







# History of Water in the L.A. Basin: What did the First Humans Drink?

## Overview:

Students will learn where the indigenous people (Native Americans called the Tongva/Kizh [also referred to as the Gabrielino or San Gabriel Band]) got water when they first settled in the LA Basin about 8,000-10,000 years ago. Then students will also learn where Angelenos get their water today.

## Objectives:







At the end of the lesson students will be able to:

-  **Name** the Native American/indigenous people who first lived in the L.A. Basin (the Tongva/Kizh or Gabrielino), and explain why their name has changed over time.
-  **Point** to three spots on a map of L.A. where the Tongva/Kizh lived (are where University High School is currently located at the corner of Wilshire/Barrington Streets in West L.A., the Ballona Wetlands in Playa Vista, and on the L.A. River just northeast of downtown L.A.) and why they chose these places to live.
-  **Explain** why the water in the L.A. River is not drinkable today.
-  **Specify** that L.A. gets most of its water today from Northern California.



## Preparation:

-  Review the Handout.
-  Prepare audio visual equipment.


## Materials:

-  Overhead projector
-  Map of L.A.
-  Handout I: “Many Rivulets Run Through It”
-  Visual Aid: “Map of L.A. Where Some of the Tongva Lived”
-  Visual Aid: “Map of California’s Water Sources,” where the California Aqueduct (State Water Project), L.A. Aqueduct, and Colorado River are delineated
-  Supplemental photos of Tongva site at University High School in West L.A.




## On the Board:

-  Vocabulary
-  Student Reflection Questions




## Suggested Snack:

-  There is no suggested snack for this lesson. See our Healthy Snack Database for ideas.

## Vocabulary:

 Tongva  
 aqueduct  
 percolate

 indigenous  
 Tongva-  
 Gabrielino

 delta  
 tributary  
 perennial

## Learning Activities:

### I. Presentation (40 min.)

- A. Introduce this lesson by asking the students what group of people lived in Los Angeles as long as 10,000-8,000 years ago? (Native Americans [the Tongva/Kizh]). Ask students:
  - What do you think they ate? (fish, acorns, small animals, nuts and berries).
  - Where do you think they got their water?
- B. With the overhead projector show the Visual Aid: "Map of L.A. Where the Tongva Lived" and point out where three of the many villages were located. (On the land where University High School in West L.A. is located because there were and continue to be springs there, on Ballona Creek [a former tributary of the L.A. River] in the Playa Vista area of L.A., and El Rancho del rio de Los Angeles just northeast of downtown L.A. is where the L.A. River and another river come together).
- C. Distribute the handout "Many Rivulets Run Through It," from the *L.A. Times*.
- D. Have students read the handout about the Tongva springs on the University High campus. Students may annotate their handout with questions, highlight key points, and underline contextual clues for vocabulary words. Guide the annotation as needed.
- E. Tell students that when the Spaniards came to L.A. in 1769 they called the Tongva the Gabrielinos; nowadays they are called by either name, and more recently some historians suggest that "Kizh" is a more historically accurate name for the native people of Los Angeles.
- F. Tell students that when the Spanish came they drank from the L.A. River (point it out on the map), but it is not drinkable today because it has been polluted by humans.
- G. Conclude the discussion by asking: Where does L.A.'s drinkable water come from today? Point to the areas on the California map when discussing: more than 50% of L.A.'s water is imported from the (1) North through the California Aqueduct which brings water from the Sacramento-San Joaquin Delta, (2) the Owens Valley in the Northeast through the L.A. Aqueduct, and (3) the Colorado River.

2. Snack: There is no suggested snack for this lesson. See our Healthy Snack Database for ideas. (5 min.)

3. Have students answer the Reflection Questions in their garden journals. (5 min.)

### Student Reflection Questions:

1. Why do you think the water in the L.A. River today is not drinkable? Identify one or two reasons.
2. What are your suggestions for making the L.A. River drinkable again?

### Assessment Questions:

1. When did humans first live in the L.A Basin?
  - A. 5,000 years ago
  - B. **10-8,000 years ago**
  - C. 100,000 years ago
2. From where does Los Angeles gets most of its drinkable water?
  - A. Water that has been recycled
  - B. Wells
  - C. **Northern California**

### Standards:

#### Next Generation Science Standards

- ESS3.C: Human Impacts on Earth Systems

Human activities have significantly altered the biosphere, sometimes damaging or destroying natural habitats and causing the extinction of other species. But changes to Earth's environments can have different impacts (negative and positive) for different living things. (MS-ESS3-3)

#### Common Core State Standards

- CCSS.ELA-LITERACY.RST.6-8.1

Cite specific textual evidence to support analysis of science and technical texts.

- CCSS.ELA-LITERACY.RST.6-8.2

Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.

- CCSS.ELA-LITERACY.RST.6-8.7

Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).

**Acknowledgements:**

“Many Rivulets Run Through It.” Hector Tobar, LA Times.

<http://articles.latimes.com/print/2009/aug/11/local/me-tobar11>

# A rivulet (actually, many of them) runs through it

By **HECTOR TOBAR**

AUGUST 11, 2009

**H**ere in Los Angeles, we've paved over almost all of the coastal sagebrush, bulldozed hillsides, channeled our rivers and streams, and filled in our creek beds.

Mother Nature has taken a real beating. But she hasn't given up the fight.

In the middle of August, weeks after the last serious rain, she is sending pure, cool water flowing through the city of Los Angeles and environs. The fresh water runs in a handful of places as it has for centuries, in the perennial streams and riverbeds that soothed the thirst of Spanish explorers and settlers almost 300 years ago, and before them, the Tongva Indians.

Underneath the Westside traffic on Wilshire Boulevard, a small creek flows south. It's filled with groundwater that's percolated, very slowly, down from the Santa Monica Mountains. Near the corner of Wilshire and Barrington Avenue, the stream makes a right turn, then surges upward through an earthquake fault on the campus of University High School in Sawtelle.

Last week, I watched the water bubble up at a spring next to a school science building. At the bottom of a pond about 12 inches deep, I could see the water pushing up through sand, oozing like some Hollywood special effect.

"Seeing this is like a religious experience," said Jessica Hall, who writes for the "L.A. Creek Freak" blog.

Indeed, there was something miraculous about reaching down into a pool of water in the middle of L.A.'s urban sprawl, and then cupping my hand to take a drink. I felt transported in time to the unspoiled Los Angeles that was a little village surrounded by rivers that ran rocky and free.

I also got a taste, perhaps, of the Los Angeles of the future.

Before it was developed in the 20th century, the western half of Los Angeles was covered with streams, most of them tributaries of Ballona Creek. Hall, 41, is one of a small band of activists who are documenting that old watershed and trying to bring stretches of it back to life.

She can tell you where streams like the Flower Garden River used to flow. Or the Sacatela, which ran south from Los Feliz -- underneath the current location of the famous Shakespeare Bridge -- all the way to the Mid-Wilshire district.

Beneath the asphalt and concrete, Los Angeles is a city crisscrossed with dormant streams. Hall tracks their paths using old U.S. Geological Survey maps, aerial photographs and what she finds during long walks through the city.

"Los Angeles is a place that's been treated as if it were a blank slate, a place where you can build whatever you want," Hall said.

But the landscape still retains much of its original topography. It is still a creation of nature. And when the rains come, the water still pretty much follows the old paths.

"There's a beauty to accepting the place you live in and getting to know what makes it unique," Hall said.

Bits of these old streams still carry water in summer. Last week, I watched a creek cut through the Wilshire Country Club in Hancock Park. Through the fence at the golf course's southern boundary, near the intersection of 3rd Street and Hudson Avenue, the water empties into a concrete culvert, moving southward. This is the old Rio del Jardin de las Flores, a stream that still flows through backyards in Brookside Estates.

When Hall first learned about the stream a decade ago, she was stunned. She had grown up in a South Bay suburb seemingly devoid of rivers, creeks and other wild things.

"I thought I knew L.A.," she remembered. "I thought: 'There's no streams in L.A.' " When she found the Rio del Jardin de las Flores, it set her off on a quest in search of more rivers.

Eventually, her explorations led her to people like Angie Behrns, who can still remember what it was like to live in a city of untamed streams.

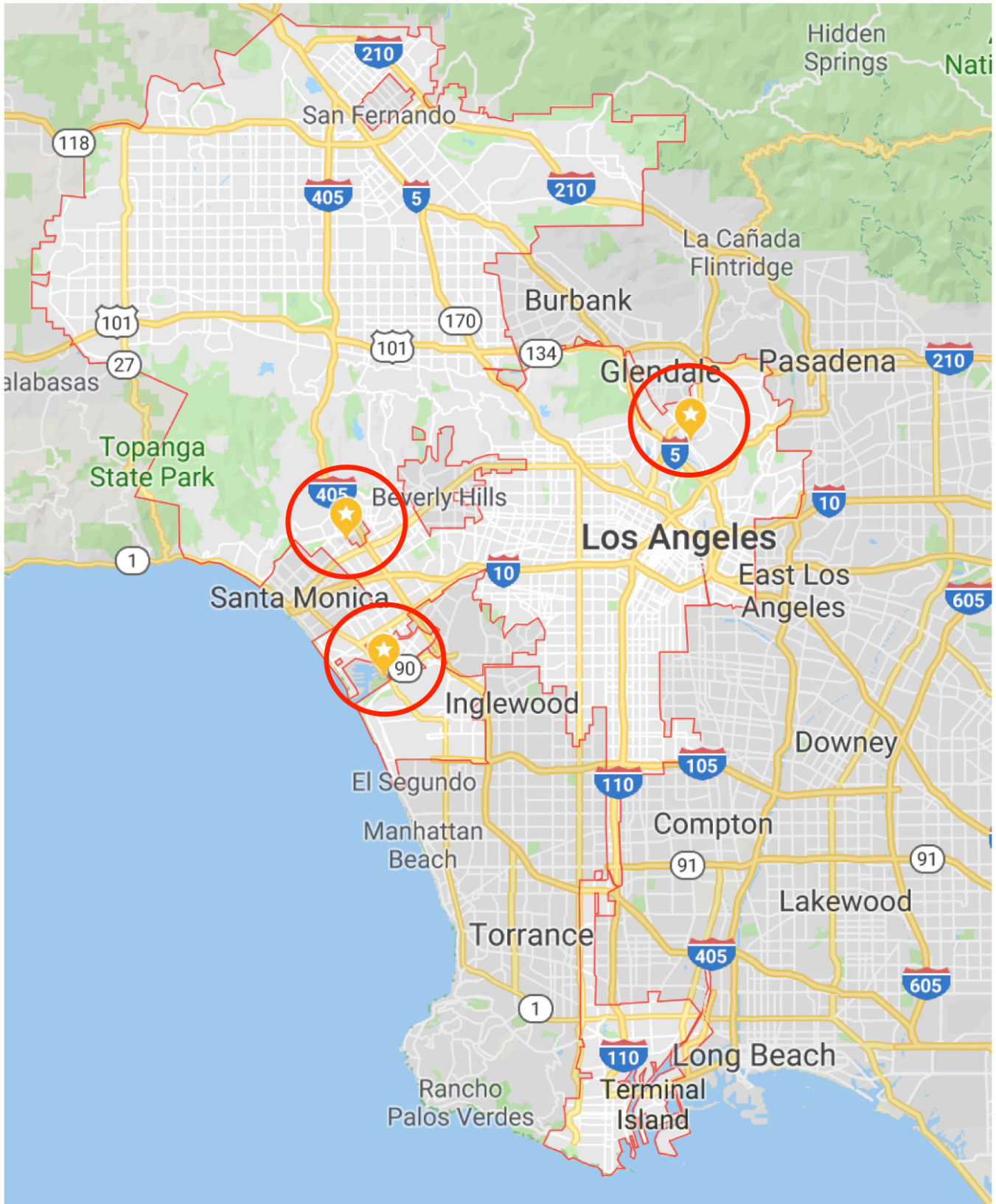
Behrns, 71, is from a family of Gabrielino Indians, another name for the Tongva people. The flowing water at the University High campus holds a special place in her memory. "This is part of my history," she told me when I visited the springs. "Four generations of my family have come here."

The Gabrielinos, she said, have always treasured the waters for their healing powers. She attended University High in the 1950s. And when she hurt her wrist playing volleyball there, her father told her: "Put your hand in those springs and you'll be cured."



# Map of Where Some of the Tongva Lived in Los Angeles

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# Map of California's Water Sources







# WOUNDED DEER SPRINGS


A VILLAGE SITE OF THE TONOGVA INDIANS WHO ENJOYED THE WATERS AND PARTICIPATED IN RITUAL GAMES HERE AS THE ORIGINAL INHABITANTS OF THIS AREA.

DEDICATED IN THEIR MEMORY ON OCTOBER 27, 1979 BY THE UNIVERSITY HIGH SCHOOL "WARRIORS".

# Kuruvungna Village

UPPER WATER FALL

STATE HISTORIC SITE #522



THE NATIONAL SOCIETY  
SONS OF THE AMERICAN COLONISTS  
CALIFORNIA STATE SOCIETY  
LOS ANGELES, JOHN BORTON CHAPTER

BICENTENNIAL MARKING 1976

MARKED THIS DAY MARCH 20 1976, AS A CALIFORNIA HISTORICAL SPANISH COLONIAL LANDMARK IN 1776 PORTOLA ENCAMPED AT THE SPRINGS AS PART OF THE RANCHO SAN VICENTE-SANTA MONICA KNOWN AS THE 1. JUNIPERO SERRA SPRINGS; 2. EL BERRENDO; 3. SAN GREGORIO; 4. SAN VINCENTE SPRINGS. THIS SITE IS ON THE EL CAMINO REAL ROUTE, USED BY THE MISSION FATHERS AND DISCOVERED BY THE FRANCISCAN MISSIONARY PRIESTS AND BY FATHER JUNIPERO SERRA, WHO LIKED IT'S WATERS KNOWN BY THE INDIAN HABITATION AS 5. 'WOUNDED DEER SPRINGS'.