

## 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.

### August 2012: The Gila River

The Gila River stretches nearly 600 miles across Arizona, flowing west from the New Mexico border until it reaches the Colorado River. It drains an area of nearly 60,000 square miles – an enormous watershed totaling half the land in the state. Almost every major river in Arizona eventually flows to the Gila, which along with its tributaries has irrigated vast agricultural lands from the time of the Hohokam people to the present day. Although long stretches of the Gila historically flowed year-round, the large number of dams and diversions constructed over the last 100 years have severely reduced or eliminated once healthy flows in many reaches of the river.

**Geography.** The Gila River originates near the Gila Hot Springs and Gila Cliff Dwellings National Monument in southwestern New Mexico, where it flows southwest through the pine forests of the Gila Wilderness before entering Arizona near the town of Duncan. From the border, the Gila flows year-round for 35 miles, with significant inflow from the San Francisco River and various springs. This flowing stretch includes the Gila Box National Riparian Conservation Area, one of only two areas in the country with this designation. (Both are in Arizona.)

As it continues west through the Safford Valley, the Gila flows sporadically depending on seasonal runoff and irrigation demand from nearby agriculture, until a major tributary, the San Carlos River, flows in from the north, supporting another stretch of year-round flow. Thirty miles southeast of Globe, on the San Carlos Apache Indian Reservation, Coolidge Dam impounds the Gila, creating San Carlos Reservoir. From below Coolidge Dam to the Ashurst-Hayden Diversion Dam, the Gila's flow is significant enough to be navigable by canoe or kayak. At Ashurst-Hayden Dam, the river's entire flow is diverted for irrigation of agricultural lands throughout central Arizona.

Below Ashurst-Hayden, the Gila is dry except during large storm events as it flows north of Casa Grande, where it is joined by the usually-dry Santa Cruz River, and through the Gila River Indian Community and the Phoenix metropolitan area, where the Salt and Agua Fria Rivers join it. Downstream of the confluence with the Salt, the Gila flows year-round, predominately due to an influx of treated wastewater discharged into the Salt from Phoenix-area treatment plants. Between the communities of Buckeye and Gila Bend, this water is diverted for irrigation via canals at Gillespie Dam.

Approximately 60 miles southwest of Phoenix, the river makes a nearly 90-degree turn at Gila Bend; here, Painted Rock Dam controls flooding and occasionally creates a reservoir in the usually-dry Gila River channel.



The Gila River watershed.



Gila Box from the Bonita Creek Watchable Wildlife Viewing Area. Photo courtesy of Hannah Stitzer.

The Gila flows year-round due to return flows from agriculture just before joining the Colorado River near Yuma, having traveled 650 miles and descended nearly 9,000 feet in elevation from its headwaters.

**Ecology.** Of the 570 miles of the Gila in Arizona, 162 flow year-round, and many of these areas support significant wildlife habitat. In particular, the 23,000-acre Gila Box National Riparian Conservation Area contains four protected waterways: the Gila and San Francisco Rivers and Bonita and Eagle Creeks. The reach of the Gila here is known as Gila Box, and is a dramatic landscape of mesquite and cottonwood trees, sandy beaches, and towering cliffs. This oasis for wildlife supports a rich diversity of species, including:

- Over 150 bird species, such as zone-tailed hawks, common blackhawks, peregrine falcons, and endangered species such as the Southwestern willow flycatcher;
- Amphibians such as the lowland leopard frog, and many native fish species, including the longfin dace and desert, Sonora, and razorback suckers; and
- Desert bighorn sheep, which have been re-introduced to the region and can be spotted along the cliffs of the Gila Box canyon.

**Use.**

- A significant amount of the Gila’s water is diverted for agricultural use throughout the watershed, including in the Safford Valley, central Arizona, and near Gila Bend.
- The Gila Box provides canoeing and kayaking opportunities during spring runoff, as well as hiking and bird- and wildlife-watching year-round.
- The 2008 Arizona Water Settlements Act established the water rights of the Gila River Indian Community, including the Pima and Maricopa tribes, to replace water removed from tribal lands by dams and diversions of the Gila and Salt Rivers throughout the 20<sup>th</sup> century. The community plans to re-establish irrigation systems and farming in order to revitalize the health of tribal members and the economy, as well as implement river restoration projects.

**What You Can Do For Arizona's Rivers**

- Join a local watershed group
- Participate in restoration, monitoring, or advocacy activities
- Visit our organizations' websites for information and action alerts
- Enjoy an Arizona river—and tell your state legislator about it

**Threats** to the Gila include:

- Potential diversion of the Upper Gila in New Mexico, which would reduce flows to riparian habitat and recreational areas in southwestern New Mexico and southeastern Arizona. The Gila in this region is one of just a few free-flowing rivers remaining in the United States.
- Overuse and increasing competition for river, tributary, and groundwater resources throughout the watershed which do not leave sufficient water to support river ecosystems.
- Prolonged regional drought and global climate change, which reduce seasonal runoff from snowpack.

Multiple conservation efforts are underway or have been completed along many stretches of the Gila, including water quality improvement projects, stream restoration, and efforts to protect remaining river flows.

