

# Cooperative Extension's Master Watershed Stewards and Riparian-Wetland Education: Action and participation through local volunteer watershed stewardship

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## Introduction

**Cooperative Extension** is the flagship outreach department administered through each state's Land Grant University. Cooperative Extension agents and educators work at the county level to provide programmatic education to help residents address critical issues affecting their county, such as through the Master Watershed Stewardship program.

The **Master Watershed Stewardship (MWS)** program is an adult education program focused on the training of citizens to serve as volunteers in the protection, restoration, monitoring, and conservation of their water and watersheds. It is based on the concept of Integrated Watershed Management, defined as the process of sustainably managing water and natural resources, human activities and community livelihoods on a watershed basis. Each program is tailored to address specific watershed issues that are important at the state and local level, including wetland issues.

Adapted from other Land Grant Universities, the Arizona Master Watershed Steward program is a 10 to 16 week course that trains adult students about Integrated Watershed Management, including local watershed, water resources and wetland issues. In Gila County it is offered through the local community college. Its highly interactive classes are taught using:



Monitoring for aquatic invertebrates is a useful proxy indicator of water quality.

- ☔ Hands-on Lab Exercises
- ☔ Specialist Lectures
- ☔ Field Trips
- ☔ Volunteer Service Projects

Through the program, students meet with resource managers and professionals. After training, they become Stewards by performing at least 40 hours of volunteer service, often with the same managers and professionals.

## Arizona's Wetlands

Arizona's arid climate and varying seasonal precipitation play a significant role in the formation and distribution of the state's wetlands. Arizona's wetlands are found in riparian areas, and are classified as *ciénegas*, marshes, and *bosques*. Ephemeral wetlands include *tinajas* and *playas*. The U.S. Geological Survey estimates that less than 1 percent of Arizona's landscape has wetlands, a loss of more than one-third of the state's original presettlement wetlands.



Most of Arizona's wetlands are found in riparian areas. Monitoring is an important aspect of their management.

## Wetland Education Opportunities



Master Watershed students discuss riparian ecology at Cherry Creek, Arizona.

In most cases Extension educators are open to collaborate with interested partners to design local MWS programs that include wetlands and their

values, and train volunteers to advocate and help address wetland issues. However, the ongoing economic downturn and loss of state funding has curtailed delivery of this kind of specialized program in many states, including Arizona.

A closer relationship between the International Association of Ecology and Cooperative Extension would therefore be mutually beneficial to assist in the protection and sustainable use of this nation's and the world's wetlands.



The wonders of wetlands bring out the inner child in each of us.



[cals.arizona.edu/watershedsteward](http://cals.arizona.edu/watershedsteward)



**Integrated Watershed Management** is the process of sustainably managing water and natural resources, human activities and community livelihoods on a watershed basis.

## Fulbright Guatemala

Poster author Chris Jones has taught the program in Gila County, Arizona since 2003 and also in Guatemala in 2008. He translated and adapted the MWS program to offer it in Sololá Guatemala as a Fulbright Scholar. The program was taught at the *Universidad del Valle – Altiplano* to junior and senior university students and to

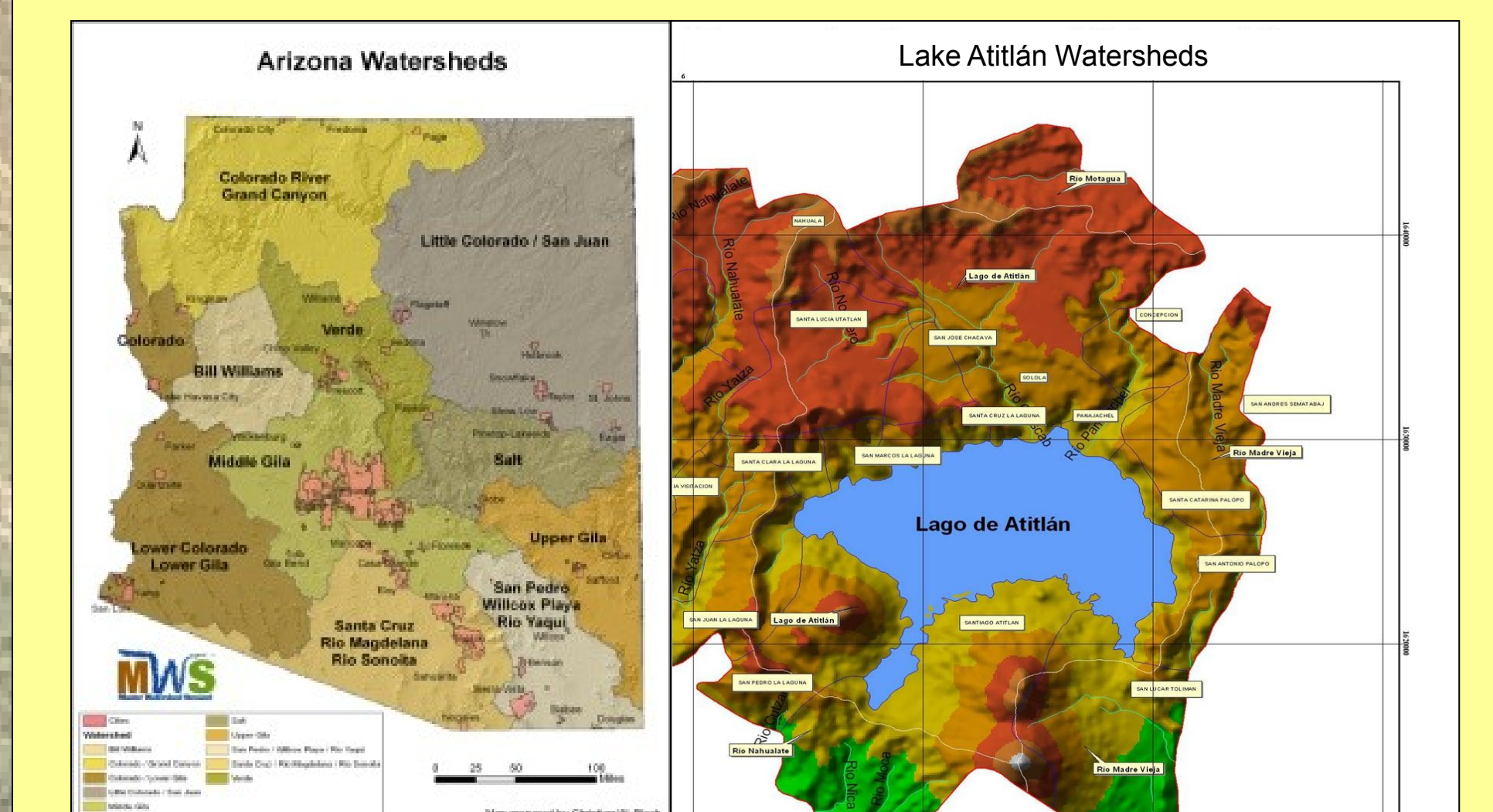


Toliman Volcano overlooks Lake Atitlán, renowned for its splendid views and Mayan heritage.

local natural resource professionals and technicians in partnership with the Lake Atitlán Sustainable Watershed Management Authority (AMSCLAE). Through the program, 35 university students learned about Integrated watershed management, and 16 resource managers and technicians received professional improvement. They identified and addressed local issues such as waste management and land planning through class exercises.



Guatemalan school teachers learn hands-on water education techniques they can use in the classroom.



Resource management using watershed boundaries, rather than political boundaries, optimizes agencies' efforts and builds allies through common purpose and concerns. The Master Watershed Stewardship program provides an ideal educational vehicle to raise awareness about wetlands and their values, and to train volunteers to advocate and help address wetland issues.