



# MOUNTAIN LAKE ECHOES

MOUNTAIN LAKE BIOLOGICAL STATION

Fall/Winter 2008

## BUILDING DEDICATIONS

Butch Brodie

In addition to a pig roast and the traditional Boat Race, July 4<sup>th</sup>, 2008 marked the celebration of the leadership and service of two of the Station's finest Directors. Henry Wilbur and Jim Murray generated fundamental changes in the infrastructure and operation of the Station, most of them taken for granted by the residents and visitors today. Dr. Murray was the Director of MLBS for more years than he would probably like to count. It was Dr. Murray that first pushed through the agreement with Facilities to provide care and service of our station that has led to the position currently held by our outstanding caretaker and friend Julian McCroskey.

Over his 17-year tenure as Director, Henry Wilbur was responsible for over 2 million dollars in physical plant improvements, including two major buildings. In 1993, the first all-weather residential facility was opened, the so-called "New Dorm." A few years later, a year-round labo-

ratory building, the "Aquatics Lab", was opened with space and hookups to house indoor stream experiments, a modern computer lab, and a host of other activities. While these physical improvements may be the most tangible product of Henry's Directorship, the intellectual contributions are no less significant. When Henry arrived at UVA, he was one of only two Ecology and Evolution faculty (Dr. Murray being the other). He has been instrumental in growing that group to be one of the most recognizable small E&E units in the country. The REU program he initiated when he arrived still stands as an exemplar and has produced countless top PhDs in population biology.



Henry M. Wilbur and James J. Murray, Jr.

Dixon Line (in this case Lexington, VA). The former New Dorm has been renamed "Murray" after Dr. Murray's long service to the station and his contributions to population genetics and natural history. Similarly, the moniker "Aquatics Lab" fails to aptly describe the building that provides the bridge between lab and field space, and represents the major structure for much of the vertebrate work that goes on at the station. Again, in keeping with the tradition, the building has been named for a biologist from south of the Mason-Dixon who has had significant impacts on our knowledge of natural history from salamanders to fungus beetles to chestnuts. The former Aquatics Lab has been renamed the "Wilbur Laboratory" in honor of the man whose vision led to its construction and whose sawdust still fills its air.

Still, Henry left a bit of unfinished business with respect to his work at MLBS. It is frequently pointed out that the "New Dorm" really is not, and so we have decided to follow tradition by bestowing upon it the name of a notable biologist from south of the Mason-



Butch Brodie, Current Director

## Upcoming Deadlines

- REU APPLICATIONS DUE FEBRUARY 20
- FINANCIAL AID REQUESTS DUE MARCH 15
- COURSE APPLICATIONS ACCEPTED UNTIL CLASS IS FILLED
- SUMMER COURSES BEGIN MAY 22

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# Mountain Lake Echoes

## From the Director

Butch Brodie



Autumn was long and beautiful at MLBS, but it is rapidly giving way to winter, and with the cold season only a few hearty souls are venturing to the Station for short forays to finish up seasonal projects or manage long-term efforts. Still, the 2008 summer season reflects clearly in my mind with images of strong community, reconnections, and a clear path forward.

Our field courses are always the core of the summer session, but this year was exceptional in several ways – we saw the return of the University of Guelph Field Entomology course, by anyone's evaluation a truly gonzo effort marked by nearly round the clock

activity in the field and lab. Dayton University also brought their own field course to the station for the first time in 2008. No fewer than five faculty in summer courses were re-

turnees who spent time at the station as REU students or graduate students. The season was crowned when Rytas Vilgalys' Mycology class provided a remarkable dinner for Station residents as a final exam. Unquestionably one of the finest dinners served at MLBS in anyone's memory.

On the 4<sup>th</sup> of July, we expanded our usual celebration to include an all-day Pig Roast, Field Day, and Boat Race, capped by an evening of music by the Full Nelsons (with Rytas joining in). The event was made possible through the incredible efforts of (now master) pig-roaster Mark Larson and the above and beyond contributions of

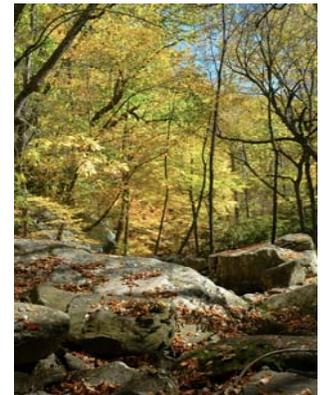
our dining hall leaders Matt Lintz and Greg Picarzik. The Boat Race was won once again by Hazel Galloway, whose biologically motivated boat designs are sure to provide new possibilities in the world of alternative energy development.

We were especially pleased to see so many past friends make it to the Station for the celebration. My personal highlight of the summer was sitting at lunch on a cold day when the door to the dining hall burst open with a loud buzz. As my mind tried to sort out the familiar sound, in strode Dr. Murray and his wife Bess with a 4<sup>th</sup> of July present in a pillowcase. They had stopped to rescue a very large timber rattlesnake from the road just off the Station. Bess made it clear that this was her only pillowcase, which I believe we still owe her. This was an entrance that can never be equaled.

As we move forward from the summer, there are physical changes afoot at the Sta-

tion that will be described in the spring newsletter.

Courses for next season are set, and we will be welcoming some new instructors to MLBS in 2009 along with some of our veterans. New research programs are beginning at the station and we hope to recruit even more outstanding individuals to join our community. Throughout all these efforts, I'm continually grateful to the outstanding support we all receive from our MLBS staff – Eric, Mark, Anne Marie, and Julian. Our thanks to each of you for making the Station function and thrive.



## REU Program

Eric Nagy

Brittany Billak, REU Participant



2008 marks sixteen years for the REU program at Mountain Lake. Eleven students from all across the country conducted independent research in seven different labs last summer. Projects spanned the full range of behavior, ecology and evolutionary research active at Mountain Lake. This year's mentors were Christopher Binckley, Kristal Cain, Erica Crespi, Michele Dudash,

Charles Fenster, Vince Formica, Kristine Grayson, Eric Liebgold, Tami Ransom, Dustin Reichard, Henry Wilbur, and Rebecca Wilbur. A huge thanks to them all. After our excellent students, it's the mentors who make the program such a success. Recent figures show that 68% of REUs go on to graduate programs and over 30% of projects get published. Because of

renewed efforts, minority participation is up almost 40% in the past two years. Visit the website for project details. The NSF supports the REU-Sites program at Mountain Lake, and a proposal for renewed funding is due in June. **Student applications for the 2009 program are due February 20, 2009.** See [mlbs.org/REU.html](http://mlbs.org/REU.html) for more details.

# Fall/Winter 2008

## Research@MLBS - Chasing Newts

Kristine L. Grayson



Photo courtesy of Tom Cogill

This is my fourth year of research at Mountain Lake Biological Station. I have spent my time here obsessed with the wanderings of newts, and I am starting to pull their story together.

I study the variable migration tactics of newts to test predictions from life history and

partial migration theory. The newt populations at the station are partially migratory, where one portion of the population winters in the pond while the other portion migrates to the forest to overwinter. Migrant adults change their physiology for the terrestrial habitat, reabsorbing the tail fin and developing granular skin more resistant to desiccation. Essentially, migrant adults are similar in appearance to efts (the terrestrial juvenile stage) but without the bright red color (adults are approximately ten times less toxic than efts). A unique aspect of partially migratory newts is that an individual may vary migration tactics over its lifetime; an individual that overwinters in the pond one year may migrate the following year.

My research uses both an observational approach, to understand migration dynamics in two natural populations,

and experimental studies, to test mechanisms influencing the tendency to migrate. The experimental portion has been conducted in large pond enclosures (where the estimated newt population = 7,600 – 12,700!).

In 2007, I examined the effects of habitat quality and sex on migration decision by manipulating population density and sex ratio in the enclosures. This past year I compared the reproductive phenology of migrant females and resident females. I am still working through the data, but I can tell you that I did not find the reproductive costs of migrating that I expected (fewer or later laid eggs in migrant females). I am also compiling four years of drift fence data in preparation for analysis after one more spring of running the fence. Just one more season – March to May 2009 – and I will close the fence!



KRISTINE GRAYSON  
IS A PH.D.  
CANDIDATE AT THE  
UNIVERSITY OF  
VIRGINIA

## REU Spotlight: Miranda Redmond

I greatly enjoyed my summer at Mountain Lake Biological Station, both academically and socially.

There was such a diverse group of research going on at the station ranging from birds to amphibians to plants to beetles; and everyone was happy to share what they were studying. Additionally, there were seminars twice a week where a guest speaker talked about their research. My mind was always being stimulated by different approaches and research options.

My research project examined how the abundance and distribution of Red and White Oaks have changed in



the past 25 years to gain a better understanding of why these changes have occurred so that we can predict what the future of these two populations will be. Most days I was out in the field with my two mentors, Henry and Becky Wilbur, doing a variety of tasks from mapping to

coring trees to looking at the herb layer. I loved the project and the fact that I was not confined to lab work and was able to get out into the woods and work side-by-side with experienced and professional researchers.

Social activities included eating our meals with everyone, everyday, including faculty, graduate students, research assistants, and undergraduates. Additionally, we often had social gatherings such as the Station's Fourth of July celebration, the annual Mountain Lake triathlon, and everyday activities such as going on a hike to watch the sunset.

MIRANDA REDMOND,  
REU PARTICIPANT, IS  
FROM THE UNIVER-  
SITY OF CALIFORNIA,  
BERKLEY

## MOUNTAIN LAKE BIOLOGICAL STATION CONTACT INFO

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**Anne Marie De Marco Rehm,**  
**Program Specialist**  
**Julian McCroskey, Resident**  
**Caretaker**



Photo courtesy of Henry Wilbur



## SUPPORT MLBS

You can support Mountain Lake Biological Station by making a tax-deductible donation.

Your gift promotes learning, education, scholarships, and research and has the potential not only to impact students' lives but to change our world. Help support our students and researchers today by making a donation on-line at [www.mlbs.org](http://www.mlbs.org).

Apply for courses or REU program at [mlbs.org](http://mlbs.org)

## SUMMER 2009 COURSES



### SESSION I, May 22—June 5

**STREAM ECOLOGY** (BIOL  
463/863—3 cr)

**Christine May and L. Scott Eaton,**  
**James Madison University**



### SESSION II, June 8—July 3

**PLANT CONSERVATION AND  
ECOLOGY** (BIOL 351/851—4 cr)

**Zack E. Murrell, Appalachian**  
**State University**

**BIOLOGY OF BIRDS** (BIOL  
359/859—4 cr)

**Lynn M. Siefferman,**  
**Appalachian State University**



### SESSION III, July 6—July 31

**FOREST ECOLOGY** (BIOL  
464/864—4 cr)

**Henry M. Wilbur and Rebecca**  
**B. Wilbur, University of Virginia**

**EVOLUTION OF PLANT RE-  
PRODUCTIVE STRATEGIES**  
(BIOL 358/858—4 cr)

**Janet C. Steven, Sweet Briar**  
**College**