



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



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?

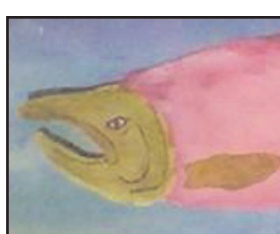
A: I'm not sure how many fish we usually catch in a year, but it's probably more than 10,000.

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



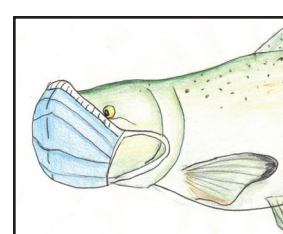
Stylish salmon and other fish

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**