

The Salmon Creek School Water Quest

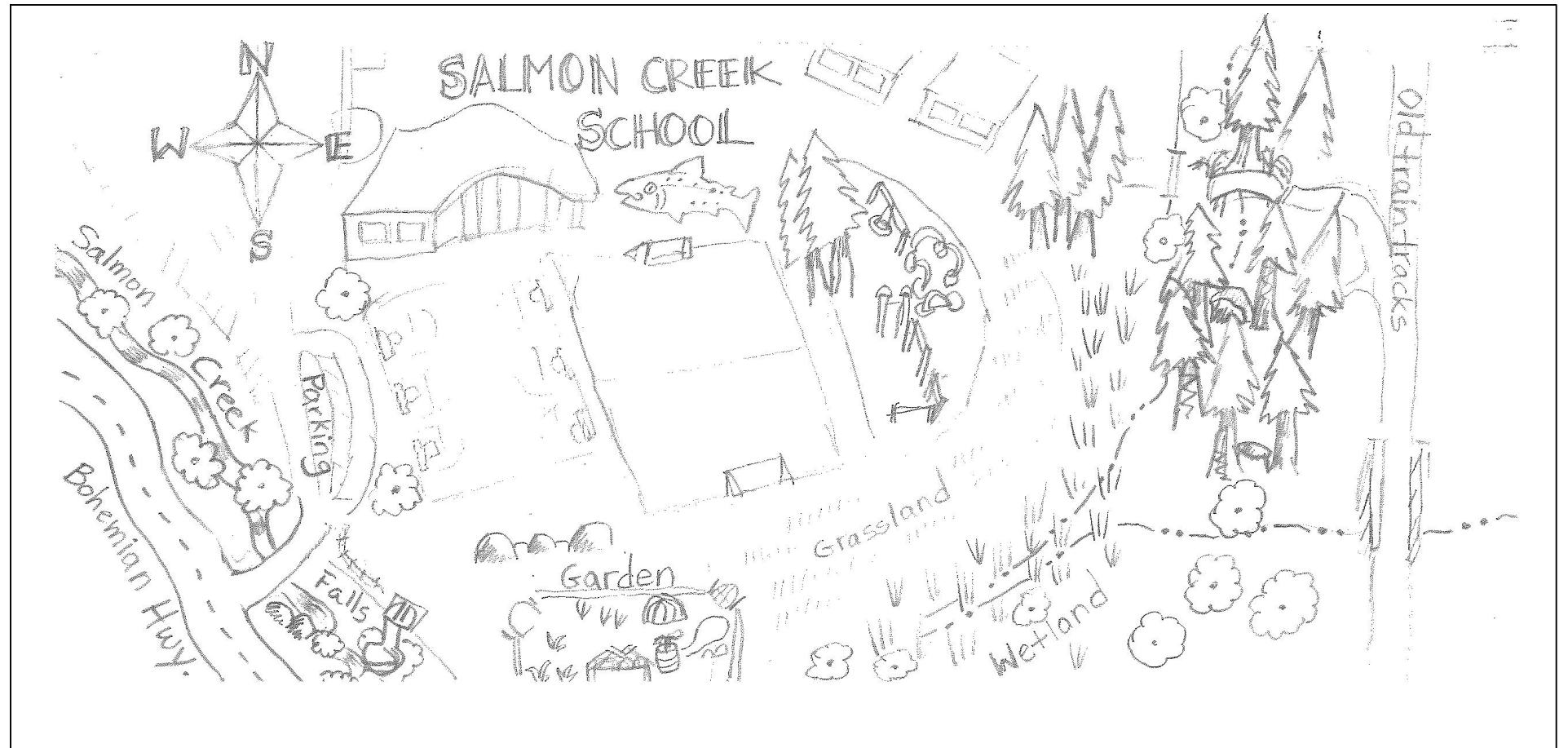


To get here:

Take Highway 12 west to Bohemian Highway. Turn right on Bohemian Highway, and in 2.1 miles Salmon Creek School will be on your right. Turn into the school, and then take your 1st right into the gravel lot. On the weekends, you can park at the school. This Quest can be completed after 3:30 pm Monday through Friday, or on the weekend. School address: 1935 Bohemian Hwy, Occidental, California 95465

How to Quest:

Each page of this Quest takes you on a journey. *The italic lines in verse lead to cool things to see.* Words composed in prose describe each special place. **And the lines in bold? These are challenges to face!**



1. THE BEGINNING

*Shh! Listen for Salmon Creek's song,
Follow towards where salmonids belong.
Three wooden fish jump up two doors
Beyond, find a place that we adore.
Nestled beneath a live oak canopy
Find a rushing place where the fish jump free.*

Salmon Creek stretches from Occidental to the Pacific Ocean. Each winter steelhead migrate upstream from the ocean to spawn, using their amazing sense of smell to guide them. Can you believe they can leap up these falls? Steelhead are members of the salmonid family, anadromous fish that live part of their lives in the ocean and part in fresh water. Another salmonid, the coho salmon, once thrived here. These sensitive fish disappeared from the creek decades ago, but have recently been introduced. They need plenty of clean, cold water, with good gravel beds to spawn. We hope they decide to adopt this creek as their home, and that Salmon Creek once again lives up to its name!

Look at the display poster that shows the stages of the salmon's life cycle. Can you memorize the six stages of the life cycle? Can you think of five things people can do to help keep this creek a healthy one for salmonids?

2. BIOSWALE

*Left out the wooden gate, then count twelve split rails.
Stop at the swale that keeps storm water from the whales!*

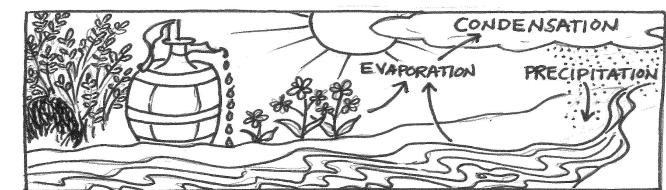


Rain falling down from the sky can't pass through the pavement! Water is always on the go and wants to flow downhill. Water running off of a parking lot can carry chemicals and other pollutants into our creeks and rivers. This bioswale – like a speed bump – slows down and catches the flowing water, allowing it to be absorbed by the Earth. Then, the ground, like a filter, cleans the water as it drips, drips, down, down.

People built this bioswale to protect Salmon Creek. Look around. Can you find five plants and animals who are happy about this?

3. GARDEN

*Turn around – what's the tallest thing you see?
Make a bee-line towards the lone redwood tree.
Through the garden gate you'll go
Straight down the path - pump and make the water flow.*



Water is life. Just like us, all plants need water to survive. Water moves in a cycle – it evaporates from the creek, rains in the garden, is absorbed by the plants, transpires into the air, and falls as rain to collect in the creek again. The water from this pump comes from a flowing creek in the redwood forest to the east. The water is used only for irrigation, and has not been treated for human use. Where does your drinking water come from? Some plants need more water than others. The willow “living room” near the pump is an example of a very thirsty plant. It likes to grow in very moist soils. Here we have to provide it with extra water.

Take turns pumping, catching water with cupped hands. Offer it to the willow and plants that need water from the uplands.

4. WETLAND

*Water is used by man and creatures
Follow the path by the pond, a garden water feature
Through the butterfly gate go right toward the trees
In the grassland you now will be.
As you pass through the grasses, perhaps to your hips
See ahead the dark green rushes spiky tips
The sharp points you feel with the palm of your hand
Let you know you are in a wetland*



The streams from the hillsides ahead flow underground through this wetland on the way to Salmon Creek. Wetlands are places that are soggy at least part of the year. Does the soil feel spongy beneath your feet? Notice how only certain plants like the rushes you see grow in this mucky soil. Can you see where the grassland and wetland meet? The fish in Salmon Creek need year round cold, clean water to survive. Wetlands are important because they hold and clean water from winter rains. Water is then slowly released into the creek in the summer when fish really need it. At our school we also collect rainwater from our rooftops and divert it into this wetland where it is naturally filtered before reaching the creek.

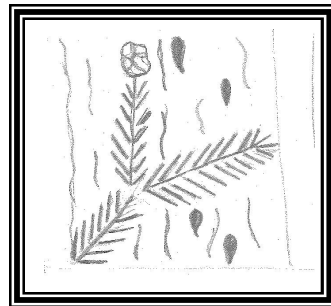
Wetlands provide homes for many types of animals.

What animals might like a wetland habitat?

Look into the sky. How many different types of birds do you see?

7. REDWOOD RING

*Hop back on the train
From where you first came,
Seek out a ring of trees,
And get there as you please!
Into the fairy circle you go
Lie down on your back
and let your thoughts flow.*



You're surrounded by the "grandchildren" of a great mother tree, who once stood right here. How do these giant thirsty trees get all the water they need? During winter, the spongy ground absorbs and stores rain. Redwood heartwood can store up to 1,000 gallons of water. During summer, coastal fog is "captured" by millions of redwood needles. Some water is absorbed at their tips, but most falls as "rain". Transpiration returns precious water back to the air, (up to . 500 gallons a day), keeping this forest cool & moist.

Now that you've neared the quest's end, here is a challenge for you and your friends: About how many gallons of water per day is this grove releasing via transpiration?

5. FOREST UNDERSTORY

*Tromp out of the wetlands to where kids swing and climb
Your shoes might be muddy, but that's just fine!
Between wetlands and playground at the edge of the grass
Walk past a group of redwoods and the north end of class
Turn right toward the forest, stroll to the gate
A few more paces to a bridge where your next challenge awaits.*

You've entered a transition zone from open meadow to redwood forest. Do you notice a temperature change? Look up. What is blocking the sun? Look around you and notice the understory plants that thrive next to the creek. The plants on the forest floor have adaptations like large leaves to capture sunlight filtering through the canopy and can grow in acidic, moist soil. Fallen logs and decaying leaves create the duff that absorbs water on the forest floor. Listen for creatures at the edge of the forest.

Around you are understory plants. From the path, see if you can identify the plants using the drawings as clues.

Redwood sorrel horsetail fern wild ginger poison oak



8. YOUR FINAL CHALLENGE!

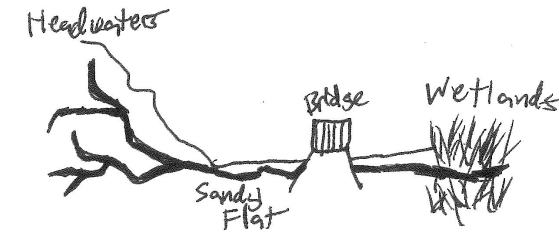
*Our treasure box hides with a ring of seven trees.
You'll find this secret place if you look carefully.
In a stump, in the duff, is the mystery
Open up this little box. Please sign in.
And when your finished put it back again!*

*Take a copy of the stamp to know you are done.
We hope you've learned on our Quest...
AND HAD LOTS OF FUN!*



6. SANDY FLAT

*Follow the curved path between sacred redwood groves,
The fallen branches show you where to go.
Take three steps up and you'll come to a "T."
Take this path right, to the bridge where water might be.*



As water flows through the steep canyons in the headwaters of the creek, sediment (dirt and soil) is washed away from the land and into the water. The sediment is trapped in this sandy flat upstream of the bridge, rather than moving downstream to be filtered by the wetlands. On the path where you're standing, an old steam engine railroad used to carry redwood trees to San Francisco after the 1906 earthquake. The narrow gauge train tracks went from Cazadero all the way to Sausalito.

Can you see the tips of the old fence posts partially buried in the sediment in sandy flat, on either side of the bridge? These are buried from 100 years of sediment build-up from creek flooding.

Can you find the black plastic pipe that carries water from the natural spring upstream to the garden?

SPECIES LIST

- | | |
|---|------------------------------------|
| <input type="checkbox"/> Turkey Vulture | <input type="checkbox"/> Pill Bug |
| <input type="checkbox"/> Red-tail Hawk | <input type="checkbox"/> Spider |
| <input type="checkbox"/> Stellar jay | <input type="checkbox"/> Butterfly |
| <input type="checkbox"/> Blue Bird | <input type="checkbox"/> Earthworm |
| <input type="checkbox"/> Great-Horned Owl | <input type="checkbox"/> Deer Tick |
| <input type="checkbox"/> Alligator Lizard | <input type="checkbox"/> Honey Bee |
| <input type="checkbox"/> Gopher Snake | <input type="checkbox"/> Newt |
| <input type="checkbox"/> Salamander | <input type="checkbox"/> Steelhead |

CREDITS

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Westminster Woods Environmental Education Program
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The inspiration of the Valley Quest Program

www.vitalcommunities.org/valleyquest

For more info and feedback contact David at david5@sonic.net 4/23/10