



## Let's keep Lodi Lake clean

Students clean up four bags of trash over Easter weekend

By Aiden Burt  
VALLEY ROBOTICS ACADEMY

A few weeks ago, I was at Lodi Lake with my friend Darien. We wanted to hang out there because we wanted somewhere to hang out outside in the pandemic. While we were walking down a nature trail around the lake, we spotted a bunch of garbage.

We thought it was disappointing that people were littering

everywhere on a nature trail where animals live. Also, we thought it was disappointing that there was any garbage at all, when there are trash cans located at the lake. It is very easy for people to throw away their garbage there.

So, we decided to clean up the lake.

The first day of our trash pick-up was on Easter Sunday. We brought garbage bags and

gloves, and also bottled water in case we got thirsty while we were working. There were a lot of people at the lake, and we could have picked up more garbage, but some of it was at people's parties at the lake and we didn't want to intrude.

We decided to go again on Monday, the next day, and pick up more trash. Between the two days, we collected four kitchen-sized bags of trash. Most of the

trash was plastic: beverage containers, wrappers, and plastic bags. We also found a lot of cigarette butts and alcohol bottles — even though there are sign posts that say no alcohol is allowed in that area. We picked up trash again the following week, and found more of the same.

I think it's important for people to throw away their garbage, so that it doesn't

spread into the river and make it harmful for fish to live. Also, without the trash, the lake looks much nicer, and it makes it a nicer place to hangout.

When you're at Lodi Lake, or anywhere, it's important to pick up your garbage so that nature won't get polluted, and so that the city doesn't look like garbage — it just makes everything nicer when garbage is picked up.

## Mokolumne watershed bursts with diverse plant life

By Jhonel Cartanegas  
MORADA MIDDLE SCHOOL

A boy with his father traverses an area south of Sacramento — Kit Carson to be exact — spotting a quite small, bush-like plant.

The boy returns, now an elderly 75-year old, a leafy stalk matching his height and peering at him with bundles of white eyes.

The plant life of Mokolumne River is diverse, and hosts a relatively small number of plants south of Mokolumne Peak in Upper Mokolumne River. However, the plants that it hosts are odd, ranging from the enigmatic snow plant and monument plant to the mass array of lupines.

Named after their ravenous use of resources, lupines are generally a sign of choice soil, but true to their name ravage the local plant populus by using both its root system and pods of seeds to grow. Even with an infertile environment, a lupine can convert nitrogen into fertilizer to spread itself.

On to specific species: the spur lupine is the most normal of the lupines. It has the standard blue and purple of most lupines, pale yellows and whites are included as well. Its namesake spurs, formed from a few petals, contribute to the straightness of the single raceme inflorescence — that is, the narrowness of the spike-like arrangement of flowers — that most lupines are known for.

And on the note of most lupines, "lupinus lepidus var. lobii," or Lobb's Lupine, is a dandelion-esque lupine that tears down the model that the spur lupine set. Other than the previously mentioned "dandelion" shape; what with its flowers being higher set than its leaves, it also has a rounder and much shorter raceme than the spur lupine.

On to the last lupine. The aptly named large leaved lupine towers over the others at an average of a high-entire five feet — four-ninths to be exact — compared to six inches and 28 inches respectively for the previously mentioned lupines.

It shares the color scheme and shape of the spur lupine, though it does not have said lupine's namesake spurs, in favor of large, circular arrangements of leaves.

Onto the other plants with less species. "Sarcodes," the snowplant, paints an undeniably exquisite picture: An utterly crimson node or stalk of flowers signifying its presence. This is because it equally utterly lacks chlorophyll, leaving it with no green or means to conduct photosynthesis. Instead, it parasitizes off of a mushrooms' rhizosphere — the fungus' network of roots. It offers carbon to the mushrooms in a trade in turn for its water, food and resistance to diseases. However, by tapping into the

PLEASE SEE PLANTS, PAGE 2

## A CLEAN SLATE: How you can help your watershed



Clean environment vs Polluted environment

ANTHONY JESUS BRISEÑO, SOFIA VIANEY CASTRO & MIGUEL ORTUÑO/HERITAGE ELEMENTARY SCHOOL

Heritage Elementary School students call on Lodi residents to help fight litter and pollution

Did you know that we all live in a watershed? Yes. Carp, eels, beavers and even you!

Every watershed is important because we need clean drinking water. If our watershed is polluted, then animals like catfish and salmon will be harmed.

We could help our watershed by recycling plastic so it will not end up in the ocean. As humans, we do not want polluted watersheds, so the best way to help the Mokolumne River is to recycle.

If we help our watershed, then the animals that live there will have a better life and so will we.

— Ashley Flores

Pollution begins when people use substances that are harmful to the environment. For example when people litter, the trash flows through drainages that end up in lakes, rivers, and oceans.

You may wonder, why are pollution and littering dangerous? Well, if you enjoy eating fish, you might end up swallowing microscopic strands of plastic that is a result of litter.

The trash can severely hurt animals in the water. We can stop pollution by creating signs that say, "Stop Littering," or "Reduce, Reuse, and Recycle." Creating signs can spread the

### FACTS ABOUT POLLUTION

- Did you know that pollution can kill 1 million seabirds and 100 million mammals?
- In the world, pollution is said to be one of the main killers that affect living things.
- Every day, about 5,000 people die by drinking unsafe water.

— Javeria Hareem & Delia Salazar Flores

### 3 FACTS ABOUT POLLUTION AROUND THE WORLD

1. In the year 2020, Hotan, China was the most polluted city in the world.
2. In 2020, Calgary, Canada was named the cleanest city in the world.
3. In 2020, Lodi, California was ranked at a moderate level.

— By Aisha Parveen

word and help prevent littering.

You can also make an article just like us! Your support will help aquatic animals live a quality life.

— Javeria Hareem & Delia Salazar Flores

Pollution harms the environment because the toxins in the water could kill all species of fish and organisms. They can also become extinct due to cans, paper, cardboard, plastic and leather.

Water pollution also affects plants, trees, and human beings. In conclusion, pollution is harmful to all living things.

— Alex Adan Rios

There are many animals in the sea that get injured due to

people littering. Some materials contain hazardous substances that should not leak in the environment.

Did you know there is 150 million tons of plastic in the ocean? That is the same as 25 million elephants!

If we continue to litter, then that trash leads to the ocean where mandarin fish, salmon, and clownfish live.

Over 1 million sea animals have been killed by plastic each year. Ask yourself, if we continue to litter, would these animals survive?

All animals deserve a healthy and clean environment.

— Saliha Rowait

**INSIDE:** Turn trash into a planter, craft a field journal and more. Page 8

## Fishy work on area waterways

Watershed steward collects local fish data

By Mrs. McKilligan's Fourth-Grade Class  
LIVE OAK ELEMENTARY SCHOOL

Bryant Jew is a Watershed Stewards Program Corps member serving at the U.S. Fish and Wildlife Office in Lodi. Although most of his duties involve collecting data along the San Joaquin and Sacramento rivers for the monitoring work done by the Lodi office, he also taught a series of lessons to Mrs. McKilligan's class of fourth-grade students about their local watershed. Afterwards, the students decided to ask Bryant about his work on the river.

**Q:** Can you please give us a few examples of what kind of animals and plants you work with?

**A:** I usually work with different species of fish, like northern anchovy, Mississippi silverside, American shad, and longfin smelt. Occasionally, we also catch different species of shrimp and jellyfish.

I don't do much work with plants, but I do see a lot of water hyacinth out on the river, and occasionally there's so much of it that it clogs the nets!

**Q:** What type of fish do you

investigate?

**A:** Although we end up catching a large variety of fish, the two species we're most interested in learning about are Chinook salmon and delta smelt. Delta smelt are endangered and very difficult to find.

**Q:** How many fish have you caught in a year to investigate?

**A:** I'm not sure how many fish we usually catch in a year, but it's probably more than 10,000.

**Q:** Do you kill the fish or throw them back into the water?

**A:** Almost all of our sampling is non-lethal, which means that we don't kill the fish. We just capture them, identify them, measure them, and then release them.

In rare cases, we will catch a fish and kill them humanely so that we can study them further.

For example, fish have ear bones called otoliths that are very important to science, since they have growth rings like those on a tree. By looking at the growth rings on a fish's otolith, you can tell how old it was.

PLEASE SEE STEWARD, PAGE 7



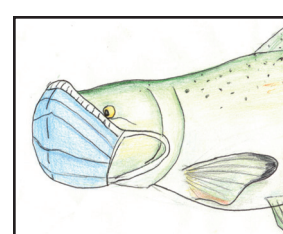
### Stylish salmon and other fish

Learn more about salmon, rainbow trout and the other fish that live in the Mokolumne River and other Lodi-area waterways. **3**



### Otters, bees and beyond

Inspired by the character of Forky and a teacher's challenge, students create their own "quarantine buddies" using recycled items. **6**



### Help the local watershed

Join the Litterati challenge, turn recycled trash into fun crafts, make a field journal, and other hands-on ways to help the environment. **7, 8**



# AMAZING INSECTS AND ANIMALS

## Monarch butterflies headed for extinction due to habitat loss

By Nicole Estrella  
MORADA MIDDLE SCHOOL

Isn't it weird how only a tiny percentage of humans actually acknowledge the fact that some everyday animals will be going extinct? One animal that could be the species of the monarch butterfly. The scientific name for monarch butterflies is *Danaus plexippus*, which means sleep transformation.

Monarch butterflies have breeding grounds, which are in the United States, and their hibernation ground, which is in central Mexico in the forest. The butterflies are going extinct because some people believe it is a good idea to disturb them when they are hibernating or just sitting somewhere.

It takes the monarchs 2,500 miles to get to either their breeding grounds or hibernation grounds. The reason that they go that far is because they need to be somewhere where the weather won't be extreme.

You may be thinking that the butterflies are the same no matter the gender, but that is not the case for these butterflies. The female butterflies have a design of two brilliant orange-reddish wings with black veins and white dots on the edges, whereas the male butterflies have black dots on their veins and are bigger than the females. The reason they have this pattern is because the colors look foul tasting and poisonous to predators. The butterflies usually

only live up to 4 or 5 weeks, which is because of the weather always changing and them not being able to make it to their hibernation grounds.

The monarch butterflies species have the biggest involvement in their migration pattern which happens because of the fact that they have over 1,000 butterflies in each of their groups. Because they have over 1,000 in just one group, more have been dying, which is why the World Wildlife Fund is trying to preserve vital butterflies.

The World Wildlife Fund is starting to preserve the butterflies in Mexico where they hibernate. That way if they do go extinct fast they will have some to reproduce some more and continue with the cycle. Every single year more than 5,000 monarch butterflies die at their breeding or hibernating grounds.

Another reason is that people put too much pressure on them to the point where they need to fly to another location to hibernate.

In 2013 the lowest number of butterflies migrated in the last 20 years, which is rare. In 2018 and 2019 there were 30,000 butterflies in California but now there are only 2,000 butterflies left.

The butterflies used to survive on milkweed that house owners used to plant, but now that there are more houses and buildings there isn't a lot of milkweed.

## PLANTS

CONTINUED FROM PAGE 1

rhizosphere and taking the mushrooms' supply of sugar, the snowplant turns the already advantageous trade into a niche in which it can thrive.

Finally, the monument plant starts off as a small, almost bush like perennial, woody herb. "Fraseria speciosa," its scientific name, grows up to six feet and is monocarpic, meaning that it only blooms upwards to a few years to just before it dies.

The fine text inscribed into the nature of this sin-

gle-stalked plant is that it lives up to 80 years, meaning that you would be quite old to see it bloom if you're unlucky enough to have a monument plant that decides to bloom after that long. On its flowering, sequenced with others of its kind, its white, green, or yellow flowers bloom in a blatant pattern — known as a panicle — on the small stems separating from the main stalk.

The plants south of Mokelumne Peak prove themselves with beauty and creativity in varying amounts, marking themselves as subjects of interest.

## How much do you know about Jerusalem crickets?

By Aaryon Dunigen  
MORADA MIDDLE SCHOOL

The Jerusalem cricket was not a pest because they were very harmless. They only occasionally damage turf and vegetables. Their food includes insects, non-woody roots, and tubers.

Aside from their alarming appearance, they generally are not pests. But they are native to the Mokelumne River.

### Where are they found?

They are most likely to be found in the western parts of the United States and part of Mexico. They are native to the desert southwest, the

western states, the and along the Pacific Coast.

### Do they hurt or affect people?

Jerusalem crickets generally feed on other insects and sometimes potatoes. Their other name would be potato eaters.

They have powerful jaws but they are not poisonous. The bite can be painful. So you have to be careful if you get bitten by one.

### Why are they called potato bugs?

If you are a potato farmer, you might be slightly more familiar with them because they are also known as potato bugs. They love to dig be-

neath the dirt and feed on the roots and tubers of potato plants.

### Fun fact about Jerusalem crickets:

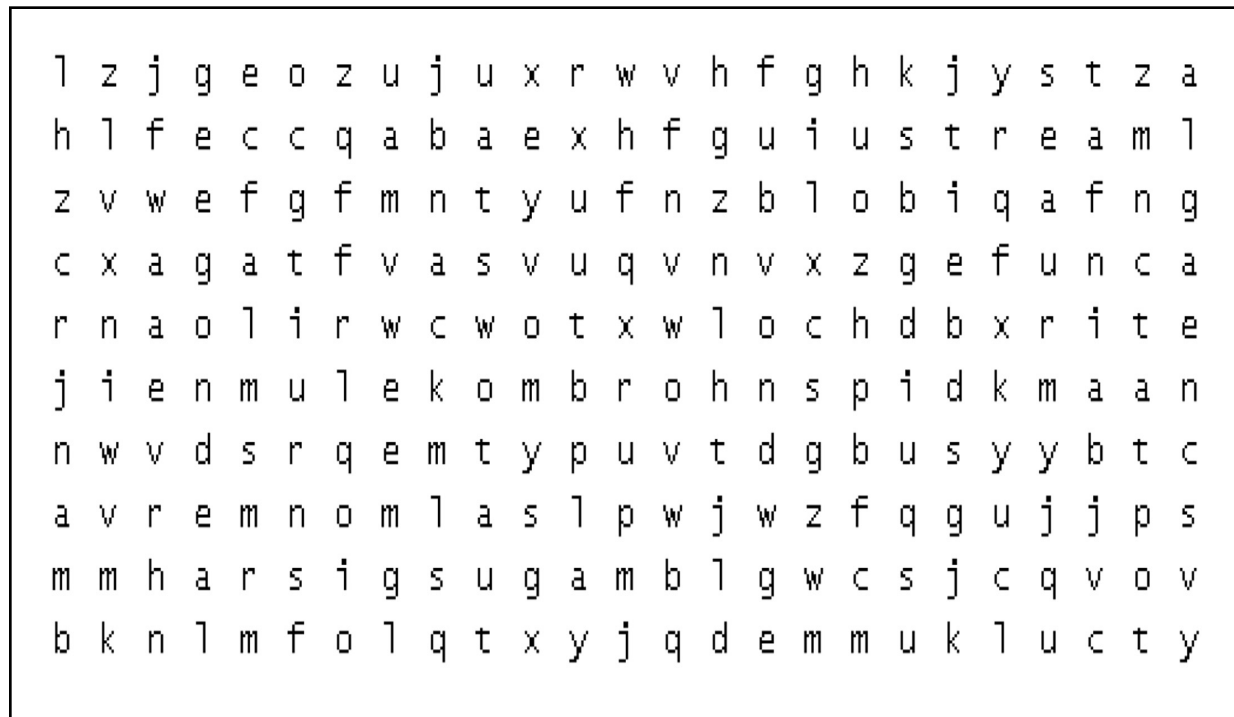
When it has a mating urge, it makes a drumming sound that sends vibrations to attract partners. The crickets scare away predators by producing an hissing sound through rubbing the hind legs against the abdomen.

### How do they look?

They are large insects and can be up to 50 mm long. Jerusalem crickets are yellow to brown in color. They have large heads and beady black eyes.

## WATERSHED WORD SEARCHES

By Cesar Cruz-Antonio/Heritage Elementary School



Salmon  
Water  
Starfish

Algae  
Stream  
Ocean

Squid  
River  
Mokelumne

By Lizette Miranda-Heras & Mariano Mejia/Heritage Elementary School



Mokelumne  
Amazon  
River Bank  
Yuba  
Colorado  
Feather  
Klamath  
Carson  
Applegate  
Illinois  
Tijuana  
Truckee

## Opinion: Why it's important to keep trash from going down Lodi's storm drains

By Karina Diaz

JOE SERNA JR. CHARTER SCHOOL

Do you really know what happens to all that trash, plastic, and waste products that go down our local storm drains?

Well, we've all seen trash and plastic water bottles on our street curbs that end up going down our storm drains, but did you realize that they go down when it rains and the running water carries the trash down our storm drains? That water ends up in our Mokelumne River!

All that trash is polluting our local water! Polluting our water causes damage to our wildlife and our ecosystems!

As I was thinking of all the side effects of trash going down our storm drains, I learned that not many people realize the damage that the trash does by going into our

storm drains.

I decided to get some people's point of view. I got my mask, my journal, and with the people's permission included their opinions here.

I wanted to see how much people actually knew about storm drains. If they did not know that the trash damages our Mokelumne River watershed, then I would explain to them the damages.

By doing this, I hope I change some people's perspectives and help change our local habits towards our local watershed!

The first person I talked to was called Esmeralda. I asked her, "Do you know what happens to all that trash piled up on the curbsides and that eventually goes into our storm drains?"

She answered, "I actually have no idea what happens to

that trash," so I decided to tell her the consequences of that trash. She was shocked and I told her to spread the word about some ways she could help our watershed.

"Thanks, I'll spread the word!" she said.

This means that if she did not know, part of her family might also not know. This is why we need to keep spreading the word! If we can save our watershed, we can save the world!

The next person I talked to was called Ricardo. I asked him the same question as Esmeralda.

His answer was different. He said, "The trash goes to our rivers and then to our oceans."

I asked him, "Do you know what the trash does in the river?"

He stood silent for a few mo-

ments then remembered that the trash polluted the river water and affected the wildlife there.

I told him some ways he could help our local watershed and we said our goodbyes.

When he had to wait a moment to think about what the trash did in our watershed, that made me feel sad because he had to think really hard to find an answer for me. This means he forgets every day about this and this is not good.

I really hope he spreads the word and helps our Mokelumne River Watershed become healthier.

The last person I talked to was called Maria. I asked her the same question that I asked to everyone: "Do you know what happens to all that trash piled up on the curbsides and that eventually goes into our storm drains?"

She answered simply with a "no." That told me that she was clueless about the topic.

I then explained to her that the trash goes to our watershed. I explained what a watershed was and told her the grave effects of the trash in our watershed.

I also explained some ways to help our watershed and to spread the word.

She was shocked and as she walked away, she told me, "I'll tell more people about this!"

With these three results that I obtained, I realized that very few people actually know what happens with the trash that goes down our storm drains, and some people, even though they know, they don't do anything about it.

There has to be a change, so whoever is reading this, help our local watershed! You can make a difference!

The students of Live Oak Elementary School, Heritage Elementary School, Morada Middle School, Elkhorn School, Vinewood Elementary School, Joe Serna Jr. Charter School, Valley Robotics Academy and Reese Elementary School would like to thank the following sponsors for their support:





# FISHY BUSINESS

## A salmon's shine can be a clue to its mood

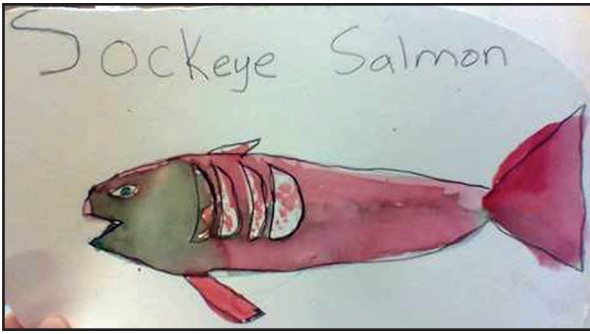
**By Cindy Hernandez-Castro**  
HERITAGE ELEMENTARY SCHOOL

There are many species of fish that live in lakes, rivers, and oceans. Salmon is one of them. There are also different types of salmon and they all have unique features that help them survive.

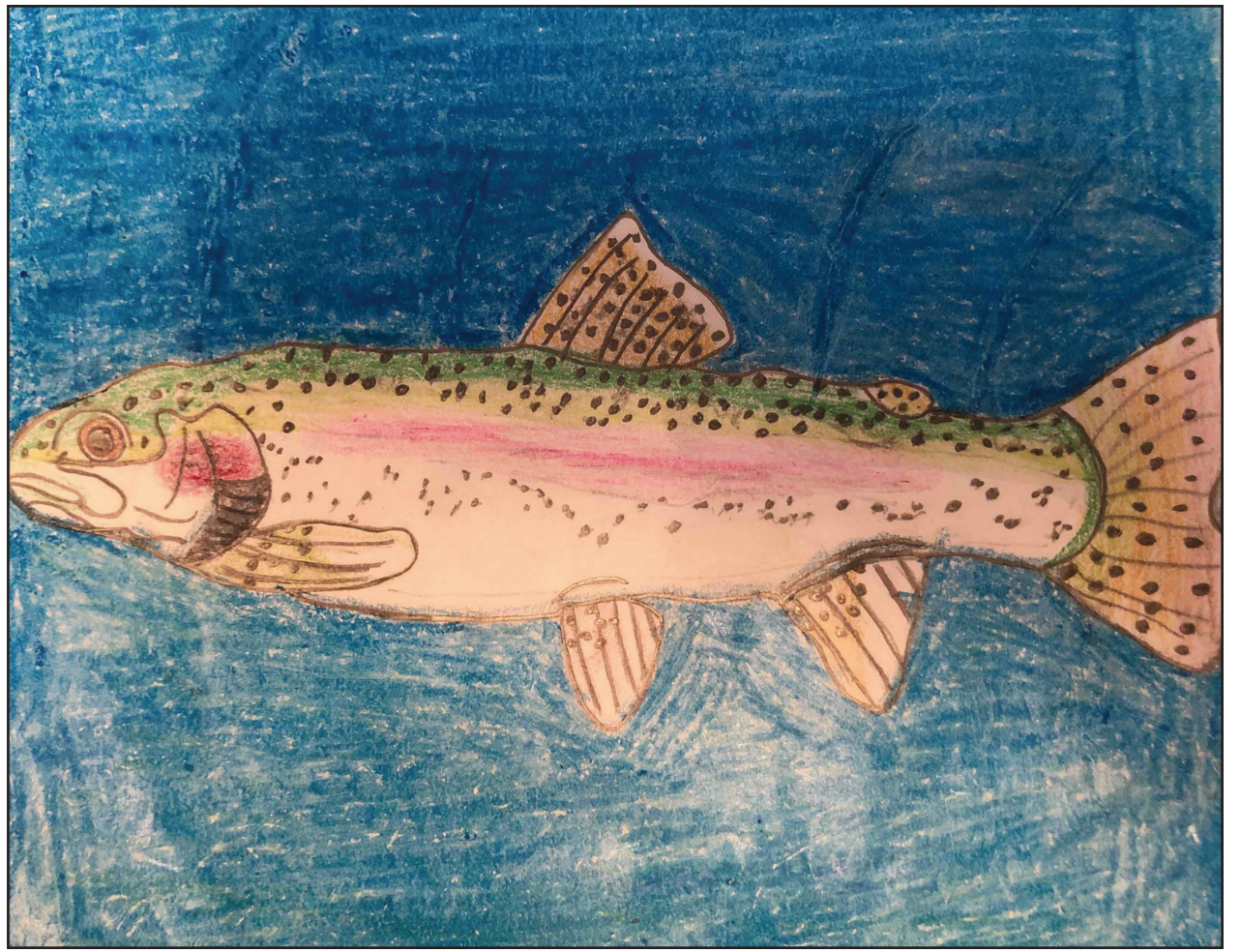
Salmon grow in many colors, including red, blue, and even rainbow! Rainbow salmon love to travel in groups.

Did you know that rainbow salmon lose their shine when they become lonely?

We can protect the fish by composting waste and picking up trash every day.



RACHEL BENNETT/VINEWOOD ELEMENTARY

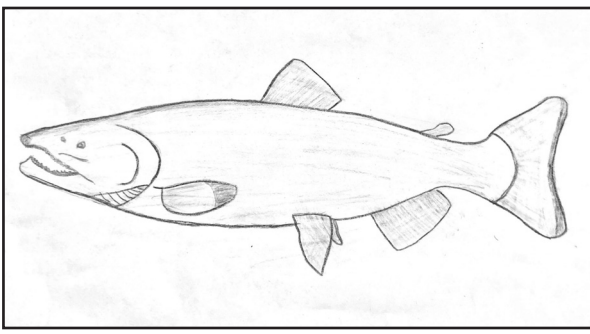


YULIANA TORRES ARAUJO & ARELIE ARRIAGA PIMENTEL/HERITAGE ELEMENTARY SCHOOL

## Fast facts about salmon

**By Lizette Miranda-Heras**  
HERITAGE ELEMENTARY SCHOOL

Did you know that there are seven species of Pacific salmon? When I did my research, I discovered that the oldest fossil is 50 million years old! Young salmon like to eat plankton. As salmon get older, they eat insects, small fish, and other organisms.



LIZETTE MIRANDA-HERAS/  
JOE SERNA JR. CHARTER SCHOOL

## Salmon by the numbers

**By Azucena Martinez Segura**  
HERITAGE ELEMENTARY SCHOOL

Did you know that female salmon lay about 4,000 eggs?

There are nine different species of salmon worldwide and many have lived for more than 50,000 years. Adult salmon can reach up to 58

inches long and weigh about 5 pounds.

The largest salmon recorded was in June 1949. It was a king salmon.

In their early lives, salmon live with their parents. Once they are adults, salmon live in the ocean and return to the area where they were born.

## 10 quick facts about the *Oncorhynchus mykiss*

**By Yuliana Torres Araujo & Arelie Arriaga Pimentel**  
HERITAGE ELEMENTARY SCHOOL

Fact 1: *Oncorhynchus mykiss* is the scientific name for rainbow trout.

Fact 2: Rainbow trouts are members of the salmon family!

Fact 3: Rainbow trout begin

spawning at the age of 3 or 4.

Fact 4: The season for spawning for rainbow trout is in the spring.

Fact 5: Female rainbow trout can spawn from 200 to 8,000 eggs per season.

Fact 6: The largest rainbow trout recorded weighed 57 pounds.

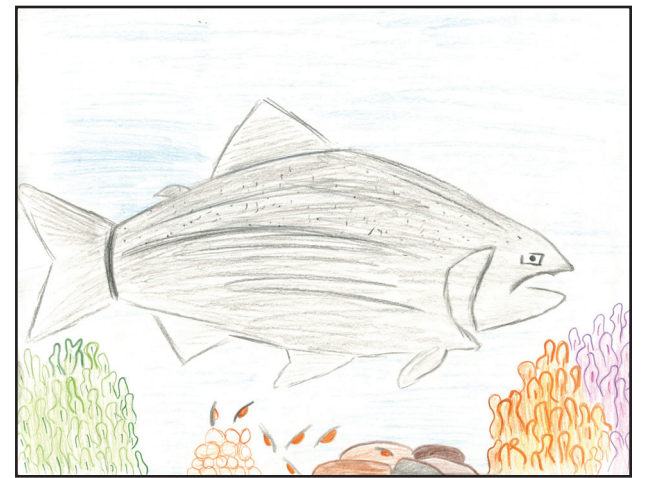
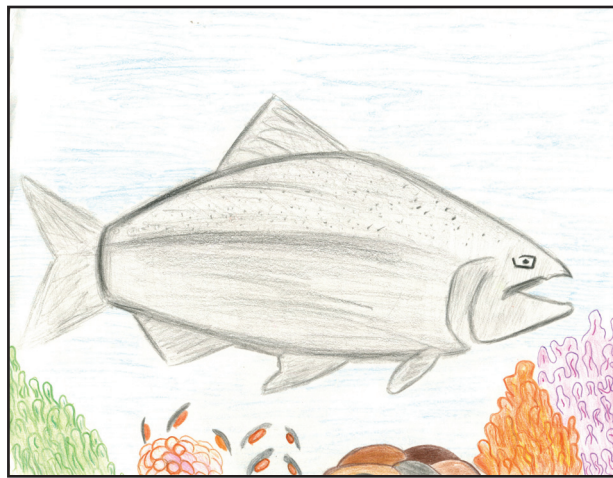
Fact 7: Rainbow trout usually weigh between 2 to 8 pounds and are

16 inches long.

Fact 8: There are 15 subspecies of rainbow trout.

Fact 9: The color of rainbow trout meat depends on their diet and environmental conditions. It could be pink or white.

Fact 10: Their predators are kingfishers, eagles, heron, raccoons and humans.



ISABELLA MENCHACA/JOE SERNA JR. CHARTER SCHOOL

## Hatchery-raised vs. wild salmon: What are the differences?

**By Isabella Menchaca**  
JOE SERNA JR. CHARTER SCHOOL

Although these fish may look the same, there's something different about them besides the obvious differences that one was raised by man, and the other wasn't.

One salmon has an adipose fin when the other does not. The ones from the hatchery get their adipose fin removed so that they know they were raised in the hatchery. The removal does not harm the fish nor affect them. It's just a simple removal.

Can you spot the difference?

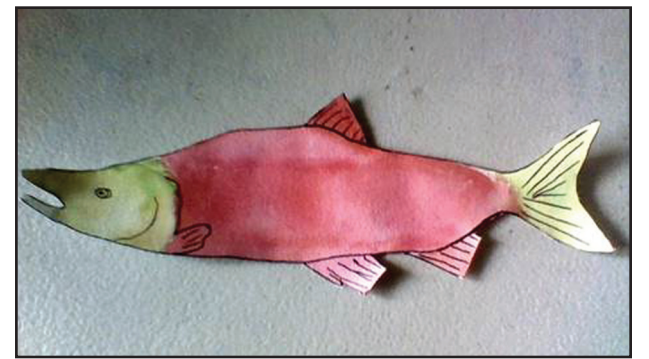


LEO HEIN/VINEWOOD ELEMENTARY SCHOOL

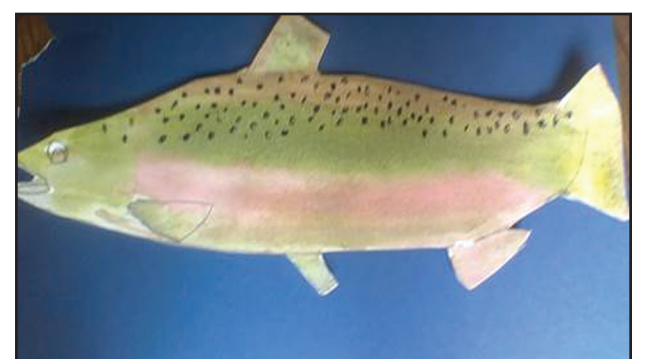
Leo Hein shows off a fish he created as part of an assignment he and his classmates completed at Vinewood Elementary School.



EMILEE PERA/VINEWOOD ELEMENTARY



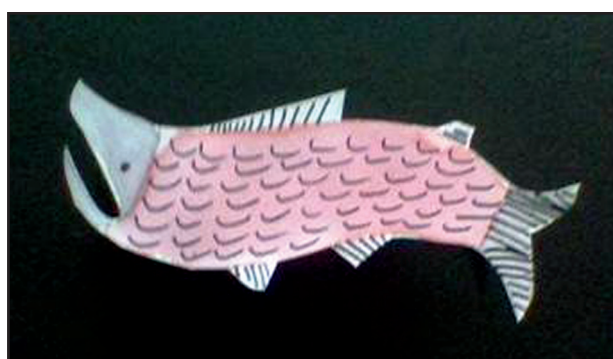
AMARACHI ANUGWARA/VINEWOOD ELEMENTARY



KYLIE KAVIE/VINEWOOD ELEMENTARY



GENESIS BERRERA-GARCIA/  
VINEWOOD ELEMENTARY



BRAYDEN DAVIS/VINEWOOD ELEMENTARY

Want to see more student work? View past issues of the Mokelumne Current at [www.lodiwatershed.com](http://www.lodiwatershed.com).



# CONSERVING WATER

## Water Conservation

**By McKenzi Crosby**  
ELKHORN SCHOOL

Stay aware of what you're doing  
Because trouble just might be brewing

Drought is coming and getting worse every day  
Since we use a lot of water and heat from the sun's rays

This heat is getting higher and brighter  
As we are getting thirsty and need a fire-fighter

But, not to fright, there are many ways to stop it  
These little acts are nothing compared to this but, don't get worried...only for a bit

When you wash the car, do it on the grass  
That'll have the water use a pass

That was one way but there are more  
Now, this is the end of my little poem of lore!

## Water Conservation Cinquain

**By Bryana Chavez-Melchor**  
ELKHORN SCHOOL

Water  
Fresh, Cold  
Washing, Watering,  
Drinking  
Special, Colorless,  
Tasteless, Transparent  
Aqua

## Save the Earth

**By Rasida Donyen**  
ELKHORN SCHOOL

We must save Earth!  
For our beloved planet is not an everlasting water fountain

You may reduce your use of trash and use of water

And please, use safe soaps when washing cars

Everything we use goes down the storm drain and could harm what lives in there

Together, we can make a difference  
Reuse, Reduce and Recycle and the World will be a better place!

## Save The Salmon!!!

**By Michael Kuang**  
ELKHORN SCHOOL

Do you like salmon  
Then let's stop the famine!

First we need to not waste water  
So salmon make the journey through a river

Good job! You helped the Salmon!

## Water Conservation Haiku

**By Sophie Hernandez**  
ELKHORN SCHOOL

We need fresh water  
Let's not waste our fresh water  
Let's stop the drought

## Salmon Haiku

**By Alexandra Geronimo**  
JOE SERNA JR. CHARTER SCHOOL

Hiding beneath rocks  
Oh oh, where would they go next  
To where they were born

# In a dry state like California, conserving water is important

**By Cyrus Medina**  
ELKHORN SCHOOL

California is a very dry state and it doesn't get much rain. Water is a limited resource that people use every single day whether it's cleaning dishes, drinking it, or even taking showers.

California experiences a lot of droughts and last year it got up to drought level D4. People in California have to be careful about their water use and how it may affect a drought. 5.4% of California is in a drought 4 level. It may not sound

like much but if California keeps getting drier and drier then that 5.4% is going to get much larger which is bad for the people.

California already has drought level 1 as a normal because California is almost always at that level. The only place in California that is only in a D0 level is San Diego and the driest place is the only place with a D4 level the worst level and that is near Death Valley. Weather.com says that Death Valley averages at about 2.36 inches of rain a year.

However, there are a lot of

things that people can do to help. According to SaveOurWater.com we can shorten our water usage by turning off the faucet when we brush our teeth. Doing a load of laundry and taking a shower will usually use around 196 gallons of water and that's more water than a lot of people drink in months. Another way to help is by not washing your car at home but at a car wash where they use much less water than people may find themselves using. If you ever have water that you're not going to drink then you should

use it for plants.

Something to remember is that a lot of water drains lead to oceans or lakes. So people shouldn't litter inside of them because by doing that you might end up killing a sea animal or making the water that the drain leads to become dirty.

People of California should be aware that water is very limited and important here, so don't waste it. California is one of the driest states, if we waste too much water then we might experience long periods of time where we don't have water running through faucets.

## Sandhill crane spreads its wings



SOFIA GUADARRAMA/JOE SERNA JR. CHARTER SCHOOL

## Some tips for conserving our water

**By Clara Amato**  
ELKHORN SCHOOL

Water conservation is important because it keeps our water clean while protecting the environment. Conserving water also means being responsible about using our water supply. If we don't conserve water, taxes will rise, there will be less food supply, and there will be health and political problems. This is why we should conserve water and help the environment. Think about five ways people can conserve water.

People can help conserve water by reducing one's shower time by two minutes. When people are waiting for their water to warm up, whether it's in the bath or in the shower, they can put that extra water in a bucket and use it to water their plants. It is better to go to a car wash instead of washing one's car at home, because going to a car wash uses about 32 gallons of water per car, but washing one's car at home can use up to 140 gallons of water! Washing your car at home can also wash all of the bad oils from your car into the drain that goes to the ocean and that is very bad for the fish or any other animals that live in the ocean.

People can also fill their bathtub halfway or less, doing this can save 12 gallons of water per bath. People can take 5 minute showers. Taking 5 minute showers can save 12.5 gallons of water per shower.

There are also tools that people can use to save water: One of the tools people can use is an aerator. An aerator is something that people can use on their sink. It saves up to 1.2 gallons of water per person every day. People can also install a high-efficiency toilet. These can save 19 gallons of water per person everyday. Another thing people can do is fix any leaks. This can save 110 gallons of water every month! A leak the size as the tip of a ball-point pen can waist up to 6,300 gallons of water per month!

In conclusion it is very important to conserve water, and there are many ways that people can help. If everyone works together to conserve water, we can all help the environment.

## Effects of cigarette butts on the local watershed

**Anabel Vargas**  
JOE SERNA JR. CHARTER SCHOOL

- The toxic chemicals affect everything, including water in the watersheds.

- About 766,571 metric tons of cigarette butts are in the environment a year.

- Cigarette butts get in a body of water through the stormwater system.

- Volunteers who clean up our beaches each spring and summer say that they have found cigarettes butts more than anything.

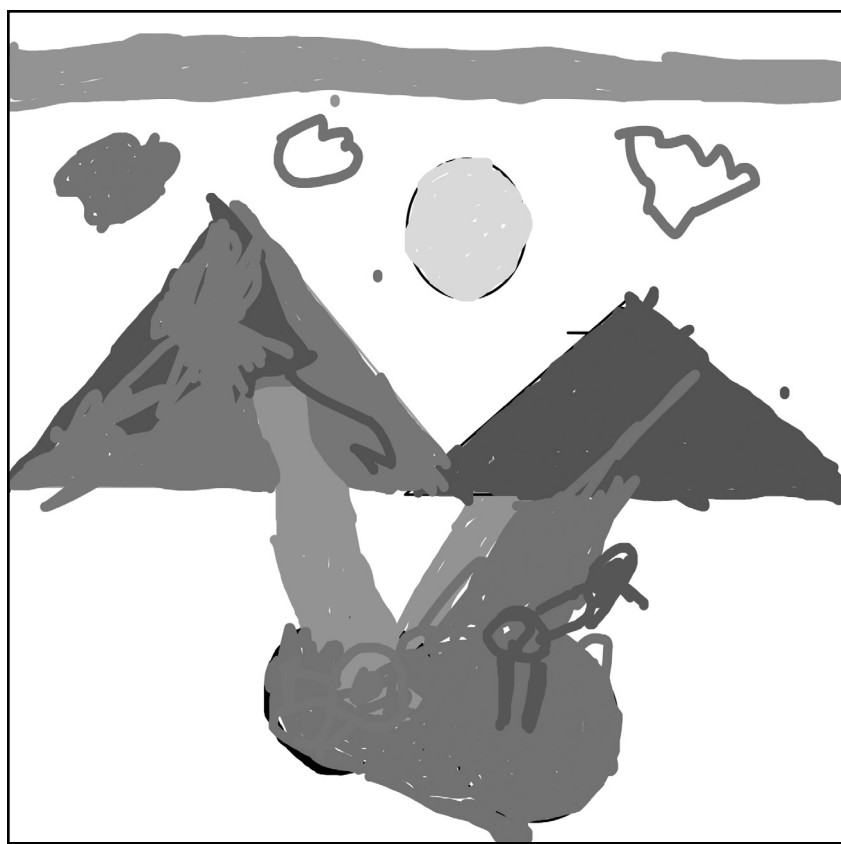
- Cigarette butts are hurting our watershed and contaminating our rivers and groundwater.

- In Lake Tahoe, when the snow melts, garbage like cigarette butts are going into the lake.

- Chemicals from the cigarettes create pollution that goes into lakes.

- The pollution then becomes acutely toxic to fish and microorganisms.

## Natural beauty

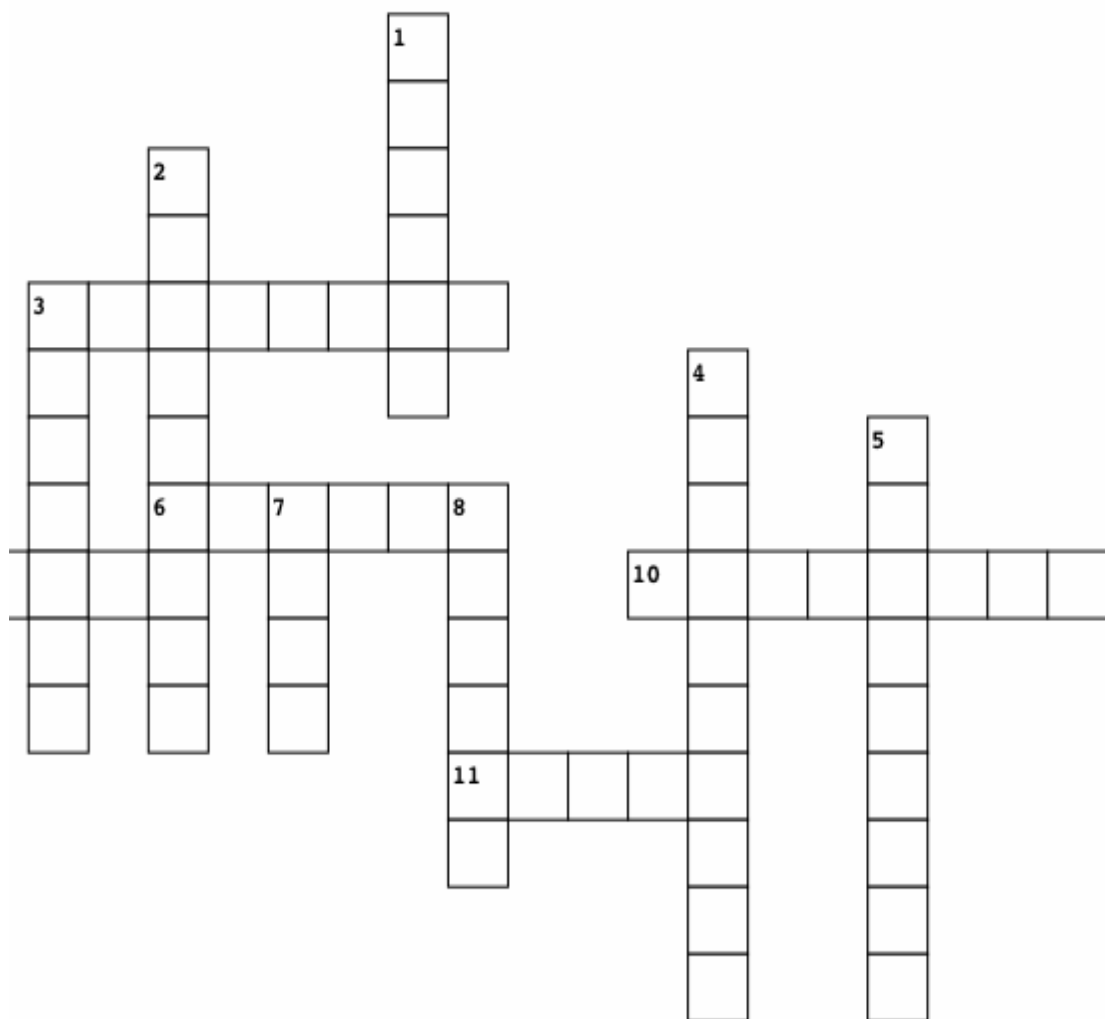


JUAN MARTINEZ/ HERITAGE ELEMENTARY SCHOOL

You can find forests and mountains in the Mokelumne River Watershed.

## A WATERSHED CROSSWORD PUZZLE

By Khadeeja Bibi/Morada Middle School



### Across

- A place where the hatching of fish is artificially controlled for commercial purposes.
- A type of fish found in the Pacific Ocean and North Atlantic.
- A limbless cold-blooded vertebrate animal with gills and fins and living wholly in water.
- Was thrice named "best tree city" in the Western United States by Sunset Magazine.
- There is a college named the same in Stockton.

### Down

- Large natural streams of water flowing in channels to the sea.
- An area of land that separates waters flowing to different rivers, basins, or seas.
- When you trap something you are?
- Fast shallow stretches of water in a river.
- A 95-mile river that flows from the Sierra to the Delta.
- Is know for having pleasant weather, and for being one of the fastest-growing wine regions in the country.
- The richest known U.S. silver deposit and the largest gold-producing state in the nation.

Across: 3. hatchery; 6. salmon; 9. whitewater; 5. Mokelumne; 7. Lodi; 8. Nevada.  
Down: 1. Delta; 2. watershed; 3. hunting; 4. fish; 10. Stockton; 11. Delta.



# 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

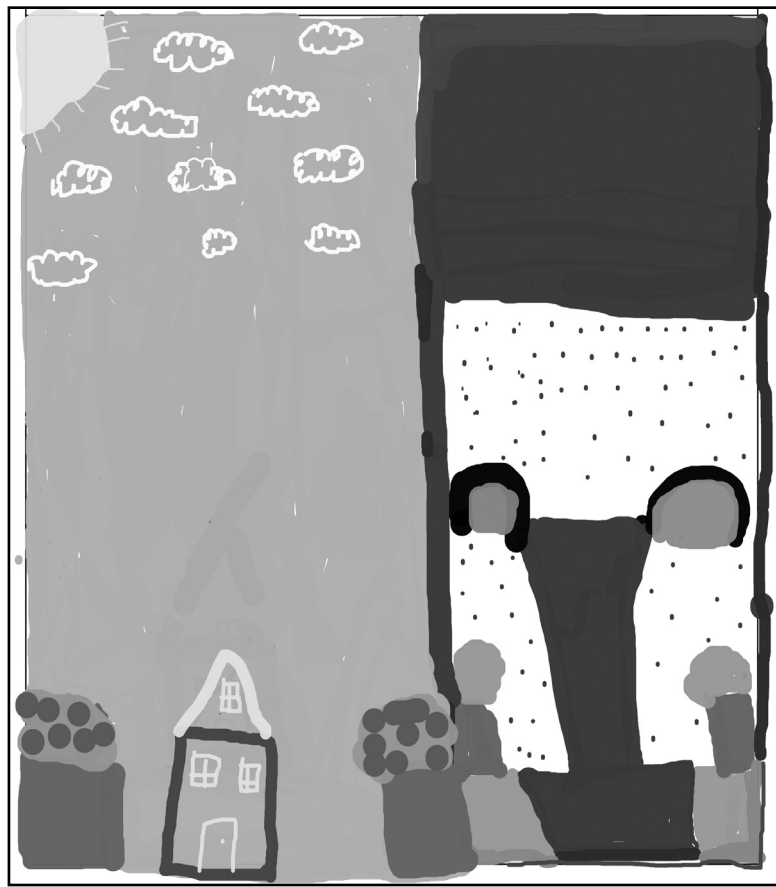
between 35 to 60 degrees!) especially as it drops much lowers around Alaska and Canada.

- 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.

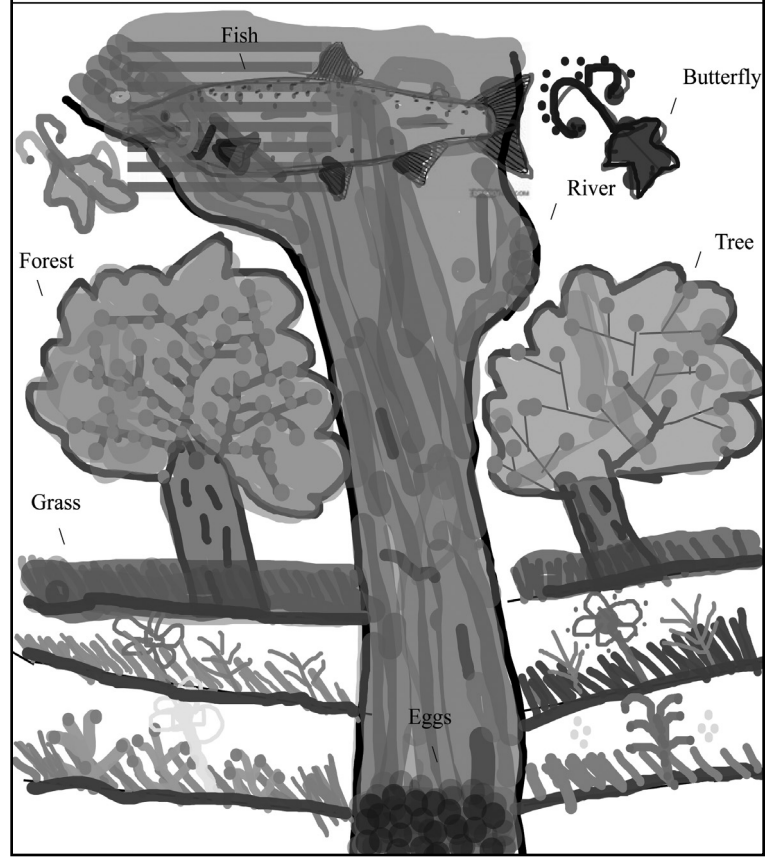
- Pups leave for their own after about 8 to 12 months.
- The females reach maturity around the ages of 3 to 5, and the males even later, around 5 to 7.
- The moms keep their pups safe by cuddling them up on their stomach until they are old enough to swim on their own.
- They are known to keep their young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



# AMAZING INSECTS AND ANIMALS

## How to make a 'beautiful' bee bath in seven easy steps

By **Amelia Sesante**  
MORADA MIDDLE SCHOOL

You may be wondering what are bee baths? Bee baths are not used for bees to bathe in; they are for drinking.

Bees are dying out at an alarming rate. According to [www.earthday.org](http://www.earthday.org), we are losing millions of bees to complicated causes, including viruses, cli-

mate change, decreasing crop diversity and habitat loss.

Bees dying out may seem inconsequential, but bees affect more than your garden being pollinated. Bees are an important part of our ecosystem; they pollinate about three-quarters of fruits, vegetables, and nuts in the U.S., according to the U.S. Department of Agriculture. That means that other animals, the

economy, and populations depend on bees.

To help out our little buddies, you can make a bee bath. Bee baths are easy to make with just objects around your house. They are a fun project that will keep you occupied during quarantine. Bee baths will make a wonderful addition to your backyard.

• Step 1: Find a place where

you want your bee bath to be.

• Step 2: Find a shallow, wide dish that you don't mind being outside.

• Step 3: Find rocks between the size of your palm to little pebbles. (You can also use colorful marbles to make your bee bath less bland.)

• Step 4: Rinse the rocks enough so that when water is placed it does not become murky

• Step 5: Place the rocks in the dish so that the bottom of the dish isn't showing

• Step 6: Place water in the dish so that the rocks are not submerged, and only a little bit of the top of the rocks are showing.

• Step 7: Change the bee bath water once a day and once every week give the bee bath a cleaning.



JOAQUIN FLORES/HERITAGE ELEMENTARY SCHOOL

## Fun facts about otters

By **Joaquin Flores & Jordan Mendoza**  
HERITAGE ELEMENTARY SCHOOL

Did you know that there are 13 species of otters? Some types of otters are the Neotropical, the Spotted-Necked, and the Asian Small-Clawed. Otters eat about 20% to 30% of their body weight each day.

Another fact that you may or may not know is that most sea otters live on the coast of Alaska!

Next time you see an otter find out the type of species it is!

### River otters

By **David Perez**  
JOE SERNA JR. CHARTER SCHOOL

1. River otters can hold their breath for up to 8 minutes while under water.

2. River otters spend two-thirds of the time on land.

3. River otters always wash themselves after every meal.

4. The river otter is the largest member of the weasel family.

5. River otters can dive to a depth of 60 feet.

6. Baby otters are called pups.

7. River otters are found in lakes, streams and rivers.

8. They eat fish, crustaceans, amphibians, snakes, water insects, snails, worms, small mammals, birds, eggs, frogs and turtles.

## The monarch butterfly

By **Elias Yopez**  
JOE SERNA JR. CHARTER SCHOOL

• Monarch butterflies travel as much as 100 miles a day during their 3,000-mile migration south.

• Monarchs smell with their antennae.

• Nectar and water are tasted by the sensory hairs on their legs and feet.

• During its migration, each butterfly relies on the huge volume of food it ate when it was a caterpillar for fuel.

• Did you know that monarch butterflies will not be added to the federal endangered species list this year?



JESSICA GARCIA DOMINGUEZ/HERITAGE ELEMENTARY SCHOOL

## 10 facts about butterflies

By **Mikayla Jacobe**  
MORADA MIDDLE SCHOOL

I'm Mikayla Jacobe, and these are 10 facts about butterflies.

1. There is no butterfly poisonous enough to kill someone.

2. Butterflies belong to an insect group named Lepidoptera.

3. Butterflies take up to about 3 to 8 days to mate with another butterfly.

4. Butterfly eggs can take up to three days to hatch out into a caterpillar.

5. Butterflies cocoon

for 8 to 12 days.

6. When a butterfly lands on you, it is most likely attracted towards something salty, such as something like your sweat.

7. Butterflies can have a lifespan of one month.

8. No one really knows where the name butterfly originated.

9. There are about 20,000 species of butterflies in the world.

10. Butterflies drink nectar from flowers through their tongue, which works like a straw.



ELIAS YEPEZ/JOE SERNA JR. CHARTER SCHOOL

## How much do you know about the humble honey bee?

By **Kayaina Sath Lek**  
MORADA MIDDLE SCHOOL

Hi. My name is Kayaina Sath Lek, and here are some interesting facts about bees:

• A queen bee can lay over 2,000 eggs per day in the hive.

• In that case if a queen bee is lazy and doesn't want to do anything, then the other bees will have a time to kill her.

• Once the queen has died, one of her daughters will be the next queen.

• Bees have inspired scientific and engineering projects such as the use of hexagons in engineering.

• Bees die at 41 degrees.

• They pollinate food crops.

• Honeybees always travel incredible distances to look for pollen.

• Male bees in the hive are called drones and they do not have a stinger.

• All bees that are working are females.

• Bees can collect flower pollens and make honey. They make really sweet honey.

• If rain, wind and cold air is hitting the

bees while flying, it will decrease the speed of them and make them pretty weak.

• Bees follow humans around because they are attracted to humans' sweat.

• Bees have five eyes. They use them to detect light, they also can sense if they are being approached by a predator.

• They have 6 legs.

• They are very intelligent even though they have small brains.

• They take it as a threat if they see dark colors.

• Honey bees are capable of stinging you.

Queen bees are capable of using their stingers, but they don't usually harm.

• Wasps are different from bees because they can sting more than once and not die.

• Bees can only sting once and then they die afterwards.

• Bees developed about 130 million years ago.

• Western honey bees have about 14 to 28 days of lifespan.

• If a bee sees that you have killed one of the bees, the other bee will attack you and try to sting you.

## From habitat to diet: Facts about gray foxes

By **Sebastian Sandoval & Jorge Mendoza-Rogel**  
HERITAGE ELEMENTARY SCHOOL

Did you know that gray foxes are the only dog family that can climb trees to look for their prey?

The scientific name for gray foxes is *Urocyon cinereoargenteus* and they live up to 10 years.

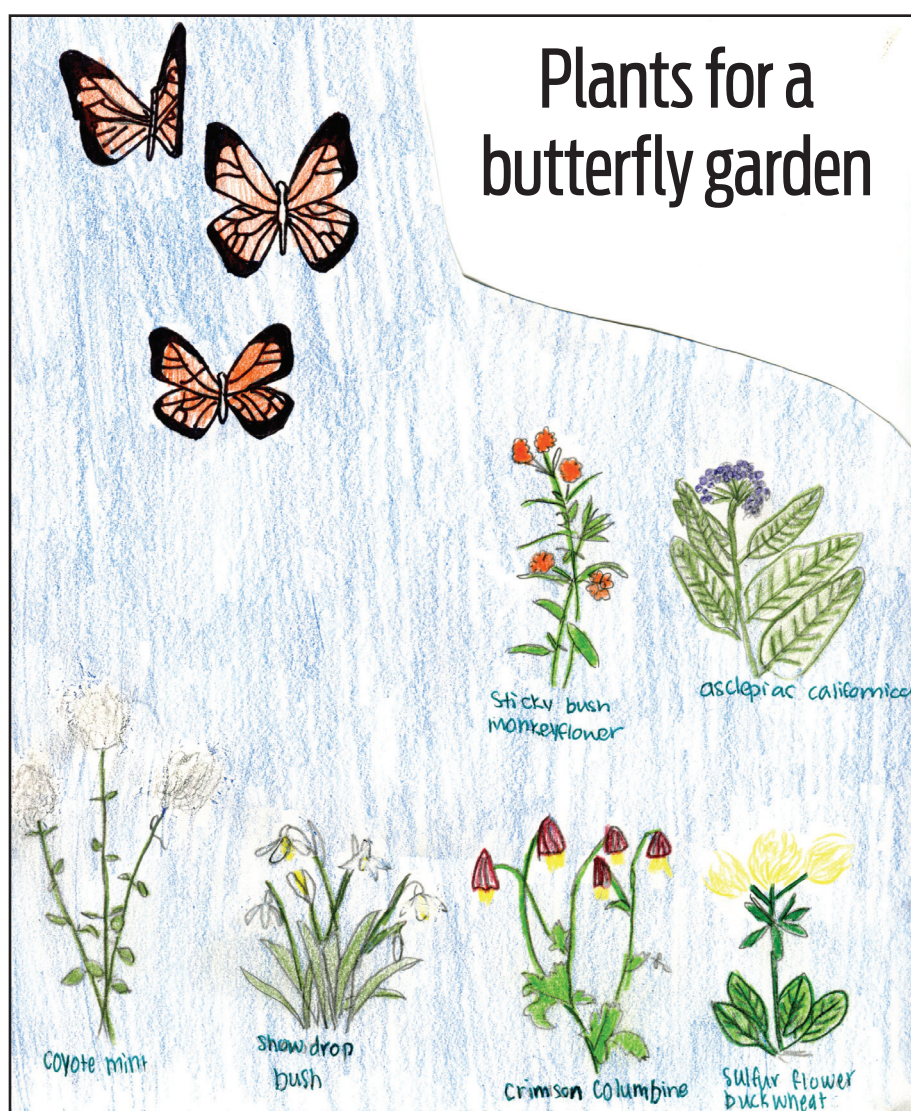
Gray foxes weigh

about 5 pounds and stand 12 to 15 inches tall.

Another interesting fact about gray foxes is that they live in watersheds. They are omnivores so they eat a variety of foods.

Their predators include cougars, eagles, owls, bobcats, hawks, coyotes, and humans!

They usually escape to the rocky mountains but can be found in desert grasslands or open wood areas.



ANGELES JIMINEZ/JOE SERNA JR. CHARTER SCHOOL



# LEARNING FROM THE EXPERTS

## Behind the Art: An interview with local artist Patti Kennedy

By **Yzabella Chavez**  
JOE SERNA JR. CHARTER SCHOOL

When I think of talent and creativity, the first person who comes to mind is Patti Kennedy, from her incredible landscapes to amazing illustrations of animals, such as a heron.

**Q:** What is a challenge you've faced in your career, and how have you overcome it?

**A:** "I actually had to overcome thinking that the art that I do is vanity, I had to respect it's something that is part of the core of my soul."

Patti also brought up a personal experience from when she was in a terrible car accident and had to recover for more than 18 months. She couldn't even sit for long periods of time, making her unable to create art.

"Everybody outside doesn't really understand what's part of your heart and your soul, and if it's important to you, you have to believe in yourself."

**Q:** Did you go to school for art, and if you did, which one/ones?

**A:** "I do not have a degree in art. What I do have is I took every art class I could and I mentored under people."



COURTESY PHOTOGRAPH

Yzabella Chavez interviewed local artist Patti Kennedy about her nature-focused work.

Patti stated that her first job in art production was "an incredible education."

**Q:** Why do you do what you do?

**A:** Patti said that she's the youngest of two sisters and a brother, and the

sister closest to her in age was a bully.

She brought up a childhood memory from when she was working on a drawing at home and was tense because her sister was going to come home and start to be rude towards her. Her mother told her to stay calm and

focus on her drawing.

Once her sister arrived home, she began to "needle" her and Patti continued on her drawing and ignored her sister. Her sister became very upset with her, but Patti said that "I really liked that feeling of being able to put my focus and my ener-

gy into creating something rather than dealing with nasty noise going on around me."

**Q:** Have you created any artwork inspired by the animals from the Mokelumne River? If you have, which one/ones?

**A:** "Most of my artwork is nature-based in some way."

Patti also stated that she has lived in the Lodi area the longest out of any other place in her life.

"One of my favorite things to draw lately is the yellow billed magpie."

She also likes to go to Lodi Lake to photograph many different things and, obviously, create artwork based on the things she photographs as well.

**Q:** Have you had any jobs before becoming an artist, and if you have, what was your favorite one/ones?

**A:** When Patti was 15, her mother was working at the local bakery and they needed new signs for the windows.

Her favorite job that isn't art related was a women's sportswear company in New York.

"I coordinated samples to our salesman, and I was also the purchasing agent."

## STEWARD

CONTINUED FROM PAGE 1

**Q:** What is the rarest fish you've caught?

**A:** Personally, I've never caught a delta smelt, but I have caught a longfin smelt, which are also species of concern that we need to learn more about.

**Q:** Do different kinds of fish live longer than other kinds of fish?

**A:** Yes. There are some fish that only live for a few years, and there are others that can live to be over 100 years old!

**Q:** How do you know if the fish is poisonous?

**A:** The most reliable way to tell is simply to identify the fish based on its size, shape, fins, color, etc. If you live in an area where there are poisonous fish, memorizing how to identify them is the best way to know. Fortunately, we live in an area where there are no poisonous fish.

**Q:** Do you guide people on field trips?

**A:** While I don't currently guide people on field trips, I think it's something I'd like to do in the future. It certainly sounds like a lot of fun to me!

## Litterati employee Derrick Chew shares why he works with the cleanup app

By **Max Hernandez-Velasquez**  
JOE SERNA JR. CHARTER SCHOOL

**Q:** How long have you worked for Litterati?

**A:** I started last August, so that's about eight months.

**Q:** What department do you work in?

**A:** I am a customer success manager, I guess it's kind of like a newer position. Other roles that are similar would be an account manager or account executive. I facilitate, making sure that our clients are satisfied and are accomplishing what they need to with our product.

**Q:** What college did you go to?

**A:** I went to San José State University and my major was advertising.

**Q:** Did you ever think you would work in a job that helps the environment?

**A:** No, actually, I did not. It wasn't really on my radar until my last few roles in a couple of companies.

Because of the advertising background that I have, essentially you work for an agency and then the agency has clients.

### JOIN THE LITTERATI CHALLENGE

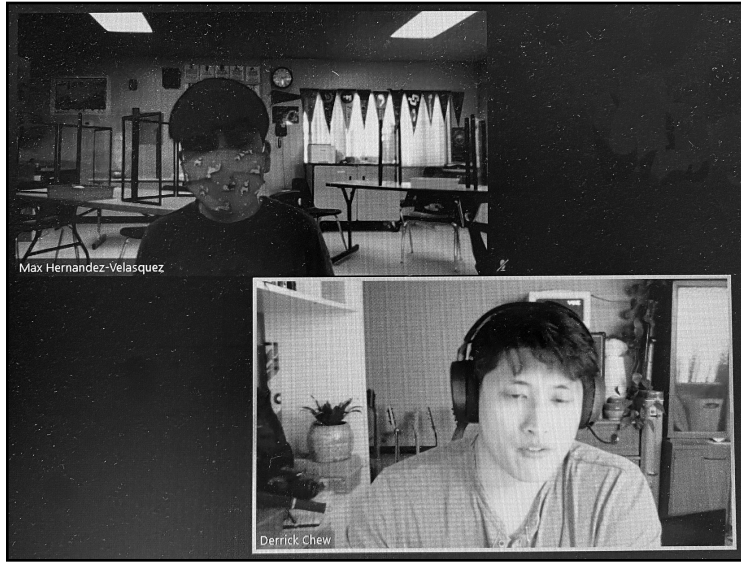
All Lodi residents are invited to join the Litterati challenge! Download the free app to your smartphone, and enter the code NEWLODI. Find out more at [www.litterati.org/how-it-works](http://www.litterati.org/how-it-works).

So the way that that works is that you'll be working for a company or brand that you're not really interested in, or they're not really something you would be a part of, or would even be the person who buys that product, but you still need to do your best to market their stuff.

So, after a couple of companies and a couple of agencies, I wanted to put my time and effort into something I believed in. So that's why I joined Litterati.

**Q:** What do you do in your free time?

**A:** In my free time I work out. One of my side jobs is not really happening right now because of the pandemic. But I was also a trainer. I've been doing CrossFit for fun for eight years. I also play guitar. Also, I'm really into video games. I have a couple of friends I like to play with online but I only play like one or two games. I'm not an across the board spectrum gamer. I just play very very specific games. And then also hang-



ing out with my wife and puppy.

**Q:** What made you work for Litterati?

**A:** Well, kinda going to the whole advertising thing, my last client was Clorox and we were doing all their digital marketing for the United States, which was great. And then, when the pandemic happened, literally they sold out of stuff overnight! Literally everything that had Clorox on it was gone from the shelf.

And then, because of that, they didn't need to advertise more because their stuff sold by itself. So, we lost the contract and I was like, "You know, as

much as I like doing digital marketing, I'm not benefitting myself making cleaning ads. I want to make something that will benefit the world and also make me feel better about myself, my work, and my efforts." And that's why I joined Litterati.

**Q:** How has COVID affected your job?

**A:** (Laughing) Well, it led me to this job so that's kind of one way of affecting my job. But the other thing is that Litterati takes the way that we work, for example.

We take something that is usually something in person — for example, a lot of clean ups

happen in big organized groups (such as) how you've done Coastal Cleanup at Lodi Lake with Mrs. Grant. She organizes the cleanup for the city of Lodi and 50 or 100 people come out and they'll do a hard day's worth of work and clean up an area.

But because of COVID, those people can't interact anymore in the same way. So people have flocked to Litterati as an alternative because everyone can do the same amount of effort, but on an individual scale.

So that really kind of boosted what my company does, because it gives the ability to people to still do that but in a safer way.

**Q:** Who started Litterati and when?

**A:** Jeff Kirschner, our CEO, started Litterati several years ago.

**Q:** Lastly, what advice would you give to future environmental helpers?

**A:** My advice would be that everybody and everything counts. So one person — even though you're one person — one person can still do a lot. Even if you feel like the problems are overwhelming, or the issue is too big, one person can still make a pretty big dent. So, one person can do a lot!

## Alina Bekkerman's interest in the environment drew her to Litterati

By **Giselle Santos**  
JOE SERNA JR. CHARTER SCHOOL

**Q:** What degree/degrees do you have? Science?

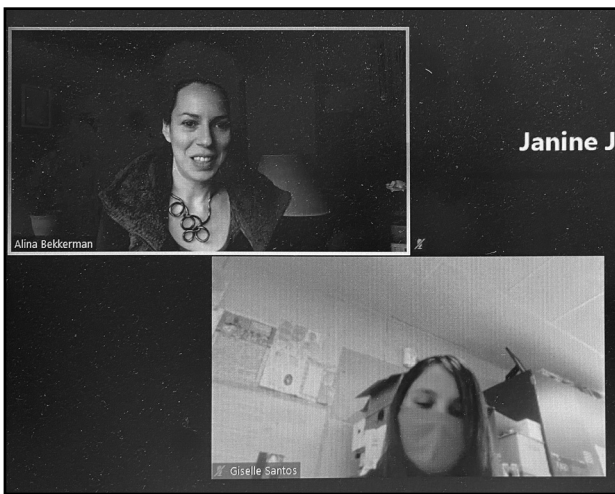
**A:** I got a degree in psychology. I had a bachelor's degree in psychology, and then I got a minor in art history. So unrelated fields — I came to this trash world by connecting with members in my community, and telling people about the things that I care about.

**Q:** When did you start working with Litterati?

**A:** November of last year

**Q:** When did Litterati start?

**A:** Litterati celebrated 7 years recently, so that would make it 2014, when it officially started. I think Jeff's journey started before then with his daughter, that maybe was 2012. He started with



taking pictures and posting on Instagram. Around 2014 is when Instagram became even more than just Instagram for Jeff. He started using that data.

**Q:** Did you have other jobs before this job? Example: Another environmental job?

**A:** When I graduated college I knew I wanted to work in advertising. So I got a job in advertising and had about 10 years in that field. The advertising

that you might see on the internet like for Visa credit card, I worked on some of those. So I wanted some way to make a living in San Francisco, and so that's the route that I went.

The more I was in my career, the more I realized that it wasn't satisfying. It didn't feed my soul. But I did learn data, because online every move you take someone is watching you, and that is all through technology, and some of it is used for good. We collect census

data to understand social economics standing with the city. We make policies based on data, but data also is used to sell more advertising.

**Q:** How did Litterati start?

**A:** Litterati started with our confounder Jeff Kirschner. He and his daughter were walking at a park, he was observing his daughter, and she was observing the environment.

What she said to him was, "Hey, Daddy, that thing is out of place. Why is there this plastic bottle here on the park trail? Can you do something about it?"

Because Jeff had worked in advertising, and in developing apps, so he took this to heart and started Litterati.

**Q:** What's the most harmful thing to the environment?

**A:** Our ignorance of the problems that create

climate catastrophe. If we ignore them and don't draw conclusions about what we are seeing based on facts. I can say plastic, but there's so many symptoms that plastic presents.

**Q:** When and how did you hear about Litterati? What made you want to join it?

**A:** I heard about Litterati for the first time at a conference for the Northern California Recycling Association. Jeff was a presenter, and he presented this new technology which helped a school identify that one of the most littered pieces in their school were the straw wrappers.

By collecting data with the number of items that they collected, and identifying what the main litter problem was, the students said that they didn't want this anymore. They were able to change school policy. Their school no longer has those straws, no longer have those items that they didn't need or

want. It inspired me, because people that are coming together can change the world. Then, I heard that there was this position with Litterati, and that's how that happened.

**Q:** Did you always have your heart on helping the environment?

**A:** Community is about people coming together, so for me it starts with my friends and family. And from that it grew to participating in events like music festivals, and at music festivals understanding that not everybody is aware of what happens to the trash that leaves our hand, and that began my journey to take trash that is out of place, and try to put it in the right place.

That was one of the things that created my passion for litter. Once I saw it, I couldn't unsee it. It connected back to the community that we live in, and the community of the world.



# HELPING THE ENVIRONMENT

## Help clean up litter, be an environmental hero!

**By Giselle Santos**  
JOE SERNA JR. CHARTER SCHOOL

Joe Serna's middle school students are giving back to the community by participating in a club named EarthKeepers led by science teacher, Ms. Jacinto.

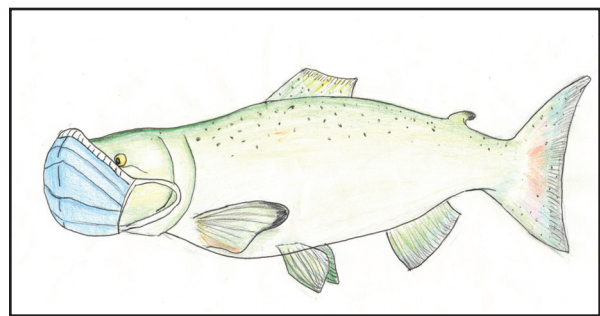
The EarthKeepers focus on keeping our community clean and safe by picking up litter that is left behind on the ground, on the street, and in the gutters. Students feel that it is important to pick up litter, so that our neighborhoods are clean, and our watershed is safe.

To help students with the goal of maintaining the community cleanliness an app named Litterati is being used. With

this app, middle school students are keeping track of how many pieces of litter are being picked up.

Middle school students are currently participating in the LUSD Watershed Challenge with high school science students and teachers. Students are working hard to get Lodi's streets cleaned up, so that litter does not go down the storm drains and flow into the Mokelumne River.

Middle school students would like to encourage Joe Serna families to help in our effort of keeping Lodi clean. To participate, families can download the Litterati app and join the LUSD Watershed Challenge! Together we can be environmental heroes!



LANEY PHILLIPS/JOE SERNA JR. CHARTER

## Why would a salmon be wearing a mask?

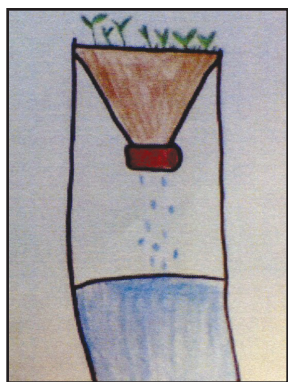
**By Laney Phillips**  
JOE SERNA JR. CHARTER SCHOOL

Well, it may seem silly but this can happen if you aren't careful. With all the masks being used, many are being carelessly thrown into the streets and may eventually make their way into the river through the storm drains. If this happens, it can harm creatures such as this salmon.

## Making a recycled planter

**Cassandra Carranza**  
JOE SERNA JR. CHARTER SCHOOL

I made this drawing of a plant in a recycled water bottle because in the school year we made one of these. ... I chose two water bottles to do this project. I cut them in half and put the top part upside down as you see in the picture. ... I don't remember all the things that I had gotten but I got a bag of dirt and a bag of seeds. ... I left it in a window to let it catch the sun and grow. A couple days later Mrs. Jacinto told us to go and get our plants to



CASSANDRA CARRANZA/JOE SERNA JR. CHARTER SCHOOL

show them to the class. I was surprised to see what the other kids had chosen and how their plants had grown.

## How to make a field journal

**By Elle Paunon**  
JOE SERNA JR. CHARTER SCHOOL

Note: You will need 3 pages of printer paper, 1 page of colored paper (slightly bigger than 8.5 inches by 11 inches), scissors, a hole puncher, and some string or rubber band.

### Step 1

Cut your colored paper in half horizontally. When you have even half the paper, fold it right in the middle. It should look like this:

### Step 2

Once your colored paper is folded, get your 3 pages of printer paper, and cut them in half horizontally. Once you have your pieces of paper cut, fold them in the middle. They should look like this:

### Step 3 (Final step!)

Place your folded printer paper inside the folded colored paper. Then, once you have the printer paper inside the colored paper, grab a rubber band and wrap it around your book. And there you have it! Your very own field journal! You can use this to observe what you see outside and take notes!



ELLE PAUNON/JOE SERNA JR. CHARTER SCHOOL

## Trash mars a trip to Morada Creek



PHOTOGRAPHS BY REHAAN AHMAD/MORADA MIDDLE SCHOOL

## Pollution poses problems for local waterways

**By Rehaan Ahmad**  
MORADA MIDDLE SCHOOL

The water at Morada Creek is very dirty. I went there on Friday, April 23.

The water has garbage that can kill animals. The water has garbage like plastic and papers. The water is a greenish-brown color then clean blue water, so that tells me that people have been throwing trash in the water.

Plastic water bottles in the water can be dangerous. I have found some water bottles in the water.

Animals can get hit by the trash or even eat it and they can choke to death, so people should not throw stuff in the water. The water needs to be clean so it is healthy for the animals.

The things you throw away can affect the water. Trash can affect water in different ways. It can change color. It can also get the water stuck behind trash and the pipes can explode, so that is another reason why you should not throw trash in the water.



### What You'll Need;

Scissors  
Soil  
Seeds of your choice

### What You Can Use:

Water Bottle  
Plastic Soda Bottle  
Plastic Milk Carton  
Soda Can

### Step 1:

### Step 2:

Sharp Edges

### OPTIONAL STEP:

Sticker

APRIL PEREZ/JOE SERNA JR. CHARTER SCHOOL

## How to make a planter from recyclables

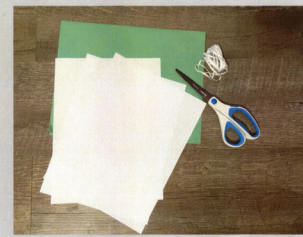
**By Alexander Cahue**  
JOE SERNA JR. CHARTER SCHOOL

1. Get a recyclable.
2. Cut the recyclable in half.
3. Then add soil.
4. After that make some holes in the soil.
5. Add a couple of seeds.
6. When you are done with that put it in a sunny window and put a little water.



### What you'll need:

- 3 pieces of printer paper (you can use more if you want)
- 1 piece of colored construction paper
- A pair of scissors
- Thin ribbon (an alternative is a rubber band)



**Step 1:**  
Cut all 3 printer paper in half (make sure the paper is horizontally)

**Step 2:**  
This is how the papers should end up looking like.

**Step 3:** Also cut the construction paper in half (also horizontally)

**Step 4:**  
Now fold all the papers in half as shown in the photos.

**Step 5:**  
You will now tie the ribbon through the middle of the book like shown above

Lastly you can decorate the cover how ever you would like.

ANABEL QUINTANA/JOE SERNA JR. CHARTER SCHOOL