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A New Approach to Riparian Area Education in Arizona

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Abstract

Riparian areas are called “ribbons of life” since they are considered the most productive habitats in North America (Johnson et al. 1977; Chaney et al. 1990). In the arid western United States, riparian areas comprise less than 2% of the total land (Ffolliott et al. 2004). Despite their small area, Patten (1998) says that the role of riparian areas is disproportionate to their size, particularly in the semi-arid regions of North America. This is mainly due to the many functions and values of riparian areas. These functions and values are due to greater water availability relative to the adjacent terrestrial uplands, that adds greater vegetative and wildlife diversity. Riparian areas contribute to the improvement of water quality, particularly by reducing nonpoint source pollutants, and to increasing water quantity. Seventy percent of the threatened and endangered vertebrates in Arizona depend on riparian habitat (Johnson 1989). Domestic livestock are also attracted to riparian areas (Roath and Krueger 1982) for the same reasons that wildlife prefer riparian areas, high forage availability and abundance (Pinchak et al. 1991) and

water availability (Ames 1977). Finally, riparian areas also have significant aesthetic values and are considered prime areas for recreational activities.

The objective of this outreach program is to increase the awareness and knowledge of the public in Arizona about the importance of riparian areas, the processes that take place in riparian areas, and the human alteration these areas have endured. Three main activities were part of this project to meet the objective: 1) conduct educational workshops across the state, 2) develop an Arizona specific publication, and 3) develop a web-based educational module. The intended audience for this outreach program is the general public that includes farmers, ranchers, public and private land managers, watershed partnerships, recreationists, other riparian area users and interested public citizens.

The first activity was the educational workshops. The general educational theme for the workshops was to present broad and general topics about riparian areas although the information needed to be tailored to systems in the state of Arizona. The final agenda of the workshops included the topics: 1) Definition and Importance of Riparian Areas, 2) Characterization of Riparian Areas, 3) Hydrologic Processes of Riparian Areas 4) Fluvial Processes of Riparian Areas, 5) Biological Processes of Riparian Areas – Habitat, 6) Climatic Processes of Riparian Areas and 7) Human Alterations to Riparian Areas.

Because the information needed to be pertinent to the state of Arizona, experts throughout the state of Arizona were recruited.

Initial educational workshops were conducted in five counties with two more scheduled for 2006. Written evaluations were given to participants at the end of each workshop. The written evaluations provided information on the degree of the success of the workshops in meeting our objectives. The evaluation had three questions. The first dealt with measuring the gain in awareness and knowledge as a result of attending the workshop. Based on the evaluations from the first five workshops, 90% of the participants increased their knowledge by at least one level, for the first six topics of the workshops. For the seventh topic, human alterations, a significant portion of the participant's knowledge level remained unchanged (28%). At the same time, for this topic, participants had the highest percentage (35%) increase in their knowledge in the three to four levels compared to the other 6 topics. The other two questions of the evaluation were simple and straightforward. One asked what the strengths of the workshop were and the second was what could have been improved. Most participants responded that one of the strengths of the workshops was the diverse background of the presenters and their openness in answering questions.

The number and background of participants were also documented to assess the diversity of the public participating in the workshops. This would provide insight into the extent of public involvement and interest in riparian areas. There were a total of 159 participants, at the five workshops indicating a significant interest in riparian areas issues. Overall, in every workshop the audience was very diverse. The group of people that attended workshops included, agency employees (Bureau of Land Management, Forest Service, Natural Resource Conservation Service, Arizona State Parks, Arizona Game and

Fish etc.), professionals that deal with riparian areas (ranchers, miners etc.), non-government organizations (The Nature Conservancy etc.), watershed partnership representatives, local volunteer organizations (Master Watershed Stewards) and individual citizens with a general interest in riparian areas.

The workshops conclude with a discussion session aimed at soliciting participant's needs in order to identify what the future educational and research needs for riparian areas in Arizona are. These needs could be at the county or state level. The needs assessment information for this, the first set of workshops, will provide the basis for future programming. The needs assessment from the first five workshops, identified interest in a second set of workshops focusing on more local riparian issues tailored to specific needs of each county.

The second activity included an educational riparian publication titled "Understanding Arizona's Riparian Areas." This publication was a supplemental resource for all participants of the workshops. The publication has seven chapters based on the seven topics of the presentations. The publication's total length is a little more than 100 pages. In the written evaluations, many wrote that this publication was one of the strengths of these workshops. In addition, many participants inquired if the publication would be available for purchase to use as an educational resource for riparian areas of Arizona.

The third and final activity was developing a web-based educational module. This web module drew on the materials and resources used in the educational workshops and

riparian publication. Similar to the workshops and publication, the web module has seven chapters. The general idea is to use multi-media web applications, so that learners will be presented with successive steps that introduce them to academic and practical information about riparian areas. Self-paced exercises are included to give learners practice with the concepts and photographs will illustrate key points. The first iteration of the module has been created is currently in review. As the statewide riparian program is expanded the web module will include updated material.

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