

To:
Santa Cruz City Manager Martin Bernal
Santa Cruz Assistant to the City Manager Scott Collins
Honorable Mayor Cynthia Mathews
Santa Cruz City Council Members
Santa Cruz City Attorney Anthony P. Condotti
Santa Cruz City Parks and Recreation interim Director Mauro Garcia

March 19, 2016

Re: Public Safety Concerns of Pilot Paddling Program and Dangers of Paddling on the San Lorenzo River.

On June 23, 2015 the City Council voted to proceed with a Pilot Paddling Program on the San Lorenzo River. The Paddling is scheduled to include twelve days of river paddling over four weeks between mid August and Nov 1, 2016. The paddling is to be confined to the lower San Lorenzo River area between Laurel Street Bridge and the River mouth. Paddler's access/exit points will be limited to Mike Fox Park and the Boardwalk/Train Trestle.

The purpose of this letter is to alert you of our concerns that at least **eight significant** hazards could jeopardize human safety on the San Lorenzo River. These hazards were either not included in the Advisory Group report or were only peripherally discussed at those meetings. With further research, we have concluded that they have must be brought forward and investigated prior to any future paddling on the San Lorenzo River.

The City Council voted to proceed with a Pilot Paddling Program on the San Lorenzo River as follows:

"Accept the Lower San Lorenzo River Pilot Paddling Advisory Group report and direct the City staff to contract for a short-term baseline bird study, not to exceed \$20,000 in costs, to take place in 2015 during the same timeframe as the proposed pilot program and direct the **Coastal Watershed Council** to pay for a pilot program to occur in 2016, which follows the paddling and wildlife conditions established by the Advisory Group recommendation."

City staff agenda, reports, and supporting material from the city council agenda dated June 23, 2015 summarized the work of the Advisory Group, including a chart of concerns produced by the group and can be found at Agenda Item #32 here:

<http://scsire.cityofsantacruz.com/sirepub/mtgviewer.aspx?meetid=637&doctype=AGENDA>

As you will note in the supporting material the current concerns we have listed are not explored in this report.

Due to the emphasis of the Advisory Group on birds and habitat encroachment, the construction material of the levee above and below the surface of the water

were never considered. Safety protocols by the U.S. Coast Guard and American Paddle Association were also not considered or included in paddling protocol.

Stand up paddle boards and kayaks can capsize easily and beginners typically have a learning curve. Paddling on an ocean with a beachfront, a lake or a boat harbor is where most people safely learn to experience the fun of paddling.

The SLR levee, designed for flood control, was not designed with human safety or use of boats inside the river channel. Unlike a harbor, designed for boat clearance, a lake frontage with sand, ideal for swimming, the engineered SLR levee has an entirely different purpose. It was constructed with a different set of goals, to move water down the channel and prevent flooding of the city.

The presence of these various dangers on the SLR have ramifications to any persons getting in and out of the water, mounting or dismounting a kayak or paddle board, falling out of a kayak or off a paddle board or having any contact with the banks or the water. We also found it troubling and possibly inaccurate in the way it was explained to the San Lorenzo River Pilot Paddling Advisory Group that:

“Anyone wishing to participate in this type of paddling on the SLR would be doing so AT THEIR OWN RISK and that the City would not be liable.”

In order to protect the welfare and safety of the public, these concerns warrant serious consideration by City Staff, City Managers, City Attorneys, the City Council and the public prior to proceeding with the pilot paddle program now scheduled for the fall of 2016.

The eight Hazards are as follows:

- #1. Gabion wire baskets, showing deterioration with exposed prongs
- #2. Concrete blocks and rocks along banks
- #3. Remains of old rebar and concrete under the Soquel Ave. Bridge
- #4. Wooden log retaining walls with steel cable wires along banks.
- #5. Sunken tree logs just below the surface water for fish habitat.
- #6. Debris presence on most banks and under water such as syringes, broken glass, sharp metal, cans and ceramic shards.
- #7. Toxins associated with any Blue-Green Algae bloom
- #8. No Consideration and incorporation of U.S. Coast Guard and American Paddle Association safety protocols being followed.

Hazard #1 Gabion Wire Baskets

Hundreds of feet of sharp-edged Gabion wire baskets were used to construct most of the length of the SLR levee system. Designed using twisted wires around rock, the Gabion baskets are dangerous to touch. Over time the wire, exposed to seawater, tends to rust, deteriorate and eventually fail. Baskets lining

the SLR show significant wear and tear, rust, prong protrusion and breakage throughout the proposed Paddle Pilot stretch.

The Pilot Paddling Program Advisory Group never discussed the danger of the Gabion wire on the SLR. There was no information presented explaining:

- 1). Where exactly the Gabion baskets were located
- 2). What condition and age they were in
- 3). What dangers baskets could cause to humans or boats

In high tide, or when the river mouth is closed, which is the condition needed for paddling, most of the Gabion basket system is below the surface of the water and not easily seen. During low tides, when the river mouth is open, the Gabion baskets can be seen along the banks and more easily identified (*See attached Google map below, showing approximate locations of Gabion wire baskets*).

These photos below of exposed wire were taken during low tide. Wires can be seen over many hundreds of feet along the river banks when the tide is low.





Hazard #2 Concrete blocks, rocks and Gabion wire baskets hidden under water

The concrete blocks and rocks used along the levee banks are invisible during proposed Pilot Paddling Program time line. A fall into the water, with these just below the surface, would easily result in injury to hands, head or body.

The picture below shows how a rock filled, Gabion wire basket wall is hidden under the water. The next picture shows the same concrete wall, facing the opposite direction and how the exposed Gabion wire baskets are just below the surface.





Paddler risk:

- **re-mounting vessel w/wire & rocks underneath poses a high injury potential**
- **only skilled paddlers can mount from mid channel.**

A paddler falling onto this wall is at risk of a serious injury. A Paddler wishing to remount a kayak or stand up paddle board from a shoreline will be dealing with these rocks and wire. Damage to boats and paddlers would be a challenge to avoid. Unless paddlers are capable of remounting their kayaks or paddle boards from inside the mid channel area, a skill not all paddlers have, they will likely encounter rocks or concrete obstacles along the shore.



During a closed river mouth, the condition needed for paddling, the water just barely covers these rocks shown above. This can cause a paddler to fall off and harm body and/or vessel.

Unlike a sandy beach or harbor where beginning paddlers learn, this environment presents a much greaterer degree of danger.

Hazard #3 Remains of old construction material from a previous bridge

During low tide an unknown number of rusted, rebar stakes are viewable under Soquel Ave Bridge. The rebar and several concrete footings are remains from the old bridge. These pose the risk of impaling any paddler or paddle that comes into contact with it.

Although the Soquel Ave Bridge is just beyond the Pilot Paddling Program boundary being considered for the pilot program, there would be no way to prevent paddlers from venturing into this nearby area, since no extra paddler supervision will be provided.

See photos and Google map below for location on river of this hazard.



Hazard #4 Wood retaining walls along the Third St. banks

The approximate hundred feet plus of retaining wall along the Third St. Bank is constructed of tree trunks tied with metal, rebar, wire brackets and cable. Falling onto or touching this wall would likely cause head or body injury, splinters or cuts from metal. Paddle board and kayak scrapes and dents are likely due to the sunken tree trunks in front of this wall.



The photo below shows the wood retaining wall and the sunken log trunk for fish habitat. A high tide would cover most of the wall and the sunken log.



Hazard #5 Fish habitat system of sunken tree logs

At least six large tree logs/trunks are viewable and anchored below the San Lorenzo River to help the fish population.

The location of these logs is approximately between the Third St. stairs, near the Kaiser Permanente Arena and the Riverside Bridge. The exact location, depth and number of tree logs have not been confirmed. One of these logs appears partially unhinged and floating/stuck under the River St. Bridge. Under some conditions, during high tide or murky conditions, this trunk and others are invisible just inches under the water.





Photo below is a view of a sunken log at low tide under the Riverside Bridge.





Google Map Showing Location of Hazards on the San Lorenzo River

- 1). Rebar and concrete remains under Soquel Ave. Bridge
- 2). Gabion Wire Baskets
- 3). Evidence of Gabion Baskets
- 4). Retaining wall of stacked logs, rebar and cable.
- 5). Concrete blocks and rock
- 6). Anchored logs just under water surface, placed for fish habitat.

Hazard #6 Unknown risks to paddlers from stepping on debris

Broken glass, used syringe needles, ceramic pieces, metal and other trash can be found in the SLR channel and banks. When getting on or off paddle boards or kayaks, it is customary to do so by walking into the water several feet before getting on.



The river bottom is not dredged, and there is no system in place to clean or monitor what hazards might be under the water or along the banks week-to-week, month-to-month or year-to-year. **Stepping on sharp obstacles along the banks or buried under the sand would pose a risk to paddlers even if they are wearing booties.**

(See attached link at end of documents on “Stand up paddling getting started” describing the best location and technique for mounting a paddle board).

The American Canoe Association (ACA) and the American Paddle Assn. (APA), recommend a sandy beach for launching of canoes, kayaks or paddle boards if a dock is not available. The two available areas along the SLR, most closely resembling, beaches and being considered for the Pilot Paddling Program, are just under the train trestle near the River Mouth and behind the Mike Fox Skate Park. The Mike Fox Beach area has an unknown number of Gabion baskets along banks and the Train Trestle area has a rocky beach area.

The following articles describe the findings of needles and other trash found in the SLR. The first one is from February 2016.

- 1). http://www.mercurynews.com/central-coast/ci_29379977/storm-flow-bring-syringes-santa-cruz-beach

2). <http://www.santacruzsentinel.com/general-news/20121013/the-levee-league-volunteers-adopt-litter-strewn-walkway-above-river>

“Since they started keeping records in December 2010, the women have collected 3,775 liquor bottles, 99 needles, 430 bags of trash, 14 bike frames...”

3). <http://www.santacruzsentinel.com/article/NE/20160220/NEWS/160229979>

The article printed Feb 2016 in the Santa Cruz Sentinel states “In three years, group collects 10,000 discarded syringes in Santa Cruz County...Recent hot spots for finding syringes include san Lorenzo Park, the San Lorenzo River levee...”

Hazard #7 Recent Blue-Green Algae bloom and toxicity to people needs to be considered

After the City voted for the Pilot Paddling Program, a Blue-Green Algae bloom (cyanobacteria) was detected on the SLR in the fall of 2015. Signs were posted along the San Lorenzo River warning that the water was toxic to humans and pets. This outbreak, not the first on the SLR, may also present a risk to paddlers. There can often be a delay between the time the toxin is present and the time it is tested for safety.

From the **Washington State Department of Ecology** --

Blue-Green algae can pose a serious risk to both humans and animals. **Only laboratory tests can confirm whether a bloom is toxic or non-toxic.** According to scientific literature, cyanobacteria most commonly occur in late summer and early fall when water temperatures reach 72°- 80° F. At these temperatures, cyanobacteria grow rapidly and may create a bloom **within a few days.** Although most blue-green blooms are not toxic, some blue-green algae produce nerve or liver toxins. Toxicity is hard to predict in part because a single species of algae can have toxic and non-toxic strains. **Also a bloom that tests non-toxic one day can turn toxic the next day.**

<http://www.ecy.wa.gov/programs/wq/plants/algae/publichealth/GeneralCyanobacteria.html>

An algae bloom photo below from Aug 30, 2015 on the SLR, covers water and shows the limited visibility below the water surface. The lack of visibility of what is below the surface creates a secondary problem, as well as algae having a risk of Blue-Green algae producing toxins.



Blue-Green Algae Bloom Aug 30, 2015

Hazard #8 The proposed Pilot Paddling Program does not address some essential safety protocols listed by the U.S. Coast Guard

<http://www.nrs.com/learn/uscg-regulations-for-sup.asp>

The U.S. Coast Guard (USCG) has determined that SUP boards operated outside a surfing, swimming or bathing area are “vessels” under USCG regulations. Here are the life jacket and safety gear requirements and regulations:

Life Jackets:

- Each paddler 13 years of age or older must have a USCG-approved Type I, II, III, or appropriate Type V (see below) life jacket. It doesn't have to be worn, although that's certainly the wisest plan, and one which we strongly recommend.
- A child 12-years old or younger must wear their USCG-approved life jacket.
- The jacket must be in “serviceable condition,” without rips, tears or deterioration that will diminish its performance.
- The jacket must be of an appropriate size and fit for the wearer.
- A Type V jacket can be used as long as it's USCG-approved and applicable for the activity.
- Belt pouch-type inflatable PFDs, such as the ones we carry, must be worn on the person to meet the life jacket regulation. For other types of inflatable PFDs, check the approval description printed on the unit for restrictions.
- For all life jackets, be sure to read the label to know if special requirements pertain to that device.

Protective headgear, proper and legal lifejackets, paddles, leashes, and quality of boats do not currently have a monitoring protocol for the Proposed Pilot Paddle Program. Not all paddlers believe in headgear, not all use leashes or believe they need a life preserver.

Currently, the City of Santa Cruz has:

- No monitoring of type or standard for Stand Up paddle Boards and Kayaks. Rubber boats may be at risk of puncture due to levee hazards mentioned above.
- No requirements or monitoring of a paddler's water safety ability or experience.
- No clothing requirements or recommendations for protection of hands, feet or skin.
- **No monitoring of minimum age requirement for life jacket and safety protocol for children age 12 and under.**
- No prior inspection of launch site for hazards below or above the water surface.
- No method of controlling how close kayakers get to shallow rocks, buried trunks, or gabion wire near shores.
- No checks and balance on water monitoring system for any toxicity levels and exposure by paddlers.

The Advisory Group and the city council never discussed or heard U.S.G.S. rules and requirements for life jackets, helmets or leashes and the safety concerns of head injury or the possibility of scrapes and cuts from the levy construction.

Consultation with the California Coast Guard, the World Paddle Association and U.S. Geological Services should also be considered. These organizations offer inspections, lectures and provide handouts for safety. We are not aware of any current or past consultation between the city of Santa Cruz and the above-mentioned agencies, which make recommendations and educate regarding State and Federal guidelines for paddleboat safety and code compliance.

The following is a link to the U.S. Coast Guard tips for canoeing and kayaking:
<http://www.commanderbob.com/canoes.html>

"MORE THAN HALF OF ALL BOATING FATALITIES IN 2007 WERE FROM CAPSIZING OR FALLS OVERBOARD. CONSIDERING THE INSTABILITY OF CANOES AND KAYAKS AND THE RISK TO DROWNING OR HYPOTHERMIA FROM FALLS OVERBOARD. IT IS BEYOND ME WHY ANYONE WOULD CONSIDER OPERATING SUCH A VESSEL WITHOUT WEARING A PFD." Commander Bob

Summary:

The vote to proceed with the Pilot Paddling Program was based on an effort to protect and study the birds of the San Lorenzo River. Falling off a standup paddle board or a kayak is inherent in the sport of kayaking and paddle boarding. Injuries to head, feet, arms, hands and torso should not be underestimated from a fall, or any physical contact with the levee structures. Punctures to any rubberized vessels, damage to boat bottoms oars and keels can be expected if boats were near banks. Even if the need arises, to get to shore for safety, a paddler will be faced with limited options for finding a safe exit location.

These risks also present a year round concern. Opening the river during a few months of the year may signal to the community that ***the river is free of dangers, may attract paddling at other more dangerous times of the year and when currents are stronger and the river mouth is open.***

The San Lorenzo River is a levee. It is not a natural stream with typical stream hazards, nor a monitored harbor or beach with the benefit of a Harbor Patrol or lifeguard. The only safety protocol being offered at this juncture is for the public to call 911 if an emergency has occurred.

We urge the City of Santa Cruz and the City Council, to reconsider the Pilot Paddling Program until these issues are brought forward for appropriate review and consideration in order to act in the best interest of public welfare and safety.

Respectfully submitted, as members of the Paddle Advisory Group.

Lisa Sheridan Trotrider@aol.com
Jane Mio Jmio@earthlink.net

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Santa Cruz City Public Works Director Mark Dettel
Santa Cruz City Park and Rec interim Director Maruo Garcia
Santa Cruz City Planning Director Juliana Rebagliati
Santa Cruz County Environmental Health Director John Ricker
Coastal Watershed Council Board of Directors
Coastal Watershed Executive Director Greg Pepping
San Lorenzo River Alliance Members: Museum of Natural History,
Museum of Art and History, S.C. Resource Conservation District, Save Our
Shores, Arts Council Santa Cruz County.
Santa Cruz County Supervisors
Santa Cruz Visitors Bureau
Santa Cruz Coast Guard
Members of the SLR Advisory Group: Greg Pepping, Dave Casterson, Sharon
Dejong, Gary Kittleson Chris Berry, Mike Ferry
Santa Cruz Police Department
Santa Cruz Fire Department

Appendix

Video links below are both instructional and entertaining and provide some understanding about the different types of equipment, methods and mechanics of paddling. The Advisory Group did not view these videos.

- 1). [Stand Up Paddling - Getting Started - YouTube](#)
Stand up Paddling T.V. Series.



www.youtube.com/watch?v=9_7ldfrmbC8

- 2). [Stand Up Paddling - What To Do When You Fall Off - YouTube](#)



www.youtube.com/watch?v=9dnwamrkZBM

- 3). Beginner video how not to fall out instructional use of paddle for kayaks.
<https://www.youtube.com/watch?v=g2a2xu2VRxc&feature=youtu.be>

- 4). Fisherman falling out of kayak on lake
<https://youtu.be/jS4TcF2l3zY>

- 5). Difficulty of middle aged man trying to get out of Kayak on beach.
<https://www.youtube.com/watch?v=ihGxV1bc-vE>

- 6). Practicing for getting into Kayak, Alaska
<https://www.youtube.com/watch?v=ewQdgZ2tg-Y>

- 7). [Paddle board fall - ready to belly laugh! - YouTube](#)



www.youtube.com/watch?v=UT3VmPiGVIA
Jul 8, 2014 - Uploaded by Sheyla Cintron