and stewardship of the Rio Grande and its watershed through long-term, hands-on student research of ecosystem response and function to inform public policy.