2-20-2007

02/20/2007 - EIU Faculty Share More Than $16,000 In IDNR Research Grant Money

University Marketing and Communications

EIU Faculty Share More Than $16,000 in IDNR Research Grant Money

Feb-20-2007

The Illinois Department of Natural Resources has awarded 10 Eastern Illinois University biological sciences faculty members more than $16,000 for scientific research.

Janice Coons and Nancy Coutant received $2,000 ($4,000 total) for both "Workshops on Using Illinois-adapted Native Plants in Landscaping for Gardeners, Nurseries and Educational Institutions" and "Increasing Gardener Familiarity with Illinois-adapted Native Plants to Use in Landscaping."

According to Coutant, the goal of the "Workshops" project is to increase the use of Illinois-adapted native plants in landscaping.

"To achieve this goal," she said, "we will give workshops to gardening groups, retail nurseries and educational institutions throughout Illinois. The workshops will demonstrate the many horticultural, environmental and educational advantages to using Illinois native plants to landscape commercial and/or private sites."

With funding from their second grant, Coons and Coutant will develop a series of poster designs that will highlight important horticultural traits of Illinois-adapted native plants.

This grant also will allow Coons and Coutant to assist selected central Illinois schools in developing native plant gardens by supplying each school with plants, signage and instructions to implement the gardens.

Robert "Bud" Fischer will use $2,000 of the grant money for his project, "The Effect of Extreme Hydrologic Events on Macroinvertebrate Community Structure."

According to Fischer, "one of the most significant influences exerted by dams on downstream biota, specifically invertebrates, is a reduction in seasonal flow variability and alterations in the timing or occurrence of extreme flow events. Freshwater invertebrates have often been used as biomonitors, as they are very sensitive to stress exerted on the aquatic environment.

"To date, very little research has focused on the effects of variable flow rates caused by dams on the structure of invertebrate communities and the recolonization rates of macroinvertebrates after a significant flow event. This study will investigate the effect of dam activity (variable flow rates) on the benthic macroinvertebrate community within the downstream reach of the Sangamon River west of Decatur."

Andrew Methven has earmarked $1,063 of the grant money for his project, "Macrofungi Associated with Tree Windfall in Old Growth Prairie Groves."

"This study investigated macrofungi associated with tree windfall in Brownfield and Trelease Woods, located in Champaign County ," Methven said. "These woods are remnants of a larger, pre-settlement prairie grove, and are now encircled by houses, fragmented forests, prairie and agricultural land. Although initially a virgin, deciduous upland forest dominated by oak, ash and maple with a high, closed canopy and fairly open (Brownfield Woods) to moderately dense (Trelease Woods) understory, sugar maple is rapidly becoming the dominant tree species."

According to Methven, fallen trees in both woods have been tagged with identifying information, and wood-inhabiting macrofungi are being surveyed from 150 to 200 of the fallen trees. Via his study, he hopes to determine how macrofungi species composition changes on woody substrates of different species, how macrofungi production varies within and between years, how macrofungi species composition and species richness changes within and between years, and how tree windfalls perturb macrofungi species composition and richness patterns.

Stephen Mullin plans to use $2,000 of the grant money for his project, "Colonization of Newly Constructed Wetlands by an Amphibian Community."

According to Mullin, "The Natural Heritage Division of IDNR developed a management plan for Wildcat Hollow State Habitat Area that includes increasing the amount of wetland habitat available for pond-breeding amphibian species. There is now a unique opportunity to study the rates of colonization of these ponds, and the species composition of the amphibian community that uses the ponds."

Via his study, Mullin plans to assess how the ponds' physical characteristics (shape, size, canopy cover, etc.) influence establishment of breeding populations, and the recruitment rates by amphibian species to these ponds. Data gathered, Mullin said, will also provide further insight to the population status and ecology of amphibian species in need of conservation in Illinois, and test a mechanism to increase amphibian species diversity in Illinois wetlands and similar habitats throughout the Midwest.

Other EIU grant recipients and their projects include:

Zhiwei Liu and Gordon Tucker, $2,000 for "Is Antistrophus silphii Endangered? Preliminary Field Survey of a Rare Gall Wasp in Illinois." Antistrophus silphii is a gall wasps species that cause cancerous tissue growth on terminal buds of the cup plant (Silphium perfoliatum). Although the species is thought rare in Illinois, recent field work has found a local population of the species, which appears to fluctuate dramatically from year to year. A statewide survey will be conducted to find out whether the species is actually rare and deserving of an appropriate protection status.

Eric Bollinger and Terri Thompson (graduate student), $2,000 for "Comparison of Avian Nest Success Among Linear Wooded Habitats in an Agriculturally Fragmented Landscape." According to Bollinger, mammals (such as raccoons and skunks) frequently use linear habitat features

Agriculturally Fragmented Landscape." According to Bollinger, mammals (such as raccoons and skunks) frequently use linear habitat features such as hedgerows as travel lanes while foraging. They are also common predators of bird nests. Thus, birds nesting in hedgerows may experience particularly high levels of nest predation. This study seeks to quantify the intensity of nest predation in hedgerow-nesting birds, and which features of hedgerows (e.g., length, width, adjacent habitats) are correlated with rates of nest predation.

Gordon Tucker, $2,961 for "Plant Inventory of Prairie Ridge State Natural Area (Marion County Unit)."