

Final Report Rose Foundation

Restoration, Recreation, and Education Along a Key Migratory Route in the Eel River/Van Duzen River Watersheds in Humboldt County, California

The Rose Foundation grant accomplished its major goals of raising the public levels of awareness concerning the loss of critical habitat for salmon in the Lower Eel and giving local youth a firsthand experience of the salmon migration while studying conditions of the Lower Eel through field trips and classroom lessons.

The Eel River is the third largest river system in California approximately 200 miles long encompassing 3,684 square mile spawning five counties. Coming from the ocean through the estuary, the Lower Eel serves as the holding or staging area for up to tens of thousands of migrating salmon. The Eel River Recovery Project has been studying this area for the past decade culminating in the movie "Resilience." As a native of Humboldt County, Eric Stockwell has been studying this area his entire life. Several years ago, he discovered that due to low flows, shallow pools, increased algae, and the prevalence of snails, that salmon were becoming blind. This was documented by the California Department of Fish and Wildlife's laboratories.

Working directly with Eric Stockwell, Loleta Eric's Guide Service, I began the project on August 8th by taking a tour of the Lower Eel River from the confluence of the Van Duzen River to Fernbridge, a five-mile kayak run. The area from the Van Duzen to Fortuna showed a healthy river with deep holes but the run from Fortuna to Fernbridge had serious lack of deep holes, low flows, and a significant accumulation of algae. Most striking though was the complete filling of the Boxcar Hole and the partial filling of the Drake hole with sediment from severe rains in 2017. These were the major staging areas for the migrating salmon. Additionally, the river channel moved from being directed to the Fortuna side to the Island side. These changes put the 2018 salmon migration in jeopardy as these areas have been previously used for staging. (Attached is the report of my tour)

Over a period of several weeks this past fall, Eric Stockwell took over two dozen stakeholders from agencies, environmental groups, and municipalities on tours of the Lower Eel River demonstrating the current situation. Eric also organized and executed several salmon surveys by SUP and kayak where volunteers documented 4000 Chinook salmon in holes between Fortuna and Fernbridge prior to the arrival of flows that would allow migration upstream.

Eric comments," We've grown accustomed to watching the river dwindle through the dry summer and into the fall. The norm here is to figure it'll be better when it rains. Since it hasn't rained much at all we know things are bad – worse than usual. Why do we settle for this reality where the flow of our river isn't a priority? Are there things we can do to change policy so that more water flows down the Eel for these fish? It's not just a really dry fall. Its also a lack of commitment to having a healthy fishery with a viable and protected flow." See interview and public comments from Redheaded Blackbelt News at <https://kymkemp.com/2018/11/20/river/>

Additionally, Eric authored a detailed and consistent social media campaign focusing on the conditions on the lower river and the plight of migrating adult fish. Through extensive photos, videos and thoughtful narratives, Eric engaged and informed the public and stakeholders. The balance of Eric's work in the Rose Grant was through field trips and classroom time with the Loleta 7th and 8th graders and meetings where he presented to stakeholders and spoke passionately in favor of the resource. All of Eric's work in the Rose was supported by a great deal of time in the field, tracking river conditions and the migrating adult fish.

The Friends of the Van Duzen River is dedicated to preserving the salmon run and to training the next generation of scientists to become river stewards. The Rose Foundation grant perfectly matched these goals. From August till now, working with Autumn Chapman, Superintendent Principal of Loleta Elementary, we designed and implemented a Science classroom for 7th and 8th graders. One of the most diverse schools in Humboldt County, Loleta Elementary consists of 39% Native American, 39% Hispanic, 7% mixed, 15% Caucasian. Located along the Eel River, it served as a perfect location for the Rose Grant. (Attached is a copy of My Word from the Times Standard)

Twice a week from late August to middle December, science classroom lessons were given with an emphasis on scientific inquiry and watershed education. Using curriculum developed through three federal Kids in the Woods grants, I engaged the students in scientific thought encouraging an appreciation for our planet while raising important environmental issues.

A key element of the Rose Grant were two meetings organized by FOVDR which took place at the Native American Wiyot headquarters and the newly created Science Room at Loleta Elementary School. There was an urgency to these first two meetings raising the question of what to do in case of an emergency fish kill. Representatives from the California Dept. of Fish and Wildlife, NOAA Fisheries, private industry Humboldt Redwood Company, local mayors, and concerned citizens joined the Eel River Recovery Project, FOVDR, and Eric's Guide service to discuss this issue and others related to the need to improve habitat in the Lower Eel. A third meeting was held at NOAA Fisheries.

These first two meetings along with Eric's press releases were also critical to disseminating information regarding the low flows and dangerous conditions in the Lower Eel. (Enclosed are the agendas for the first two meetings).

The Rose Foundation also worked with the city manager of Fortuna, Merritt Perry, collaborating on the Salmon Parkway concept. Expansion of trails is a significant priority in the State of California and the area between the Van Duzen confluence to Fernbridge would be a great addition to the Trails Bills passed by the California legislature. For the Rose Grant, the mayor of Fortuna attended our meetings and spoke of their efforts. Additionally, working with Sean Swanson from the River Life Foundation, who also went out with Eric to tour the Lower Eel, I received a tour along the railroad tracks behind Fortuna observing the existence of trails and the presence of the homeless population.

Looking for locations to observe salmon with access for school children was not easy. More viewing areas need to be created. Along with teaching Watershed Education in the classroom setting, FOVDR has learned that it is vital to take children out into nature to develop a sense of appreciation for their world and to develop the capacity to share their habitat with all creatures! To this end we took field trips to four locations: Crab Park, the Scotia Fisheries Exhibit, the Eel River at the Worswick hole, and the Eel River at the Fortuna River Lodge. Thanks to the California Watershed Stewards for their assistance. Thanks to the Fortuna High School "Change the World" project for providing a bilingual high school intern to assist with our Hispanic population.

Documentation of these field trips is enclosed below.

Environmental Education is an important aspect within California schools developing a system known as STEM or Science, Technology, Engineering, and Mathematics. Friends of the Van Duzen adds an A into this system for Art creating STEAM.

Enclosed is poetry from 5th-8th grade Native American students at Loleta Elementary School sharing their concerns about the environment.

Eel River

I am the Eel River. I flow
with the fish, they like how
I flow and make them faster than
their predators. Two months later the
fish were gone. There is a dam. The
fish want me back. Some fish
are here with me. I hope someone
will help me and more fish
come. Without them I am lonely,
my heart is broken. Then the
dam was gone. I'm happy that more
fish are here with me. They also
like how I'm back. I hope no one
will build another dam.

—Donivan Mead, 5th Grade

Spotted Deer

I feel the warm breeze against my
skin and I hear the bushes ruffling.
I see kids running in my territory, I
climb into a cave. In the winter I
will search for shelter, in autumn
I eat all that I can, I fear that
my youngling won't survive, I am
afraid predators will come for us,
I worry that my family will die, I
believe that we will make it, I
dream that all of us are in danger,
I wish I can transform into
different animals and get more
food for my family next to the
Eel River and my family is now dead
and my soul is now trapped.

—Wey-se-naw (Wey-sey) Markussen, 5th Grade

Eel

eel = gou-dow [or gou'dow, Wiyot language]

I am like a river snake.
I'm delicious fried.
I'm in south jetty, shallow water, Pacific Ocean,
rivers, ponds, lakes.
I'm in spring, summer, fall.
Also I'm in snake family.
I'm prey to racoons, foxes, humans,
bears, coyotes, wolves.

—Donivan Mead, 5th Grade

I Am Wiyot

I am Wiyot
I am Native
I go flow to the bay
I am not dying soon
I have been to depths of the Pacific
I know life beyond death
I am Wiyot

—Hailey Mead, 8th Grade

The Eel River

I am the Eel River.
I am free as the salmon.
I travel through the ocean.
I am not polluted with trash.
I have been flowing through the mountains.
I know I will be the only river called
the "Eel River."

—Wanda Hernandez, 8th Grade

Field Trip 1 : Crab Park: A unique environment along the Pacific Coast, from this vantage point, students can see the merging of the ocean with the river with the estuary. A magical place, students were able to view the sight, take photographs, and use their scientific engineering skills to build structures out of woody debris left on the beach.



Field Trip 2: Scotia Fisheries Exhibit is the leading aquarium for salmon on the North Coast. Developed and maintained by the Humboldt Redwood Company over 200 salmon and trout of various size and age are kept in controlled tanks for viewing by the community.



Be the Fish



7th grade student with Mike Conniff, Hydrologist

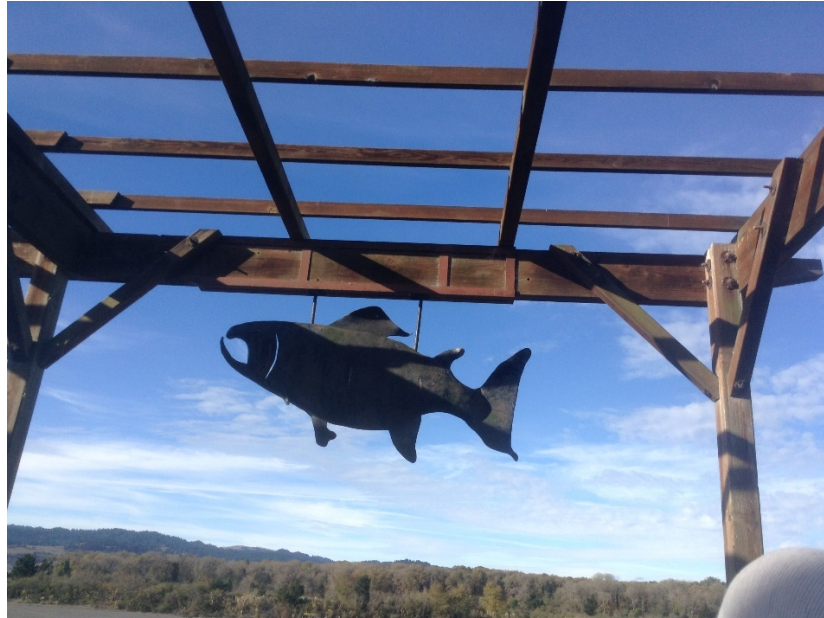


Mrs. Rose 7th/8th grade teacher

Field Trip 3: Eel River Water Monitoring: Collaborating with the California Watershed Stewards, the Fortuna High School Change the World Project, Eric Stockwell, and FOVDR, the 7th and 8th grade classes studied a specific site on the Eel River by the Worswick Hole near Fernbridge. Students collected data on depth, temperature, turbidity, oxygen, macroinvertebrates, and fish.



Field Trip 4: River Walk Salmon Migration: With salmon holding in the deep pools in Fortuna, 7th and 8th grade students hiked the Riverwalk pathways counting salmon jumping in the pools. We counted 33 salmon.



The Rose Grant was a valuable asset in promoting the health and well being of the Lower Eel River. It raised the levels of awareness of the complexities and the difficulties of the annual salmon migration in the local school and in the community.

Thank you, Rose Foundation, for allowing us this opportunity. Realizing that much more is needed to protect the salmon and the lower Eel River habitat, we began to explore other grant opportunities and agencies. Realizing the magnitude of our vision, we organized our third meeting with the NOAA Fisheries, ERRP, FOVDR, Stillwater Sciences, and BioEngineering Associates pursuing a NOAA Coastal Restoration Grant. We followed this up with conferences with the Humboldt County Resource Conservation District who are essential to the restoration of the Salt River Estuary leading into the Lower Eel River. We will continue to follow up on all possibilities for habitat improvement and restoration in the Lower Eel River.

Let me close with a passage from a talk given by Eric Stockwell at the yearly volunteer dinner at the Monday Club in Fortuna. This is an excerpt.

“I grew up here and was taught about the salmon, the landscape, and the history of industry here. I don’t know if it was his intent or just his heart, but my Dad somehow taught me to really respect the fish.

For nearly all my life I’ve sought out salmon on the Eel – I’ve caught plenty on hook and line, but I’ve never kept an adult fish from the Eel. Its been over 20 years now that retaining a fish is not allowed on the Eel, and in that 20 years I’ve honed my focus on the fish and their needs. Every year I devote a great deal of time to visiting special reaches of remote tribs where I might luck out and see spawning fish. What I feel when I’m with the fish is a longing for kinship-I want to be like a salmon! The respect I have for this species – Chinook to be specific – is based on my recognition of and admiration for their focus and their drive. These beautiful creatures have no negative effect on the landscape – only positive. They only take what they need. They live a fast and exciting life and close it out very passionately – giving literally everything so the next generation can come.

Our lives are so much more complicated than those of fish – that is as it must be. The message I hope to convey through my work in the outdoors is that by taking care of the fish and their habitat, we stand to achieve something as noble as what a salmon does when it gives all for the future of its species.

If in any way we can preserve and restore vital resources and valid cultural icons like salmon, there is hope for our species! This is my spirituality. I wish to live my life in a way that recognizes the importance of capturing the respect of future generations. “

May it be so!

Respectfully Submitted,
Sal Steinberg, Director Rose Foundation Grant. Community Coordinator Friends of Van Duzen
Eric Stockwell, Loleta Eric's Guide Service