

Celebrating Arizona's Rivers

Each month during Arizona's centennial year, we will profile a different river in celebration of the state's precious natural resources. From the mighty Colorado to the smallest ephemeral streams, these waterways have supported Arizona's people and places for thousands of years. With good stewardship and thoughtful planning, they will continue to flow into Arizona's next 100 years.

September 2012: The Verde River

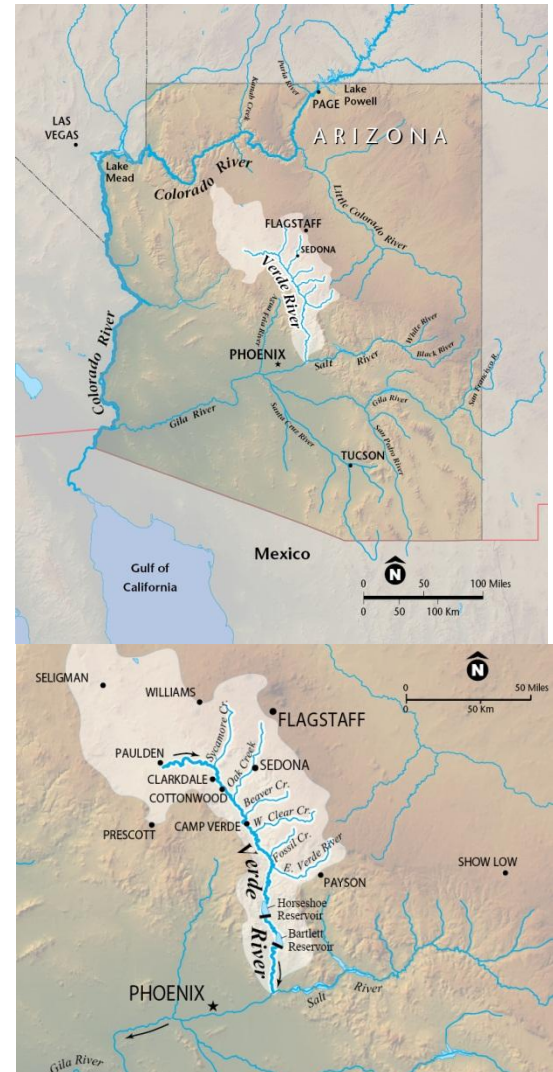
The Verde River traverses approximately 185 miles through Arizona's dramatic "transition zone," where the Mogollon Rim drops thousands of feet in elevation from the pine forests of the Colorado Plateau through rugged mountains and canyons to the desert below. The lush, free-flowing Verde north of Horseshoe Reservoir supports many unique and endangered plant and animal species, and has supported human civilization for thousands of years. A 40-mile stretch of this portion of the Verde is designated as a "Wild and Scenic River" (one of only two such designations in Arizona).

Tuzigoot National Monument, near the town of Clarkdale, protects the remains of a hilltop pueblo built by the ancient Sinagua people around 1,000 A.D. The Sinagua also built the well-preserved cliff dwellings at Montezuma Castle National Monument along Beaver Creek, a tributary of the Verde. Historically, the Verde has supported trappers, military encampments, and mining, farming, and ranching communities. Today, the watershed supports a rapidly growing region of central Arizona, river-based tourism and recreation, and the lands of the Yavapai-Prescott Indian Tribe, the Salt River Pima-Maricopa Indian Community, and the Yavapai-Apache and Ft. McDowell-Yavapai Nations.

Geography. The Verde River originates as a complex of springs approximately 21 miles north of Prescott in the Big Chino Valley, near Paulden. It then flows southeast, entirely supported by these springs for 24 miles, until it reaches another set of springs called Mormon Pocket. Below Mormon Pocket, the Verde gains flow from tributaries and springs, then enters the Verde Valley at approximately river mile 47, near the town of Clarkdale.

Shortly downstream from Clarkdale, the Verde flows through Deadhorse Ranch State Park, where for a six-mile stretch it is designated as the Verde River Greenway State Natural Area. As it flows through the town of Cottonwood, the river is diverted into the Cottonwood Ditch for irrigation purposes –one example of many such diversions throughout the Verde Valley. A few miles south of Cottonwood, the Verde is joined by a major year-round tributary, Oak Creek, which flows off the Mogollon Rim through a dramatic canyon and the red-rock country of Sedona.

As it continues through the Verde Valley, the river is joined by Beaver Creek before passing through the town of Camp Verde; it is then joined by West Clear Creek, Fossil Creek (Arizona's second Wild and Scenic River), and the East Verde River. The Verde's Wild and Scenic designation begins six miles south of Camp Verde and ends



Top image: Watershed of the Verde River in relation to other Arizona rivers. **Bottom image:** Detail of the Verde River watershed.



The Verde River. © 2012 Doug Von Gausig.

40 miles downstream, just above Horseshoe Reservoir, created by Horseshoe Dam.

Below Horseshoe Dam, a second reservoir, Bartlett Lake, is created by Bartlett Dam. The Verde joins the Salt River east of the Phoenix metropolitan area, approximately 185 miles below its headwaters, having flowed freely for 125 of those miles.

Ecology. Because of the high elevations on the Mogollon Rim and associated higher rain and snowfall, the Verde River watershed is one of Arizona’s most important water-producing areas, supporting significant riparian habitat – including one of the last Fremont cottonwood/Goodding willow forests in Arizona. Habitat along the Verde and its tributaries supports:

- Over 200 bird species, including the largest number of bald eagle nesting sites in Arizona;
- One of the most diverse native fish populations in Arizona, including the endangered Razorback Sucker;
- Populations of river otter (which to date are found in only three Arizona rivers) and beavers, which are returning to the Verde and restoring watershed health through dam-building activities; and
- Large populations of elk, deer, bear, and mountain lions in the higher elevations of the watershed.

Use. The population of the Verde River watershed more than doubled between 1980 and 2000, significantly increasing human use of surface and groundwater resources.

- Surface water is used for irrigation throughout the basin, with most agricultural use along the Verde itself.
- Groundwater pumping for domestic, municipal, and industrial uses occurs throughout the watershed, including in the Big and Little Chino basins (Prescott and the area north of it) and near the Verde’s headwater springs. These springs and groundwater discharge are the major sources of surface water for the Upper Verde.
- The Verde provides approximately 40% of the surface water delivered by the Salt River Project to Phoenix.
- The river also provides many recreational opportunities, including hiking, bird- and wildlife-watching, fishing, and kayaking.

Threats to the Verde include:

- Competing demands for surface and groundwater due to growing populations throughout the watershed. Continued and increased groundwater pumping in the Big and Little Chino basins and throughout the Verde Valley could reduce flows in the Verde, threatening both supplies for downstream users and ecosystems that depend on a healthy, flowing Verde and its tributaries.
- Non-native plant species, such as tree of heaven, Russian olive, and tamarisk, as well as non-native fish, bullfrogs, and crayfish, which displace and compete with native aquatic and riparian species.
- Changes to flow levels due to drought and climate change.

Despite these challenges, efforts to create a sustainable future for the Verde River – and to sustain a healthy economy linked to a healthy river throughout the watershed – are broad and ongoing.

