

FISHY DISCOVERIES

Raising salmon eggs in the classroom

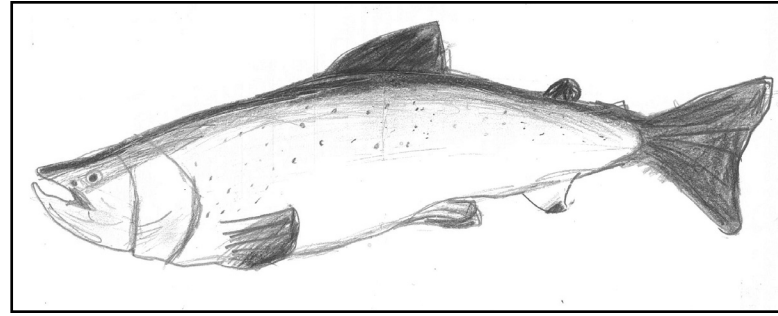
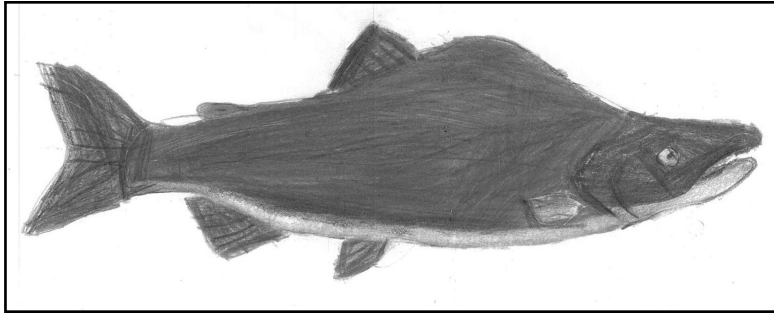
Giselle Santos
JOE SERNA JR. CHARTER SCHOOL

This year, Joe Serna's seventh graders had the privilege to raise baby salmon eggs. Students had the amazing experience of observing the first stages of a salmon's life cycle.

To begin with, students watched the eggs turn into alevin. As students observed the interesting changes, activities were done to deepen students' learning about a salmon's life cycle. For example, students had data sheets where observations were recorded. Some of the data collected was temperature changes. In addition, students wrote daily journal entries about

their observations made in regards to physical changes. Once the alevin turned into fry, they were ready to be released. Both seventh-grade classes went on a study trip to release the salmon into the Mokelumne River. Students further learned many interesting facts about salmon eggs and their life cycle during the

trip. One thing I personally learned is that salmon play a vital role in the ocean ecosystem. Therefore, our oceans should be cared for, so that not just salmon, but all marine animals may thrive. Joe Serna students thoroughly enjoyed learning about salmon and their life cycle. It gave students a rich learning experience.



BRAYAN VILLAMAR ALVAREZ AND LUIS DIAZ/HERITAGE ELEMENTARY SCHOOL

Want to learn more about salmon? Start here

Brayan Villamar Alvarez and Luis Diaz Lopez
HERITAGE ELEMENTARY SCHOOL

Life cycle: When salmon are born they then travel from freshwater to the ocean. After that they then travel to where they hatched. They do that to lay eggs and then they die, I know it's sad. According to Google, it happens because

they stop eating and return to freshwater and are left with no energy which makes them die. They live up from 2 to 7 years. **Physical features:** The Atlantic salmon weighs 12 pounds which is 5.5 kilograms. Pink salmon weigh about 3 to 6 pounds. When in the ocean they have dots on their back they also have a silver color. During the breeding season they undergo changes in color that vary by

species. A female spring Chinook salmon can carry more than 4,000 eggs. Salmon also have a good sense of smell. **Habitat and endangerment:** Salmon are currently endangered because humans have destroyed or contaminated their habitat. Salmon are also sensitive to the rising water temperatures. A salmon's habitat is tributaries of the Pacific ocean, and Atlantic Ocean.

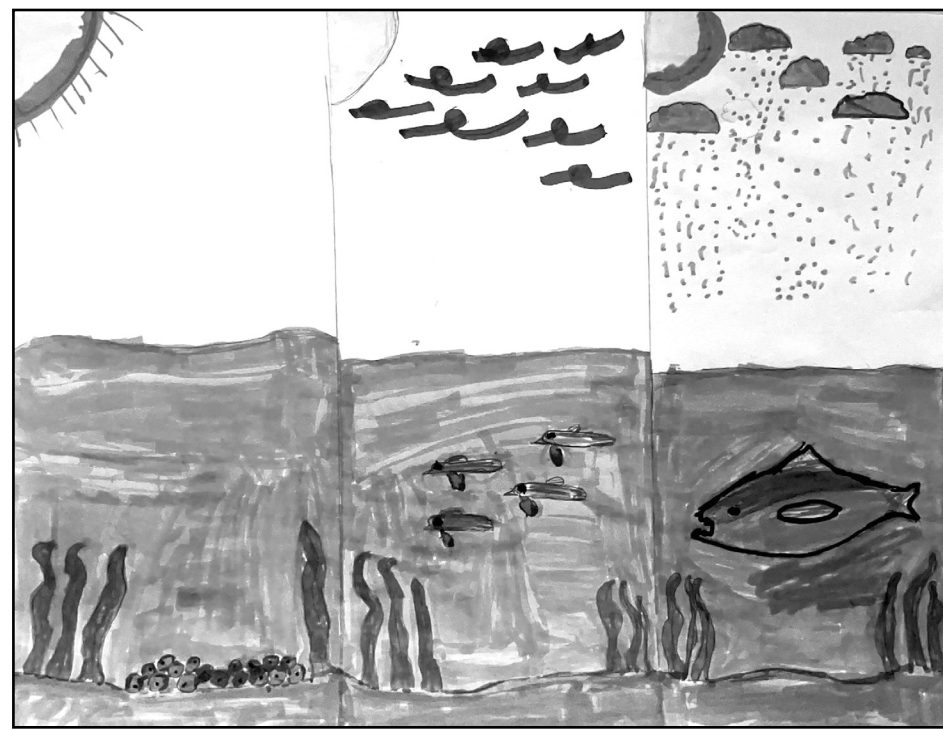
What we learned having salmon in the classroom

Rosalie Santibanez
JOE SERNA JR. CHARTER SCHOOL

It was fun when we first had the salmon eggs in the classroom. It was a fun experience on how we stayed with them as they grew into little fish. It was cute how they were so little and then they started to hatch. They were fun watching them grow really big into their normal size.

Then the seventh graders went and released the salmon in the Mokelumne River and

they went swimming away into the water. Next, the salmon will eventually go back into their own home where they came from. When the salmon were here they would go in front of the screen and say hi to the whole classroom. We got the eggs on January 13 and it was really fun. At last, the salmon were released on March 3. We are all glad that we got a chance to have salmon eggs in the classroom. This is probably the only chance to have them in the classroom.



ULISSES REYES MARTINEZ/HERITAGE ELEMENTARY SCHOOL

How much do you know about California halibut?

Kaleb Cossio
JOE SERNA JR. CHARTER SCHOOL

The California halibut is a fish part of the pleuronectidae family and it's a fish that blends in with the sand in the bottom of the ocean. The fish can grow up to 8 feet long and 500 pounds. Some of its favorites things to eat are the Pacific sardines, northern anchovies and the Greenland halibut.

The California halibut lives in the sandy bottom of the ocean. Some of its predators are the bottlenose dolphins, angel sharks, sea lions and humans. The California hal-

ibut can live up to 40 years. This fish blends in with the things it touches such as sand, rocks, and mud so it can hide from predators, but when they do see one they use their tail which is very strong to swim away. Some fun facts about the California halibut is that female halibuts can lay up to 2 to 3 million eggs yearly depending on their size. They can be very aggressive to humans if they are disturbed. Halibuts live down to 18 to 60 feet deep in the water, and their spawn seasons are February through July.

Studying the life cycle of Chinook salmon

Alexi Coughlin
JOE SERNA JR. CHARTER SCHOOL

The life cycle of a Chinook salmon is a very interesting process! The process starts when the baby salmon are in tiny orange, red or pink eggs.

When they hatch they become alevin (sac fry). In their alevin stage, they have a yolk sac attached to their stomach, a yolk sac is a sac of nutrients that the salmon absorb and get nutrients from. During the time they have the yolk sac they cannot swim because it weighs them down, therefore they flop around the rocks instead.

Once they fully absorb their yolk sac they become fry. When they are fry they are finally able to swim!

The next stage of their life is parr: This

is when they develop dark markings on their sides. Once they become bigger and swim out to the sea they are smolt. After that, when they have been in the sea for about 1 to 8 years they become an adult. The last stage of their life is a spawning adult when they spawn and die, and the cycle starts over again with new baby salmon! My class at Joe Serna got the privilege to raise baby salmon in our science classroom with Mrs. Jacinto (Joe Serna's middle school science teacher) from when the salmon were eggs to when they were fry. Then they had to be released. I loved learning about them and watching them grow!

Fast facts about California's native pipefish

Jennifer Nieves
JOE SERNA JR. CHARTER SCHOOL

Pipefish are known to be related to seahorses. Like seahorses, male pipefish give birth instead of the female pipefish.

They have a specialized place in their belly for that. Pipefish make clicking noises while feeding because of their bony skull. Pipefish are carnivores. Pipefish can go up to 3

weeks without eating. Pipefish have tiny tails that can barely be seen by the naked eye. Pipefish live up to 5 to 10 years. They grow up to 8 inches.

All about diamond turbot

Juan Cerros
JOE SERNA JR. CHARTER SCHOOL

Did you know? The diamond turbot got its name because it has a diamond-shaped body. It can reach up to 46 centimeters (18 inches) in length. It has both eyes on the top.

The diamond turbot lives in subtropical water, on sand or mud bottoms at depths of up to 50 meters (which is 160 feet). Its diet is invertebrates such as polychaetes, mollusks, and shrimps. Lastly, the diamond turbot has a really silky, slimy feel.

The general geographic location of this fish ranges from Cape Mendocino all the way to Cape San Lucas, Baja California, and the Gulf of California.

The male can live up to 20 years, and the female can live up to 25 years.

The usual color of the diamond turbot is sandy-brown to gray with blackish or greenish specks scattered throughout the body and extending on to the fins.

Are salmon alevin actually meroplankton?

Alex Bishop
JOE SERNA JR. CHARTER SCHOOL

I recently went on a study trip to a research vessel and my teacher mentioned that the fish larvae on a chart about plankton looked a lot like an alevin. I hadn't thought much of it at first but when my teacher mentioned it again in class I decided to look more into it. I looked into a lot of websites and all they said were that salmon eat meroplankton, nothing about alevin being meroplankton.

If you look at how the alevin move and how they hop around they kind of seem like meroplankton. My science teacher went on the same research vessel with sixth graders and she came back and told us that one of the scientists said, "Can they swim?" and since they can't swim, the scientist told my teacher that as long as they couldn't swim, they were meroplankton. After some research and data searching, I have finally found the answer to my question, "Are salmon alevin meroplankton?"

Releasing salmon in the river

Nathalie Bautista
JOE SERNA JR. CHARTER SCHOOL

This year, we went on a trip to release salmon that we had in our classroom. It was nice to have them because we saw them grow each day. It was also a very beautiful day when we released them.

March 3 was the day we got to release the salmon. We release them by the hatchery.

First, when we got there it looked very much like a natural forest but the walk to where we were released was long. The drive was also not too long since it was a bit close to the school.

Then we got to a small place where the salmon were put into cups. Also, we got to name our fish before we got to release them. I named my Jimmy since the fish looked like it had some pretty big eyes when you saw it through the cup. That was when we got to release our fish. When I got to release mine it went to the left and swam away far.

After that, we went to some stations and learned some new things. I learned more about their body parts and how each of their fins does specific things, and we got to touch a fish but it was dead, sadly.

Another thing is we went to go on a nature walk and we played a fish game about their life cycle. It was pretty funny and then we had different roles in the game such as the fisherman, the salmon, and the predators. That was my favorite part and the best experience on this trip.

Overall I had so much fun going there because I liked how us seventh-graders had the opportunity to release the salmon we took care of and watched them grow throughout that month in the classroom.

I really hope we get to do this another time. Maybe you can get a chance to do it too!

SALMON

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in schools for their safety. Their food source is plankton. They are camouflaged into their redd with spots. In my opinion, the most interesting thing during this stage is they know when to hide when they feel endangered.

The fifth life cycle stage of salmon is the smolt. They migrate into an estuary to get used to salt water. They begin to camouflage to the color silver for the ocean. Their daily meals are plankton, small fish and insects. In my opinion, I think the most intriguing thing during this stage is their capability of camouflage.

The final life cycle stage of salmon is the adult stage. They spend up to seven years in the ocean. Their predators are orcas, sharks, dolphins and large birds. I think the most interesting thing during this stage is their counter-shading.

Salmon are intriguing fish. They can camouflage to blend in with the ocean. Another reason why they are intriguing is because they travel from an estuary to saltwater to freshwater. My last reason for why they are intriguing is because they eat tiny plankton. I never thought salmon would be so interesting.

Salmon word Puzzle

P A E L F G L M A O L O L
S I F M F E E R G R J K W
E A A T T G E O O T E S Z
P E L R N I M I L T L O S
S M T M O L G L Z Y A F E
L A M P O N F Y W L L F M
F R E D D N O O W L E V B
R D P A R R G T J V V S R
G E T H E N G L M S I S Y
T S F R Y S I I O L N G O

SALMON ALEVIN
EMBRYO MILT
FRY REDD
PARR