

# ALL ABOUT OUR WATERSHED

## Why is the Mokelumne River called 'Mokelumne'?

By Heleana Lima Overby  
JOE SERNA JR. CHARTER SCHOOL

I have recently learned about an amazing ecosystem right here in California called the Mokelumne River.

First, I learned about this river we see here today, but then I wanted to know more, to dig deeper into the incredible features and history of the

Mokelumne River.

But do you sometimes wonder why the Mokelumne River is called Mokelumne? I mean, I have to admit it is a pretty good question that sounds interesting to learn about. So, why is the Mokelumne River called Mokelumne?

Well The name "Mokelumne" comes from the words for "people of Mokol." Mokol was prob-

ably the name of a nearby Miwok village. The Miwok, Yokuts, and Wintun Native American tribes lived in the areas around the Mokelumne River for many generations.

The Mokelumne River comes from the Sierra Nevada mountain range and runs through Northern California.

The river drains 2,100 square miles of watershed, snowmelt

from the mountains and foothills. It crosses nearly the full width of California and supplies water to the East Bay.

The Mokelumne River is also full of untamed wildlife. The shores are painted with colorful wildflowers and trout, steelhead, and salmon fill the water. The river not only gives our cities water, but it also gives water to the wild animals and

forest surrounding it.

The Mokelumne River brought life to the people before us and continues to, across Northern California, today.

I have really enjoyed learning about the history and features of this wondrous natural habitat, and I hope you did too. Keep asking questions and studying this great river. I know I will!

## What is a watershed, anyway?

Heritage students share watershed definition, trivia

A watershed is an area of land where all the water leads to the ocean. Fish, owls, whales, and other animals live in watersheds.

For this reason, rivers and lakes must be cleaned. If everyone picked up their trash, we would prevent littering from going to the ocean.

Cleaning after ourselves is important because we help protect the environment.

— Esteban Cervantes-Zabaleta

Do you know what a watershed is? A watershed is an area of land where surface water drains to a point.

Every watershed has a location that leads to a river, lake, or ocean.

I did some research and found that everyone lives in a watershed!

— Johanna De La Luz

Did you know that there are 160,000 watersheds in the United States?

Also, more than 1,500 species of animals live in watersheds. However, more than one third of our lakes are unsafe.

Therefore, we must keep the rivers and oceans clean.

— Jose Garcia

## What are the differences between river and sea otters?

Vanessa Ha  
JOE SERNA JR. CHARTER SCHOOL

### River Otters

- Male otters can weight up to 30 pounds; meanwhile females weigh up to 20 pounds.
- Have only two layers of fur: One to keep warm, and another layer to be "waterproof."
- Their tail are more long and pointed.
- They enjoy relaxing by riverbanks, and mostly only get into water to scavenge for food and to travel

more efficiently.

- Prefer to swim belly down, with the majority of their body submerged in the water.
- Use their four webbed feet to swim.
- They can dive up to 60 feet.
- They can have up to two to three pups at a time.
- The pups leave on their own around 6 to 12 months.
- They reproduce sooner than sea otters.
- They achieve maturity between ages 2 and 3.

• The parents keep their young safe in dens built on riverbanks.

### Sea Otters

- Males can weigh up to 90 pounds, and females can weigh up to 60 pounds.
- Have the thickest fur in the entire animals kingdom! They can have up to 1 million hairs per square inch.
- The fur is needed for the chilly temperatures in areas like the Pacific (temperature can range

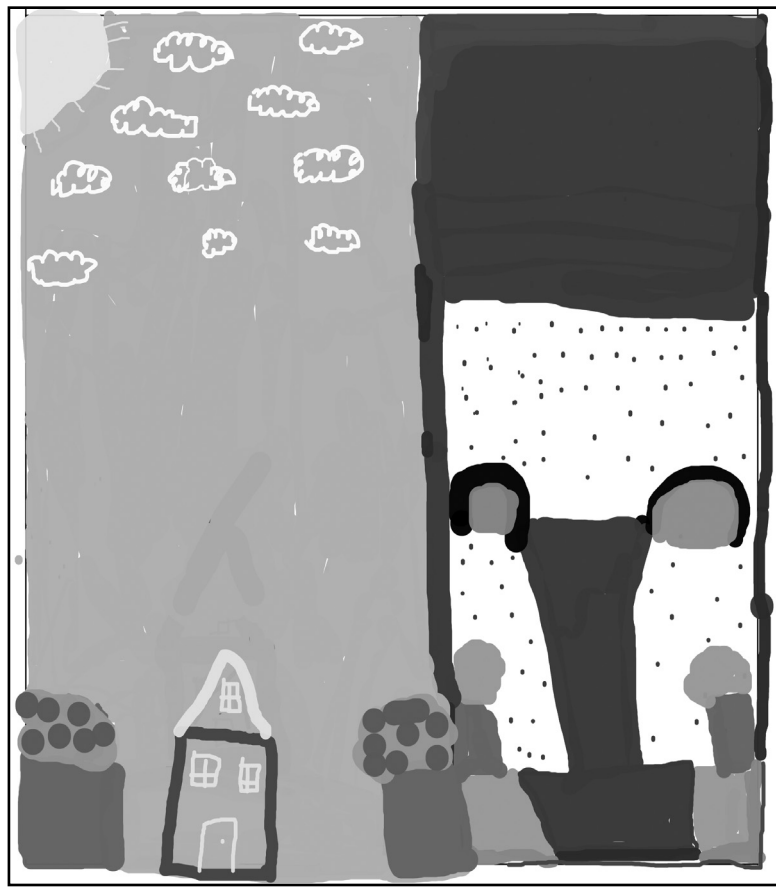
between 35 to 60 degrees!) especially as it drops much lowers around Alaska and Canada.

- They rarely go on land.
- Prefer to lay on their backs, even when eating.
- Most sea otters like to hold hands with one another so that they don't drift apart when sleeping.
- Use their webbed hind feet and their tail to swim.
- Can dive several hundreds of feet to scavenge for food.
- Typically only have

one pup at a time.

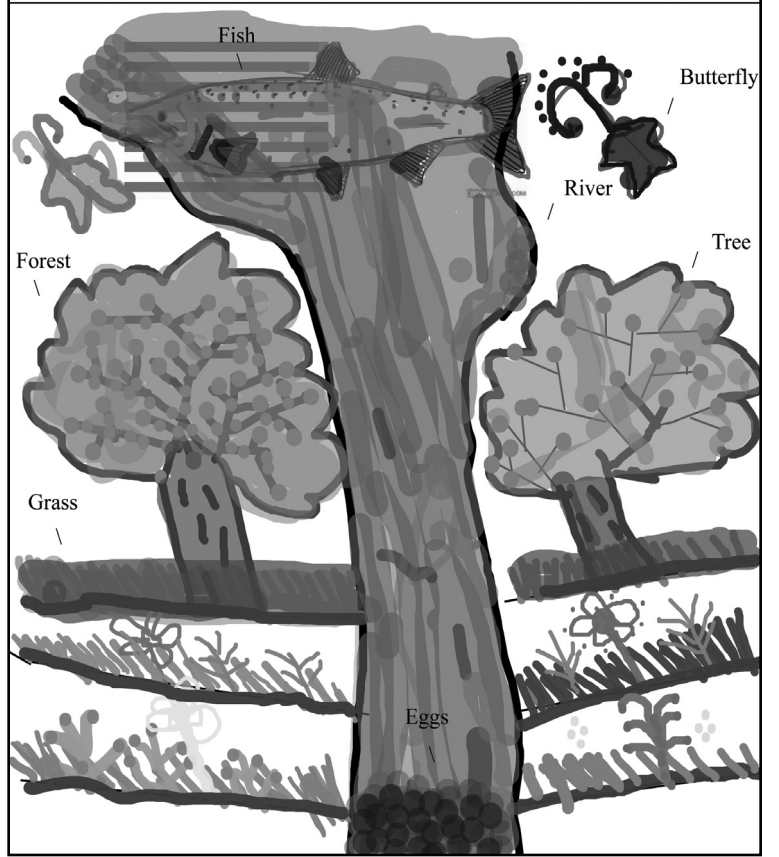
- Pups leave for their own after about 8 to 12 months.
- The females reach maturity around the ages of 3 to 5, and the males even later, around 5 to 7.
- The moms keep their pups safe by cuddling them up on their stomach until they are old enough to swim on their own.
- They are known to keep their young wrapped up in kelp while out hunting for food, so the pups just sort of bobble up to the surface.

## The Mokelumne River



MARICNY AGUILAR RUIZ/HERITAGE ELEMENTARY SCHOOL

## When people litter, they harm the environment.



AZUCENA MARTINEZ SEGURA/HERITAGE ELEMENTARY

## Public Works inspector Claudia Torres helps monitor Lodi's surface and well water

By Mrs. Martinez's Sixth-Grade Class  
REESE ELEMENTARY SCHOOL

Students at Reese Elementary School interviewed Claudia Torres, an environmental compliance inspector for the City of Lodi's Public Works.

**Q:** What are your job duties?

**A:** OK, so one of my main job duties that is generally related to what you guys would understand, is that I sample the drinking water in town. So we have the water plant right here next to Lodi Lake, and they produce drinking water for you. I sample that, and then I also sample from the different wells that are in town ... I make sure the water is safe to drink.

**Q:** What schooling or training do you need for your job?

**A:** ... I have a bachelor's degree from California State University, East Bay, and that degree is in environmental science. I had on-the-job training as well that went along with that, but definitely my degree helped me be better prepared for the job.

**Q:** What do you think is most interesting about your job? Why do you like your job?

**A:** Honestly it kinda falls between interesting and semi complicated; just staying on top of all the new technology and the current events with testing water quality. I find it interesting and also kinda draining at times because there's still so many things that come up all the time. You want to stay on top of it and you want to know how to do your job to the best of your abilities and to provide new, better, and faster ways to test water.

**Q:** What led you to this career?

**A:** So, ever since I was a little kid, I always kinda had an interest in being environmentally friendly. And I remember when I was a little kid, I think it was maybe fourth or fifth grade, we had a contest similar to the posters that are up at the (Lodi Lake) Discovery Center — we had one at our school and I remember winning. I think it was like first or second place that I won, and I just did a poster on what it means for me to, you know, protect my environment. So it just kinda led to these series of events that just kept pulling me in more and more environmental classes. I took courses and participated in events with my school, and yeah, it just kind of went from there.

**Q:** Why do we need to test the surface water in Lodi?

**A:** We need to test it to make sure that it is safe for us to play in and to, you know, when you're playing in the water sometimes you can drink it, which is why we want to make sure there is no contamination. We want to make sure that there's nobody putting something in the water that they shouldn't. We want to make it safe for our pets and we also want to make it safe for the environment. You know like fish and the plant life, this is their home and we have to protect it.

**Q:** Why do we need to do bacteria samples for E. coli?

**A:** So doing the bacteria samples helps us get a better understanding of what kind of water we are dealing with. We do that test for our drinking water, but we've never done it on the river water before, so this is a

completely new thing for us in the city itself. ... It's always better to have more information than not enough, and so this is definitely more data information than we can have on the river, or any kind of event that could come up in the future.

**Q:** Do you have to sample the bacteria before the beach opens?

**A:** Yes, we do, so I've been doing that; we have been doing that. I've been going out on Tuesday mornings at 7 o'clock. I go out on the beach area to collect the samples. We usually like to collect I think about three or four prior to the opening date on Memorial Day, and that gives us an understanding as to how impacted it is — you know, how much abundant E. coli we have in there. And there's a difference between the E. coli and the coliform, and the coliform is like the family and E. coli is just a small part of it, so fecal coliform is what we want our numbers to be low in, and that's more of the poop, and the bad kind we don't want to put in the beach area.

**Q:** Is that from the animals in the area?

**A:** ... Our main producer is our geese. Geese are definitely cute to look at, but they aren't very friendly for our waters, and they do increase our E. coli and fecal coliform counts when I sample. I mean, fish also, but for the most part it's the geese. The geese are a problem.

**Q:** What kind of animals do you see when you're on your job?

**A:** I see a lot of birds, a lot of geese. I mean, mostly insects, honestly. I see a lot of spiders ...

**Q:** What kinds of bacteria do you test for?

**A:** Just the coliform family, so we just test for E. coli and fecal coliform.

**Q:** have you ever gotten sick mentally or physically from your job?

**A:** So, I have to take out a kayak and paddle over to the beach area, because you don't want to disturb the ground or the dirt. I don't want to walk on anything and kick up a bunch of dirt and contaminate the sample, so I kayak out there and I would say those kayaks are pretty heavy. I think that's the only time I remember that I was like, "Man, this is hard."

**Q:** Where do you spend the most time for your job?

**A:** In my car. I drive from one well site to another, or sample stations to another, so I spend a lot of time in my car.

**Q:** Does the city only test for E. coli?

**A:** That's the only kind of bacteria. I mean, we do other tests, you know, for contaminants. We make sure that there are no contaminants, and that carbon filters, they are granulated activated carbon wells, and they are doing their jobs and removing any kind of contaminants from it. So I test those on a monthly basis.

**Q:** What kind of contaminants would you find?

**A:** We are testing for, it's called DVPC and it's a very long word ... It's a chemical that many, many, many, many years

ago, I think it was like when our groundwater was contaminated by the cleaners that I think we were using, and it got into our groundwater, so we have to test for it just to make sure that its not there.

**Q:** What's the farthest you go for your job?

**A:** Prior to COVID, we would have to attend conferences and classes to stay on top of our craft. Locally I think I went to Sacramento, but there are other conferences out of state that we would go to, and those are fun. But that was before COVID, so I don't know if they are going to come back.

**Q:** Have you ever found anything besides E. coli, on accident?

**A:** We can only detect what we are setting it up to detect for.

**Q:** Is the coliform specifically used to detect E. coli?

**A:** Yes. So those are meant to specifically test for E. coli with these particular plates. Basically it's just kind of like food for the E. coli. So if there's E. coli in the solution that you put it in, when you put it in there — you squirt your vials in there — and the E. coli will like it and grow, and then you place it on the plate, and the plate has a special coating, and that coating is what turns it either blue or pink or like a teal. ... There's a coating on the plate, and that will react with the media when it's in there, and the media is just like candy for the E. coli.

**Q:** How long did it take for you to get your degree?

**A:** Three or four years, or just barely under four years.