WATER RESOURCES RESEARCH GRANT PROPOSAL

Project ID: 2002AZ6B

Title: Evaluating the Irrigation Efficiencies and Turf/Landscape Maintenance Practices on the Campus of Northern Arizona University

Project Type: Research

Focus Categories: Irrigation, Water Use, Conservation

Keywords: Conservation, Contaminant Transport, Water Management, Education, Evapor-transpiration Rates, Fertilizers, Turf Grass Management, Irrigation System Performance, Irrigation System Maintenance, Irrigation Application Rates, Irrigation Design, Irrigation Management, Irrigation Scheduling, Landscape Management, Irrigation Systems, Land Use, Optimization, Plant Growth, Plant Stress, Plant-Water Relationships, Soil Salinity, Urban Drainage, Urban Planning, Reclaimed Water Use, Water Harvesting

Start Date: 03/01/2002

End Date: 02/28/2003

Federal Funds Requested: $12,000

Non-Federal Matching Funds Requested: $24,747

Congressional District: 5

Principal Investigators:
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Abstract

Preliminary research estimates the university's landscape/ turfgrass potable water consumption at 72 million gallons per year with water application rates 2.5-4.4 times greater than the soil's infiltration rate. Currently, the university potable water rate is $2.62 per 1000 gallons. This translates to a bill in excess of $187,000 per year for irrigation alone. In implementing the project recommendations, the University may save NAU and Arizona taxpayers an estimated $94,000 annually in water costs. In addition, the optimization of the existing system will assist NAU in transitioning to irrigating with reclaimed water. Experience with reclaimed water use in Tucson has shown that irrigation with reclaimed water requires additional management expertise. In addition, COF ordinances for irrigating with reclaimed water are more stringent with regards to minimizing irrigation runoff.

This program is substantially important to the water conservation effort in northern Arizona. Currently, there are no programs that provide training in optimizing landscape/turfgrass irrigation and/or maintenance for the northern regions of the state. The project will work closely with NAU Grounds personnel and COF administrators to share information and increase awareness or more efficient water use practices. The project will provide landscape maintenance/grounds personnel with environmental evaluations (i.e., soil and plant characteristics) and recommendations for optimizing irrigation maintenance practices and scheduling. Finally, this effort will encourage natural resource sustainability, water conservation from COF's major water consumer and increase water research opportunities in northern Arizona.