

Water Storage Investment Program Concept Paper Form

Please complete the questions below and return your completed concept paper by email to cwc@water.ca.gov by 5:00 p.m. on March 31, 2016. Completed concept papers should not exceed four pages.

Contact Information

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Agency/Organization Name: River Recycler Systems LLC	
Agency Type (select one): <input type="checkbox"/> Public Agency <input type="checkbox"/> Nonprofit Organization <input type="checkbox"/> Public Utility <input type="checkbox"/> Tribe <input type="checkbox"/> Mutual Water Company <input type="checkbox"/> Local Joint Powers Authority <input checked="" type="checkbox"/> Private Corp.	

Project Information

Project Name: Klamath Forest protection with Irrigation and Recharge	
Project Type:	<input type="checkbox"/> CALFED Surface Storage <input checked="" type="checkbox"/> Groundwater Storage <input type="checkbox"/> Groundwater Contamination Prevention or Remediation <input type="checkbox"/> Conjunctive Use <input type="checkbox"/> Reservoir Reoperation <input checked="" type="checkbox"/> Off Shore Freshwater Reservoir with waterline returning to shore along the Oregon border.
Estimated Project Cost: \$3	
Estimated WSIP Funding Request: 1.5 Billion	
<p>Please describe your project, including location, water source, facilities, and operations:</p> <p>This project would capture storm water from the Klamath River after it has left the mouth of the river but before it becomes salt water using our Patented Off Shore Freshwater Reservoir system, Patent no: US 8,322,294 B2.</p> <p>This system is designed to replace some Dams on rivers, the Off Shore Freshwater Reservoir would be disposed a distance from the mouth of a river. The reservoir includes a flotation portion in a salt sea that supports a downwardly extending tubular skirt which defines a barrier between the freshwater on the inside and the saltwater on the outside. A transverse intermediate-density having a bulk density greater than freshwater and less than salt water is provided. This system includes a method of salvaging freshwater after it has finished its duties as a river and has left the mouth of the river, but before it mixes with and becomes saltwater. It is a portable system that is designed to capture storm water from in the Ocean and pump it to the Reservoir where it can be cleaned and stored until it is needed.</p> <p>Using our patent pending PUMPING SYSTEM FOR TRANSPORTING FRESHWATER IN A SALTWATER ENVIRONMENT the collected freshwater can be returned to shore at elevations that exceed the height of the coastal mountains.</p> <p>With directional drilling, wells can be drilled from the top of ridges on the far side of the mountain to the coastal side of the mountain and it can day light just above Sea level. These “wells” should be every mile for the best distribution of freshwater for fighting wildfires. These</p>	

wells could run continuously emptying into mountain drainages that feed Northern California reservoirs on the Klamath river.

Anyone who has ever pushed an inflated ball under the water and then let it go has witnessed the same forces of nature that make our system work, GRAVITY and FLOTATION. Our pumping system uses a ridged pipe to insert freshwater into a collapsible type pipe (similar to a fire hose). The ridged pipe holds back the weight of the ocean so GRAVITY can pull the freshwater down to a desired depth, and when it switches to a collapsible pipe the weight of the ocean takes over squeezing the freshwater towards the surface through the pipeline.

This system is most efficient where the ocean is deep and the distance between points are great. If the ocean is 3 miles deep, the maximum distance between injection stations is 300 miles. The longer the distance between points the more energy is generated by the moving freshwater at the exit end where that energy can be converted to electricity. This lowers the cost of the freshwater to a point where it can be used for recharging aquifers and available for agriculture.

With this system there is no digging or filling, and the freshwater has already finished its duties as a river so there is nothing to over harvest.

The System uses wave power to compress air that is then injected into the Freshwater which makes it even more buoyant. This can move the freshwater through the pipeline faster or lift the freshwater to reservoirs on land at elevations that are as far above Sea level as the air injection location is under the surface.

So after the freshwater is cleaned at the reservoir it will be sent Northeast toward the Oregon border and follow the border back to shore as it an area of no fishing and that will lower impacts. Because the ocean is so deep off the coast of California lifting the freshwater over the coastal mountains is not a impediment it is an asset. The higher the water is lifted the more electricity that can be generated when the water goes down the other side.

This project is designed to offer wildfire protection with outlet lines with irrigation to form a living firebreak all along the corridor to the Center of the State where the water will be used for irrigation and recharge. Excess water will be used to feed the tributaries of the Sacramento River.

With recent studies identifying numerous aquifers in California contaminated with fire fighting chemicals, it is essential that a new process of forest protection is adopted.

It is estimated that 3 Trillion gallons may be able to be recycled each year from the Klamath while keeping pollution out of the Ocean.

Our system is designed to be integrated into a much larger water delivery system so the water could come from a different location if the drought becomes the new normal and the Klamath dries up.

Per Water Code section 79753, the Commission may only fund the public benefits of water storage projects. Further, ecosystem improvements must make up 50% of the funded public benefits (Water Code section 79756(b)). What public benefits does your project provide? (select all that apply):

x Ecosystem Improvements x Water Quality Improvements Flood Control
x Emergency Response x Recreation

Please describe the magnitude of the public benefits and how the project will be operated to provide the public benefits:

If used to its full potential the public benefits include cleaner oceans, cleaner air, less CO2, protected special forest areas, more habitat, more agriculture, wildfire protected recreational forest areas and of course freshwater.

Water Code section 79752 requires that funded projects provide measurable improvements to the Delta ecosystem or to the tributaries of the Delta. Please describe how your project provides ecosystem improvements in the Delta or tributaries to the Delta: This project protects the forest of Northern California from the Oregon border area to the head waters of the Sacramento River it will help prevent wildfires which can cause catastrophic destruction to Salmon habitat of an endangered species that is on the brink of extinction.

Water Code sections 79755 and 79757 require the Commission to make a finding that a project will advance the long-term objectives of restoring ecological health and improving water management for beneficial uses in the Delta prior to allocating funding for a project. Please describe how your project could help advance the long-term objectives of restoring ecological health and improving water management for beneficial uses in the Delta:

Currently there are 58 million dead trees in California that are going to burn in wildfires we have to be able to stop wildfires if we have any hope of restoring health to the Delta ecosystem.

Now everyone is calling this the new normal, without a new source of freshwater there is no long term hope for any Delta restoration or water to manage.

Please describe any other benefits provided by your project, such as water supply reliability benefits, and the potential beneficiaries:

This system is capable of using gravity and floatation to run desalination equipment at each reservoir or injection station. Because it only takes 150 pounds pressure to desalinate river water to remove unwanted contaminants, the way our system works the more freshwater in the collapsible waterline the more floatation it produces. This energy can be harvested and be used to purify water and to generate electricity that can be used to move water in pipes back on shore or be sold to local communities