Land of Extremes

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FROM ARID DESERT INTO A LUSH LAKE

ANCIENT FISH TRAPS *found in Imperial County*

BY NEAL V. HITCH | Special to this Newspaper/Imperial Valley

Ancient Lake Cahuilla at times has covered Imperial Valley, transforming an arid desert into a lush lake supporting abundant life. Native Americans migrated seasonally between the mountains and the lake, setting up camps and villages along its shore. As the water receded, the people shifted with it. Archaeological sites have been found between 40 feet above and 203 feet below sea level.

For at least the last 27,000 years, and possibly millions of years longer than that, the Colorado River has periodically overflowed and changed course — emptying into the Imperial Valley.

The river filled the valley creating one of the largest freshwater lakes in North America.

In the last thousand years alone, geologists believe that Lake Cahuilla has filled and dried up four times — most recently 300 years ago.

Marshes ran along the shoreline, with cattail, arrow weed, and tule providing habitat for fish, shellfish, and waterfowl.

Rabbits, coyote, Borrego sheep and mule deer were all drawn to this bountiful environment when water filled the desert.

Habitation sites and camp sites began to be located along the shoreline as Native Americans came to rely on the resources of the lake.

After the lake filled, it began to recede.

Native Americans moved their camp sites and continued to rely on the lake for generations.

One of the best sources of evidence of the recession of the lake are the archaeological features known as fish traps.

These stone structures exist from 38 feet below sea level to 140 feet below sea level.

The fish traps came into use during the last recession of the lake, and as the shoreline shifted with the receding lake, new fish traps were built at the water's edge.

Over 400 fish traps have been identified, and many more have been lost to road construction and farming.

In 1997, Jay von Werlhof completed detailed documentation of 67 fish traps in the north end of Imperial County.

His work showed that there were efforts to build traps at the high line of the lake, at 40 feet above sea level.

It was not until the lake had reached 50 feet below sea level, however, that large scale trap construction was undertaken.

This may have been related to the terrain and the effective slope of the shoreline at this elevation.

Stones gathered from the immediate area were stacked in V-shaped or U-shaped fish traps on the shoreline.

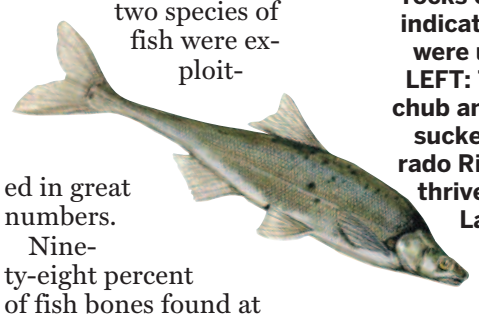
They measured 10-20 feet with one side longer than the other, and the narrow end was left open facing the water.

The most common materials were boulders supplemented with cobbles. In another type of fish trap, large cavities were dug into rocky slopes that had been flooded by Lake Cahuilla.

What were they fishing for?

Colorado River fish spilled into Lake Cahuilla, forcing them to adapt to a new environment. They continued to reproduce and created an accessible food source for local Native Americans.

A study completed by Kenneth Gobalet determined that only two species of fish were exploited in great numbers.



Ninety-eight percent of fish bones found at archaeology sites are bonytail chub and razorback sucker.

Both of these fish thrived in the warm, productive, plankton-rich environment of Lake Cahuilla.

They were a significant dietary resource along the shore of the lake. The consistent size of the fish remains documented in archaeological sites indicate that they had been caught during their spawning phase.

These two fish, the bonytail chub and the razorback sucker, adapted to the new conditions of the lake environment by spawning at the shallow edges. One hypothesis is that Native Americans observed the fish and then placed fish traps where they could take advantage of this spawning behavior.

Scientists are uncertain exactly how the traps were used.

The traps may have extended down into the lake, or they may have carved out areas in the shallow marshes and reeds.

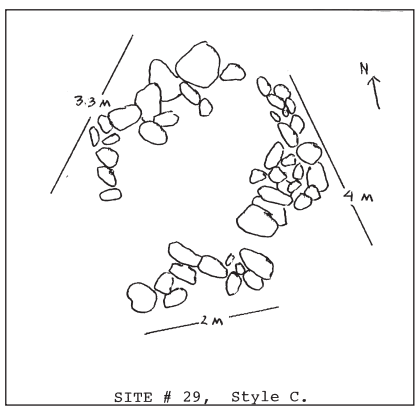
They may have held poles and nets.

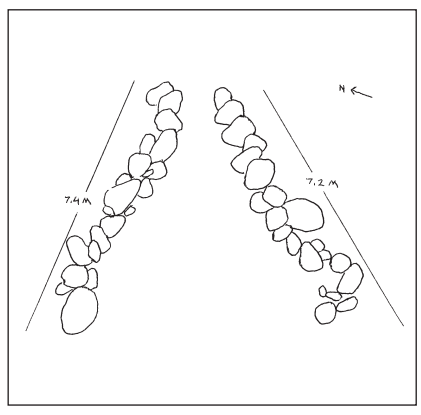
One hypothesis is that the rock walls functioned to funnel fish into a basket trap placed at the point.

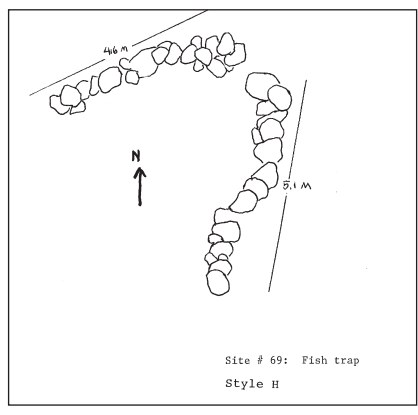
Tufa on the rocks indicate that the traps were under water. It is clear that they worked very effectively. Fish was a main staple and an important source of protein for the people living at the shore of the Lake Cahuilla.

Neal V. Hitch is director of the Imperial Valley Desert Museum in Ocotillo.

LEFT: A typical fish trap site. In 1997, Jay von Werlhof completed detailed documentation of 67 fish traps in the north end of Imperial County. BELOW: Types of fish traps documented by Jay von Werlhof in 1997. COURTESY PHOTOS







RIGHT: Tufa on the rocks of a fish trap indicated the traps were under water. LEFT: The bonytail chub and razorback sucker were Colorado River fish that thrived in ancient Lake Cahuilla.

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