

Pima-Maricopa Irrigation Project
Education Initiative



Restoring water to ensure the continuity of the Akimel O’otham and Pee Posh tradition of agriculture

A Time of Change

Part 10

The latter 19th and early 20th centuries were a time of difficult change for the Akimel O’otham and, to a lesser extent, the Pee Posh (who enjoyed an “unfailing supply” of water well into the 20th century). The Gila River and its watershed was so overtaxed that it could neither support the flora and fauna it once had nor any longer sustain the Akimel O’otham. The arrival of Mexican and American settlers compounded matters. After 1880, non-Indian farmers increased at the expense of the O’otham and Pee Posh. Not only was there significant deterioration of the river system, but there was also change among the Akimel O’otham and Pee Posh.

The stresses of the latter 19th and early 20th centuries were the result of multiple factors. Climatically, drought plagued much of the desert southwest. The arrival of the Southern Pacific Railroad southwest of the Sacaton Mountains (eventually crossing Community lands from Maricopa to Phoenix), in 1879, brought many new settlers to the Gila Valley, adding stress to existing water supplies. When railroad construction stopped for the summer, the end of the line (called “Casa Grande”) was 13 miles southwest of Sacaton. “When the railroad came ... it signaled an increase in tension” between the Indians and their new farming neighbors. The completion of the Florence Canal—an upstream diversion—in 1886, further limited O’otham and Pee Posh access to surface water.

Other factors were also affecting the Community. The placement of the Apaches onto reservations, in the 1880s, diminished the importance of Akimel O’otham war ceremonies. The Apaches had long been an adversary of the desert-dwelling and agrarian-based Akimel O’otham and Pee Posh. Daily activities—even village locations—were “ordered with reference to the possibility of attack.” With the construction of US Army posts across southern Arizona (such as Fort McDowell), the United States and its O’otham and Pee Posh allies confined the Apaches to mountain reservations. War and war-related purification ceremonies fell into disuse.

Mandatory 10-acre land allotments between 1916 and 1924—and continued upstream diversion of water—forced O’otham villages and people to move to new locations within the Community, disrupting existing political structures. When long-time head chief Antonio Azul died, in 1908, political power was dispersed; in 1911, the Community organized its first “business committee,” signaling a new approach to decision-making.

Calendar Stick records from the last 25 years of the 19th century indicate social disruptions were severe, with no less than two dozen recorded murders. Into this environment stepped Charles H. Cook, who arrived in Sacaton in 1870, and opened the first Community school to teach O’otham children. In 1878, he resigned as teacher and became a full-time Presbyterian missionary. Between 1889 and 1899 more than 1,200 Akimel O’otham were baptized and joined the Presbyterian Church.

The O’otham were prepared to go to great lengths to protect their way of life. In 1882, Indian agent Roswell Wheeler, fearing an outbreak of hostility, requested a detachment of US Army soldiers be sent to Sacaton. Lieutenant Thomas Cruse, one of those sent to the Pima Agency, was surprised since there “was no record of a Pima warring against a white man. Yet now their agent was fearing that the Pima were on the verge of an outbreak.” The cause of stress: “the Pimas had been deprived of

irrigation until they looked out on barren fields and faced starvation.... Now, robbed of the water they had always owned, they were ready to fight anybody and everybody.”

By 1901, the people were destitute. The Calendar Stick for 1899-1900 records that a “woman from Blackwater was fatally bitten by a rattlesnake.” The woman was bitten because she had to go so far into “the desert to search for mesquite beans, as she was without food; indeed the whole community was starving because of the failure of the crops.” Livestock also suffered, as there was no food short of mesquite leaves and beans. “Where everything used to be green, there were acres of desert, miles of dust, and the Pima Indians were suddenly desperately poor.”

With no water and facing starvation, many of the O’otham resorted to the cutting and selling of mesquite wood. Thick bosques of mesquite once graced the terraces of the Gila River for miles. By the late 1890s, “The river practically dry, the Blackwater Indians were forced to leave home to sell wood.” By 1905, “nearly 12,000 cords a year were being cut and sold in Phoenix.” A Phoenix newspaper reported more than 30,000 cords of mesquite were stacked and ready to be sold.

The effects of this mass cutting of mesquite were spectacular. With the introduction of wells pumping groundwater, in 1902, the effects were multiplied as the water table rapidly dropped. Resprouting of mesquite stumps—once a common and natural occurrence—was impossible without adequate water. In place of large mesquite bosques, “huge mesquite cemeteries” became common.

The late Akimel O’otham author George Webb noted these changes in 1959. “Today there are no mesquite trees left on the Reservation that are not second growth. If you look at the base of any mesquite tree you will find a dry stump. There is where a much bigger tree once grew.” Mesquite stumps dot the landscape over much of the Community today. Continued overpumping of the groundwater has only compounded the problem. In 1931, there were still 18.4 mesquite trees per acre near Casa Grande Ruins. Sixty years later there were fewer than .04 mesquite trees per acre.

The effects of water loss were far reaching. A limited flow and a dropping water table brought decreased plant growth. When the river did flow—usually during “wet” flood years—it “scoured most of the submergent and emergent vegetation” from the river. Loss of vegetation also led to the decline of indigenous marsh birds along the river. Loss of vegetation created a river environment where it was more difficult to recharge underground aquifers because of high rates of water runoff.

George Webb captured this time of change. “In the old days, all the Pima Indians made a good living working their farms which produced a good yield. There was plenty of feed and water along the Gila River for their stock. Many lived in nice adobe homes of which a few are still in use today.

“They maintained their own water system, distributing the water to anyone needing it the most. When a dam washed out by floodwater, they all went out and put in another brush dam. When an irrigation ditch needed cleaning, they went out together with their shovels and cleaned it out.

“There were only a few farm machines, but they had the plow, drawn by horses. Even plowing was done from farm to farm by someone who had a plow and a team. At other times the people he plowed for did something for him. Every field was put into crop. And so successful was their planting that if you climbed to the top of one of the nearby hills, as far as your eyes could see, you would see green along the river. All this was the result of helping each other, and having plenty of water from the Gila River. That is how the Pimas farmed in the Gila Valley for hundreds of years.

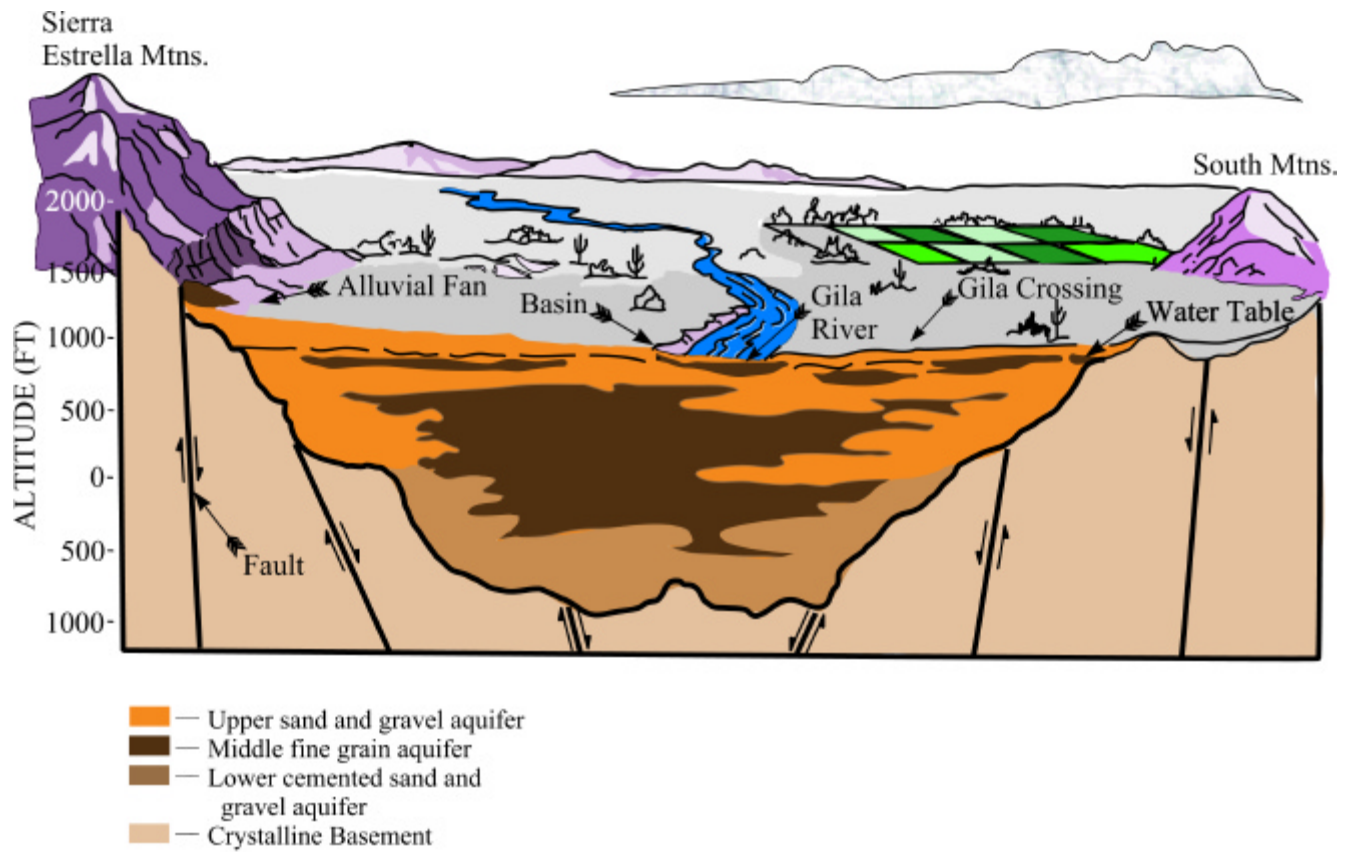
“Then came a time when all this was changed....

“Now the river is an empty bed full of sand. Now you can stand in that same place and see the wind tearing pieces of bark off the cottonwood trees along the dry ditches.

“The dead trees stand there like white bones. The red-winged blackbirds have gone somewhere else. Mesquite and brush and tumbleweeds have begun to turn those Pima fields back into desert.”

There were multiple causes for the changes occurring among the Akimel O’otham and Pee Posh a century ago. Indeed, the 19th century was a time of rapid change for all Americans. But in the arid desert of south central Arizona water was—and, indeed, still is—the lifeblood of a community. It was the loss of their water resources that precipitated the time of change among the Akimel O’otham

and Pee Posh. While the Pee Posh on the West End managed to hold on a few more years they, too, would eventually experience change wrought by a river that flowed no more.



Geologic Cross Section of Lithologies and Aquifers
(Generalized)

Teacher Plan for “A Time of Change”

Terms to know and understand

- Calendar Stick
- Second growth
- Submergent
- Emergent
- Overpumping

Critical Thinking:

- In 1900, the *Phoenix Gazette* reported that there were more than 30,000 cords of cut mesquite waiting to be sold at Maricopa Station. This was wood cut from Community lands. Today, many areas of the Community are dotted with mesquite stumps, indicating where these trees once stood. How might this cutting of wood have impacted the environment? Culture? Community health? Did the people have any alternative to cutting and selling wood? What might you have done had you lived 100 years ago?

Activities

- If you have a copy of Frank Russell’s book *The Pima Indians*, have students read pages 38-66 (especially pages 52-66). These pages include the narration of the Pima Calendar Stick, as “told to [Russell] by their possessors.” The Calendar Sticks included in Russell’s book cover a 70-year period (1833-1900) and were recorded, maintained and read by O’otham men who memorized important events by using mnemonic characters. From these pages, have students identify what other changes were occurring within the Community? Then discuss these changes.
- Have students make their own calendar stick. Have them describe what each mark or symbol means. Discuss with students other ways that people have recorded history.
- Mesquite trees are said to have roots twice the length of their height. Have students look at the attached cross section of the Gila River Valley. Younger children may wish to color the picture. With older students, discuss with them how water is stored in aquifers below the surface. What happens when people pump more water out of the ground than is naturally recharged? How does this affect the flora and fauna? What impact do we see yet today?

About P-MIP

The Pima-Maricopa Irrigation Project is authorized by the Gila River Indian Community to construct all irrigation systems for the Community. When fully completed, P-MIP will provide irrigation for 146,330 acres of farmland. P-MIP is dedicated to three long-range goals:

- Restoring water to the Akimel O’otham and Pee Posh.
- Putting Akimel O’otham and Pee Posh rights to the use of water to beneficial use.
- Demonstrating and exercising sound management to ensure continuity of the Community’s traditional economy of agriculture.

Students will be able to:

1. Identify the causal factors behind the changes occurring among the Akimel O’otham and Pee Posh a century ago.
2. Analyze the effects of a declining water table on the flora and fauna of an area and on the human population.

Objectives