

# RESEARCH BRIEFS



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## Conserving the Green River

Dr. Scott Grubbs, Associate Professor in the Department of Biology, is leading a partnership consisting of Dr. Albert Meier (Biology), Dr. Ouida Meier (Biodiversity Studies), Dr. Stephen Kenworthy (Geography and Geology), and collaborating agencies that is funded for up to \$400,000 by the U.S. Department of Agriculture Natural Resource Conservation Service. This partnership will reduce nonpoint source pollution loading such as sediment, pesticides, and fertilizer into the mainstream of the Upper Green River and principal tributaries in our region. Dr. Grubbs and his partners will assess the impact of the Green River Conservative Reserve Enhancement Program (CREP), which recruits landowners into incentive-based ten to fifteen year cooperative agreements of best management practices that eliminate waste from running into the rivers as a result of agricultural and livestock practices.

Dr. Ouida Meier will map and analyze land use in the Upper Green River Basin in order to determine current conditions and to use as a baseline for detecting waste running into the streams. The maps will generate watershed-specific statistics

to present a clear picture of the problem. Her team will also assess historic water quality and biological data and water quality data collected during the project to comprehend relationships between land use and water quality. The data will constitute a baseline from which future water quality changes may be analyzed. The

data and analyses will be obtained from and shared with many agency partners in the best interests of this regional project.

Dr. Stephen Kenworthy will assess soil erosion related to agriculture and construction as threats to water quality. Managers of drainage lands need information about the "sediment budget" of the Green River Basin to understand how much sediment is transported by the Green River relative to how much is delivered from agricultural fields, and how much is stored in the river channel and



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The bottomland forest alongside the Green river forms a thick riparian corridor that helps filter out sediments and contaminants from runoff before it enters the river.

floodplain. He wants to determine how much of the stored sediment gets into the streams. Obtaining this data will enable a comprehensive assessment for soil conservation efforts. One of the activities to accomplish this project involves quantifying water and sediment fluxes and quality from an underground stream. Here Dr. Kenworthy will draw upon the expertise of still more partners, specifically Western's Director of the Hoffman Institute for Cave and Karst Studies, Dr. Chris Groves, Joe Meiman, Hydrologist at Mammoth Cave National Park, and partners at the U.S. Geological Survey.

Dr. Albert Meier, an expert in biodiversity, will contribute another layer of knowledge to the project by studying streamside vegetation along the Upper Green River. His findings will be provided to the Geographic Information System part of the monitoring to assess the effectiveness of the program at restoring riparian corridors and reconnecting landscapes along the river. This improvement should lead to substantial habitat growth.

## Set Your Goals High

Dr. Bob Hatfield, Associate Professor of Management and Information Systems, is investigating the relationship between learning goals and learning in organizational training. His project results from collecting data on four hundred trainees. He is trying to determine if learning goals in training actually result in more trainee learning and how precise the goals need to be to maximize learning.

The project promises to have quite an impact, because fifty million workers in the United States (which is 42% of the workforce) need new or expanded skills to do their jobs. This transition requires training about new technologies, management, customer-service, and basic skills. At the bottom of all of this is the unprecedented importance of training to produce products that consumers want and employers demand.

Dr. Hatfield has co-authored four textbooks on human resource management and has found little scientific evidence on the effectiveness of goals in training. One reason, Dr. Hatfield surmises, is that "we have a love-hate

relationship with training goals." Although much of the training literature advocates the use of learning goals, such goals are rarely used and there is opposition to their use. For instance, some adult learning advocates suggest that such goals are too manipulative. Thus, Dr. Hatfield will try to identify the interrelated reasons why training goals may or may not correlate to learning in training.

He will also consider how many goals are necessary for the successful conduct of training — if goals are found to be effective. He presumes that goals will help trainees learn; however, why goals help is yet to be determined. There are two competing theories. There is the "point to point" theory which military trainers use when they identify a different goal for each small training task. The alternate theory is that the mere presence of any goal may "signal importance" and thereby stimulate learning. Dr. Hatfield calls this "light-switch theory."

Trainees will participate in Dr. Hatfield's experiment by viewing a sixteen-minute videotape to try to detect a learning goal, by taking several surveys, and by writing essays. The outcomes of these tasks will help to explain if participants recognized a goal and if the different level of goals became an aid to learning.

## Preparing Child Educators

Dr. Vicki Stayton, Professor of Early Childhood Education in Western's College of Education and Behavioral Sciences, is collaborating with the University of Connecticut to establish a research center for Personnel Preparation in Early Childhood Special Education and Early Intervention. Dr. Stayton is a subrecipient of the U.S. Department of Education grant to the University of Connecticut, which she played an important role in writing. The grant has enabled the partners to establish a Center that collects, synthesizes, and analyzes information about: (1) certification and licensure requirements for professionals working with infants, toddlers, and preschoolers who have special needs, and their families; (2) the quality of training programs for these professionals; and (3) the supply and demand of professionals representing all disciplines who provide early childhood special



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education and early intervention. The outcomes of this research will be policy recommendations that insure the proper education, certifications, and licensures, and an adequate number of capable professionals to serve children and families.

Dr. Stayton works with one other principal investigator and an advisory council to focus on the issues specified above. The advisory council is composed of experts in the fields of early intervention and early childhood special education. Expert consultants also provide guidance to the principal investigators and the advisory council members. This interlocking leadership structure insures objectivity in the research and will contribute to the success of the Center.

Research studies will determine the relationships between certification, training programs, and supply and demand of qualified professionals. These studies will enable streamlining of training programs and student satisfaction with what they learn. The research studies will focus on state systems, higher education issues, and direct provider performance with children and families. The final outcome will be the development of policy recommendations to the field.





### Studying Capital Hill

Dr. Scott Lasley is working on a project entitled “Progressive Ambition in the U.S. House of Representatives.” He is analyzing how congressmen decide to run for governor or for the senate for more reasons than strategy and opportunity. Dr. Lasley, an assistant professor in the Department of Political Science, is testing a basic hypothesis that focuses on a House member’s background, experience, and preferences as central to whether a congressman will decide to run for the governorship or for the Senate.

The timeline he uses to test the hypothesis is a comparison of members of the U.S. House that ran for U.S. Senator or for governor between 1974 and 2004. The year 1974 coincides with the increase in prestige and stature of the governorship in many states. He will collect data on the personal, electoral, and political experiences of the incumbent House members who ran for U.S. Senator or governor in this time period.

Dr. Lasley believes that a key to solving this problem stems from personal characteristics and political

experiences of the Senate versus the gubernatorial candidates. Another key will result from data collected that compares committee assignments and congressional behavior for the House members who pursued either the Senate or a governorship. A third key may result from Professor Lasley’s exploration of his subjects’ legislative activity and the support they receive for seeking higher office from their political parties. To supplement the quantitative analysis, he will provide anecdotes and observation from former congressmen who decided to run for higher office.