Friends of Sonoita Creek

Protectors of Our Fragile Watershed

by Allyson Armstrong

The Friends of Sonoita Creek (FOSC) want more people to know about watersheds and riparian areas, especially what they mean for our local creek. FOSC is a nonprofit organization founded in 2004 and dedicated to protecting Sonoita Creek and its watershed. The group informs visitors and residents about the creek's importance through presentations, hikes, trainings, written materials, and their website. They advocate with land owners and regulators on ways to preserve and restore the Creek. They also fund teacher education, citizen scientist training, stream monitoring, and projects led by other local conservation organizations that advance FOSC's mission.

So what's the big deal about protecting Sonoita Creek? For one, water flows year round in sections of the Creek. That is an increasingly rare phenomenon in southern Arizona. The best place to view the year round surface flow is in The Nature Conservancy's Patagonia Sonoita Creek Preserve. Sonoita Creek, a tributary of the Santa Cruz River, flows above and below ground through soil, gravels, and rock, about 30 miles from its "headwaters" at the Sonoita Fairgrounds until in joins the Santa Cruz in Rio Rico. Sonoita Creek's *watershed* covers 270 square miles. Patagonia Lake (or more accurately reservoir) is the result of the 1969 damming of Sonoita Creek south of the Town of Patagonia. The surface water along the stream and in the lake is the main reason for our remarkable number and diversity of plants and animals--Sonoita Creek is home to over 300 species of birds.

Riparian areas - the land directly bordering rivers and streams.

Sonoita Creek is fragile and at risk of further loss of surface water and healthy riparian habitat. Community, agricultural, mining and other industrial water uses that withdraw more ground water than they replace, cause the water table to drop. The lower water table means no surface flow and sometimes no water within the reach of plant roots. Exacerbating the problem, climate change is reducing the average annual precipitation as well as creating higher variability between drought and intense storm periods. Both mean less recharge of the aquifer. Degradation of surface plant and soil cover allows fast-moving water, typical during monsoons, to erode the ground and further prevent aquifer recharge. Overgrazing, road and building construction, and forest fires all contribute to these harmful surface changes. Contamination of surface and ground water by livestock, septic systems, sewage effluent, construction, herbicides and pesticides, and/or mining activity is harmful to plants, wildlife, cattle, and humans.

One long term FOSC strategy for protecting Sonoita Creek is educating young people to understand the value of water where they live. The Friends offers financial support for local teachers who attend the University of Arizona's Project WET (Water Education for Teachers), a worldwide, real world, accredited, professional development experience for teachers. Project WET curricula incorporates hands-on, fun, experiential learning for teachers which they can extend to their students. A significant number of teachers from southeastern Arizona have participated in the training.

Watershed - an area where all water drains to a common place, like a stream or a lake, or an estuary, or a wetland.

While education of school-aged children remains a priority, the current President of the FOSC Board of Directors, Allyson Armstrong, is also interested in educating adults about the creek. She envisions FOSC training citizen scientists who will add to our knowledge of Sonoita Creek and become advocates for its preservation and restoration. To that end, the Friends sponsored a three-day workshop in March 2015, led by Dr. Peter Stacey from the University of New Mexico, to train local citizen scientists in the use of the Rapid Stream-Riparian Assessment. The assessment protocol uses the measurement of biological and hydrological indicators, which determine how well the stream is functioning to support a healthy ecosystem. It was the second workshop led by Dr. Stacey on Sonoita Creek and FOSC plans to sponsor more in the future. Their goals are to have a qualified cadre of citizen scientists regularly monitoring reaches of Sonoita Creek and using the data collected to support protection and restoration efforts.

FOSC has also recently begun on working on the impact of grazing on public and private lands in the watershed. Arizona has nine statutes regarding open range grazing. Armstrong suggests that many these statutes and the regulations that implement them are out of date. They were designed to encourage the migration of people to the west when both land and water seemed limitless.

The major public land holders within the Sonoita Creek watershed are the US Forest Service, Arizona State Parks, Arizona State Land Department (which manages State Trust Lands for income to support K-12 education). There are also several privately owned cattle ranches. All the public lands in the watershed have been leased for cattle grazing for decades. There is no oversight required and no funds allocated to conserve natural resources or forage quality on the public lands. Friends of Sonoita Creek hopes to work collaboratively with local ranchers and public land managers to identify and implement strategies that can reduce the impacts of grazing on Sonoita Creek.

There are currently about 60 active FOSC members, most from Sonoita, Patagonia, Nogales, and Rio Rico; but also places like Massachusetts, Oregon, and South Dakota. New members and volunteers are always welcome. Annual membership dues start at $15. There are volunteer opportunities for stream monitoring, developing materials and participating in "the FOSC traveling road show" educational presentations, and supporting outreach and advocacy efforts. Check out their website: www.sonoitacreek.org.