

FALL 2012

FIELD NOTES

FOR MEMBERS OF THE NATURE CONSERVANCY IN ARIZONA

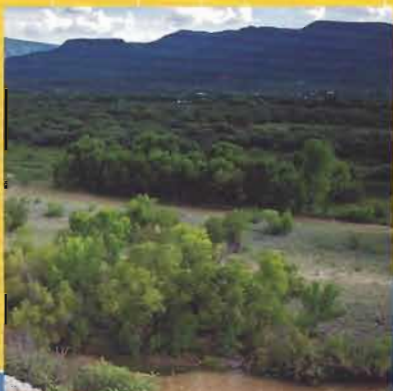
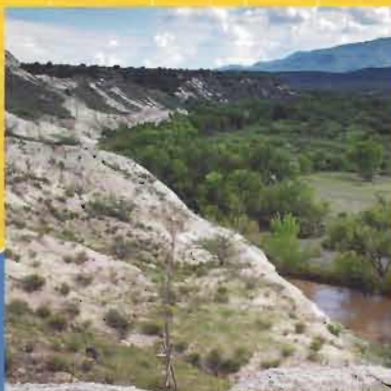
IN THIS ISSUE

Water: It Makes A Village

Progress in the Pines

WATER:

IT MAKES A VILLAGE



From left to right A great blue heron on the Verde River © Stephen Trimble; The Verde River as it flows through the Conservancy's Shield Ranch near Camp Verde © Mark Skalny; The Conservancy's Kim Schonek and Steve Goetting, Diamond S Ditch Company vice-president, near the new automated ditch gate © Tana Kappel/TNC

It's not a mirage. High atop the arid mountain pass in the very center of Arizona, mesquite and scrub are a mainstay of the desert. But down below emerges a braided swath of green meandering through the broad Verde Valley. Tall cottonwoods, leafy willows and groves of pecan trees provide dappled shade and green grass to this tidy community of Camp Verde, population 12,000.

All signs point to water, Verde River water.

"It's integral to the Verde Valley. This would be an entirely different place if it didn't have water flowing through it," says 20-year Camp Verde resident Frank Germinden.

Hands shoved deep in the pockets of his blue jean overalls, Frank glances around the neighborhood; he's clearly proud of this community with its well-kept yards, small gardens and orchards. He grows pecans, blackberries and hay on his 11 acres.

"It's a great place to live," he says. "Other places you see your neighbors driving by. But here you have to talk to your neighbors because you're sharing the water with them."

Indeed, the river water, distributed through a maze of ditches snaking through the valley, makes for contented landowners.

The Ditches of Verde Valley

Irrigation has long been part of this landscape. The ancient Hohokam people built irrigation systems to grow food along the Verde as far back as 600 A.D.

Today, more than 30 ditches, or canals, deliver water to landowners throughout the valley. The landowners who receive the water are members of the associations that manage the ditches. The associations determine water allocations based on historic water rights, and operate the ditches and gates that adjust the flow and distribution of water.

One of the oldest and largest ditches, the Diamond S was built around 1870. It delivers river water to 67 landowners who irrigate more than 400 acres of crops and landscaping. More than five miles long, the ditch siphons off around 30 cubic feet per second of

water. One cubic foot equals about one basketball-sized container of water every second taken from the Verde and delivered to farms and yards.

With lots of people relying on that water, and all that water rushing through human-constructed canals, maintenance and management is important.



Frank, the Ditch Guy

Frank uses his trusty 1960s-era Honda 90 motorbike to check the Diamond S gauges as well as the main-line and lateral ditches. At all hours of the day or night, Frank is on call. A landowner might alert him to problems such as flooding or not enough water flowing, requiring him to open or shut a gate to restore the correct flow. To adjust a gate, he has to stand on top of a cement dike over the ditch and hand-crank a wheel.

The job of training fast-moving water can be risky. "You run the danger of hurting yourself or falling in the ditch," he says.

Maintaining the ditches can be time-consuming and labor intensive. As we're talking, Frank gets a phone call from a neighbor who says a gopher has dug holes in the ditch. Now the ditch is leaking water.

Keeping water levels consistent is important in part to maintain water pressure for delivery.

"In the old days, we'd put boards in, but it would take time for the water level to change. Or there would be flooding and people wouldn't get their water. They'd get pretty riled up," says Frank.



New, Efficient Technology

Now, new automated ditch systems, powered by solar energy, have been installed on two Diamond S ditch gates. What used to take up to three people can be adjusted by one person via cell phone, and changes to the water level can be quick.

The system's sensors monitor the ditches' flow rate. If the water level drops or someone draws down a lot of water, the system adjusts automatically to keep levels consistent. Unneeded water is returned to the river.

"With this system, we have the least amount of water we need in the ditch to service all the landowners downstream. Farmers can be out using the water where they need it and not have to worry about the operations," says the Conservancy's Kim Schonek.

Kim, who leads the Conservancy's Verde River ditch efficiency effort, worked with the Bonneville Environmental Foundation and Coca-Cola, which provided funding for the new system. The two automated units cost around \$19,000.

Steve Goetting, vice-president of the Diamond S Ditch Association, estimates the new system has saved as much as 40 percent of the time it used to take to keep ditch water levels consistent.

"We can open a valve and go to bed and not have to stay up all night to check water levels," says the local landowner and businessman.

Safety, convenience and a predictable water supply are valuable features of the system, and indeed other ditch associations are eyeing this project. Kim adds that the Conservancy is willing to work with other ditch associations who are interested in this and similar projects.

There's another crucial benefit of this project: It keeps more water in the Verde River. That's good for the health of the river and the plants and wildlife it supports. It's also important for the area's future, according to Steve.

As the chair of the Camp Verde Chamber of Commerce, Steve is excited about the river's potential for increased recreation—"if we can be more efficient in our water use and keep more water in the river."

More water in the river might help make river levels high enough for more boating, fishing, kayaking and other water sports. Of course, downstream users of the river's water also benefit; the Verde supplies up to 20 percent of the water supply for the Phoenix Metro area.

"There are tremendous opportunities for this community," says Steve. "We have this oasis in the middle of the state, plus all these archeological riches. The good news is Camp Verde is going to boom, the bad news is it's going to boom. We need to maintain our cultural heritage and our natural resources, or the reason people come here will disappear," he says.

The water wealth of the Verde is key to it all. ■

—Tana Kappel



Top The new solar-powered, computerized ditch system regulates water flow to landowners and restores unneeded irrigation water to the Verde River. © Mark Skalny
Bottom More water in the Verde is good for kayakers. © Stephen Trimble