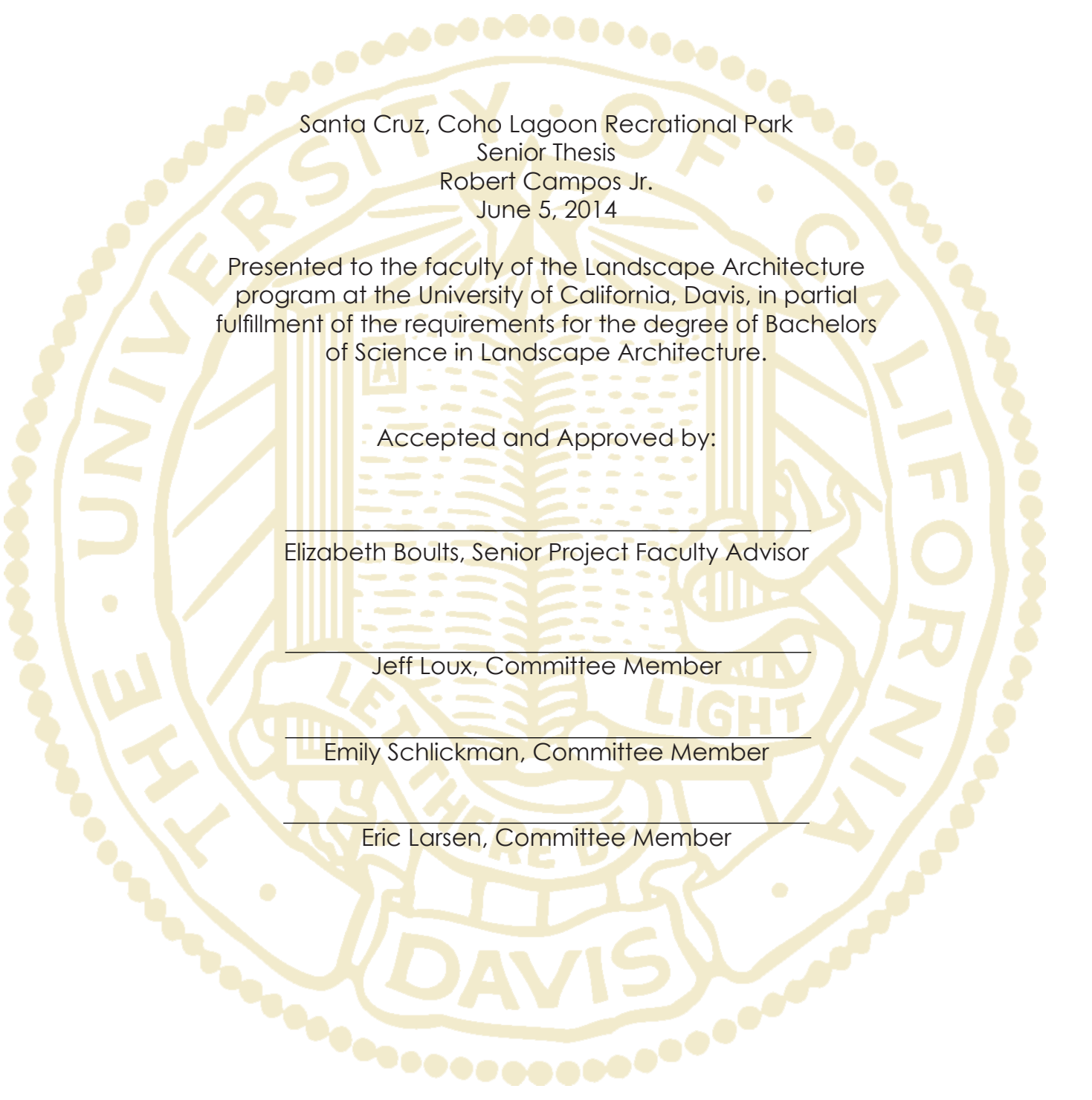


Santa Cruz, Coho Lagoon Recreational Park

Robert Campos Jr, Class of 2014

The seal of the University of California, Davis, is a large, circular emblem in the background. It features a central shield with a book, a sun, and a tree. The shield is flanked by two figures: a Native American on the left and a miner on the right. Above the shield is a banner with the motto "EUREKA". The outer ring of the seal contains the text "THE UNIVERSITY OF CALIFORNIA" at the top and "DAVIS" at the bottom. The seal is rendered in a light, golden-yellow color.

Santa Cruz, Coho Lagoon Recreational Park
Senior Thesis
Robert Campos Jr.
June 5, 2014

Presented to the faculty of the Landscape Architecture
program at the University of California, Davis, in partial
fulfillment of the requirements for the degree of Bachelors
of Science in Landscape Architecture.

Accepted and Approved by:

Elizabeth Boults, Senior Project Faculty Advisor

Jeff Loux, Committee Member

Emily Schlickman, Committee Member

Eric Larsen, Committee Member

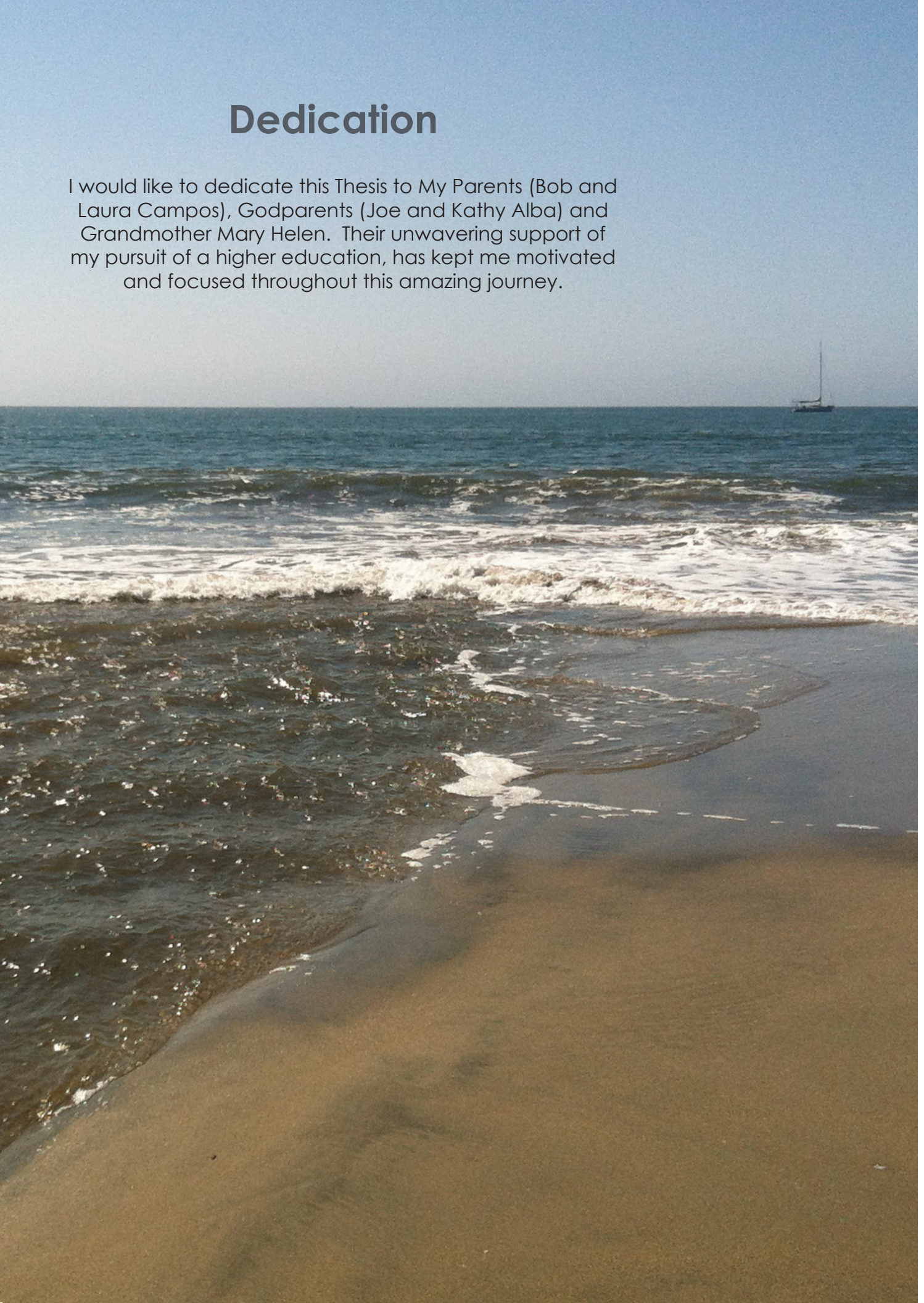
Acknowledgment

In bringing My Senior Thesis to fruition, I would like to acknowledge the guidance provided by my committee members – Emily Schlickman, Professor-Jeff Loux, and Research Scientist-Eric Larsen.

I would also like to thank Elizabeth Boults, Gerry Robinson and Gale Torton for their instruction and genuine interest in our success.

Dedication

I would like to dedicate this Thesis to My Parents (Bob and Laura Campos), Godparents (Joe and Kathy Alba) and Grandmother Mary Helen. Their unwavering support of my pursuit of a higher education, has kept me motivated and focused throughout this amazing journey.





Abstract

My thesis is based on the transformation of a six acre parking lot near Lower San Lorenzo River Lagoon to accommodate for human recreation, site connectivity and the Coho Salmon during their Smolt and Parr stage in life. The recreational features designed will promote frequent visitation based on ecological migratory events of the coho salmon, encouraging physical fitness, social media participation, history based design, dynamic seasonality of the river as well as connectivity and access to the site.

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SUMMARY

An aerial photograph of a beach and ocean. The top half shows the dark blue water of the ocean with white-capped waves breaking. The bottom half shows the sandy beach with gentle ripples in the sand. The text is overlaid in white, sans-serif font.

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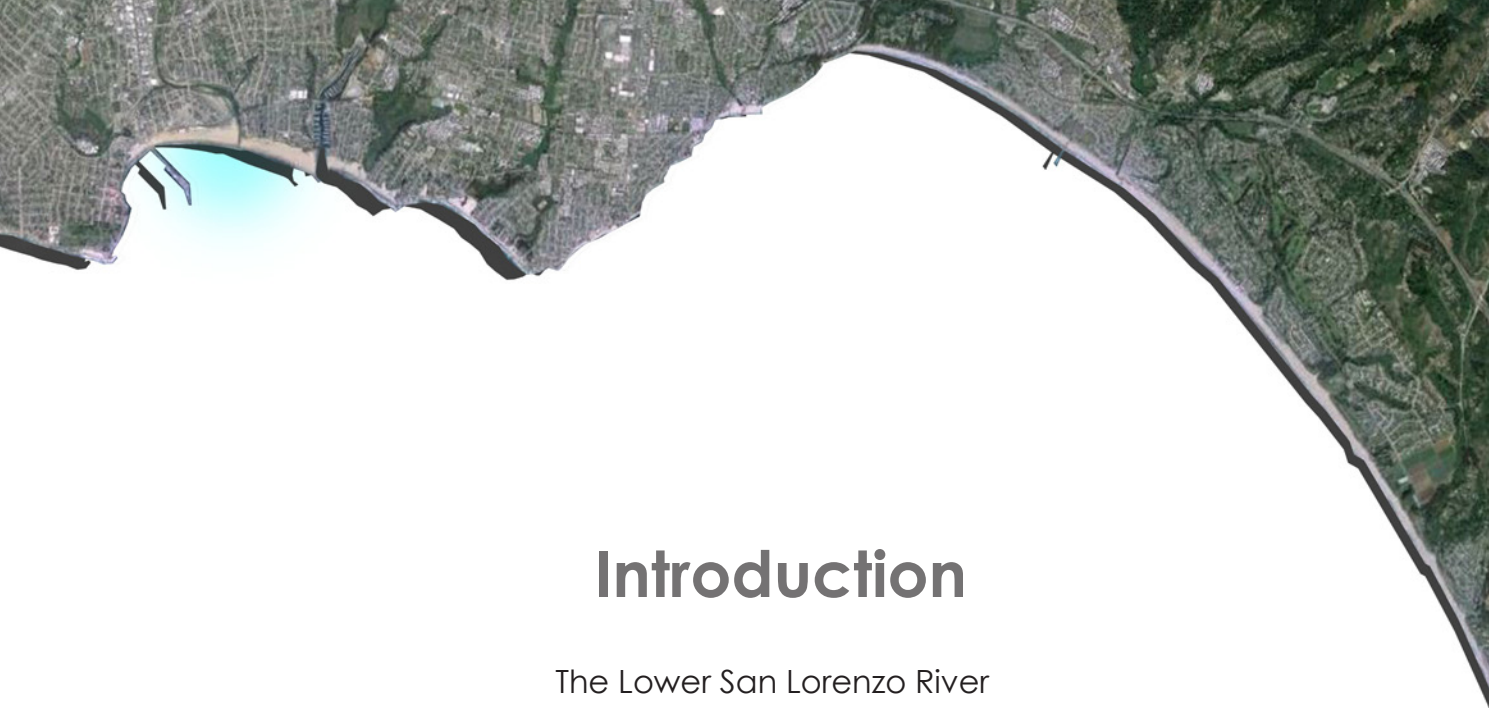
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A LASTING CONNECTION



Introduction

The Lower San Lorenzo River Lagoon was once a frequented by many visitors, however due to the manipulation of the rivers physiology during the 1950's the sites current condition is far from ideal for recreation, vegetation and fish. Despite the current situation there is a chance to improve all of these aspects through my design. My reimagining of the 6 acre parking lot will make this currently underutilized site an example of the symbiotic relationship between recreation and ecological restoration. The designed features I have created are predicated on research of biological patterns, history, current use, participation and connectivity. This research has allowed me to maximize the positive effects of the designed elements in my plan.

#TeamCOHO

Why choose to highlight a big ugly fish as the reason for lagoon restoration?

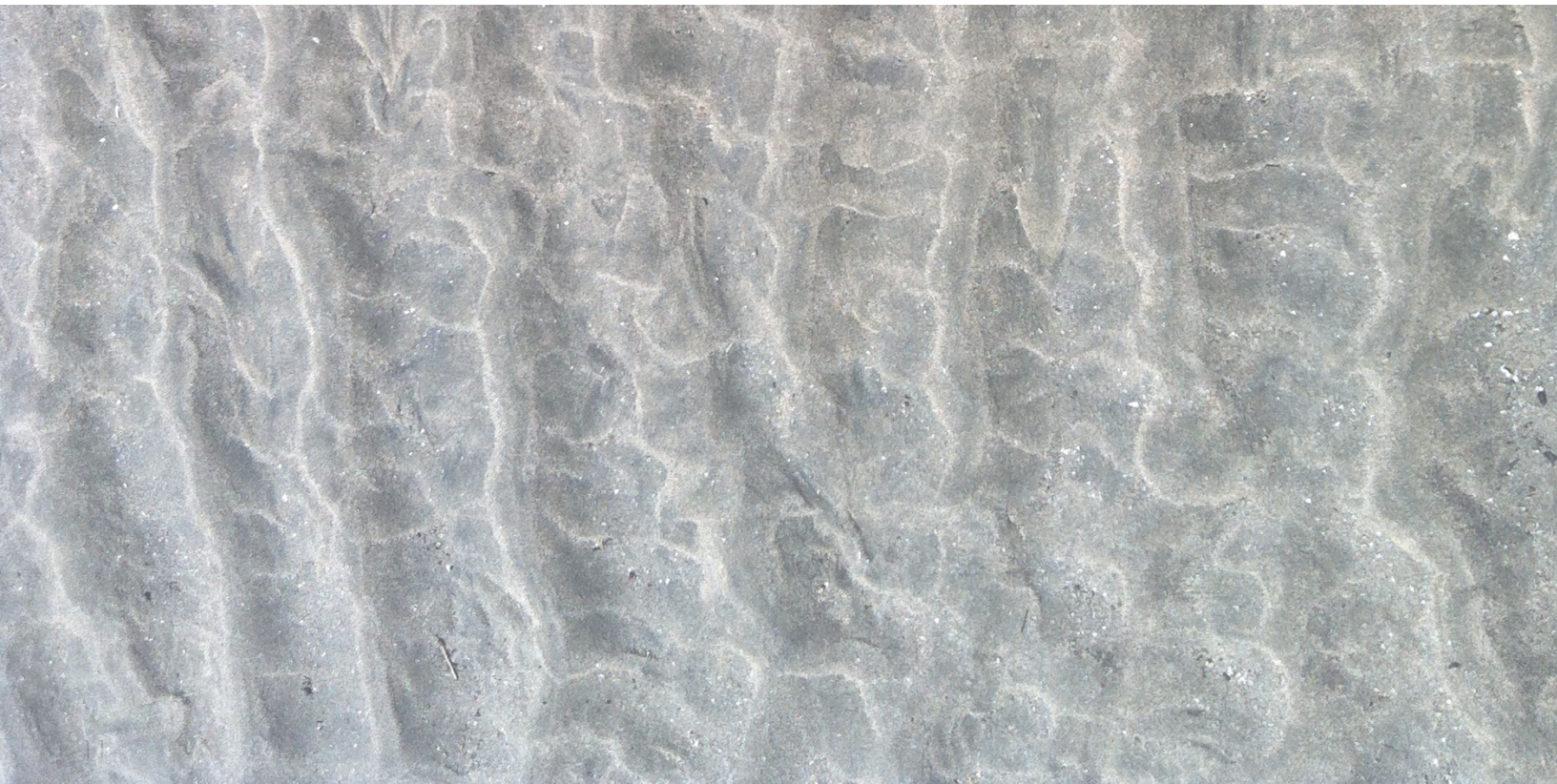
Salmon are one of only a few species of animal that require cool fresh water streams, estuary lagoons and the ocean to complete their life cycle. Looking at salmon as a symbol for the health of this ecosystem is not a farfetched idea. This species will use the entire watershed and are an indicator of water quality, trophic web, river flow, and temperature. The more biologically diverse a river system; the healthier the young salmon in the estuary will be. The same can be said for the decline of a river ecosystem; the decline of biodiversity in a river system will result in a lower capacity of young salmon.

Salmon are not just consumers of what the watershed can provide, they also contribute large amounts of nutrients into the ecosystem when they die after spawning. The body of a salmon is full of nitrogen, phosphorus, carbon and micro-nutrients that are returned to the eco system upon decomposition. The bodies of the salmon are also a source of food for other terrestrial and aquatic life forms including invertebrates, marine mammals, and birds (Rahr, 2014).





The Coho Salmon



Life Cycle

The life of the coho salmon is based on adapting to progressively harsh ecosystems in order to accomplish their goal of reproducing. A four to five year old coho salmon that has spent the majority of its life out at sea will make its journey back to the tributaries where it had spawned from. This migration to fresh water happens from November to February. This is the ideal time for the salmon to attempt their upstream migration because seasonal rains should have breached the sandbars that build at the mouth of most California rivers that meet the ocean. (2014, California Dept. Fish and Wildlife)



SPAWNING ADULT-3 MONTH PERIOD, ADULT SALMON VENTURE UPSTREAM TO THE TRIBUTARIES WHERE THEY WERE BORN.

EGG- 3 MONTH INCUBATION PERIOD

ALEVIN-1 MONTH PERIOD, TO ENVELOPE NEUTRIENT RICH SACK THAT PROTRUDES FROM THEIR BODIES

FRY- 2 MONTH PERIOD, WHERE THE YOUNG SALMON HAVE LEFT THE GRAVEL NEST AND MOVE DOWN STREAM

PARR-4 MONTH PERIOD, NOW LARGER THEY ARE MORE VISIBLE TO PREDATORS. AS DEFENSE THEY HAVE DEVELOPE VERTICVAL MARKINGS ON THERE BODY AS CAMOUFLAGE.

SMOLT- 1 YEAR PERIOD, OF GROWTH IN FRESH WATER LAGOON WITH ADAPTATION FOR SALT WATER TRANSITION OCCURRING



Spawning and Egg Development


Once the coho salmon have made it into the fresh water system through the breach of a sand bar, the coho salmon seek smaller streams that branch off of the main river to spawn. The spawning season will last from November to January however, during years of drought, the coho salmon have been known to extent their spawning season into March.

Female coho salmon will seek small streams with pools and riffles and semi turbulent water to build their nest. The nest is carved out of the river bed by the female thrashing her body to uncover the gravel substrate. The rapid and violent movement of the female's body will then dislodge the gravel creating spaces within the gravel that are the ideal size for salmon eggs to lodge themselves within.

These nests are oval depressions at least as deep and as long as the fish. The hydrodynamics of the nest stops the eggs and sperm of the salmon from floating down stream. Each nest will hold approximately 100 to 200 eggs. The size of the coho salmon also determines the amount of eggs it will produce. The larger a salmon is the more eggs it can produce. The number of eggs a salmon can produce range from 1,500 to nearly 6,000.

The fertilized eggs are buried by the female digging another nest just upstream. This technique increases aeration within the nest and also decreases the amount of fine organic waste in the nest.

The incubation period for coho salmon is determined by the temperature of the water, forty-eight days at 48°F, and thirty-eight days at 51.3°F. The alevins are the newly emerged hatchlings of the coho salmon. They are translucent in color and remain within the spaces of the gravel for two to ten weeks. This time is needed to absorb their yolk sacks, at which time their color changes to that more characteristic of fry. The fry are silver in color and have oval and striped markings along their spine. These markings will help them blend into their surroundings and decrease visibility from predators once they leave the gravel nest. (2014, California Dept. Fish and Wildlife)



The fry will move from the gravel between March and July, with peak migration from nests happening from March to May. Now that the fry are within the open water system they will seek out clear shallow water and group into schools. The fry will also eat as much as possible as they continue to move downstream. As the fry get larger they become more territorial and more individualistic.

Once a Coho has broken from the school they have entered the juvenile stage called a parr. As they become more territorial they will seek out deeper water within ponds, sloughs and lagoons. Searching for deeper water at this stage is also a reaction to water temperatures being their highest, and growth slows. As the hot summer months pass and the winter starts, the parr's growth and feeding is slowed down to accommodate for a lower food supply and cooler water temperatures.
(2014, California Dept. Fish and Wildlife)

Fry and Juveniles

As spring starts the parr are extremely active in their pursuit of food and space. As they migrate downstream they enter the smolt stage. The spring before their outmigration is essential to their success in the ocean. During this time the smolt get as large as they can while also adapting their bodies to the salinity of the oceans water.

After one year of fresh water rearing, the out migrating starts in May and ends in July.

The variables that affect the time of the out migration for a salmon include size of the fish, flow conditions, water temperature, dissolved oxygen (DO) levels, day length, and the availability of food.

Low stream productivity, due to low nutrient levels or cold water temperatures, can contribute to slow growth, potentially causing coho salmon to postpone emigration. Once the salmon have made it to the ocean they will return within a 3 year period to reproduce and start the cycle over again. (2014, California Dept. Fish and Wildlife)



Smolt Emigration and Coho in the Ocean

3 Importance of river to salmon

The San Lorenzo Lagoon is important to the restoration of the coho salmon because it is connected to one of the largest watersheds and network of tributaries on the West Coast. This watershed hosts the opportunity to host a healthy spawning population of salmon. However the current condition of the lagoon will not support a new large population of coho salmon smolt. The smolt stage of the salmon is crucial to their survival in the ocean. As stated earlier the salmon use this stage to grow in size and adapt their bodies to the salinity of ocean water. The salmon's ability to accomplish both of these tasks increases the probability that they will return to spawn in 3 years.



Kidney function differs between salt and fresh water habitats. In fresh water, the salmon's kidneys produce large volumes of dilute urine, while in the ocean environment, the kidneys' urine production rates drop dramatically and the urine is as concentrated as the kidneys can make it. The result of this is that the salmon is using relatively little water to get rid of all of the excess ions.

(http://www.unm.edu/salmon_osmoregulation)

FRESH WATER

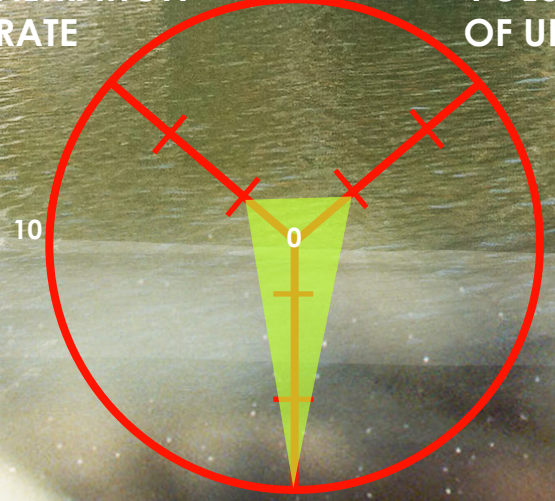
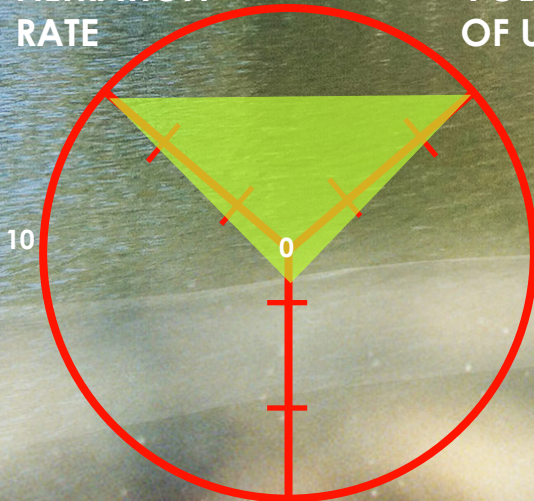
SALT WATER

FILTRATION RATE

VOLUME OF URINE

FILTRATION RATE

VOLUME OF URINE



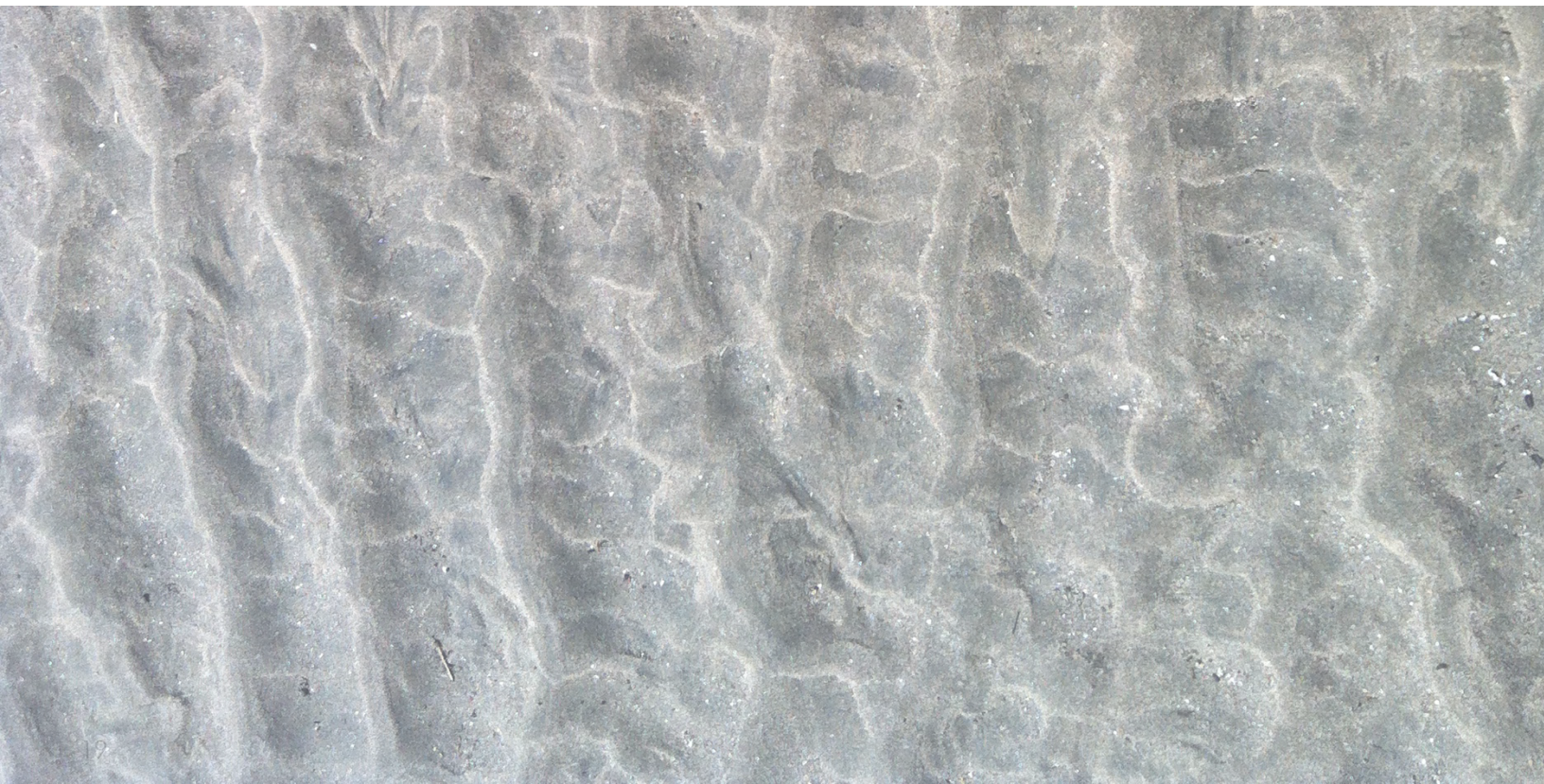
SALT EXCRETION

SALT EXCRETION

SALINITY ADAPTATION OF SALMON



History of river fun



Bathing Dress Catalog



BATHING DRESSES.—(See Description, Fashion Department.)

1865

<http://yeoldefashion.tumblr.com/page/168>

The history of recreation on the lower San Lorenzo River can be traced to 1870, when the local children would frequent the dozen swimming holes; Girls wore old calico summer dresses, and boys either wore a union suit or a cut-off flour sacks, with cutout leg holes, and drawstring belt. (1994 Ross Eric Gibson)

In the 1890s a more elaborate version of river recreation began to take form on the lower river. Events like the Santa Cruz Water Carnival included a fleet of small ships that would enter San Lorenzo River through its lagoon and “bombarded” the city in a mock battle. As the launches were set ashore, they were met at the beach by Queen Anita (queen of the carnival) and her attendants, who pelted the invaders with flowers until they surrendered to this gentle monarch. Anita proclaimed: “Peace shall prevail this carnival week!”

Bleachers were erected along the river banks to accommodate for the massive crowds that came to see the floral boat parade. ‘Illustrated concerts’ were put on by bands that would project images on to the river stage. The night boat parade was illuminated by strands of lights that stretched across the river. There was also an opera on an island in the middle of the lagoon. Author Ambrose Bierce was among the journalists nationwide who spread the fame of this event, helping to make the Water Carnival an annual festival and California’s “social event of the season” for the 1890s. (1993, Gibson)



Anita Gonzales is from the book, Santa Cruz County, a Faithful Reproduction in Print and Photography of its Climate, Capabilities and Beauties, published in 1896

1890

santa cruz water carnival



BROOKDALE FISH HATCHERY

YOUNG FISH RELEASED INTO TRIBUTARIES

POPULATION BOOM OF SPORTING FISH

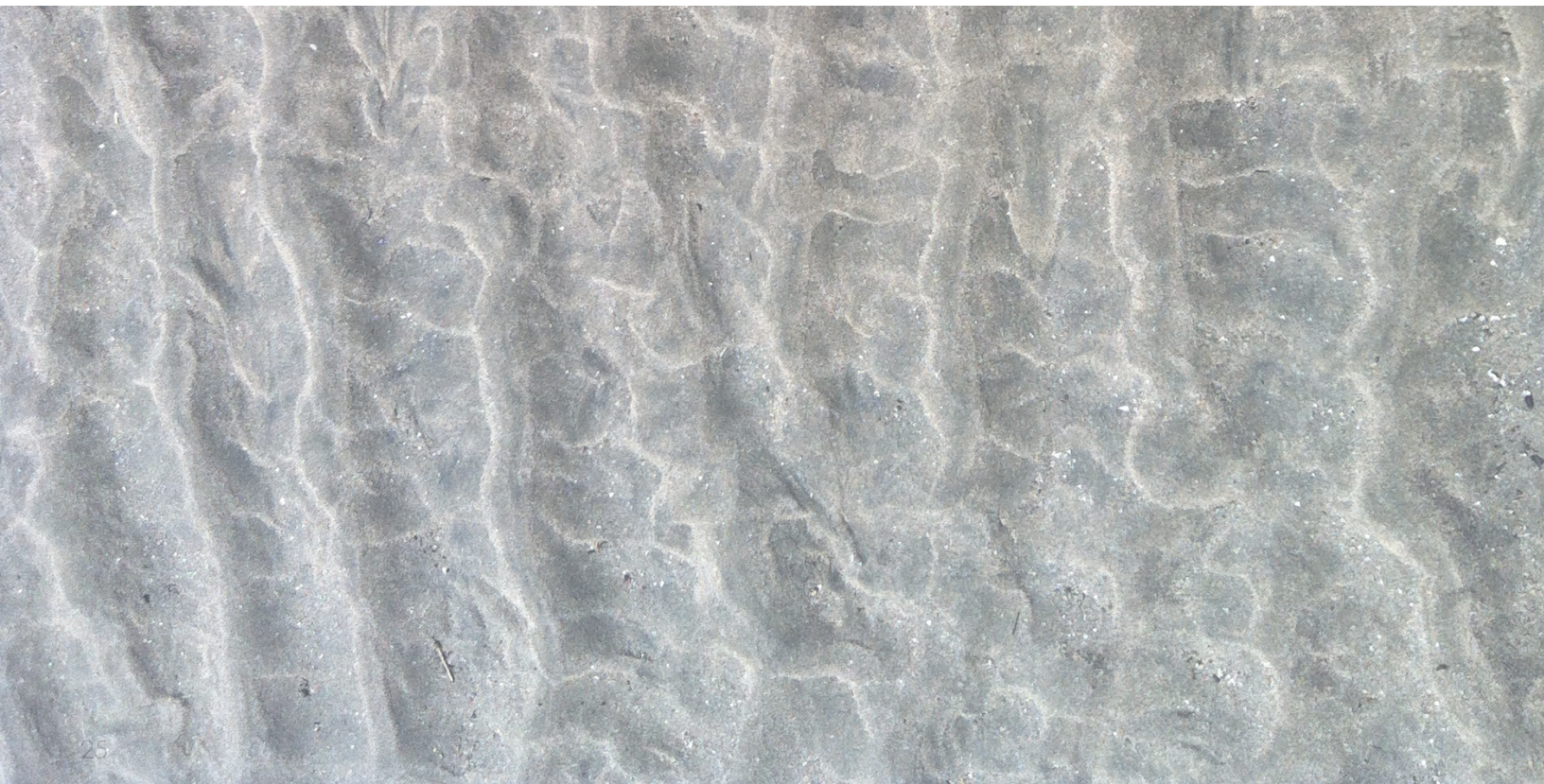
Fred Swanton was one of the first owners of the boardwalk, and an avid supporter of the Water Carnival and an advocate for turning the river into Santa Cruz's top recreational feature. He also felt that this should be done by showcasing the ecological activity of the river, not by regularly throwing elaborate events. Santa Cruz promoted itself as a "sportsmen's paradise," with the majority of visitor amenities like hotels, campsites and the downtown district within a two block distance. In 1905, boardwalk founder Fred Swanton helped build a fish hatchery at Brookdale, and the San Lorenzo became the leading fishing river in Northern California. In the 1920s and '30s, Fred Swanton was the leading advocate for a river beautification project that would have helped establish Community Park, where the Court House is today (1994, Gibson).

The Big Flood: California 1955,
which was published in Oct
1956 by the California Disaster
Office

The Long history of the San Lorenzo River being a recreational site came to a very sudden stop after the river flooded the west side of Santa Cruz and claimed the lives of a dozen people. All of the riverside forests were removed, the river was straightened and the banks were smoothed over with concrete to reduce friction along the new levee installed by the Army Corps of Engineers. At this point the Town fathers felt tourism was the wrong image for Santa Cruz, and the aesthetics of the river were never restored. (1994 ,Gibson)



Stripped River





Aside from the aesthetic and recreational value that was lost, the rivers ecosystem was stripped of all its dynamic features that made it so special. The ecological effects of removing riparian vegetation is seen in the amount of organic material that moves into the river system, a decline in terrestrial animal activity and a decline in aquatic life. Organic matter that enters the river system is the food base for small aquatic creatures, algae and plankton. These small creatures are the base food supply for all animals within the river. These animals have very complex behaviors and life cycles that are based on the type and quantity of food that enters the river system. For example if there is a dramatic decline in the amount of food available, for these small complex creatures (zooplankton, algae, larva, mussels and crustaceans), there will be a dramatic decline in their population. Terrestrial habitat along a river and within it is also extremely important to the health of a riparian ecosystem (1984, Baltz).

SHADE LOSS



Loss of riparian vegetation also has an effect on the amount of shade that is cast on the water. Loss of shade increases water temperatures, algae blooms and change the rate of decomposition of organic material within the river. Bodies of water that become too warm have the potential to kill off fish and invertebrates that are acclimated to cooler temperatures.

Algae blooms can become a hazard when a body of water becomes stagnant. Algae have the potential to build up in quantities that no longer require a microscope to see it. Aside from its being an unattractive feature in water, it could release toxins that will kill off fish and invertebrates (blue algae).

Shade loss also has an effect on the rate of decomposition within the water. When water temperatures rise the rate of decomposition increases and the food supply for zooplankton, algae, larva, and invertebrates become limited (1984, Baltz).

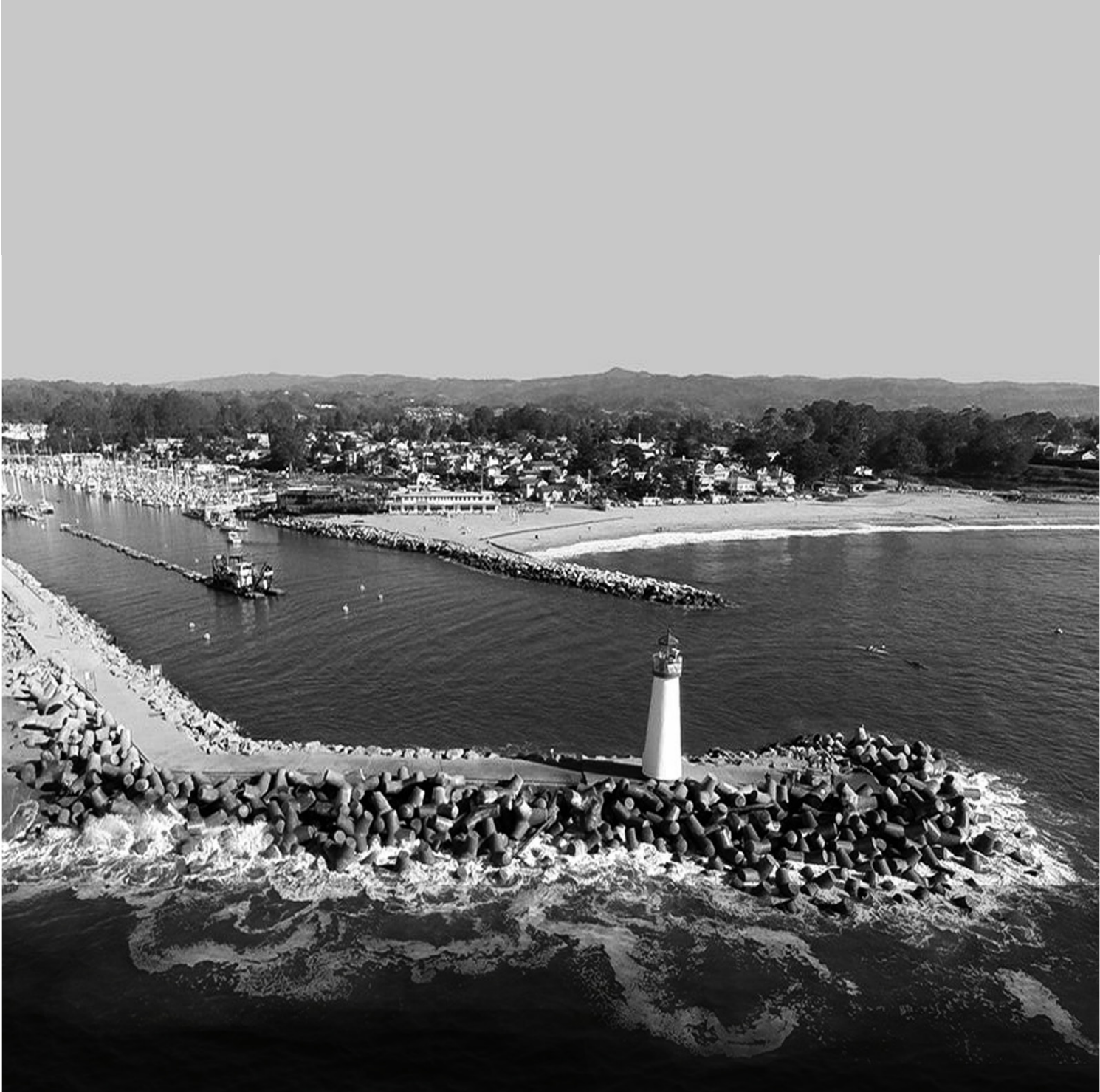
An aerial photograph of a sandy beach. The sand is dark and textured with numerous small, irregular ripples and patterns, likely created by wind or water. The overall tone is a mix of dark grey and brown. A white horizontal bar is positioned across the middle of the image, containing the text 'Jutting Jetty' in a bold, black, sans-serif font.

Jutting Jetty

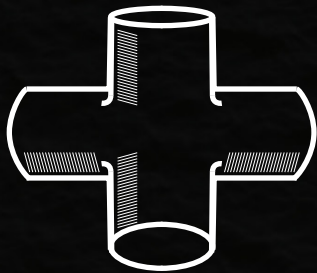




As the town had lost interest in tourism, it began a new venture in the way of yacht recreation. The Woods Lagoon was selected as the new site for the Santa Cruz Harbor. The Woods Lagoon was located 1.5 miles south of the San Lorenzo River, and was a seasonal lagoon that would swell in size during the winter months and then breach out into the Pacific Ocean. In 1963 the lagoon was dredged and a jetty was installed.



TETRAPOD



Each tetrapod was made of a rebar framed core, 3 types of aggregates, and cement mix to hold everything together. A single tetrapod would use 12 cubic yards of this mixture. Each of these pods weighed 55,700 pounds (27 tons).

The 800 foot long jetty was lined with 900 pods that were placed on 250,000 tons of stone. The individual stones ranged in size from 3 to 10 tons (Wagner, 2000).



1956

The 800 foot long jetty would act as a blockade for any sand moving down the Santa Cruz coast.

Waves along the Santa Cruz shoreline transport about 250,000 cubic yards of sand down coast each year on average. This is equivalent to 25,000 dump truck loads annually, or 68 truck loads every day. In 1963, as soon as the west jetty was completed Seabright Beach, north of the harbor, started to widen. It continued to widen for the next twenty years due to sand becoming trapped by the jetty. This trapped sand created a beach that is 6 times the size of its original size (2012 Griggs).



1963

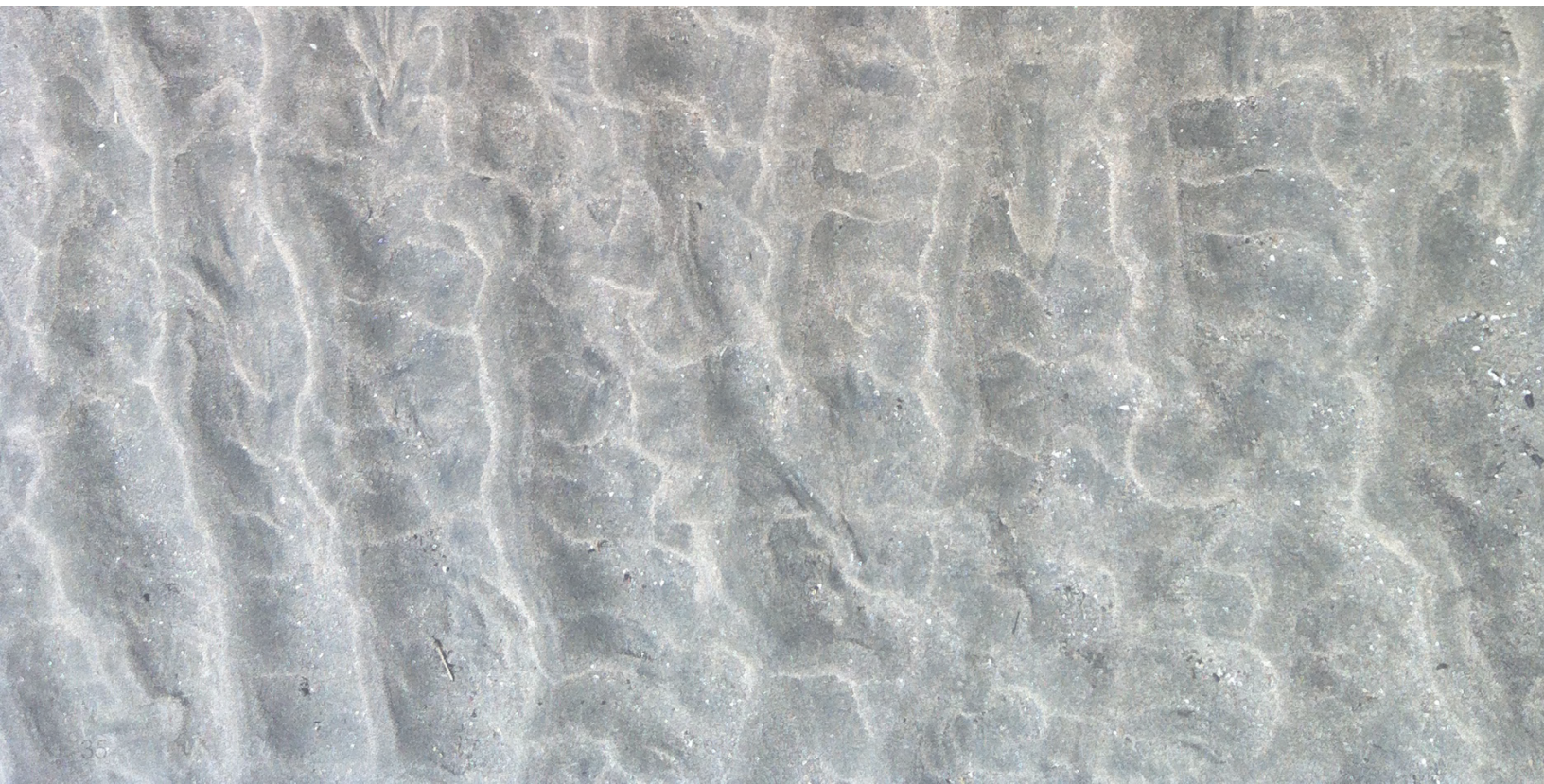


2013

Ecological effect of jetty

Since the Jetty has created an annual blocking of the river mouth, that requires a large rain storm to breach the sand bar, the lagoon is closed off more frequently than it was previous to the installation of the jetty. The frequently closed off lagoon then suffers from high levels of depleted oxygen and high temperatures (2012, 2ndnature,llc)

6 Acre Trade Off





Site inventory

The site is located along the San Lorenzo River just in front of the Santa Cruz Beach Boardwalk. The site is currently a 6 acre parking lot that is owned by the Sea Side Company (owners of the Santa Cruz Beach Boardwalk). The use of this site would also allow for the set back of the levee to increase maximum capacity and increase flood mitigation.

The vegetation on the site is a result of opportunistic, non-native, invasive plants establishing themselves after the levee banks were free of concrete. These invasive plants reproduce much faster than natives.

Currently the only pedestrian path across the river is a 3 foot wide bridge that runs along the trestle bridge. The path is so thin that many pedestrian take their chances with an oncoming train.

Upon my visit to the site there were no signs to encourage recreation or connection to the river. The only signs seen were of trespassing, warnings and denied access.



The site design includes the environmental requirements of the Coho Salmon, as well as the features that relate to the history of recreation on the San Lorenzo River. The ecological degradation of the River was a part of its history and it should be recognized as such. One of the new features in the site is a riparian garden that represents the time line of the river in its past stages. On the site there is also an increase in river crossing opportunities with a new pedestrian and bike bridge that allows the user full access to views of the lagoon.

CURRENT VEGETATION

EXISTING INVASIVE, NON- NATIVE PLANTS OBSERVED IN THE SAN LORENZO RIVER ESTUARY

INVASIVE AND NON- NATIVE VEGETATION	SCIENTIFIC NAME	CONCENTRATION ALONG ESTUARY
Bindweed	<i>Convolvulus arvensis</i>	High
Blue Gum	<i>Eucalyptus globulus</i>	High
Cape Ivy	<i>Senecio mikanoides</i>	High
English Ivy	<i>Hedera helix</i>	High
Fennel	<i>Foeniculum vulgare</i>	High
Field Mustard	<i>Brassica rapa</i>	Medium
French Broom	<i>Genista monspessulana</i>	High
Green Wattle Acacia	<i>Acacia decurrens</i>	High
Himalayan Blackberry	<i>Rubus procerus</i>	Low
Iceplant or Sea Fig	<i>Carpobrotus edulis</i>	Medium
Kikuyu Grass	<i>Pennisetum clandestinum</i>	High
Pampas Grass	<i>Cortaderia jubata</i>	High
Periwinkle	<i>Vinca major</i>	High
Prickly Wild Lettuce	<i>Lactuca serriola</i>	Medium
Rabbit's Foot Grass	<i>Polypogon monspeliensis</i>	Medium
Rice Grass	<i>Piptatherum miliaceum</i>	Medium
Tree-of-Heaven	<i>Ailanthus altissima</i>	Medium
Velvet Grass	<i>Holcus lanatus</i>	High
White Sweet Clover	<i>Melilotus albus</i>	Medium
Wild Radish	<i>Raphanus sativus</i>	Low
Yellow Dock	<i>Rumex crispus</i>	Medium

2003 San Lorenzo Urban River Plan Task Force

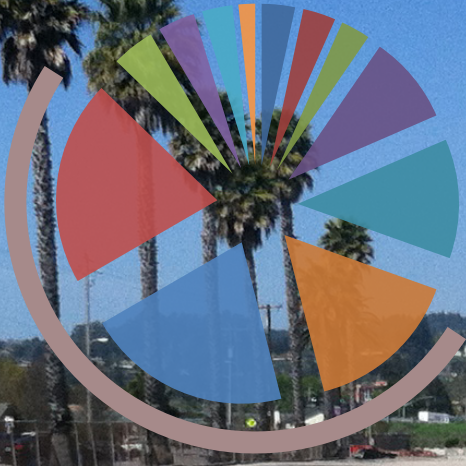
The current selection of plant material does not cater to the needs of the terrestrial or aquatic insects. The vegetation along on the river banks and planted within the confines of the parking lot is largely invasive and does not promote ecological diversity. Establishing riparian vegetation will increase the amount of inhabitants among insects, birds and other small terrestrial animals. Insects that have an aquatic larva stage will inhabit a variety of vegetation at the river's edge. The eggs of these insects will hatch, and transform into aquatic larva in spring, during the most vigorous feeding time of year for fish. An increase in the insect population creates a food source for other terrestrial animals and birds. The establishing of native riparian vegetation to the san Lorenzo Lagoon is essential to creating a healthy population of Coho Salmon (1984, Baltz).

SPECIES LIST FOR REVEGETATION OF
SAN LORENZO RIVER ESTUARY

Common Name	Scientific Name	Bank Location
Trees:		
White Alder	<i>Alnus rhombifolia</i>	Toe of Levee Slope
Arroyo Willow	<i>Salix lasiolepis</i>	Channel edge
Shrubs:		
Yerba buena	<i>Satureja douglasii</i>	Levee Slope
California Wild Rose	<i>Rosa californica</i>	Levee Slope
Coffeeberry	<i>Rhamnus californica</i>	Levee Slope
Coyote Brush	<i>Baccharis pilularis</i>	Levee Slope
<i>Sambucus mexicana</i>	Blue Elderberry	Levee Slope
Common Stonecrop	<i>Sedum spathulifolium</i>	Levee Slope
Yellow Bush Lupine	<i>Lupinus arboreus</i>	Levee Slope
Spear Oracle	<i>Atriplex patula</i> var. <i>patula</i>	Levee Slope
Herbs & Grasses:		
Baltic Rush	<i>Juncus balticus</i>	Channel edge
bluff lettuce	<i>Dudleya farinosa</i>	Levee Slope
Bulrush	<i>Scirpus californicus</i>	Channel edge
California Poppy*	<i>Eschscholzia californica</i>	Channel edge
Coast Buckwheat	<i>Eriogonum latifolium</i>	Levee Slope
Lindley's Varied Lupine	<i>Lupinus variicolor</i>	Levee Slope
seep monkey flower	<i>Mimulus guttatus</i>	Levee Slope
Salt Grass	<i>Distichlis spicata</i>	Toe of Levee Slope
Salt Rush	<i>Juncus leseurii</i>	Channel edge
Slough Sedge**	<i>Carex obnupta</i>	Channel edge
Three Square	<i>Scirpus americanus</i>	Channel edge

PROPOSED PALETTE

Hours of Access



- JANUARY- 60
- FEBRUARY- 59
- MARCH - 53
- APRIL - 160
- MAY - 215
- JUNE - 280
- JULY - 370
- AUGUST - 370
- SEPTEMBER - 77
- OCTOBER - 70
- NOVEMBER - 55
- DECEMBER - 30

6 Acre Parking Lot

JUNE- AUGUST- PARK YOUR CAR FOR
\$15 SATURDAYS, SUNDAYS AND HOLIDAYS
\$12 WEEKDAYS
\$30 RV

TOTAL : 1766

Access to this parking lot is limited to a few busy months out of the year, the other 8 months of the year the 6 acre lot sits idle. The potential to turn this asphalt slab into a riparian park for the surrounding communities and visitors is visible in the hours of accessibility. The hours displayed were calculated using the Santa Cruz Beach boardwalk's hours of operation for the 2014 season. The peak of the season, during the summer months, the parking lot is used as an overflow lot for when the main 8.5 acre parking lot is full.

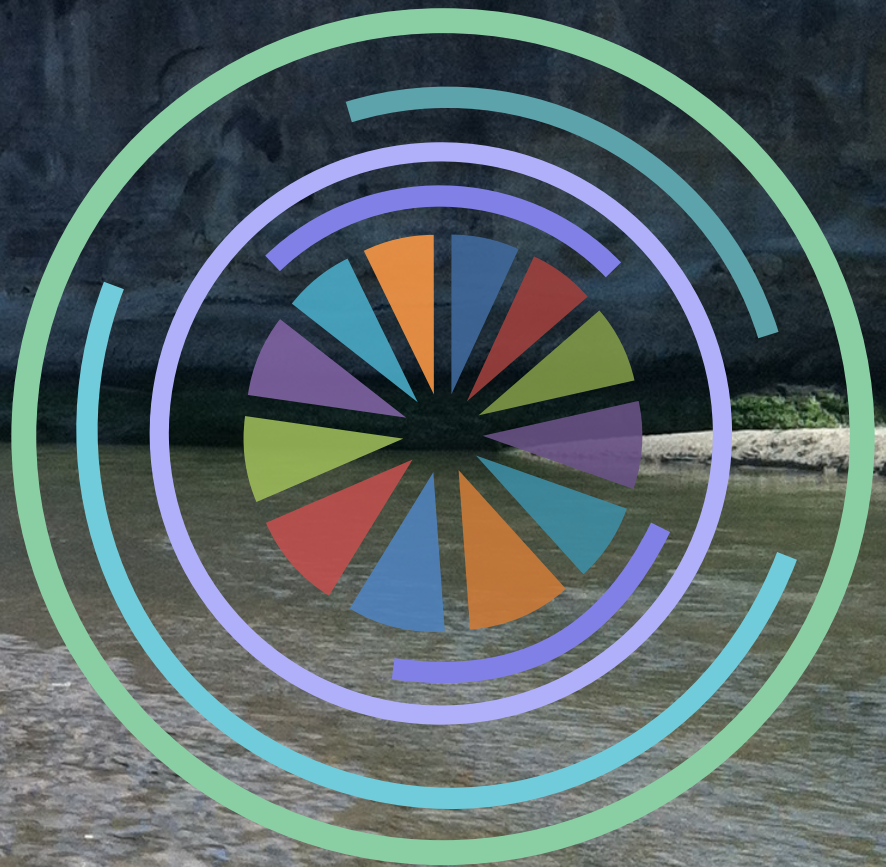
Hours of Access

- JANUARY- 296
- FEBRUARY- 288
- MARCH - 338
- APRIL - 381
- MAY - 339
- JUNE - 452
- JULY - 426
- AUGUST - 418
- SEPTEMBER - 375
- OCTOBER - 356
- NOVEMBER - 309
- DECEMBER - 309

TOTAL : 4290

The Coho Lagoon Park would be a feature for the surrounding community and visitors to enjoy year round. The hours of access were calculated by estimation the average length of day per month in 2014. The standard hours that are kept for city and state parks is from 'Sunrise to Sunset.' These regulatory hours would allow for more than 2,524 more hours of access compared to the seasonal parking lot.

The Increase in biodiversity would also create ecological events that would occur during the offseason of the beach boardwalk, generating interest from eco tourist and others that would not have visited this location. The marketing of this park to a new demographic may create a new revenue stream for the local economy.



Coho Lagoon Park

- NOVEMBER-FEBRUARY - COHO UPSTREAM MIGRATION
- MAY-JULY - COHO OUT TO SEA MIGRATION
- YEAR ROUND - SMOLT IN LAGOON
- NOVEMBER-FEBRUARY - FLOOD OBSERVATION FROM PERDESTRIAN BRIDGE
- MAY- OCTOBER - RIVER BANK ACCESS
- YEAR ROUND - RIVER WALK and Cross Fit stations

Allowed visitors



**+/- 3
MILLION
VISITORS / YEAR**

The Santa Cruz Beach Board walk is a host to 3 million visitors per year. 1.8 million of these visitors return annually and 1.2 million are casual visitors of the admission free amusement park (2012, Kris Reyes). The added attraction of a river side park would increase the amount of visitors and peak interest from an ecologically conscious demographic.

Allowed visitors



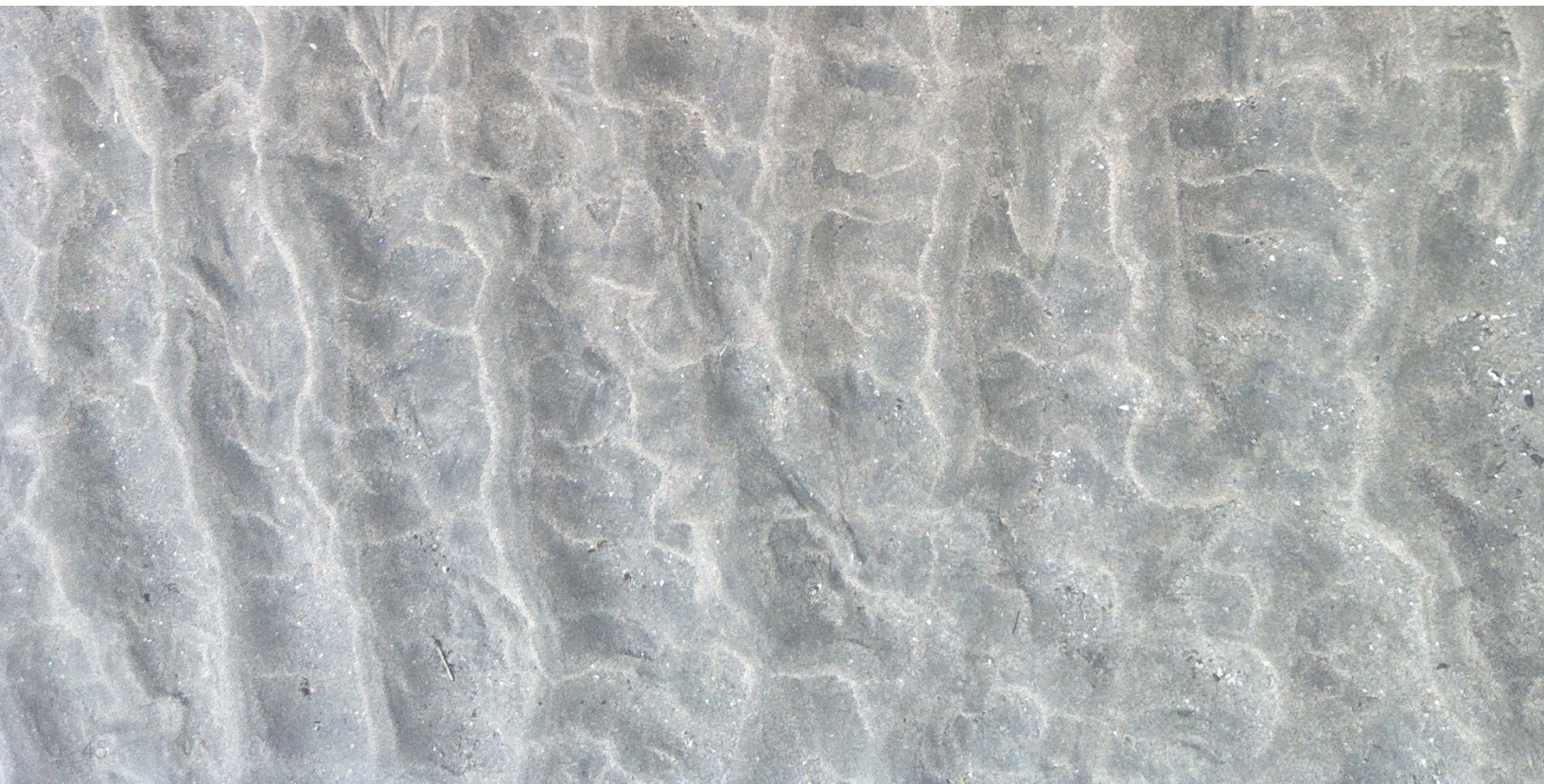
100%
illegal to enter
the river with a
paddle boat

While looking at the possibility of an open river front park, there are some very outdated laws that make recreation on the water illegal. A decades-old Santa Cruz law makes it illegal to paddle a canoe or wade in the lower San Lorenzo River (McCord, 2013)





A Lasting Connection



Making the river a recreational feature will be an exercise in reconditioning the community's norms of avoiding the river because of the signage that deters visitation. I would propose that signage be used to encourage people to regularly visit the river.

I have developed 2 types of interaction that will develop a link between the user and the river. The first Interaction is that of a physical participant. A series of signs will have a gradient of exercises that are based on your fitness level and experience. The gradient of intensity along with the variety of exercises will make the River Run dynamic and built to personal preference. Josef Weider was a Canadian bodybuilder and entrepreneur who co-founded the International Federation of BodyBuilders, during his career he developed a set of "Principles" that helped him achieve his goals. one of his many principles fits the ideal I have set for the River Run. His principal of 'Instinctive training' involves experimenting with your work outs and paying attention to how you react to certain types of training. The further along you go in training, the more you will be able to fine tune a work out to your needs (horowitz, 2000). The work out stations will expose people to a variety of strength, cardio and endurance training. My goal is to have community members create a link between the river and self improvement.

River Run Challenge

Our River and Lagoon are healthier than ever. Now it's your turn, work your way through the River Run Crossfit Challenge. Complete All 8 stages and post your progress.

STAGE 1: LEG DAY, EVERYDAY

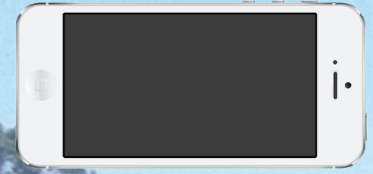
YOU	WORKOUT
BEGINNER	10 SQUATS X 3
BACK FOR MORE	10 SQUATS X 4
EMBRACE THE BURN	15 SQUATS X 4

POST YOUR PICTURE, EXPERIENCE LEVEL, AND FINAL TIME WHEN YOU FINISH USING [#RiverRunStrong](#)



The second way to get the community more involved in the restoration of the river is through documentation of the restoration. I would set up a series of signs with platforms that will support a mobile device that will allow people to document the project through social media. Creating opportunities for the community to document this healing process on social media will help peak interest within the community while also broadcasting through the internet.




The interaction with these signs is meant to be quick. I have kept the design of these signs simple as to not deter people from just walking by. Creating a clever Hashtag (#) was also a method of keeping people entertained while they post on social media. The Hashtags that I created are #RiverRunStrong (fitness signage) and #RealRiversHaveCurves (restoration documentation).



Help us document River Recovery!

Our River and Lagoon are in the process of being restored. Now we are tracking how the ecosystem responds, and you can help!!!

Here's How:

-  Place device into the bracket.
-  Take a photo of the view, **WITHOUT A FILTER**
#NOFILTER
-  Post your picture using **#RealRiversHaveCurves** to Flickr, Twitter, or Instagram

The images are being compiled to complete a time laps of the progress

Designing features that will be capable of seasonal interest is a priority with this project. Features that allow for different uses based on the time of year are ideal for this dynamic riverfront site. One of the features that can be used in various ways is the amphitheater. In the 1930's this area was home to "Opera Island," the predecessor to opera island is a multipurpose amphitheater that will play host to performers during the summer nights and host sun bathers during the warm day. Water from winter storms will begin to fill the river and the amphitheater. The site will then become an observation point of the filling river as well as a launching point for adventurous kayakers.

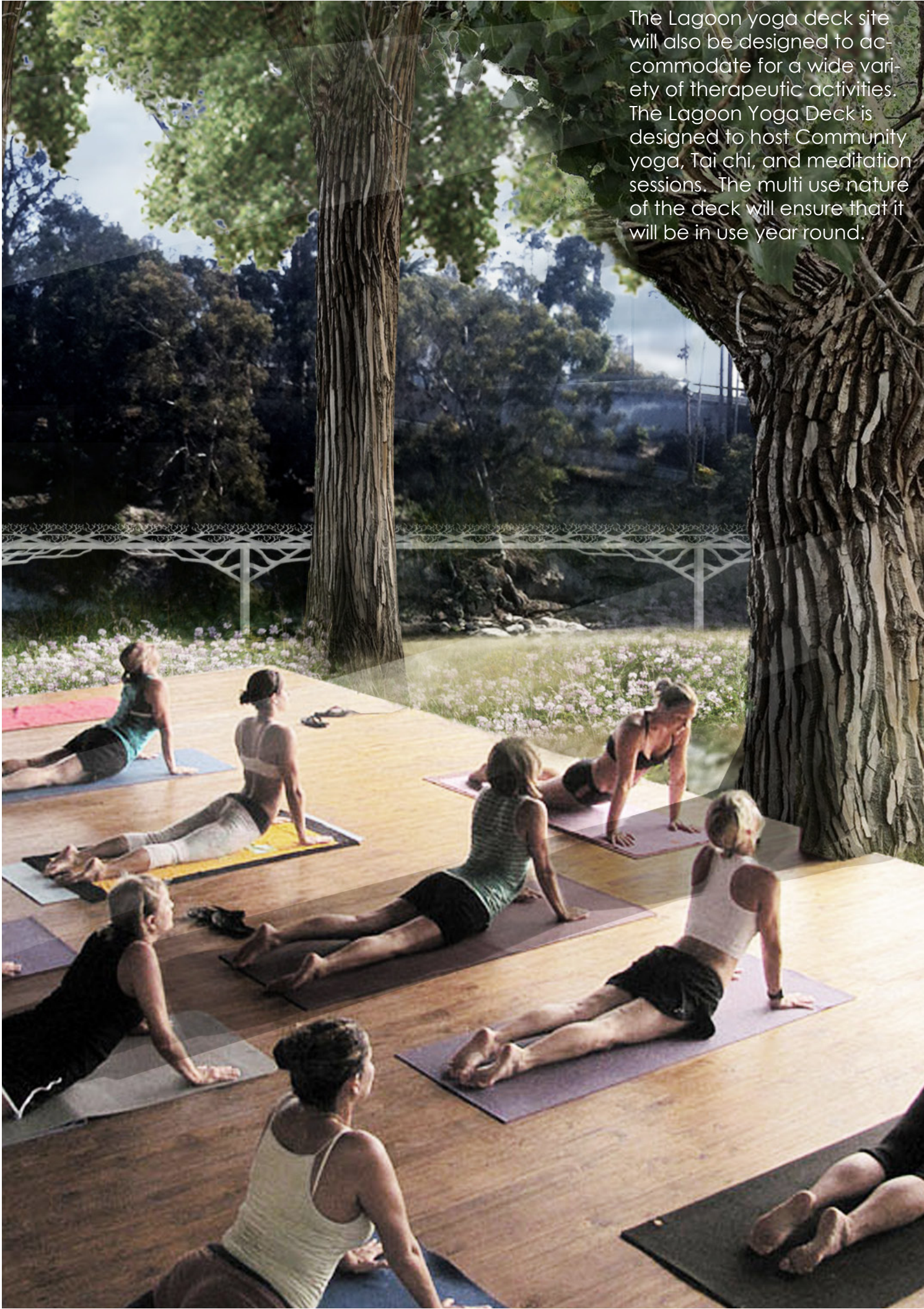


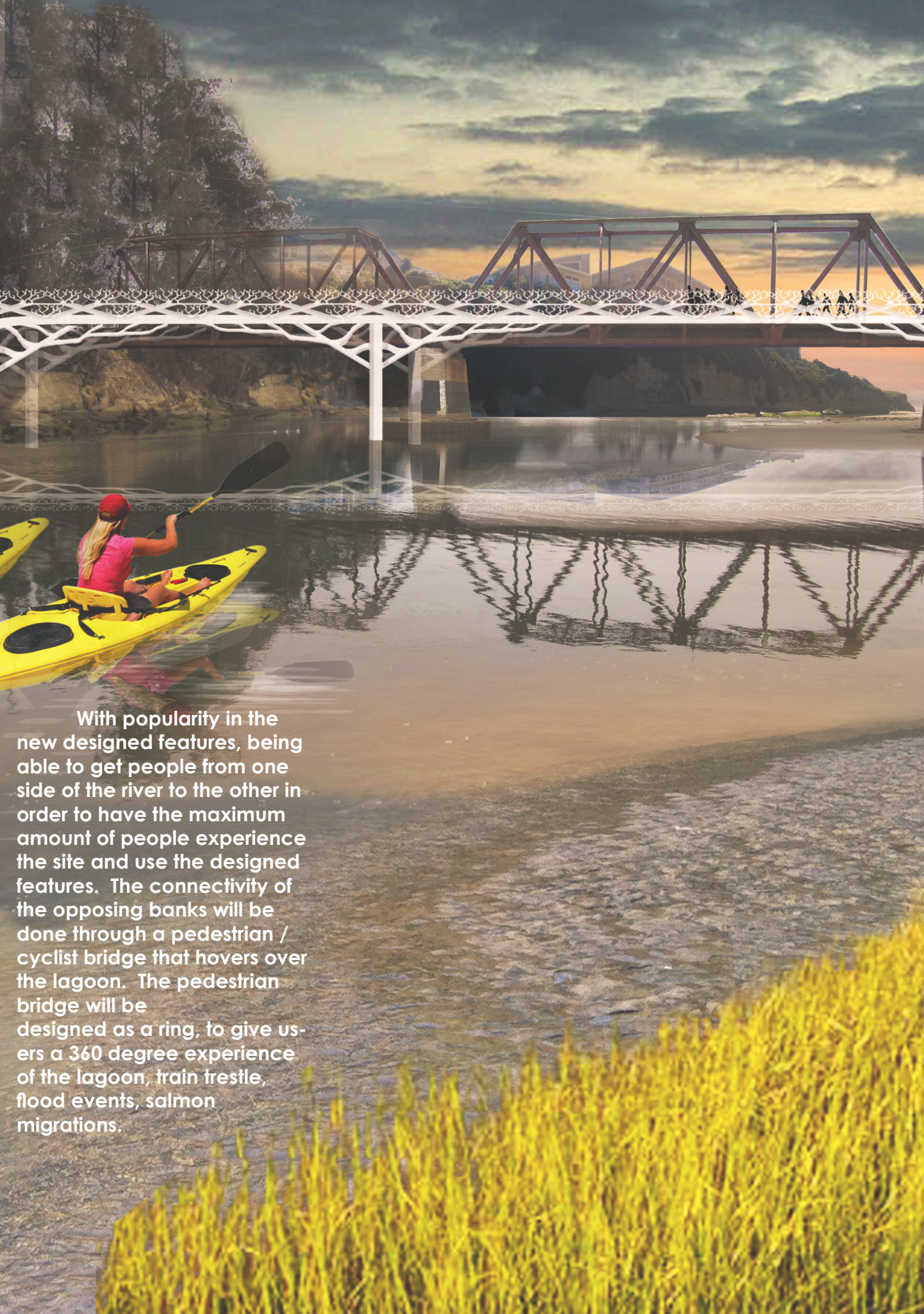


For more casual visitors, the calm summer weather, and the low water levels of the lagoon will allow for informal seating areas. These informal sites will be designated to accommodate for safety and accessibility for all visitors. Using large drift wood logs to create “improvised” seating will increase the variety of rest areas along the formal river walk.

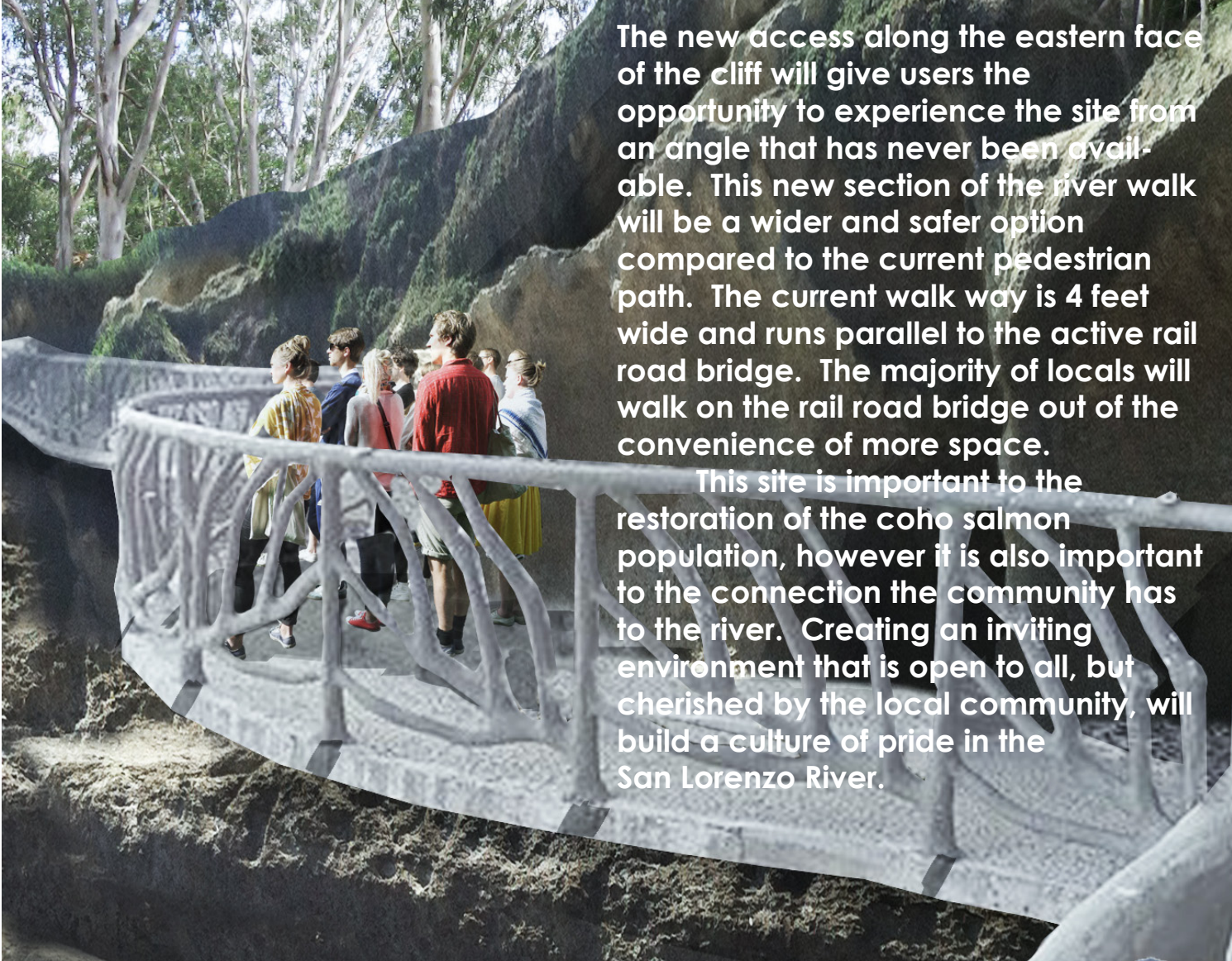


The Lagoon yoga deck site will also be designed to accommodate for a wide variety of therapeutic activities. The Lagoon Yoga Deck is designed to host Community yoga, Tai chi, and meditation sessions. The multi use nature of the deck will ensure that it will be in use year round.





With popularity in the new designed features, being able to get people from one side of the river to the other in order to have the maximum amount of people experience the site and use the designed features. The connectivity of the opposing banks will be done through a pedestrian / cyclist bridge that hovers over the lagoon. The pedestrian bridge will be designed as a ring, to give users a 360 degree experience of the lagoon, train trestle, flood events, salmon migrations.

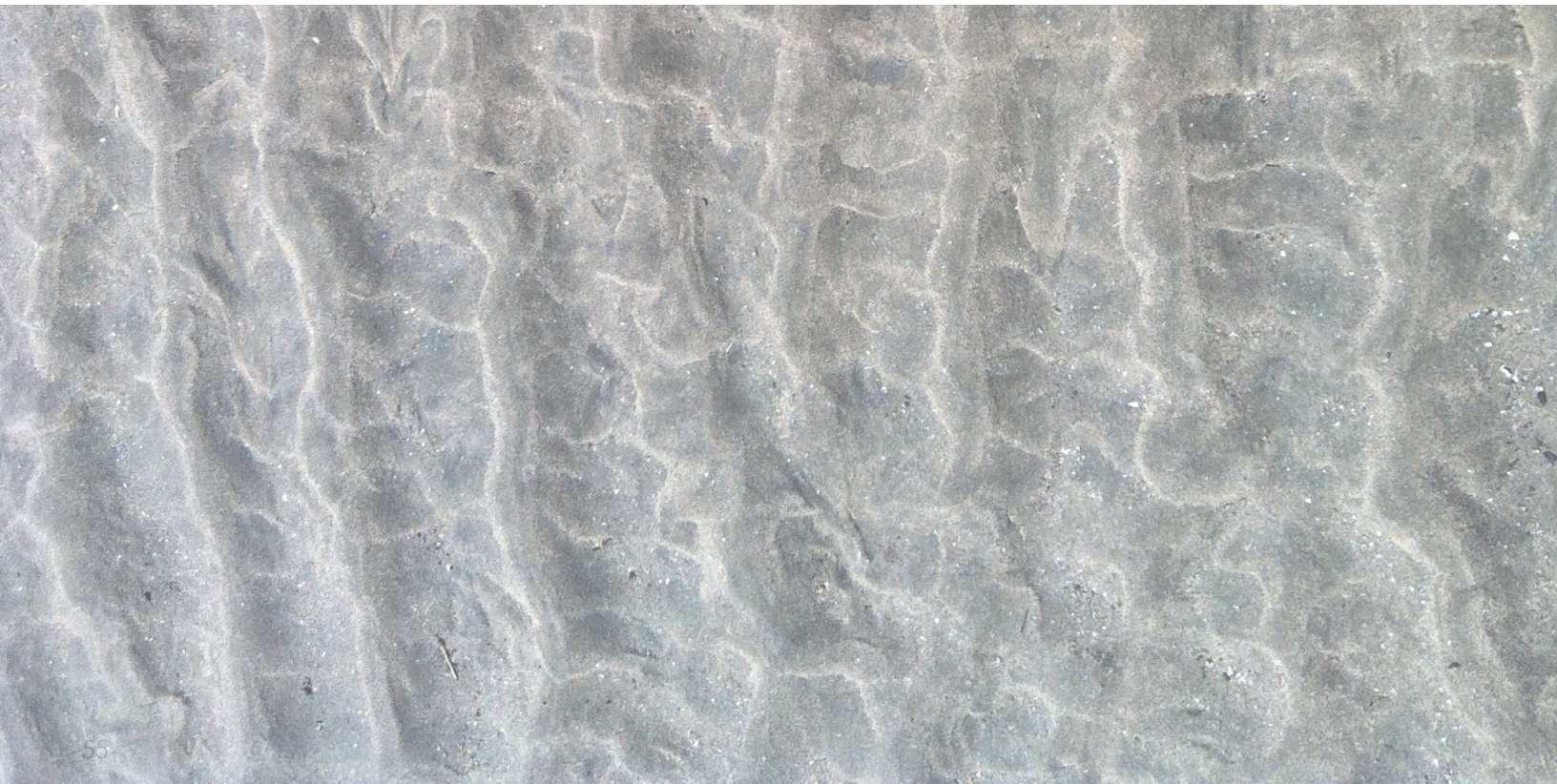


The new access along the eastern face of the cliff will give users the opportunity to experience the site from an angle that has never been available. This new section of the river walk will be a wider and safer option compared to the current pedestrian path. The current walk way is 4 feet wide and runs parallel to the active rail road bridge. The majority of locals will walk on the rail road bridge out of the convenience of more space.

This site is important to the restoration of the coho salmon population, however it is also important to the connection the community has to the river. Creating an inviting environment that is open to all, but cherished by the local community, will build a culture of pride in the San Lorenzo River.



Summary



My vision for the Lower San Lorenzo River Lagoon has the ability to change the way the river is viewed by the community and by visitors of this region. Giving the community new views of the ecology in their river, not only increase visitation but, also educates. Being able to readily experience the river year-round makes the dynamic characteristics of the river a part of everyday life. The site also has the opportunity to allow visitors which may not be as environmentally conscious, to experience these ecological characteristics. This access holds the potential to increase visitation during months that are economically "slow." The Chance to give people the experience of viewing a large salmon migration while walking along a cliff that has a speeding river running along it, is beyond words, but not out of reach.





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