

Learning about riparian areas from photographs

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Riparian areas, ecosystems caught between the land and the stream, are subject to spatial and temporal variability. Effectively managing and protecting riparian areas as well as other ecosystems require understanding these concepts. Fortunately, scientists are investigating new approaches in experiential learning, or learning from direct experiences.

One of those approaches is photography. By taking photographs of a specific site for a period of years (repeat photography), you can see if changes have occurred. From the personal experiences of two scientists from the University of Arizona, Dr. George Zaines and Dr. Michael Crimmins, illustrations can be effective educational tools for explaining difficult concepts; this is particularly true in using before and after pictures of riparian sites or other natural ecosystems.

Zaines and Crimmins developed two experiential learning exercises using existing repeat photographs of riparian areas in the state of Arizona that were presented in two different workshops. The results are published in the 2010 *Journal of Natural Resources and Life Sciences Education*, published by the American Society of Agronomy, the Crop Science Society of America, and the [Soil](#) Science Society of America. Funding for this project was provided by University of Arizona Cooperative Extension.

For each exercise, participants were split into small groups and given sets of repeat photographs of riparian areas, along with worksheets, data

series or a map to correlate with the repeat photographs, and encouraged to discuss together and then present their findings. The objective of these exercises was to provide insight into the temporal and spatial variability of riparian areas, and the response of these areas to climatic changes and land management practices.

Participant evaluations revealed that using repeat photographs enhanced their understanding of spatial and temporal variability and potential climate change impacts on riparian areas. Developing repeat photography into experiential learning exercises will provide Extension agents an entertaining and effective way of comprehending changes in ecosystems, such as riparian areas. Since the exercises are interactive, stakeholders with different backgrounds are encouraged to interact and learn from each other, strengthening the process.

Finally, while these exercises used riparian areas of Arizona and the southwestern U.S., they could easily be adapted to other ecosystems and other regions of the country. University courses could adapt them to studying riparian and other natural ecosystems. The technique of repeat photographs is a tool that should be better utilized for educational purposes by Extension specialists and other educators.

More information: View the abstract at www.jnrllse.org/view/2010/e09-0042.pdf

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