Volume 4 Article 8

2011

Research Briefs

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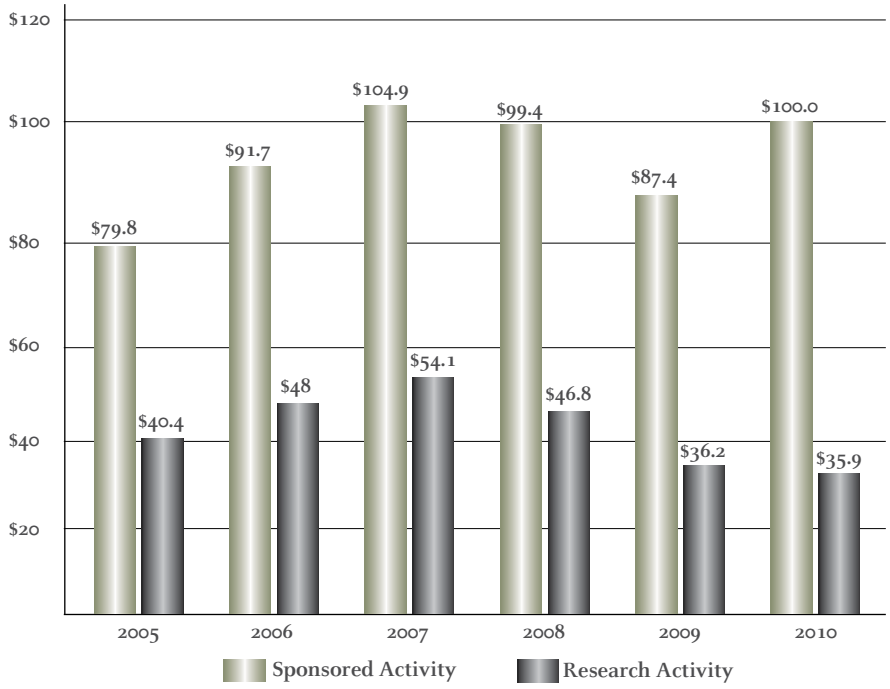
Research Report UNLV Highlights

Total Sponsored Program Expenditures vs. Research Expenditures in Millions, FY05-FY10



Sponsored program funding serves as one indication of research growth and sophistication

UNLV is a doctoral-degree-granting institution with more than 28,000 students, approximately 5,700 of whom are graduate/professional students. The university is ranked in the category of "high research activity" by the Carnegie Foundation for the Advancement of Teaching. Nearly 140 graduate degree and certificate programs are offered, including 39 doctoral and professional degrees. UNLV offers a broad range of respected academic programs and is increasingly recognized as a premier metropolitan research university.

Awards

In FY2010, UNLV received approximately $96 million in external award funding with nearly $38.4 million supporting research, including significant support from a number of federal agencies:

Dept. of Energy – $13.9 million
Dept. of Education – $8.6 million
Dept. of Defense – $6.8 million
Dept. of Health/Human Services – $3.5 million
National Science Foundation – $3 million

Top Five Academic Areas Receiving Sponsored Program Award Funding in FY2010

Sciences – $11.1 million
Engineering – $10.8 million
Harry Reid Center for Environmental Studies – $9.3 million
Educational Outreach – $6.8 million
Health Sciences – $6.6 million

Award Funding By Sponsor Type in FY2010

Federal – $71.7 million
Federal Pass Through – $20.4 million
State – $1.9 million
Foundation/Corporate – $1.7 million
Local – $368,440

Expenditures

Research expenditure data – the amount of funding expended for the purpose of research – is the gold standard for measurement of research activity in higher education. It indicates the amount of external funding spent by faculty and staff to conduct research; hence, it accurately reflects the productivity of funded researchers. Sponsored program expenditure data reflects activity on all types of sponsored program projects, including those dedicated to instruction or public service, as well as research. Hence, research expenditures are a subset of total sponsored program expenditures.

UNLV Study: Southwest Desert Ecosystems Can Take Decades To Recover from Wildfires

Wildfires blaze through the American Southwest each summer, threatening homes, damaging fragile ecosystems, and scarring majestic public lands that attract tourists from around the world.

According to a recent study by UNLV ecologist Scott Abella, full recovery of desert ecosystems after a wildfire can take up to 65 years and is often complicated by climate shifts and an assault from invasive plants that squeeze out native vegetation.

For the study, Abella and his team examined 47 documented instances of fire, land clearing, or road building in the Mojave and Sonoran deserts. He measured how long each disturbed area took to fully re-establish and identified which plant species were among the first to appear and which were unable to recover.

"As fires burn through arid lands, fast-growing invasive grasses like red brome tend to repopulate post-fire sites faster than native plants and trees," says Abella, who heads the UNLV desert and dryland forest research group. "Subsequently, invasive plants and fire management practices have led to fires where they're not historically likely or led to more severe fires in predisposed areas."

SCOTT ABELLA

UNLV research assistant Jessica Spencer examines the ecosystem damage caused by a wildfire near Red Rock Canyon.

Sites damaged by wildfires recovered faster, on average, than those affected by other disturbances. The average recovery time for all disturbed areas was 76 years. Though fire influences the chemical properties of soil, the soils themselves remain intact, leaving roots and seeds that enhance the recovery process. Abella found that long-lived desert plants like creosote, Joshua tree, and saguaro cacti reside in landscapes not historically susceptible to fire and were not likely to reappear.

Climate also changes the makeup of recovery, as shifts in temperature and the appearance of non-native plant species provide a much different ecological picture today than when the original landscapes were established. For example, Southern Nevada's Spring Mountains – due to both climate change and fire suppression practices – have seen a dramatic increase in white fir, a ladder fuel that can carry surface fires up into taller pines.

"Large fires in our deserts and forests are becoming more frequent and severe, which makes aggressive post-fire establishment of native vegetation critical to ecosystem recovery," says Abella. "The more we understand about how natural recovery works, the better able we'll be to introduce successful and cost-effective management strategies."

The results of the study appear in the April 2010 issue of the *International Journal of Environmental Research and Public Health* in an article titled "Disturbance and Plant Succession in the Mojave and Sonoran Deserts of the American Southwest." Abella and his team received more than $250,000 in funding from the National Park Service to conduct the study.

—Tony Allen