My research involves investigating the effects of prescribed fire in a unique, rocky glade habitat in the Ouachita Mountains of Arkansas. To do this, I examine the change in vegetation, mouse populations, and rattlesnake populations due to the controlled burning of these habitats. I can bring this research into the classroom to teach about food chains/webs, identification of organisms, population/community studies, habitat monitoring, and abiotic influences on the ecosystem. Specific lessons may include the use of dichotomous keys, mark-recapture simulations, and various measuring devices. This provides hands-on activities for the students, and exposes them to habitats and organisms that may be completely unfamiliar with.

**Chris Foshee**  
Master’s Student in Biology

My research focuses on the prescribed burns and their effects on vegetation and Seashore’s White-tailed sparrow in the St. Francis National Forest, Arkansas. Part of my research incorporated tracking walkers using radio-telemetry by attaching a transmitter to the birds and then homing to these radio signals using H-antennas. I integrated this part of my research into the classroom by conducting a lesson on different capture and tracking techniques used in wildlife research. Specifically, I showed the students how to use the telemetry gear to follow the radio signals given off by the transmitters by following the transmitters and allowing the students to attempt to find them. Another part of my research is looking at the changes in vegetation cover and structure and change in arthropod biodiversity due to the burns. I conducted several lessons looking at population estimation techniques. Arkansas Natural Disasters and field lecture and composition. With these lessons, I talked to students about how fire can alter habitat quality, which can change how an animal uses its habitat. Also, I talked about how fire has been used historically to alter the landscape for agricultural purposes, which included why soil texture and composition is important in knowing which crops will grow best in an area selected for agriculture.

**Jeremy Everitts**  
Master’s Student in Biology

My research involves capturing and radio-tracking wintering Mallards in the Delta region of Arkansas. I am looking at habitat use preferences as well as vegetative characteristics that are used most by wintering Mallards. I am also learning the processes involved with wetland restoration and conservation. Teaching at Armorel a lot of the students have dealt with the different aspects of duck hunting which includes trying the best to duck hunt on. I am working to show them the importance of not only agricultural fields for wintering birds but also the extreme importance of natural habitats. I have been able to show the students how radio-tracking is done and will introduce them to some of the aspects of land restoration and conservation for agriculture.

**Amanda White**  
Master’s Student in Biology

My research involves a description of the carrion feeding insect fauna that visit pig crops in rural and forested areas in Northeast Arkansas. In order to increase the regional knowledge of entomophagous species used in forensic entomology. An important aspect of my research that I am incorporating into the classroom is the utilization of ecological aspects and relationships has helped me to present this to the students. I have been able to use this data to show the students how every living species, (including little maggots and beetle larvae) play an important role in an ecosystem. I have used dichotomous keys with the students to identify several insect species and we have observed other behaviors in arthropods as well.

**Mauricio Solis**  
Master’s Student Environmental Sciences-Biology

My research takes place in the upper watershed of the Strawberry River, Fulton Co., AR. Over four years, I am assessing the incorporation of best management practices (BMPs) that have taken place in three subwatersheds of this watershed: Little Strawberry, Greasy Creek, and Sandy Creek. These BMPs include activities such as cattle exclusion from three waterways and providing alternative water sources. The BMPs studied are attempts to control erosion. These practices have been shown to be effective at preserving natural water quality. There are multiple facets to this research that are easily incorporated into a classroom setting. The destructive force of erosion is a key part of this research and has been integrated into 5-6 frameworks. Trained suspended solids, nutrients, and Escherichia coli are directly related to this concept and easily worked into lesson plans focused on erosion and water quality. When discussing adaptations it is easy to discuss macroinvertebrates and how they are adapted to their specific environmental settings. The students have also participated in mock bacterial macroinvertebrate collections to practice data analysis and answer which “collection site” had the best water quality based on the quantity of “insects” found. All these test organisms used for toxicity testing have been brought in, fully discussed, and students allowed to transfer them as is required for testing.

**Kevin Keen**  
Doctorate Student Environmental Sciences-Biology

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**Jonathan Stanley**  
Doctorate Student Environmental Sciences-Biology

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**Teresa Brueggen**  
Doctorate Student Environmental Sciences-Biology

My research can be turned into a classroom project for any age students. I have two test students design their own research project using beans or any other plant that will grow well in a pot. Students are allowed to transfer them as is required for testing. My Ph.D. study at ASU is to understand vitamin C metabolism in a model organism (rice) by studying its changes throughout the development of the plant and during exposure to abiotic stresses (salt, heat, and drought). What I hope to find by enhancing vitamin C content through molecular engineering will provide rice crops with enhanced stress tolerance as well as increased biomass, all of which would lead to healthier crops and perhaps higher yield.

**Katie Lisko**  
Doctorate Student in Molecular Biosciences

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