RECIRC1951.

From:

Sent: To:

Subject:

Earthjustice <action@earthjustice.org> on behalf of Joan Raphael <info@earthjustice.org> Sunday, October 18, 2015 8:53 AM BDCPcomments Oppose the Delta Tunnels/"California Water Fix" (Alternative 4A)

Oct 18, 2015

Bay Delta Conservation Plan CA

Dear Conservation Plan,

We need better plans for water supply in CA. This isn't safe or helpful to anyone but Big Ag. This idea would devastate the local ecology and harm already endangered species.

I am writing to express my strong opposition to the Delta Tunnels Plan.

The deceptively named "California Water Fix" does not address the multitude of adverse environmental, public health, and economic impacts the proposed Delta tunnels project would cause. Further, the plan ignores alternatives that would save California tax- and ratepayers billions of dollars, while investing in jobs and local water sources that build sustainability, instead of severely damaging the Delta and Bay ecosystems.

I urge you not to permit the Delta Tunnels/California Water Fix (Alternative 4A) project to move forward.

Sincerely,

Ms. Joan Raphael 10514 Ponder Way San Diego, CA 92126-3006 jlfraphael@yahoo.com

Sent: To:

Subject:

Earthjustice <action@earthjustice.org> on behalf of Karen Phillips <info@earthjustice.org> Sunday, October 18, 2015 9:24 AM BDCPcomments Oppose the Delta Tunnels/"California Water Fix" (Alternative 4A)

Oct 18, 2015

Bay Delta Conservation Plan CA

Dear Conservation Plan,

Please do not proceed with this project. Agriculture can and must adjust to the changing climate. Destroying rivers and watersheds only exacerbates our problems. Our rivers and watersheds must be protected above all else. Our policy must be centered around protecting rivers and watersheds. Please see "The Russian River: All Rivers The Value of an American Watershed" It explains how our rivers have been destroyed by this kind of intervention and the very serious consequences of such unwise policy. Please, we cannot

live without our

rivers. Without watersheds, there is no life! Please consider your

actions and prioritize saving and restoring watersheds for the sake of our children and generations to come. Sincerely,

Karen Phillips, RN.

I am writing to express my strong opposition to the Delta Tunnels Plan.

The deceptively named "California Water Fix" does not address the multitude of adverse environmental, public health, and economic impacts the proposed Delta tunnels project would cause. Further, the plan ignores alternatives that would save California tax- and ratepayers billions of dollars, while investing in jobs and local water sources that build sustainability, instead of severely damaging the Delta and Bay ecosystems.

I urge you not to permit the Delta Tunnels/California Water Fix (Alternative 4A) project to move forward.

Sincerely,

Ms. Karen Phillips 20260 Alder Rd Monte Rio, CA 95462-9787 breathebodymind@gmail.com

From:	Earthjustice <action@earthjustice.org> on behalf of Judy Doi <info@earthjustice.org></info@earthjustice.org></action@earthjustice.org>
Sent:	Sunday, October 18, 2015 9:24 AM
То:	BDCPcomments
Subject:	Oppose the Delta Tunnels/"California Water Fix" (Alternative 4A)

Oct 18, 2015

Bay Delta Conservation Plan CA

Dear Conservation Plan,

I am deeply disappointed with this "California Water Fix". While I realize that CA is in a difficult position to solve the water problem, this solution appears to help only big agriculture and the So.

CA residents with their big swimming pools & lawns.

I hope you'll oppose the Delta Tunnels Plan.

Thank You.

I am writing to express my strong opposition to the Delta Tunnels Plan.

The deceptively named "California Water Fix" does not address the multitude of adverse environmental, public health, and economic impacts the proposed Delta tunnels project would cause. Further, the plan ignores alternatives that would save California tax- and ratepayers billions of dollars, while investing in jobs and local water sources that build sustainability, instead of severely damaging the Delta and Bay ecosystems.

I urge you not to permit the Delta Tunnels/California Water Fix (Alternative 4A) project to move forward.

Sincerely,

Ms. Judy Doi 4310 Shelter Creek Ln San Bruno, CA 94066-3819 doija49@gmail.com

RECIRC1954.

From:

Sent: To: Subject: Earthjustice <action@earthjustice.org> on behalf of Karen Donaldson <info@earthjustice.org> Sunday, October 18, 2015 10:52 AM BDCPcomments Oppose the Delta Tunnels/"California Water Fix" (Alternative 4A)

Oct 18, 2015

Bay Delta Conservation Plan CA

Dear Conservation Plan,

I am grateful that Gov. Brown is working so hard to save our state. On the issue of the proposed Bay-Delta tunnels, however, I am staunchly opposed to this plan and feel it is an unsound strategy for fixing our water woes. Please do not allow this to go forward. Other options must be explored and will prove superior.

I am writing to express my strong opposition to the Delta Tunnels Plan.

The deceptively named "California Water Fix" does not address the multitude of adverse environmental, public health, and economic impacts the proposed Delta tunnels project would cause. Further, the plan ignores alternatives that would save California tax- and ratepayers billions of dollars, while investing in jobs and local water sources that build sustainability, instead of severely damaging the Delta and Bay ecosystems.

I urge you not to permit the Delta Tunnels/California Water Fix (Alternative 4A) project to move forward.

Sincerely,

Ms. Karen Donaldson PO Box 3215 Grass Valley, CA 95945-3215 kdonaldson@nccn.net

RECIRC1955.

From:

Sent:

Subject:

To:

Earthjustice <action@earthjustice.org> on behalf of Cindi Darling <info@earthjustice.org> Sunday, October 18, 2015 11:52 AM BDCPcomments Oppose the Delta Tunnels/"California Water Fix" (Alternative 4A)

Oct 18, 2015

Bay Delta Conservation Plan CA

Dear Conservation Plan,

The tunnels would divert massive amounts of water, greatly reducing Sacramento River flows, the main source of fresh water for the Delta and San Francisco Bay. Most of this water would be diverted for industrial-scale agriculture.

I am writing to express my strong opposition to the Delta Tunnels Plan.

The deceptively named "California Water Fix" does not address the multitude of adverse environmental, public health, and economic impacts the proposed Delta tunnels project would cause. Further, the plan ignores alternatives that would save California tax- and ratepayers billions of dollars, while investing in jobs and local water sources that build sustainability, instead of severely damaging the Delta and Bay ecosystems.

I urge you not to permit the Delta Tunnels/California Water Fix (Alternative 4A) project to move forward.

Sincerely,

Ms. Cindi Darling 339 Forrest Ave Fairfax, CA 94930-1819 darling339@earthlink.net

**RECIRC1956.** 

From:

Sent: To: Subject: Earthjustice <action@earthjustice.org> on behalf of Mary Dederer <info@earthjustice.org> Sunday, October 18, 2015 12:22 PM BDCPcomments Oppose the Delta Tunnels/"California Water Fix" (Alternative 4A)

Oct 18, 2015

Bay Delta Conservation Plan CA

Dear Conservation Plan,

You have done so well by us, but you need to rethink this proposal and wait for a better solution. I have always trusted your thinking so don't blow it.

I am writing to express my strong opposition to the Delta Tunnels Plan.

The deceptively named "California Water Fix" does not address the multitude of adverse environmental, public health, and economic impacts the proposed Delta tunnels project would cause. Further, the plan ignores alternatives that would save California tax- and ratepayers billions of dollars, while investing in jobs and local water sources that build sustainability, instead of severely damaging the Delta and Bay ecosystems.

I urge you not to permit the Delta Tunnels/California Water Fix (Alternative 4A) project to move forward.

Sincerely,

Ms. Mary Dederer 1269 Hoover St Apt 1 Menlo Park, CA 94025-4237 maryde@pacbell.net

From:	Earthjustice <action@earthjustice.org> on behalf of Jo Forkish <info@earthjustice.org></info@earthjustice.org></action@earthjustice.org>
Sent:	Sunday, October 18, 2015 12:22 PM
То:	BDCPcomments
Subject:	Oppose the Delta Tunnels/"California Water Fix" (Alternative 4A)

Oct 18, 2015

Bay Delta Conservation Plan CA

Dear Conservation Plan,

This an absolutely horrible idea and HUGE waste of taxpayer money, including mine!! Please give up on this dangerous plan that hurts our ecosystem and helps only Big Ag!!

I am writing to express my strong opposition to the Delta Tunnels Plan.

The deceptively named "California Water Fix" does not address the multitude of adverse environmental, public health, and economic impacts the proposed Delta tunnels project would cause. Further, the plan ignores alternatives that would save California tax- and ratepayers billions of dollars, while investing in jobs and local water sources that build sustainability, instead of severely damaging the Delta and Bay ecosystems.

I urge you not to permit the Delta Tunnels/California Water Fix (Alternative 4A) project to move forward.

Sincerely,

Ms. Jo Forkish 400 Ives Ter Sunnyvale, CA 94087-1943 jforkish@earthlink.net

Sent: To: Subject: Earthjustice <action@earthjustice.org> on behalf of Carola Detrick <info@earthjustice.org> Sunday, October 18, 2015 1:23 PM BDCPcomments Oppose the Delta Tunnels/"California Water Fix" (Alternative 4A)

Oct 18, 2015

Bay Delta Conservation Plan CA

Dear Conservation Plan,

Let's support Small Ag instead: sustainable small organic farms, treating soil & food with deep respect & cutting-edge know-how, supporting CO2 sequestration in the process... We can stop global warming that way and we MUST! Let's also focus on creating efficient water storage solutions, instead of directing water away for the sake of Big Ag profits... That's the way to lead CA into the future with confidence, wisdom & dignity! In the meantime, PLEASE STOP NESTLE NOW from syphoning off CA's water for pittens & turning around to make insane profits off of our water. That is just plain wrong! We thank you for your leadership, governor Brown!

I am writing to express my strong opposition to the Delta Tunnels Plan.

The deceptively named "California Water Fix" does not address the multitude of adverse environmental, public health, and economic impacts the proposed Delta tunnels project would cause. Further, the plan ignores alternatives that would save California tax- and ratepayers billions of dollars, while investing in jobs and local water sources that build sustainability, instead of severely damaging the Delta and Bay ecosystems.

I urge you not to permit the Delta Tunnels/California Water Fix (Alternative 4A) project to move forward.

Sincerely,

Ms. Carola Detrick 3095 Kerner Blvd San Rafael, CA 94901-5421 ytcrane@aol.com

Sent: To: Subject: Earthjustice <action@earthjustice.org> on behalf of Kathleen Bungarz <info@earthjustice.org> Sunday, October 18, 2015 2:52 PM BDCPcomments Oppose the Delta Tunnels/"California Water Fix" (Alternative 4A)

Oct 18, 2015

Bay Delta Conservation Plan CA

Dear Conservation Plan,

The Delta Tunnels Project is a montrous idea....Jerry Brown may do some good actions for our environment, but this one would be a catastrophic nightmare...He needs to come to his senses and to get his ego out of the way on this one. This would be a BAD legacy!!!!!!!! Kathleen Bungarz

I am writing to express my strong opposition to the Delta Tunnels Plan.

The deceptively named "California Water Fix" does not address the multitude of adverse environmental, public health, and economic impacts the proposed Delta tunnels project would cause. Further, the plan ignores alternatives that would save California tax- and ratepayers billions of dollars, while investing in jobs and local water sources that build sustainability, instead of severely damaging the Delta and Bay ecosystems.

I urge you not to permit the Delta Tunnels/California Water Fix (Alternative 4A) project to move forward.

Sincerely,

Ms. Kathleen Bungarz PO Box 30227 Walnut Creek, CA 94598-9227 kathleenbungarz@yahoo.com

**RECIRC1960.** 

From:

Sent: To: Subject: Earthjustice <action@earthjustice.org> on behalf of Nicole Fountain <info@earthjustice.org> Sunday, October 18, 2015 3:53 PM BDCPcomments Oppose the Delta Tunnels/"California Water Fix" (Alternative 4A)

Oct 18, 2015

Bay Delta Conservation Plan CA

Dear Conservation Plan,

Mr. Governor,

We don't have much left, and the Delta Tunnels/"CA Water Fix" will do more harm than good! PLEASE OPPOSE THE DELTA TUNNELS!

I am writing to express my strong opposition to the Delta Tunnels Plan.

The deceptively named "California Water Fix" does not address the multitude of adverse environmental, public health, and economic impacts the proposed Delta tunnels project would cause. Further, the plan ignores alternatives that would save California tax- and ratepayers billions of dollars, while investing in jobs and local water sources that build sustainability, instead of severely damaging the Delta and Bay ecosystems.

I urge you not to permit the Delta Tunnels/California Water Fix (Alternative 4A) project to move forward.

Sincerely,

Ms. Nicole Fountain 38719 Overacker Ave Fremont, CA 94536-4325 nicmasterflash@yahoo.com

Sent: To: Subject: Earthjustice <action@earthjustice.org> on behalf of Pamela Osgood <info@earthjustice.org> Sunday, October 18, 2015 4:25 PM BDCPcomments Oppose the Delta Tunnels/"California Water Fix" (Alternative 4A)

Oct 18, 2015

Bay Delta Conservation Plan CA

Dear Conservation Plan,

Please do 't destroy the Bay-Delta ecosystem by building these tunnels. Very bad idea.

I am writing to express my strong opposition to the Delta Tunnels Plan.

The deceptively named "California Water Fix" does not address the multitude of adverse environmental, public health, and economic impacts the proposed Delta tunnels project would cause. Further, the plan ignores alternatives that would save California tax- and ratepayers billions of dollars, while investing in jobs and local water sources that build sustainability, instead of severely damaging the Delta and Bay ecosystems.

I urge you not to permit the Delta Tunnels/California Water Fix (Alternative 4A) project to move forward.

Sincerely,

Ms. Pamela Osgood 13234 Ridge Rd Grass Valley, CA 95945-4822 pamelaosgood@att.net

**RECIRC1962.** 

From:

Sent:

Subject:

To:

Earthjustice <action@earthjustice.org> on behalf of Patricia Roddy <info@earthjustice.org> Sunday, October 18, 2015 5:24 PM BDCPcomments Oppose the Delta Tunnels/"California Water Fix" (Alternative 4A)

Oct 18, 2015

Bay Delta Conservation Plan CA

Dear Conservation Plan,

Please do not destroy my state in the interest of funding wealthy agricultural conglomerates who are growing toxic food contributing to massive amounts of health issues in the American people these days. Stop the tunnels.

I am writing to express my strong opposition to the Delta Tunnels Plan.

The deceptively named "California Water Fix" does not address the multitude of adverse environmental, public health, and economic impacts the proposed Delta tunnels project would cause. Further, the plan ignores alternatives that would save California tax- and ratepayers billions of dollars, while investing in jobs and local water sources that build sustainability, instead of severely damaging the Delta and Bay ecosystems.

I urge you not to permit the Delta Tunnels/California Water Fix (Alternative 4A) project to move forward.

Sincerely,

Ms. Patricia Roddy 73124 Ajo Ln Palm Desert, CA 92260-6627 kunzang13@gmail.com

RECIRC1963.

From:

Sent: To: Subject: Earthjustice <action@earthjustice.org> on behalf of Harvey Carlock <info@earthjustice.org> Sunday, October 18, 2015 5:54 PM BDCPcomments Oppose the Delta Tunnels/"California Water Fix" (Alternative 4A)

Oct 18, 2015

Bay Delta Conservation Plan CA

Dear Conservation Plan,

What good are these 'tunnels' going to be when we finally run dry??

I am writing to express my strong opposition to the Delta Tunnels Plan.

The deceptively named "California Water Fix" does not address the multitude of adverse environmental, public health, and economic impacts the proposed Delta tunnels project would cause. Further, the plan ignores alternatives that would save California tax- and ratepayers billions of dollars, while investing in jobs and local water sources that build sustainability, instead of severely damaging the Delta and Bay ecosystems.

I urge you not to permit the Delta Tunnels/California Water Fix (Alternative 4A) project to move forward.

Sincerely,

Mr. Harvey Carlock Maplehurst Santa Clarita, CA 91387 haca66@gmail.com

Sent: To: Súbject: Earthjustice <action@earthjustice.org> on behalf of Christine Hills <info@earthjustice.org> Sunday, October 18, 2015 6:25 PM BDCPcomments Oppose the Delta Tunnels/"California Water Fix" (Alternative 4A)

Oct 18, 2015

Bay Delta Conservation Plan CA

Dear Conservation Plan,

Gov. Brown, why can't the almond growers lower their expectations?

I am writing to express my strong opposition to the Delta Tunnels Plan.

The deceptively named "California Water Fix" does not address the multitude of adverse environmental, public health, and economic impacts the proposed Delta tunnels project would cause. Further, the plan ignores alternatives that would save California tax- and ratepayers billions of dollars, while investing in jobs and local water sources that build sustainability, instead of severely damaging the Delta and Bay ecosystems.

I urge you not to permit the Delta Tunnels/California Water Fix (Alternative 4A) project to move forward.

Sincerely,

Ms. Christine Hills 936 Norvell St El Cerrito, CA 94530-2916 chills627@gmail.com

Sent: To: Subject: Earthjustice <action@earthjustice.org> on behalf of Jean Andrews <info@earthjustice.org> Sunday, October 18, 2015 6:54 PM BDCPcomments Oppose the Delta Tunnels/"California Water Fix" (Alternative 4A)

Oct 18, 2015

Bay Delta Conservation Plan CA

Dear Conservation Plan,

Water is a crucial and finite resource, which must must be carefully and deeply considered. Diverting water from natural systems in order to grow almonds, pistachios, and other "luxury" foods is not wise. We will make everything worse in the future by building tunnels for water diversion. This is not the answer. We must change our values, our economic systems, and our approach to agriculture. Water is scarce and we must use utmost wisdom in our decisions. Please vote against the Delta tunnels project. Thank you.

I am writing to express my strong opposition to the Delta Tunnels Plan.

The deceptively named "California Water Fix" does not address the multitude of adverse environmental, public health, and economic impacts the proposed Delta tunnels project would cause. Further, the plan ignores alternatives that would save California tax- and ratepayers billions of dollars, while investing in jobs and local water sources that build sustainability, instead of severely damaging the Delta and Bay ecosystems.

I urge you not to permit the Delta Tunnels/California Water Fix (Alternative 4A) project to move forward.

Sincerely,

Ms. Jean Andrews 1025 Laurent St Santa Cruz, CA 95060-2505 jandrews@baymoon.com

RECIRC1966.

From:

Sent: To: Subject: Earthjustice <action@earthjustice.org> on behalf of Glynn Dodge <info@earthjustice.org> Sunday, October 18, 2015 9:24 PM BDCPcomments Oppose the Delta Tunnels/"California Water Fix" (Alternative 4A)

Oct 18, 2015

Bay Delta Conservation Plan CA

Dear Conservation Plan,

Predictions are that Northern California will not receive much water again this next year.Let's not ruin the Delta waterways and all the habitat by draining and selling off islands to So. Cal. agencies.

I am writing to express my strong opposition to the Delta Tunnels Plan.

The deceptively named "California Water Fix" does not address the multitude of adverse environmental, public health, and economic impacts the proposed Delta tunnels project would cause. Further, the plan ignores alternatives that would save California tax- and ratepayers billions of dollars, while investing in jobs and local water sources that build sustainability, instead of severely damaging the Delta and Bay ecosystems.

I urge you not to permit the Delta Tunnels/California Water Fix (Alternative 4A) project to move forward.

Sincerely,

Mr. Glynn Dodge PO Box 283 Volcano, CA 95689-0283 pops@volcano.net

## RECIRC1967.

From:

Sent: To: Subject: Earthjustice <action@earthjustice.org> on behalf of Marla Allen <info@earthjustice.org> Sunday, October 18, 2015 9:25 PM BDCPcomments Oppose the Delta Tunnels/"California Water Fix" (Alternative 4A)

Oct 18, 2015

Bay Delta Conservation Plan CA

Dear Conservation Plan,

Why are we still pretending that it's okay to destroy the environment? The time for living dangerously is over. We need to get rid of farming that is not suitable for this environment rather than wasting scarce resources on it.

I am writing to express my strong opposition to the Delta Tunnels Plan.

The deceptively named "California Water Fix" does not address the multitude of adverse environmental, public health, and economic impacts the proposed Delta tunnels project would cause. Further, the plan ignores alternatives that would save California tax- and ratepayers billions of dollars, while investing in jobs and local water sources that build sustainability, instead of severely damaging the Delta and Bay ecosystems.

I urge you not to permit the Delta Tunnels/California Water Fix (Alternative 4A) project to move forward.

Sincerely,

Ms. Maria Allen 1225 N Edgemont St Los Angeles, CA 90029-1558 meallen2727@gmail.com

**RECIRC1968.** 

From:

Sent: To: Subject: Earthjustice <action@earthjustice.org> on behalf of Honey Fortney <info@earthjustice.org> Sunday, October 18, 2015 9:55 PM BDCPcomments Oppose the Delta Tunnels/"California Water Fix" (Alternative 4A)

Oct 18, 2015

Bay Delta Conservation Plan CA

Dear Conservation Plan,

Think of the legacy of destruction you are going to leave when they tear up our Delta. This is not the solution for water. Go back to the drawing board.

I am writing to express my strong opposition to the Delta Tunnels Plan.

The deceptively named "California Water Fix" does not address the multitude of adverse environmental, public health, and economic impacts the proposed Delta tunnels project would cause. Further, the plan ignores alternatives that would save California tax- and ratepayers billions of dollars, while investing in jobs and local water sources that build sustainability, instead of severely damaging the Delta and Bay ecosystems.

I urge you not to permit the Delta Tunnels/California Water Fix (Alternative 4A) project to move forward.

Sincerely,

Ms. Honey Fortney 1023 Mustang Rd Napa, CA 94558-4037 ent.mom@gmail.com

Sent: To: Subject: Earthjustice <action@earthjustice.org> on behalf of Carey Wheaton <info@earthjustice.org> Sunday, October 18, 2015 11:55 PM BDCPcomments Oppose the Delta Tunnels/"California Water Fix" (Alternative 4A)

Oct 19, 2015

Bay Delta Conservation Plan CA

Dear Conservation Plan,

Please stop this, ban fracking, and stop Nestles from bottling and taking our water away!

I am writing to express my strong opposition to the Delta Tunnels Plan.

The deceptively named "California Water Fix" does not address the multitude of adverse environmental, public health, and economic impacts the proposed Delta tunnels project would cause. Further, the plan ignores alternatives that would save California tax- and ratepayers billions of dollars, while investing in jobs and local water sources that build sustainability, instead of severely damaging the Delta and Bay ecosystems.

I urge you not to permit the Delta Tunnels/California Water Fix (Alternative 4A) project to move forward.

Sincerely,

Ms. Carey Wheaton 321 Jesse St Sebastopol, CA 95472-3620 carey@harmonicsystems.net

Sent: To: Subject: Earthjustice <action@earthjustice.org> on behalf of Ian Haddow <info@earthjustice.org> Monday, October 19, 2015 12:24 AM BDCPcomments Oppose the Delta Tunnels/"California Water Fix" (Alternative 4A)

Oct 19, 2015

Bay Delta Conservation Plan CA

Dear Conservation Plan,

In the manner of humans, the industrial agriculturalists are resistant to changing their behavior. They wish to continue to cultivate water intensive crops in an arid climate region and to do so with my and other tax payers' subsidization for no better reason than that is what they are already doing. It was their choice to do so. Protecting them from experiencing the consequences of their own actions is not the responsibility of the public and it is an impossibility. Let's not invest billions of dollars in an attempt to do the impossible. Let's not do the California water fix.

I am writing to express my strong opposition to the Delta Tunnels Plan.

The deceptively named "California Water Fix" does not address the multitude of adverse environmental, public health, and economic impacts the proposed Delta tunnels project would cause. Further, the plan ignores alternatives that would save California tax- and ratepayers billions of dollars, while investing in jobs and local water sources that build sustainability, instead of severely damaging the Delta and Bay ecosystems.

I urge you not to permit the Delta Tunnels/California Water Fix (Alternative 4A) project to move forward.

Sincerely,

Mr. Ian Haddow 536 Laidley St San Francisco, CA 94131-3040 2ianhaddow@gmail.com

RECIRC1971.

From:

Sent: To: Subject: Earthjustice <action@earthjustice.org> on behalf of Erica Brown <info@earthjustice.org> Monday, October 19, 2015 12:24 AM BDCPcomments Oppose the Delta Tunnels/"California Water Fix" (Alternative 4A)

Oct 19, 2015

Bay Delta Conservation Plan CA

Dear Conservation Plan,

Major agriculture, agriculture that's built for industry and the only purpose of money. This is a fake reality, in order for humanity to actually live on and create new amazing sustaining ways of continued life, we have to progress. Creating new dams, and huge waterways that lead to major cities and big business agriculture will be the many small ends to the masses. It's sad to say or imagine that just because of "business" a piece of paper that was created and given its identity by humanity can actually determine our demises. Make the right choice the real choice for all, and protect humanity and our resources, for they're the only knes we're given.

I am writing to express my strong opposition to the Delta Tunnels Plan.

The deceptively named "California Water Fix" does not address the multitude of adverse environmental, public health, and economic impacts the proposed Delta tunnels project would cause. Further, the plan ignores alternatives that would save California tax- and ratepayers billions of dollars, while investing in jobs and local water sources that build sustainability, instead of severely damaging the Delta and Bay ecosystems.

I urge you not to permit the Delta Tunnels/California Water Fix (Alternative 4A) project to move forward.

Sincerely,

Ms. Erica Brown 957 Nevada St Sonora, CA 95370-5218 shweetiebrown63@aol.com

Sent: To: Subject: Earthjustice <action@earthjustice.org> on behalf of Laura Paden <info@earthjustice.org> Monday, October 19, 2015 1:25 AM BDCPcomments Oppose the Delta Tunnels/"California Water Fix" (Alternative 4A)

Oct 19, 2015

Bay Delta Conservation Plan CA

Dear Conservation Plan,

If all of this were on the Up & Up, you wouldn't be keeping it on the Down Low. STOP IT !

I am writing to express my strong opposition to the Delta Tunnels Plan.

The deceptively named "California Water Fix" does not address the multitude of adverse environmental, public health, and economic impacts the proposed Delta tunnels project would cause. Further, the plan ignores alternatives that would save California tax- and ratepayers billions of dollars, while investing in jobs and local water sources that build sustainability, instead of severely damaging the Delta and Bay ecosystems.

I urge you not to permit the Delta Tunnels/California Water Fix (Alternative 4A) project to move forward.

Sincerely,

Mrs. Laura Paden 20644 San Jose St Chatsworth, CA 91311-2458 laura.paden7@yahoo.com

From:	Earthjustice <action@earthjustice.org> on behalf of D Kessler <info@earthjustice.org></info@earthjustice.org></action@earthjustice.org>
Sent:	Monday, October 19, 2015 3:25 AM
То:	BDCPcomments
Subject:	Oppose the Delta Tunnels/"California Water Fix" (Alternative 4A)

Oct 19, 2015

Bay Delta Conservation Plan CA

Dear Conservation Plan,

STEALING THE NORTHS WATER TO SEND SOUTH SO THAT SENATOR FIENSTIENS HUSBAND AND HIS REASTATE CRONEYS CAN GROW THE L.A. Is an ECOLOGICAL CRIME AGAINST THE STATE OF CALIFORINA . THIS PLAN HAS BEEN HIDDEN FOR THE LAST 10 year, but make no mistake this is all about another water and land grab right out of the movie "China Town ". And it's just about as scummy. As the saying goes "follow the \$ ", it's easy to see who's who in this WATER THEFT. Educate yourself about this issue it is the biggest thing our state will be involved in for a long time out.

I am writing to express my strong opposition to the Delta Tunnels Plan.

The deceptively named "California Water Fix" does not address the multitude of adverse environmental, public health, and economic impacts the proposed Delta tunnels project would cause. Further, the plan ignores alternatives that would save California tax- and ratepayers billions of dollars, while investing in jobs and local water sources that build sustainability, instead of severely damaging the Delta and Bay ecosystems.

I urge you not to permit the Delta Tunnels/California Water Fix (Alternative 4A) project to move forward.

Sincerely,

Mr. D Kessler PO Box 457 Redway, CA 95560-0457 kesslervicky@gmail.com

Sent: To: Subject: Earthjustice <action@earthjustice.org> on behalf of Marianne Newman-Deurloo <info@earthjustice.org> Monday, October 19, 2015 7:56 AM BDCPcomments Oppose the Delta Tunnels/"California Water Fix" (Alternative 4A)

Oct 19, 2015

Bay Delta Conservation Plan CA

Dear Conservation Plan,

This is just too expensive, and in the same way that landscapes are being changed to acknowledge the very reality of what truly thrives in certain environments, we must change our agricultural landscapes. We can not afford, financially and water-wise, the vastness of farms that need more watering than naturally occurs. Those landscapes need to be diminished, not eliminated, and certainly not expanded.

I am writing to express my strong opposition to the Delta Tunnels Plan.

The deceptively named "California Water Fix" does not address the multitude of adverse environmental, public health, and economic impacts the proposed Delta tunnels project would cause. Further, the plan ignores alternatives that would save California tax- and ratepayers billions of dollars, while investing in jobs and local water sources that build sustainability, instead of severely damaging the Delta and Bay ecosystems.

I urge you not to permit the Delta Tunnels/California Water Fix (Alternative 4A) project to move forward.

Sincerely,

Ms. Marianne Newman-Deurloo 6150 Duncombe Dr Paradise, CA 95969-3114 mare.catgal@gmail.com

From:	Earthjustice <action@earthjustice.org> on behalf of Gina Ness <info@earthjustice.org></info@earthjustice.org></action@earthjustice.org>
Sent:	Friday, October 16, 2015 5:36 PM
То:	BDCPcomments
Subject:	Oppose the Delta Tunnels/"California Water Fix" (Alternative 4A)

Oct 16, 2015

Bay Delta Conservation Plan CA

Dear Conservation Plan,

I usually agree with our Governor, but not on this issue... No Delta tunnels project!

I am writing to express my strong opposition to the Delta Tunnels Plan.

The deceptively named "California Water Fix" does not address the multitude of adverse environmental, public health, and economic impacts the proposed Delta tunnels project would cause. Further, the plan ignores alternatives that would save California tax- and ratepayers billions of dollars, while investing in jobs and local water sources that build sustainability, instead of severely damaging the Delta and Bay ecosystems.

I urge you not to permit the Delta Tunnels/California Water Fix (Alternative 4A) project to move forward.

Sincerely,

Ms. Gina Ness 1718 Capistrano Dr Petaluma, CA 94954-4528 ginavness@comcast.net

Sent: To: Subject: Earthjustice <action@earthjustice.org> on behalf of Nicole Hermann-Metzger <info@earthjustice.org> Saturday, October 17, 2015 11:20 AM BDCPcomments Oppose the Delta Tunnels/"California Water Fix" (Alternative 4A)

Oct 17, 2015

Bay Delta Conservation Plan CA

Dear Conservation Plan,

Please prioritize solutions aimed at prevention rather than immediate need. Respect the science of climate change and adjust solutions to meet this new reality. Thank you for your understanding and consideration.

I am writing to express my strong opposition to the Delta Tunnels Plan.

The deceptively named "California Water Fix" does not address the multitude of adverse environmental, public health, and economic impacts the proposed Delta tunnels project would cause. Further, the plan ignores alternatives that would save California tax- and ratepayers billions of dollars, while investing in jobs and local water sources that build sustainability, instead of severely damaging the Delta and Bay ecosystems.

I urge you not to permit the Delta Tunnels/California Water Fix (Alternative 4A) project to move forward.

Sincerely,

Dr. Nicole Hermann-Metzger 5529 Olinda Rd El Sobrante, CA 94803-3430 oleskarule@earthlink.net

RECIRC1977.

From:

Sent: To: Subject: Earthjustice <action@earthjustice.org> on behalf of Perry Lloyd <info@earthjustice.org> Saturday, October 17, 2015 1:20 PM BDCPcomments Oppose the Delta Tunnels/"California Water Fix" (Alternative 4A)

Oct 17, 2015

Bay Delta Conservation Plan CA

Dear Conservation Plan,

If big Ag is such a boon and a valuable business, then it should be able to pay it's own way.

I am writing to express my strong opposition to the Delta Tunnels Plan.

The deceptively named "California Water Fix" does not address the multitude of adverse environmental, public health, and economic impacts the proposed Delta tunnels project would cause. Further, the plan ignores alternatives that would save California tax- and ratepayers billions of dollars, while investing in jobs and local water sources that build sustainability, instead of severely damaging the Delta and Bay ecosystems.

I urge you not to permit the Delta Tunnels/California Water Fix (Alternative 4A) project to move forward.

Sincerely,

Mr. Perry Lloyd 538 Virginia Dr Tiburon, CA 94920-1332 perrydigm@comcast.net

From:	Earthjustice <action@earthjustice.org> on behalf of Daryl Gale <info@earthjustice.org></info@earthjustice.org></action@earthjustice.org>
Sent:	Saturday, October 17, 2015 11:50 PM
То:	BDCPcomments
Subject:	Oppose the Delta Tunnels/"California Water Fix" (Alternative 4A)

Oct 18, 2015

Bay Delta Conservation Plan CA

Dear Conservation Plan,

We have to figure out a sustainable way to deal with this drought...Not by letting Big Ag continue to use massive amounts of water!

I am writing to express my strong opposition to the Delta Tunnels Plan.

The deceptively named "California Water Fix" does not address the multitude of adverse environmental, public health, and economic impacts the proposed Delta tunnels project would cause. Further, the plan ignores alternatives that would save California tax- and ratepayers billions of dollars, while investing in jobs and local water sources that build sustainability, instead of severely damaging the Delta and Bay ecosystems.

~ ~ \*

I urge you not to permit the Delta Tunnels/California Water Fix (Alternative 4A) project to move forward.

Sincerely,

Ms. Daryl Gale PO Box 24387 Los Angeles, CA 90024-0387 turtleperson@earthlink.net

**RECIRC1979.** 

From:

Sent: To: Subject: Earthjustice <action@earthjustice.org> on behalf of Molly Hooper <info@earthjustice.org> Friday, October 16, 2015 7:48 PM BDCPcomments Oppose the Delta Tunnels/"California Water Fix" (Alternative 4A)

Oct 16, 2015

Bay Delta Conservation Plan CA

Dear Conservation Plan,

This project is being railroaded through by Gov. Brown. There has not been a serious economic and scientific assessment of alternative strategies to get more water for the state. And the project could cost \$60 billion by the time it is paid for. Who is going to pay for it? How much smarter to recharge groundwater, replace leaky pipes, reuse water and practice conservation.

For those who point to possible earthquake damage to the existing levees as reason to build the tunnels, there is now an overflight Lidar program that can help identify weak levees. The cost of rebuilding those levees is much less than building the tunnels. Moreover, did the Governor ever consider that the tunnels also would be vulnerable to earthquakes?

Enough for now. Earth Justice, if necessary, please prepare for legal action to bar the tunnels.

I am writing to express my strong opposition to the Delta Tunnels Plan.

The deceptively named "California Water Fix" does not address the multitude of adverse environmental, public health, and economic impacts the proposed Delta tunnels project would cause. Further, the plan ignores alternatives that would save California tax- and ratepayers billions of dollars, while investing in jobs and local water sources that build sustainability, instead of severely damaging the Delta and Bay ecosystems.

I urge you not to permit the Delta Tunnels/California Water Fix (Alternative 4A) project to move forward.

Sincerely,

Ms. Molly Hooper 201 Buena Vista Ave E San Francisco, CA 94117-4103 mollyhoo@aol.com

Sent: To: Subject: Earthjustice <action@earthjustice.org> on behalf of Sheila Jordan <info@earthjustice.org> Friday, October 16, 2015 6:18 PM BDCPcomments Oppose the Delta Tunnels/"California Water Fix" (Alternative 4A)

Oct 16, 2015

Bay Delta Conservation Plan CA

Dear Conservation Plan,

We certainly have not done enough to employ alternative and environmental water sources. Divert resources to gray water, filtration and desalination. Let's be smart and not destroy one environment to benefit another.

I am writing to express my strong opposition to the Delta Tunnels Plan.

The deceptively named "California Water Fix" does not address the multitude of adverse environmental, public health, and economic impacts the proposed Delta tunnels project would cause. Further, the plan ignores alternatives that would save California tax- and ratepayers billions of dollars, while investing in jobs and local water sources that build sustainability, instead of severely damaging the Delta and Bay ecosystems.

I urge you not to permit the Delta Tunnels/California Water Fix (Alternative 4A) project to move forward.

Sincerely,

Ms. Sheila Jordan 1430 California St Berkeley, CA 94703-1023 sheila@sheilajordan.org

**RECIRC1981.** 

From:

Sent: To: Subject: Earthjustice <action@earthjustice.org> on behalf of James Wicklund <info@earthjustice.org> Monday, October 19, 2015 8:25 AM BDCPcomments Oppose the Delta Tunnels/"California Water Fix" (Alternative 4A)

Oct 19, 2015

Bay Delta Conservation Plan CA

Dear Conservation Plan,

Thank you for reading my letter. Please stop this ridiculous action. It's time to make L.A. build a de-desalination plant and leave our water in NorCal where it belongs. SAVE THE SALMON.

I am writing to express my strong opposition to the Delta Tunnels Plan.

The deceptively named "California Water Fix" does not address the multitude of adverse environmental, public health, and economic impacts the proposed Delta tunnels project would cause. Further, the plan ignores alternatives that would save California tax- and ratepayers billions of dollars, while investing in jobs and local water sources that build sustainability, instead of severely damaging the Delta and Bay ecosystems.

I urge you not to permit the Delta Tunnels/California Water Fix (Alternative 4A) project to move forward.

Sincerely,

Mr. James Wicklund 4601 Meadowsong Dr Paradise, CA 95969-6357 wildwickys@hughes.net

Sent: To: Subject: Earthjustice <action@earthjustice.org> on behalf of Cynthia Pili <info@earthjustice.org> Sunday, October 18, 2015 8:53 AM BDCPcomments Oppose the Delta Tunnels/"California Water Fix" (Alternative 4A)

Oct 18, 2015

Bay Delta Conservation Plan CA

Dear Conservation Plan,

Don't take our water! Get your own SoCal! If you want more water than hat naturally comes your way make it from sea water. The sooner we start building desalination plants the sooner we can stop squabling over what fresh water nature provides.

I am writing to express my strong opposition to the Delta Tunnels Plan.

The deceptively named "California Water Fix" does not address the multitude of adverse environmental, public health, and economic impacts the proposed Delta tunnels project would cause. Further, the plan ignores alternatives that would save California tax- and ratepayers billions of dollars, while investing in jobs and local water sources that build sustainability, instead of severely damaging the Delta and Bay ecosystems.

I urge you not to permit the Delta Tunnels/California Water Fix (Alternative 4A) project to move forward.

Sincerely,

Ms. Cynthia Pili 2056 Stonybrook Dr Red Bluff, CA 96080-4047 cpili@att.net

RECIRC1983.

From:

Sent: To: Subject: Earthjustice <action@earthjustice.org> on behalf of Mary Douma <info@earthjustice.org> Sunday, October 18, 2015 8:25 AM BDCPcomments Oppose the Delta Tunnels/"California Water Fix" (Alternative 4A)

Oct 18, 2015

Bay Delta Conservation Plan CA

Dear Conservation Plan,

How about saving rainwater at the local level and not depending on snow pack? How about new irrigation and farming methods that no one adopts for a variety of reasons? How about some trickle down economics for the impoverished in the Central Valley.

I am writing to express my strong opposition to the Delta Tunnels Plan.

The deceptively named "California Water Fix" does not address the multitude of adverse environmental, public health, and economic impacts the proposed Delta tunnels project would cause. Further, the plan ignores alternatives that would save California tax- and ratepayers billions of dollars, while investing in jobs and local water sources that build sustainability, instead of severely damaging the Delta and Bay ecosystems.

I urge you not to permit the Delta Tunnels/California Water Fix (Alternative 4A) project to move forward.

Sincerely,

Mrs. Mary Douma 77 Estates Dr Orinda, CA 94563-3423 marchmaggie@gmail.com

RECIRC1984.

From:

Sent: To: Subject: Earthjustice <action@earthjustice.org> on behalf of Stan Thompson-Short <info@earthjustice.org> Monday, October 19, 2015 3:23 PM BDCPcomments Oppose the Delta Tunnels/"California Water Fix" (Alternative 4A)

Oct 19, 2015

Bay Delta Conservation Plan CA

Dear Conservation Plan,

Diverting fresh water away from where it is intended (by God) to maintain a healthy Delta and San Francisco Bay estuary is morally wrong. It will further throw our environment out of balance, conceivably worsening global warming. Citing section 4 of Pope Francis' Laudato Si, On Care of Our Common Home, "the ecological concern [is] 'a tragic consequence' of unchecked human activity: Due to an ill-considered exploitation of nature, humanity runs the risk of destroying it and becoming in turn a victim of this degradation". I am categorically apposed to this proposal!

I am writing to express my strong opposition to the Delta Tunnels Plan.

The deceptively named "California Water Fix" does not address the multitude of adverse environmental, public health, and economic impacts the proposed Delta tunnels project would cause. Further, the plan ignores alternatives that would save California tax- and ratepayers billions of dollars, while investing in jobs and local water sources that build sustainability, instead of severely damaging the Delta and Bay ecosystems.

I urge you not to permit the Delta Tunnels/California Water Fix (Alternative 4A) project to move forward.

Sincerely,

Mr. Stan Thompson-Short 3 Glenwood Dr Napa, CA 94559-1021 tslucanus@yahoo.com

**RECIRC1985.** 

From:

Sent: To: Subject: Earthjustice <action@earthjustice.org> on behalf of Kathryn Buttles <info@earthjustice.org> Monday, October 19, 2015 3:39 PM BDCPcomments Oppose the Delta Tunnels/"California Water Fix" (Alternative 4A)

Oct 19, 2015

Bay Delta Conservation Plan CA

Dear Conservation Plan,

You need to take better care of the water you have - and don't expect to get more from Arizona.

I am writing to express my strong opposition to the Delta Tunnels Plan.

The deceptively named "California Water Fix" does not address the multitude of adverse environmental, public health, and economic impacts the proposed Delta tunnels project would cause. Further, the plan ignores alternatives that would save California tax- and ratepayers billions of dollars, while investing in jobs and local water sources that build sustainability, instead of severely damaging the Delta and Bay ecosystems.

I urge you not to permit the Delta Tunnels/California Water Fix (Alternative 4A) project to move forward.

Sincerely,

Ms. Kathryn Buttles PO Box 3055 Sedona, AZ 86340-3055 kate71227@hotmail.com

From: Port	er-Cheechov, Ellen <epporter@solanocounty.com></epporter@solanocounty.com>
Sent: Moi	nday, October 19, 2015 3:01 PM
To: BDC	Pcomments
Subject: Tun	nel

I simply do not understand how on Earth anyone could even conceive of a plan like this, it is not logical.

- We are talking about ruining **public** lands that we, the public own, fought for and paid for trespassing comes to mind.
- The "rebuilding" is something that is not in the least realistic it took decades, no, centuries for the land to be as it is you cannot remake or repair the damage in "10 years".
- We are in earthquake country if you build something like this and we have a major earthquake in the south of the state, what happens to these concrete pipes full of water? They don't bend or stretch. Where will the water go then? How will the repairs be done. Will the land be yet again dug up to repair the damage?
- Salt water intrusion into the delta ... very similar effects as the defunct Cross Florida Barge Canal would have created in Florida if it weren't for Marjorie Harris Carr and the Florida Defenders of the Environment. We cannot afford to have our rivers end up like the Colorado has not even making it to the ocean anymore.
- I also understand that some "agencies" have sold land in the Delta around Rio Vista to some of the interested Southern California Water Businesses. They best not be selling/shifting around the land that belongs to the public or adjacent to public lands that would harm the delicate balance of the environment in the Delta.

If Gov. Brown wants to leave a legacy he should do as Vic Fazio did – SAVE the beautiful, necessary delta and let our rivers flow as they are.

Garamendi is correct when he talks about alternatives like building storage – for goodness sake there is plenty of land in the Central Valley that could hold a large reservoir for the farming.

AND who will REALLY benefit by this water? Will it be people or companies that are currently "fracking" in our hills and mountains in that area. Are we building this for the companies?

I am saddened that our Governor feels he needs to "leave a legacy" that will tear up lands we have tried and need to conserve and put things across earthquake fault lines – the idiocy of the whole program boggles my mind. Shame on him and shame on those that support this ridiculous endeavor.

Ellen Porter-Cheechov

ellenpp@aol.om

From:F.L. Hobin <flhobin@sbcglobal.net>Sent:Monday, October 19, 2015 12:26 PMTo:BDCPcommentsSubject:Stopping the Twin Tunnels

To Whom it May Concern:

I am a third generation Californian and a property owner. I have read everything I can about our water issues and especially the twin tunnels. I am completely against the building of these tunnels! To think that this plan will solve our water problems, producing one more drop of water and not degrade the delta, is utter nonsense. This "plan" is a water grab; a gift to Southern California big ag, who insanely, and greedily, insists on growing high water-using crops (like almonds) in an arid desert climate. I couldn't be more disappointed in Jerry Brown. As a tax-payer, I WANT THESE TUNNELS STOPED.

F.L. Hobin Stockton, CA From: Sent: To: Subject: susan glupker <susanglupker@yahoo.com> Monday, October 19, 2015 2:24 PM BDCPcomments Stop the tunnels

From:
Sent:
To:
Subject:

Glenn Foster <gfoster@martinezsheetmetal.com> Monday, October 19, 2015 3:52 PM BDCPcomments Delta Tunnels

I oppose Governer Browns plan for the tunnel-as a boater and fisherman I have seen the delta change dramatically as the water exports have increased. Any further water diversions will cause more harm to the fragile eco system as it is now. Unless heavy environmental protections are put in place this plan is a total joke and waste of taxpayer money for the benefit of rich agricultural interests.

Taxpayer monies would be better spent on conservation measures water storage and for the state to figure out correctly why the eco system is crashing. You cannot divert that much water without serious environmental issues of which we have now.

It is time for the state to wake up and address environmental concerns first for this project instead of hiding the true issues.

I firmly oppose this project.

Glenn Foster Martinez Sheet Metal V.P. Estimator (925) 228-3380 x 204

From:	Terry Spragg <spraggbag@gmail.com></spraggbag@gmail.com>
Sent:	Monday, October 19, 2015 6:54 PM
То:	BDCPcomments
Cc:	Spivy-Weber, Frances@Waterboards; Marcus, Felicia@Waterboards;
	Karla.Nemeth@resources.ca.gov; John.Laird@resources.ca.gov; Jeffrey Kightlinger;
	Patterson,Roger K; Gloria Gray; richardn@westbasin.org; fernandop@westbasin.org;
	rmseed6@aol.com; Robert Bea; Clifford Goudey; Deano Perlatti; Baus Fish; Kevin Hunt;
	Peter Laborde; Barbara Barrigan-Parrilla; mark.cowin@water.ca.gov
Subject:	Comments on BDCP
Attachments:	Delta Cover Letter to DWR from Cliff re Fabric pipeline preliminary proposal.htm; MWD
	Kightlinger waterbag letter May 20 2008.pdf; Ray Seed Joe Grindstaff Delta fabric
	pipeline email.pdf; Bob Bea waterbag levee design letter.pdf; Ray Seed and Bob Bea
	Katrina report credentials.pdf; Delta DWR Emergency Fabric Pipeline Proposal August
	2011.pdf; Delta Restore the Delta Emergency Fabric Pipeline Editonial.pdf; West Basin
	Waterbag Summary July 2015.pdf; West Basin Waterbag Resolution July 2015.pdf; West
	Basin Letter to DWR re Waterbag Resolution.pdf

Our team would like to respond to the State of California's request for comments on the California Bay Delta Conservation Plan.

Please review and consider the attached documents and proposal to investigate and demonstrate an Emergency Fabric Pipeline Proposal for the Delta. This technology would be used to inexpensively move large volumes of fresh water from north of the Delta to Clifton Court as a result of an earthquake or major storm having caused a catastrophic levee collapse in the Delta. This plan would be less expensive and quicker to install than the current plan, which is to stock pile rocks at three levee island locations to be used to divert the Sacramento River. This would be an easy and economic proposal to test as is outlined in the attached document.

I have attached an email in support of our Emergency Fabric Pipeline proposal from Professor Ray Seed, U.C. Berkeley, a worldwide levee expert, written to Joe Grindstaff, Executive Director of the Delta Stewardship Council. Also attached is a letter of support from Professor Bob Bea, U.C. Berkeley Professor, Director of the Center of Catastrophic Risk Management, Department of Engineering. Both these men were in charge of overseeing the Corps of Engineers levee repair efforts following the Katrina disaster (see attached document).

I have attached a letter of support for our Delta Emergency Fabric Pipeline proposal from Jeff Kightlinger, General Manager of the Metropolitan Water District of Southern California.

A letter of support from Restore The Delta is also attached.

A Resolution recently passed by the West Basin MWD Board of Directors in support of investigating our technology, along with a summary of their Staff's report to the West Basin Board, including a copy of a letter West Basin sent to California Director of Water Resources, Mark Cowin, requesting DWR's support for our technology are attached.

A YouTube video of television news coverage of our waterbag transport technology which we successfully demonstrated during a 100 mile, three day voyage in Washington State can be seen at:

http://www.youtube.com/watch?v=4TEJp6UZaDI.

Photos and other information can be found on our website at:

#### www.waterbag.com

These websites will give you an understanding as to our team's experience in developing our proposed Emergency Fabric Pipeline technology for the Delta, and how it evolved so that it can be adapted to our Emergency Fabric Pipeline proposal for the Delta.

I look forward to hearing from someone as to how and when our technology will be reviewed. I'd be happy to answer any questions you may have. I can be reached at the above email address or by phone at: (562) 461-9195.

I hope our team can be of help in solving one of the most serious problems facing California; the development of a secure and reliable water supply from the Delta.

Best regards,

**Terry Spragg** 

From: Clifford Goudey [cliffgoudey@gmail.com]
Sent: Thursday, August 11, 2011 8:53 AM
To: Balakrishnan, Ariya
Cc: Terry Spragg
Subject: Fabric pipeline preliminary proposal

**Attachments:** Spragg pipeline proposal.pdf Ariya,

I am pleased to transmit as an attachment to this email our preliminary proposal for a technology demonstration of the Spragg Flexible Fabric Pipeline. Since our communications in March we have gathered the information needed to prepare our cost estimates for the pipeline modules necessary to implement a meaningful evaluation in the Delta setting. As we have noted, there are many issues related to where such a demonstration would occur that will impact its total cost. A collaborative process will be needed to further refine an actual plan of action.

During the preparation of this preliminary proposal we have sought and received guidance from experts in water supply technology and California water issues. Of particular note are reviews from the following individuals that have been incorporated into this document.

Jason Weeks, Senior Engineer, Water Replenishment District of Southern California Marc Serna, Manager of Engineering, West Basin Municipal Water District Dick Rhone, Senior Engineer, GSI Consultants

I am hopeful that this preliminary proposal can serve as a basis for further discussion and a better understanding on our part of how this potential solution fits into the contingency planning needed to preserve the water flows of the Delta.

While much of what is described in the attachment is the subject of USPTO filings, we ask that the distribution of this document be done on a need-to-know basis for its review within DWR. Please feel free to contact me or Terry Spragg <<u>spraggbag@gmail.com</u>> if you have any immediate questions. We look forward to assisting the Department of Water Resources in any way possible as you consider these matters.

Respectfully,

Cliff

Clifford A. Goudey, 21 Marlboro Street Newburyport, MA 01950 Email: <u>cliffgoudey@gmail.com</u> Phone: <u>978-465-2238</u> Cell: <u>978-914-1901</u> Skype: Cliff\_Goudey

#### **Delta Flexible Pipeline Demonstration Proposal**

Submitted to Division of Engineering, California Department of Water Resources By Terry G. Spragg & Associates

#### Background

This proposal is submitted in response to concerns over a significant seismic event in Northern California that would destabilize multiple levees protecting islands in the Sacramento–San Joaquin River Delta. These levees provide the channels that convey fresh water from its northern to southern portions and are shown in Figure 1. Clifton Court, where water is extracted for conveyance to Southern California is noted.

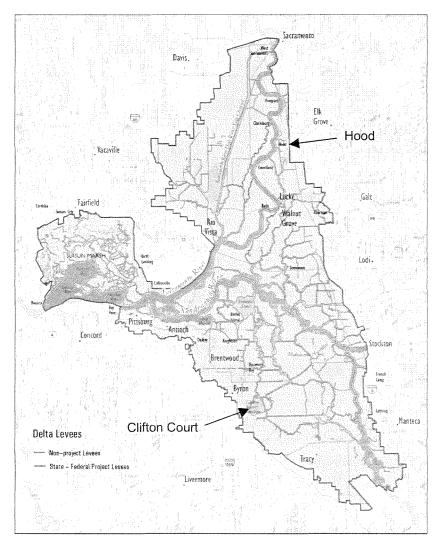


Figure 1. The Sacramento–San Joaquin River Delta and its levees. (from Fifth Staff Draft Delta Plan)

Levee failures may result in the inundation of some Delta islands, causing saltwater intrusion into the Delta displacing the freshwater that is normally in the channels that convey fresh water from its northern to southern portions. In this proposal we do not address the likelihood or the magnitude of such catastrophic events, rather we propose a rapidly deployable system for maintaining the flow of fresh water across a compromised area within the Delta.

The system herein proposed offers effectiveness, flexibility, rapid implementation, and low cost as its primary advantages. In addition, the ability to pre-deploy system components in order to rapidly respond to levee failures regardless of where they occur and their magnitude is an important feature. The system we propose is modular, portable, quickly deployed in a variety of configurations and represents a reliable solution for both short-term emergency situations and medium-term situations where cost is an important factor.

#### The Spragg Flexible Fabric Pipeline

Terry G. Spragg & Associates has been developing systems for the cost effective conveyance of fresh water for over two decades. Early efforts focused on the transport of water in large fabric barges that could be efficiently towed in end-to end formations from regions of fresh water abundance to regions of drought. More recently, and in response to water needs over shorter distances, our attention has broadened to include the application where the fabric 'container' is fixed and the water flows through it. The innovations associated with these technologies are protected through the US patent office and worldwide patent protection is in process.

Conceptually, the flexible fabric pipeline is quite simple. It is a watertight tube of a specific circumference fabricated from coated fabric. Were this pipeline filled with fresh water and positioned within a body of water of the same fluid density, the pipeline's cross-section would be circular. This is seldom the case due to impurities or salinity in the surrounding water and instead it takes a shape as shown in Figure 2.

The actual shape in terms of the width vs. the depth of the cross section is a function of the internal pressure and the circumference. Figure 2 portrays a situation where the cross sectional area is roughly 90% of a full circular cross section.

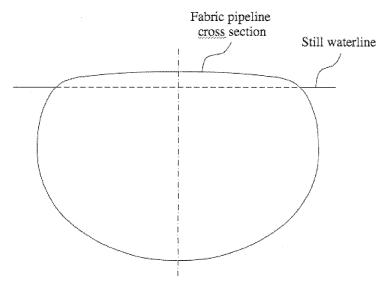


Figure 2. A typical cross sectional shape of a floating fabric pipeline.

The pressure represented by this shape is equal to the head height of the highest portion of the pipeline above the still waterline. Internally, the fluid pressure varies with depth and that determines the location of maximum fabric curvature, which is always at the waterline. The area of the cross section found below the water line compared to the total area is equal to the ratio of the internal and external water densities.

Floating at the surface in low-current and low-wave environments is the most benign setting for this fabric pipeline. In such situations the system need only to be moored in place and offered protection against damage from vessel traffic. Such a configuration is shown in Figure 3 where reinforced webbing straps lead to anchor lines that keep the floating fabric pipeline in place along its route. The strength and the spacing of these mooring attachments depend on the setting in which the pipeline is to be deployed

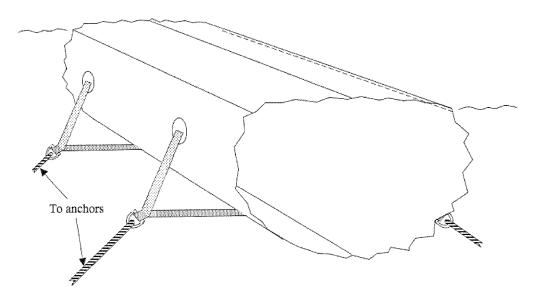


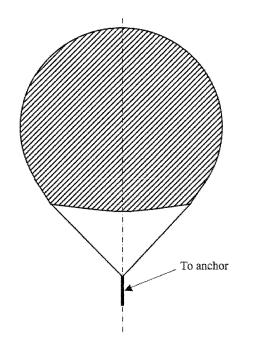
Figure 3. The mooring arrangement for a floating fabric pipeline.

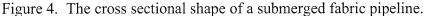
Because of the complex geography of the Delta and the unpredictable nature and location of catastrophic levee failures, other deployment arrangements may be needed. To that end, the Spragg Flexible Fabric Pipeline can be deployed completely submerged as well as on dry land.

Fresh water, being less dense than brackish water or full-salinity seawater, tends to float on the surface even when contained in a fabric pipeline. The force needed to submerge that contained fresh water is easily calculable based on the density difference and the cross sectional area of the pipeline. For example a pipeline with a nominal diameter of 6 feet has a cross sectional area of 28.3 sq. ft. A 10-foot long section of this pipeline would have a volume of 283 cu. ft. and a maximum submerged net buoyancy of approximately 500 pounds. It would therefore be relatively easy to submerge the fabric pipeline in areas where the conditions demand, such as for vessel navigation or to avoid undesirable environmental conditions at the surface. Given the emergency vessel traffic associated with a major levee collapse, this is an essential feature.

The submerged version of the proposed fabric pipeline has a different cross sectional shape compared to the floating version. Figure 4 shows such a cross section where the shaded portion is the conveyed water and the portion below is the anchoring means.

#### Contains proprietary information





This is more easily seen in Figure 5 where the mooring loads that keep the pipeline submerged are distributed into its length through the use of a pair of fabric skirts with lower edges in the form of a catenary. Much like catenary cables of a suspension bridge, this arrangement can keep the pipeline at a uniform depth and eliminate concerns that the pipeline might buoy up in between the anchor locations.

The lower edges of the catenary skirts are reinforced with a tension member (steel cable or a high-modulus line). The size and spacing of the anchors depend on the size of the pipeline and the ability to pretension the catenary lines.

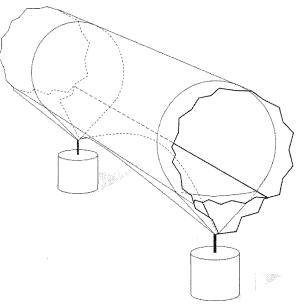


Figure 5. The submerged fabric pipeline.

In areas where submergence is called for and where the bottom is of suitably uniform depth, an alternate submerged configuration can be employed as is shown in Figure 6. In this case, two continuous ballast pockets are formed on the two lower sides of the pipeline. These pockets are filled with sand or gravel through purposely-designed openings during the deployment process. Air can escape from these pockets through perforations or the pockets themselves can be fabricated from porous fabric. The pockets and contained ballast are sufficient to firmly affix the pipeline directly on the bottom, minimizing its intrusion into the water column and risks of damage from surface traffic.

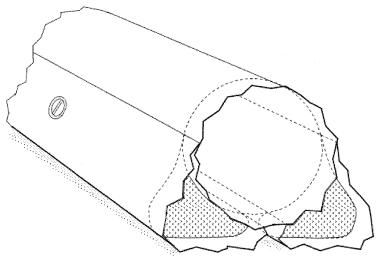


Figure 6. The bottom-deployed fabric pipeline.

The final configuration of the fabric pipeline is its deployment on land. In this case its cross section takes a shape resembling an ellipse, though as shown in Figure 7, it becomes flattened on the side upon which it rests.

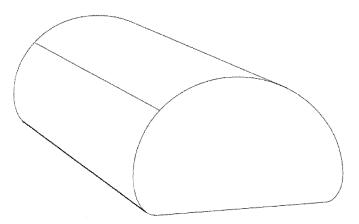


Figure 7. The land-based fabric pipeline.

While this is the simplest configuration it is also one that imposes the greatest stress on the enclosing fabric due to the unsupported height of water within the pipeline cross section. As a result, the in-the-water configurations have the greater flow capacities for a given pipeline circumference and pressure ceiling.

#### Flow Through a Fabric Pipeline

Pressure loss in circular pipes is modeled by the Hazen-Williams Equation

$$f = 0.2083 (100/c)^{1.852} x q^{1.852} / dh^{4.8655}$$

where

f = friction head loss in feet of water per 100 feet of pipe ( $ft_{H20}/100$  ft pipe)

c = Hazen-Williams roughness constant (150 for coated fabric)

q = volume flow (gal/min)

dh = inside hydraulic diameter (inches)

This formulation is applicable to the Spragg Flexible Fabric Pipeline since its cross sectional area is normally 90% or more of a circular pipe. The friction head loss from the formula determines the pressure that is required at the inlet of the pipeline to attain the desired flow rate. However, the pressure is limited by the hoop stress the pipeline material can sustain.

The coated fabric used in the Spragg Flexible Fabric Pipeline has strength in both the warp and weft directions in excess of 1,000 pounds per inch. Our specifications for maximum pressure include a four to one safety factor.

We propose a pipeline made of this fabric that has a circumference of 230 inches and an unstressed diameter of 73.2". A flow rate of 90,000 gallons per minute is equivalent to 145,000 acre-feet per year. Under these conditions there is a frictional head loss of 1.5" per 100 feet of fabric pipe, which translates into 13.2 feet of head loss for a two-mile length of pipeline or an internal pressure requirement of 5.67 psi. at the inlet of the pipe to maintain that flow. This generates in 207 pounds per inch of fabric stress, decreasing over the length of the pipeline to the next pumping station.

The Spragg Flexible Fabric Pipeline can be made any length as long as the pressure requirements for maintaining flow stay within these above limits. In order to facilitate handling, the pipeline is provided in 250-foot-long modules. The 50 oz. per sq. yd. fabric for the basic pipe section results in a 1700-pound module.

The modules can be joined by one of three methods. The first is a waterproof, high-strength zipper that allows rapid interconnections in the field. The second method is the use of a stiff internal mandrel with external rod clamps. This is a particularly useful approach when connecting a fabric section to a rigid portion of the pumping infrastructure, but can also be used for section joining as well. A third method is field ultrasonic welding of one section to another, an approach that requires specialized on-site equipment.

The 145,000 acre feet per year delivery capacity of one of these pipelines would provide 36% of the amount of water the Metropolitan Water District (MWD) is allowed to take from the river in a drought year. A parallel system of three of these fabric pipelines would exceed that needed capacity. Four fabric pipelines lying side by side would be able to annually deliver 580,000 acre feet of good quality water from Hood to Clifton Court. The required length and path for such a deployment would depend on the portions of the Delta that become inundated with saltwater and must be bridged in order to provide water of acceptable quality. The location of Hood is noted in Figure 1 and simulations of levee failure by the Metropolitan Water District of Southern California indicate it is beyond the intrusion range of levee damage resulting from a 6.5 magnitude earthquake.

#### **A Proposed Technology Demonstration**

In order to properly evaluate the potential role of the Spragg Flexible Fabric Pipeline in confronting a Delta emergency, one need only demonstrate the performance of the portion of the pipeline between two pumping stations. Therefore Spragg Associates proposes the testing of a two-mile deployment of a 230-inch circumference system. This would involve the use of 42 sections of 250-foot length. These sections would comprise a suitable combination of module types depending on the preferred location of such a demonstration.

The required head and flow rate for such a demonstration could be provided in a number of ways, possible using pumping infrastructure already at the disposal of the Department of Water Resources. An example is diagrammed in Figure 8, showing what could be used to facilitate the experiment. The details of this head works need to be refined through discussions with DWR, as does the flow/pressure requirements and how best to meet them for the purposes of the test.

In addition, a suitable path for the temporary installation of this demonstration system needs to be identified. The costs associated with installation will depend heavily on the details and logistic requirements of that location. We have made no assumptions on matters or responsibilities associated with permitting, site preparation, deployment, energy costs, or decommissioning.

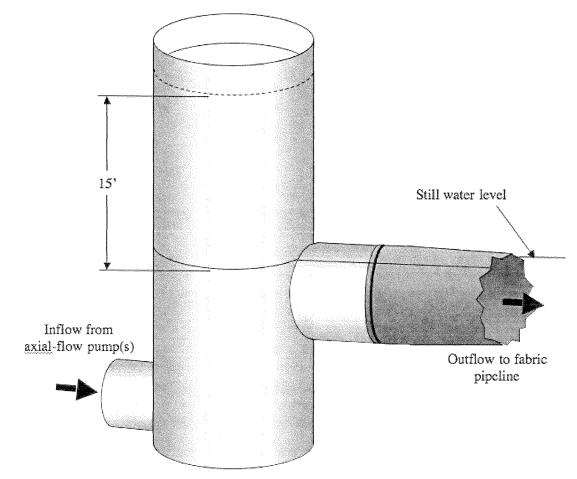


Figure 8. An example of head works for the fabric pipeline.

#### The Cost Proposal

The principal cost of the demonstration is for the pipeline modules and those costs will depend on the type of module needed for the combination of terrain and water along the route of the tests. We recommend that at least several modules of each type be included in the tests. The following cost proposal is based on a logical combination of modules, with the majority being surface-floating modules that would be positioned in a benign wave and current setting.

Summary of	costs fo	or a	two-mile	demonstration	pipeline:
<i>.</i>					11

Quan.	Description	Unit cost	Cost
1	20' transition piece - head works to pipeline	\$5,280	\$5,280
20	250' x 230" circ. floating pipeline module	\$37,950	\$759,000
5	250' x 230" circ. submerged pipeline module	\$57,200	\$286,000
5	250' x 230" circ. seabed pipeline module	\$45,100	\$225,500
12	250' x 230" circ. land-based pipeline module	\$36,300	\$435,600
43	Total cost estimate for two-mile fabric pipeline		\$1,711,380

These prices include materials and fabrication and are FOB Seattle. They do not include any installation or costs associated with the means of pumping. These can be estimated once the demonstration location, allocation of test responsibilities, and issues of permitting have been resolved.

#### A Component of Delta Preparedness

In the Fifth Staff Draft Delta Plan we read, "Despite the risks of levee failure, no published emergency action plan exists that addresses the consequences to federal and State water supply deliveries in the event of catastrophic levee failure in the Delta."

The draft plan continues, "... failures are inevitable and will require the implementation of well-coordinated and carefully developed emergency-response planning efforts. ... The California Emergency Management Agency, DWR, and several local agencies are preparing individual emergency response plans for the Delta, but the development of these should be coordinated, tested, and practiced."

The Spragg Flexible Fabric Pipeline could be a key component of that emerging response plan with modules centrally warehoused or pre-positioned based on an assessment of levee seismic vulnerability and salt-water intrusion models. An attractive approach to maximize responsiveness would be a barge-mounted system that deploys two miles of pipeline modules and includes the power, pumps, and head works needed for immediate operation.

However, before such an approach can be implemented, tests are in order. The technology demonstration proposed above in an essential step towards preparedness. Terry G. Spragg & Associates looks forward to working with the DWR and other state agencies to take this first step.

#### **Charlene Jensen**

From:	RMSeed6@aol.com
Sent:	Monday, October 04, 2010 1:52 PM
То:	joe.grindstaff@deltacouncil.ca.gov
Cc:	phil.isenberg@deltacouncil.ca.gov; terry.macaulay@deltacouncil.ca.gov; eric.nichol@deltacouncil.ca.gov; elaine.martin@deltacouncil.ca.gov; Charlene Jensen

Subject: Spragg Water Conduit

Dear Joe,

We did not have time to explicitly discuss Mr. Spragg's "waterbag" technology, and so I was planning to get back to you guys this week after you have cleared through the last Council Meeting and its aftermath.

So the timing is good here.

Mr. Spragg originally proposed his waterbag technology as a potential emergency measure for transporting fresh water across a seismically damaged Delta a number of years ago. My assessment was that although it was a novel and interesting idea, it would not be very useful at the full State level as the volume of water that could be delivered via towed waterbags was too small, and as it would face likely difficulties with regard to constrictions, obstacles and potential puncture threats during transit across a badly damaged Delta.

I was struck, however, by the greater potential represented by using the same type of fabric technology to construct a modular fabric "pipeline" through the Delta. As noted in the attached E-mail from Tawnley Pranger (Chief, Response and Security Section, Division of Flood Management, DWR) there is some significant potential promise here.

DWR has been largely discouraged/disallowed from considering novel ideas that might represent either back-up plans or interim options until we achieve a seismically secure "permanent" facility as the current Administration had decided instead to bank everything on a more narrowly focussed effort to garner permission (and eventually permits) to construct such a facility. Interim plans, and emergency back-up plans, were correctly viewed as having the potential to confuse and complicate that process. In that context, Mr. Pranger's response that the idea may have merit and that it might warrant study was admirably brave and frank. It is arguably disappointing that you and the Council had not been informed of this response. And perhaps others like it.

My view is that such a singular focus on the current effort to push through a secure transmission facility was an inadvisably risky approach, given (1) the unacceptably high current stakes, (2) the unacceptable likelihood that a seismic disaster will occur before such a secure transmission facility can be put in place (which will take at least ten years, even if we begin right away.... and with a roughly 1.5% chance each year of seismic disaster in the interim), and (3) the likelihood that construction of a secure transmission facility will continue to be further delayed anyway (by political and legal obstacles and challenges, etc.). History suggests that we will continue to live with unacceptably high exposure to an unprecedented water disaster for some time to come, and as we discussed it is my view that interim and emergency back-up plans should be considered, and that promising alternatives should be pursued with all possible vigor.

We discussed examples of steps that could be usefully taken to begin to prepare for emergency post-seismic repairs in order to accelerate the rate at which water deliveries could begin to be restored. Acceleration of those repairs would reduce the State-wide economic and social calamity associated with major seismic damage to the Delta, and would also reduce the risk that environmental laws would be over-ridden by executive orders (both State and Federal) and that potentially massive long-term environmental damages would be done in order to restore water deliveries as rapidly as possible.

The types of steps that we discussed are far different from the types of steps that would be taken to

improve our ability to perform the more routine "non-seismic" finite levee breach repairs that we are well used to dealing with; and no seismically useful steps of that sort have yet been taken. Coupled with the recent restrictions on water deliveries imposed over the past two years by Judge Wanger, which have served to draw down south-of-Delta "emergency" water storage reserves (despite a couple of decades of progress in increasing such emergency storage, highlighted by the construction of the Eastside Reservoir), we are currently as vulnerable as we have ever been to potential seismic disruption (for a period of multiple years) of the Deltacentric portions of our state's water supplies. It is my understanding that Judge Wanger's recent (and stunning) partial reversal of his own rulings in this regard are not so much premised on his having had a personal epiphany upon re-reading our eloquent Blue Ribbon Panel espousal of "co-equal" values; instead, they are a result of his having had the true level of vulnerability explained to him. A potential National Security issue.

Given the current level of risk, and the high stakes, interim and emergency response enhancement alternatives should be pursued. In addition to those types of alternatives that we did have time to discuss a bit, additional alternatives should be considered as well.

The "fabric pipeline" idea has potential merit here. The cost is low; apparently on the order of \$30 to \$40 million for a 6-foot diameter pipeline running fully across the Delta from a northern Sacramento River source to the Clifton Court Forebay. That would not be the entire cost, but instead only the cost of the fabric pipeline itself. Pumps would be needed at intake and to boost transmission, and a second set of pumps (at least) would be needed in the mid-Delta to pump up to the Clifton Court location (the Clifton Court pumps cannot "draw" the water by suction; "fabric" pipelines would require positive pressures and would simply collapse under any negative pressures or "suction"). So there would be additional costs for pumps, and also for intake and outflow connectivity details.

I am not an expert on fabric pipeline hydraulics, and do not know what types of circumferential stresses the fabric pipeline could safely sustain, and so I cannot estimate how much water such a line could transmit. But it would be a great deal more than zero, and in a time of emergency (and dire need), that could be a Godsend. (The fabric tubes would be largely submerged in Delta waters, and that would serve to provide an external buttressing force, and to reduce circumferential stresses; increasing capacities.) And there is no obvious reason why we would use only one such fabric pipeline. If the systems works, multiple fabric pipelines could be installed; they are a "modular" potential measure.

In the event of a seismic water catastrophe in the Delta, the costs associated with such a system will not be an issue. We will expend literally billions of dollars to rapidly expedite eventual "permanent" repairs, and we will simultaneously sustain far higher economic losses and social disruption due to lack of water deliveries until that is achieved. The economics that currently prevail under "ordinary" circumstances" will not be applicable; and massive Federal resources will be brought to bear.

The fabric pipelines may be a potentially feasible emergency measure to partially mitigate the current potential for a seismically induced water disaster. Apparent advantages might include:

1. Relatively low cost.

2. The apparently environmentally benign nature of the system (as compared to massive dredging, etc., and potential semi-permanent rearrangement of channels and flow to otherwise expedite "regular" levee repairs and reconstruction.)

3. The rapidity with which the system could be deployed.

4. The modular nature of the system, so that it can be progressively expanded (additional pipelines added) over the initial months after an earthquake.

5. The system itself would appear to be rapidly repairable, and so could be maintained in a resilient manner for several years in the face of urgent levee repair and reconstruction efforts.

"Potentially feasible" is an important phrase, however. This is a novel proposal, and it would need to be studied, and field tested.

I understand that the Delta Council is not funded to undertake such development work. But the Council is empowered to recommend that interim and emergency response alternatives be considered, and that promising alternatives be advanced by means of study and proof-testing (e.g. by DWR, or others.) Also that suitable investments be made (in conjunction with development of realistic post-seismic emergency response plans) in promising/viable measures.

Given its attributes, the "fabric pipeline" idea appears to warrant inclusion among potential alternatives to be considered. The fabric pipelines themselves could apparently be rapidly fabricated and deployed, but the same may not be true with regard to pumps and intake and outfall features. If fabric pipelines were to be a potentially feasible part of our arsenal of response tools, then (1) the system would have to have been prooftested, (2) intake and outfall preparations might have to be emplaced, and (3) working pumps might have to be acquired and tested in advance of the disaster.

Given that the current levels of risk are so high, and that the prospects for a rapid implementation of a secure long-term solution (e.g. a more "permanent" seismically secure facility) are both uncertain and remote with respect to even best-case timing; undertaking expeditious efforts to evaluate and implement "interim and emergency response enhancement" alternative should have the highest possible priority.

I hope this answers your questions. If you wish to discuss this further, I can usually best be reached either at this E-mail address, or on my cell phone at (925) 899-6101.

Best regards,

Ray Seed

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TELEPHONE: (510) 643-8678 TELEFAX: (510) 643-8919 E-MAIL: bea@cc.berkeley.edu HTTP://www.cc.berkeley.edu/

October 16, 2007

Terry Spragg Terry G. Spragg & Associates 420 Highland Ave. Manhattan Beach, California 90266

Dear Terry,

- Thank you for sending me the DVD and documents related to your proposed waterbag ideas for developing and testing an emergency levee repair and emergency water transport system in the Delta.

<u>I believe your ideas are valid and definitely worth testing.</u> Only a test in actual Delta conditions will be able to validate your waterbag applications in the Delta. This should be easy and relatively inexpensive to accomplish.

During our phone conversations you referred to my comments on levee repair in the article titled, "Air-dropped dams could fix levee breaches," in the August 2007 issue of NEW SCIENTIST ENVIRONMENT, in which I comment on the tests being done at the U.S. Department of Homeland Security on a self-filling bladder idea originally developed by the U.S. Department of Defense. You will note my comment in this article that this bladder idea could prove useful, "assuming the bladders can be kept securely in place."

The concept that you and my U.C. Berkeley colleague, Ray Seed, have proposed, which involves placing large diameter (30 to 50 feet) water filled bladders in a levee breach perpendicular to the breach so that your towing bridle secures the bladder at both ends of the bladder on each side of the breach, could solve the problem of keeping the bladders securely in place, both during filling and after they are filled.

Your waterbag/bladder technology concept could offer four important advantages to solving the levee repair problem:

- (1) Waterbags should be easy to secure in place using your patented zipper towing connection bridle at each end of the waterbag on each side of the breach.
- (2) Waterbags should be easy to fill with water once it is secured in place at both ends.
- (3) Waterbags should be easy to remove once a permanent levee repair structure is in place. Air will be forced into the secured waterbags that are filled with water, thus evacuating the water from the waterbags, and then removing the waterbags from the repaired levee breach
- (4) Waterbags should be an easy and relatively inexpensive theory to test.

I make these comments based on my experience in investigating the failures of the flood defense systems in New Orleans after the Katrina disaster, and in my capacity at the Civil & Environmental Engineering School at U.C. Berkeley (since 1988) as co-Director of the Marine Technology and Management Group and as the co-Director at the Center for Risk Mitigation.

<u>I hope that the Metropolitan Water District and/or the Department of Water Resources will consider testing the various waterbag</u> <u>emergency applications for the Delta you have proposed.</u> I have read your "What if?" presentation that you plan to submit to the MWD Water Planning Committee. Your comments seem to confirm that you have presented several valid arguments for a test of your waterbag technology related to its many applications for California.

I would be happy to discuss your waterbag emergency ideas for the Delta and how a test of these ideas could be implemented with MWD/DWR officials. I can be reached by email at, <u>Bea@ce.Berkeley.edu</u>, or by phone at (510) 642-0967.

I wish you the best of success for your endeavors.

Rest regards Ser **Bob** Bea



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CENTER FOR CATASTROPHIC RISK MANAGEMENT DEPARTMENT OF CIVIL & ENVIRONMENTAL ENGINEERING 212 McLAUGHLIN HALL BERKELEY, CALIFORNIA 94720-1710



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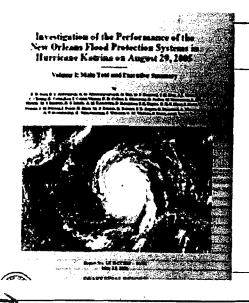
### Berkeley Engineering

CEE > News

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**NEWS & EVENTS** 

## Professor Raymond Seed Publishes Final Report on Failure of New Orleans Levee System



**View Final Report** 

Over the past nine months, <u>a national team of 38 engineers and investigators led by</u> <u>Professor Raymond Seed</u>, and sponsored by the National Science Foundation and UC Berkeley's Center for Technology Research in the Interest of Society (CITRIS), conducted an independent investigation of the failure of New Orleans' levees and flood protection system during <u>Hurricane Katrina; the largest and most costly failure of an</u> <u>engineered system in history. This study represented an unprecedented effort, as the</u> large and distinguished team of leading national expents all worked as volunteers, on a pro bono basis, in order to devote the available funding to support of students, and to cover travel, field investigation and laboratory testing expenses.

The team made a thorough study of the New Orleans regional lavee system, including urgent post-hurricane forensic ground investigations, field borings and laboratory testing, and extensive computer modeling and analyses.

In its final report published on July 31, the team concluded that the several dozen levee failures in this catastrophic event occurred for a number of reasons, including the choice of materials used in the levee construction, the challenging geology and unstable soils upon which they were built, efforts to achieve economic savings at the expense of reduced margins of safety, and engineering lapses associated with failure to anticipate critical failure modes and mechanisms specific to some of the failure sites. Their research indicated that a majority of the levees failed primarily as a result of human error, and not because Humcane Katrine was an exceptionally large humcane.

Professor Robert Bea. co-author of the report, added that the levees were deficient as a result of organizational problems within the U.S. Army Corps of Engineers, which oversees the design and construction of the levee system, and organizational problems endemic to the cumbersome overall system within which Congress, the Corps, and local

government and oversight agencies must coordinate their efforts to design and construct these types of complex regional systems. The report notes that the Corps' oversight of the levee system was massively hampered due to layoffs of many of its geotechnical engineers who might have otherwise more effectively overseen its design, construction and maintenance.

The UC Berkeley-led team recommends changes from the White House and Congress right on down to the local levee district level, and these include creation of a risk management council reporting directly to the President, a risk assessment office in Congress, and parallel offices at the state level. Their recommendation is not to replace the Corps of Engineers, but rather to re-establish necessary strength and support levels, and to refocus a larger fraction of its efforts on engineering rather than its current focus primarily on project management.



Professors Seed and Bea (center) Inspecting New Orleans Levees The report states that the principal overall lesson to be learned is that short-term savings achieved by streamlining the process of preparation for storms and other natural disasters resulted in massively larger losses when the hurricane eventually arrived; losses far out of scale with the smaller short-term savings initially achieved. This has ramifications extending well beyond the New Orleans region, and is a national issue of some urgency.

Other faculty and students from the UC Berkeley Department of Civil and Environmental Engineering who participated in this study included Prof's. Jon Bray, Juan Pestana and Michael Riemer, and a very hard working group of graduate students including Rune Storesund, Adda Athanasopoulos, Diego Cobos-Roa, Xavier Vera-Grunauer, Carmen Cheung, Kofi Inkabi and Julien Cohen-Waeber.



**MWD** METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Executive Office

May 20, 2008

Terry G. Spragg Terry G. Spragg & Associates 420 Highland Ave. Manhattan Beach, California 90266

Dear Terry,

We have reviewed your proposal to the Governor's Delta Vision Blue Ribbon Task Force regarding a test of waterbag technology emergency applications in the Delta. Please feel free to inform the Task Force that the Metropolitan Water District of Southern California has reviewed your proposed waterbag technology and concluded that it is feasible and could potentially be applied for either emergency use or regular water supply.

My staff would be happy to discuss Metropolitan's conclusions on waterbag technology and applications with any member of the Task Force or Task Force staff who may wish to contact us.

Best of luck on your proposal for a demonstration of waterbag emergency applications in the Delta. Please keep us informed of developments as they occur.

Best Regards. Jeffrey Kightlinger General Manager

cc: R. Patterson



#### Fabric Pipeline deserves a test in the Delta

by RTDJess on October 15, 2012

Those concerned about disruptions in water deliveries in the event of an earthquake -induced levee failure in the Delta should be taking a look at the Emergency Fabric Pipeline developed by inventor Terry Spragg.

To see how it works, you can watch this video on YouTube.

Over four years ago, Jeffrey Kightlinger, General Manager of the Metropolitan Water District of Southern California, agreed that Spragg's waterbag technology was "feasible and could potentially be applied for either emergency use or regular water supply."

Two years ago, U.C. Berkeley GeoEngineering Professor Ray Seed wrote to the Delta Stewardship Council encouraging them to test the Spragg Flexible Fabric Pipeline for emergency, interim, or backup use in the Delta. He argued that

"a singular focus on the current effort to push through a secure transmission facility [is] an inadvisably risky approach, given (1) the unacceptably high current stakes, (2) the unacceptable likelihood that a seismic disaster will occur before such a secure transmission facility can be put in place ... and (3) the likelihood that construction of a secure transmission facility will continue to be further delayed anyway (by political and legal obstacles an challenges, etc.)."

Last year, Mr. Spragg himself proposed a demonstration project to the Delta Stewardship Council. Notes Spragg, "One of the advantages of our technology is that it is not permanent, as it can be removed once conditions on the ground improve. Its installation can be of benefit to both Northern and Southern California water interests."

If you haven't heard anything about this, you aren't alone.

State water planners working on Delta issues don't seem interested in anything that interferes with their single-minded focus on building something REALLY BIG. Even the Delta Stewardship Council seems unable to think outside that box, even for the sake of meeting one of the coequal goals: reliable water supply.

We don't think Delta levees are likely to fail in an earthquake. But shouldn't those who do think so be looking at every alternative for getting drinking water in an emergency to people outside the Delta who rely on it?

tell a Friend

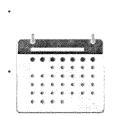
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Restore the Delta is a grassroots campaign committed to making the Sacramento-San Joaquin Delta fishable, swimmable, drinkable, and farmable to benefit all of California. Restore the Delta - a coalition of Delta residents, business leaders, civic organi ations, community groups, faith-based communities, union locals, farmers, fishermen, and environmentalists - seeks to strengthen the health of the estuary and the well-being of Delta communities. Restore the Delta works to improve water quality so that fisheries and farming can thrive together again in the Sacramento-San Joaquin Delta.

Email Newsletters with Constant Contact

#### **RESOLUTION NO. 7-13-1018**

#### A RESOLUTION OF THE BOARD OF DIRECTORS OF WEST BASIN MUNICIPAL WATER DISTRICT ENCOURAGING THE FURTHER CONSIDERATION OF WATERBAG TRANSPORT TECHNOLOGY

WHEREAS, the West Basin Municipal Water District is responsible for ensuring a safe and reliable supply of high-quality water to the communities we serve; and,

WHEREAS, West Basin seeks innovative ways to conserve water through its water recycling and conservation programs, while researching and analyzing alternative water supply projects, including and ocean-water desalination; and

WHEREAS, California is in the midst of a four year, "exceptional" drought crisis, with an uncertain water future, and is adapting to a new California way of life; and

WHEREAS, Southern California's water future is further complicated due to fluctuating regulatory restrictions, and the region's reliance on the delivery of imported water from the Sacramento-San Joaquin Delta which is vulnerable to future earthquakes causing catastrophic levee failure; and

WHEREAS, in response to the drought conditions, Governor Brown declared a statewide drought emergency, and issued an Executive Order requiring state agencies to save water, increase enforcement against water waste and invest in new technologies; and local water retailers to pursue conservation and new local water supplies; and

WHEREAS, technology is being developed to transport and deliver large volumes of water, long distances through the ocean, using large waterbags linked into long trains, possibly using solar or diesel powered pilotless drone technology; and

WHEREAS, proponents of waterbag technology have identified a source of water being offered by the Humboldt Bay Municipal Water District at a shoreline location at which water could be transported to locations along the California coastline: and

WHEREAS, further consideration and successful demonstration of waterbag technology could advance waterbag transport technology in California and could be beneficial to the people in both Northern and Southern California.

NOW, THEREFORE, BE IT RESOLVED, that the Board of Directors of the West Basin Municipal Water District declares as follows:

- 1. West Basin encourages Metropolitan Water District and the Department of Water Resources to further investigate the utilization of waterbag technology as a tool to repair levee breaks and transport freshwater to Southern California:
- 2. West Basin will transmit a copy of this resolution to Metropolitan Water District and the California Department of Water Resources to encourage further consideration of waterbag technology.

PASSED, APPROVED AND ADOPTED on July 27, 2015, 2015. Moria Gray

ATTEST:

Buston

Secretary (SEAL



WEST BASIN MUNICIPAL WATER DISTRICT 17140S. Avalon Blvd., Suite 210 Carson, CA 90746

AGENDA	NO	<u> </u>
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JULY 16, 2015 – Water Resources Houston (Chair), Gray JULY 27, 2015 – Board Meeting Prepared by: E.J. Caldwell Submitted by: Fernando Paludi Approved by: Rich Nagel

#### ACTION CALENDAR

#### WATERBAG TECHNOLOGY

#### SUMMARY:

As California endures its fourth record breaking year of drought, Governor Brown, the California Legislature, and water policy leaders have created new funding sources (Proposition 1), mandated steep reductions in urban water demand, and have worked tirelessly on long term solutions to California's issues. Of these issues, none is more widely discussed than California's ability to move water, in an environmentally responsible manner, from areas with excess water supplies, to densely populated Southern California. Although the Bay Delta Conservation Plan occupies most of this discussion, California continues to study potential alternative options.

One alternative option, as proposed by Terry G. Spragg and Associates, is the use of water bag technology to transport fresh water from regions of high abundance to regions of scarcity. According to Mr. Spragg, the "Spraggbag" provides an economically viable means of moving water by using, "flexible fabric barges that can transport massive quantities of fresh water long distances over the oceans of the world."

In 1996, Spragg & Associates conducted a demonstration of the "Spraggbag" technology with a 100-mile voyage in Washington State that attracted media attention. Based in part on this demonstration, West Basin has in the past, reviewed updated proposals submitted by Spragg & Associates and have accordingly forwarded information related to the technology to local and state agencies for potential further investigation. Reviews and related actions taken by West Basin include:

- December 2002 –West Basin Municipal Water District (West Basin) Board receives staff report summarizing Spragg & Associates' demonstration voyage proposal; citing cost concerns and other potential challenges to the concept;
- July 2003 West Basin Board issues support letter for Spragg & Associates' grant application to the Metropolitan Water District's (MWD) Innovative Supply Program (ISP) for a demonstration voyage of "Waterbag Transport and Storage Technology";
- February 2006 West Basin Board passes resolution encouraging local and state agencies to investigate the testing and use of waterbags for the specific applications of repairing levee breaks and temporary conveyance of water through the Bay-Delta in the event of an emergency. In a letter transmitting the resolution to the Chairman of the MWD Board, West Basin's Board President requests that MWD support and test waterbag technology in the context stated in the resolution.

Although no further feasibility studies or cost estimates were prepared for the "Spraggbag" technology due to many variables and variance factors for the "

#### WBMWD Board Memorandum July 27, 2015 Page 2

decrease the per acre-foot cost of water delivery. Spragg & Associates propose the development of "autonomous vehicle technology in the form of small, remotely piloted tugboat drones." This, coupled with the use of alternative solar energy could make the use of water bag technology a viable option, and during the current drought crisis, is something that should be furtherer discussed.

As such, staff recommends the Board adopt a resolution encouraging further consideration of waterbag technology by MWD, and the Department of Water Resources.

#### **BENEFIT TO WEST BASIN:**

Further analysis of waterbag technology could provide alternative approaches to transporting water to Southern California, providing new alternative water supplies to the West Basin service area.

#### STRATEGIC BUSINESS PLAN IMPLEMENTATION:

Goal 1: Water Reliability – West Basin is committed to innovative planning and investments to provide water supply reliability and drought protection.

Goal 2: Water Quality – West Basin is committed to providing safe, high quality water by meeting current and anticipated water quality requirements.

Goal 3: Customer Service – West Basin is committed to providing value by understanding and meeting the needs of our customers and the communities we serve.

Goal 4: Sound Financial & Resources Management – West Basin is committed to efficient business operations, financial planning and asset management.

#### FISCAL IMPACTS:

None.

#### **ENVIRONMENTAL COMPLIANCE:**

Not applicable.

#### COMMITTEE STATUS:

This item was reviewed by the Water Resources Committee on July 16, 2015 and recommended for approval at the July 27, 2015 Board meeting.

#### **RECOMMENDED MOTION:**

That the Board approves, adopts and authorizes the President to sign Resolution No. 7-15-1018, "A RESOLUTION OF THE BOARD OF DIRECTORS OF WEST BASIN MUNICIPAL WATER DISTRICT ENCOURAGING THE FURTHER CONSIDERATION OF WATERBAG TECHNOLOGY."

#### LIST OF EXHIBITS:

Exhibit "A" – Draft Resolution No. 7-15-1018



17140 S. Avalon Blvd. Suite 210 Carson, CA 90746 310.217.2411 www.westbasin.org

#### **BOARD OF DIRECTORS**

Gloria D. Gray President

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> Scott Houston Secretary

Donald L. Dear

#### COMMITTED TO

Water Reliability

Water Quality

Sound Financial and Resource Management

**Customer Service** 

Environmental Stewardship August 19, 2015

Director Mark Cowin California Department of Water Resources P.O. Box 942836, Room 1115-1 Sacramento, CA 94236

Dear Director Cowin:

On behalf of the West Basin Municipal Water District, I am writing to you to encourage the Metropolitan Water District of Southern California (MWD) to further investigate the testing of waterbag technology as a tool to repair levee breaks and transport freshwater to Southern California.

As noted in previous correspondence (February, 2006), Terry Spragg and Associates are working to develop technology to transport and deliver large volumes of fresh water, long distances through the ocean, using large waterbags linked into long trains, possibly using solar or diesel powered pilotless drone technology. This is an emergency response application of a technology that Mr. Spragg has long advocated to the water community here in California, along the West Coast, and the Middle East. In California, the use of waterbags as a viable alternative to traditional conveyance systems for water transfers still faces challenging questions, such as feasibility testing and economics.

As you are aware, California is in the midst of a four year "exceptional" drought crisis and Southern California's water future is further complicated due to fluctuating regulatory restrictions, and the region's reliable on imported water from the Sacramento San Joaquin Delta which is vulnerable to future earthquakes causing catastrophic levee failure. In response to the drought conditions, Governor Brown declared a statewide drought emergency and issued an Executive Order requiring state agencies to save water, increase enforcement against water waste and invest in new technologies; and local water retailers to pursue conservation and new local water supplies. Through further analysis and successful demonstrations, water technology could be beneficial and assist in meeting these mandates outlined by Governor Brown.

Mr. Cowin August 19, 2015 Page 2

For the reasons stated herein, the West Basin Board of Directors adopted a resolution encouraging MWD and the California Department of Water Resources to further consider the use of waterbag technologies as a tool to repair levee breaks and transport freshwater to Southern California. For your review, I have enclosed a copy of the resolution as adopted on July 27, 2015.

West Basin thanks you in advance for consideration of this technology. If you have any questions, please contact Rich Nagel at (310) 660-6210.

Sincerely,

Rich Nagel General Manager

Enclosure

#### **RESOLUTION NO. 7-13-1018**

#### A RESOLUTION OF THE BOARD OF DIRECTORS OF WEST BASIN MUNICIPAL WATER DISTRICT ENCOURAGING THE FURTHER CONSIDERATION OF WATERBAG TRANSPORT TECHNOLOGY

WHEREAS, the West Basin Municipal Water District is responsible for ensuring a safe and reliable supply of high-quality water to the communities we serve; and,

WHEREAS, West Basin seeks innovative ways to conserve water through its water recycling and conservation programs, while researching and analyzing alternative water supply projects, including and ocean-water desalination; and

WHEREAS, California is in the midst of a four year, "exceptional" drought crisis, with an uncertain water future, and is adapting to a new California way of life; and

WHEREAS, Southern California's water future is further complicated due to fluctuating regulatory restrictions, and the region's reliance on the delivery of imported water from the Sacramento-San Joaquin Delta which is vulnerable to future earthquakes causing catastrophic levee failure; and

WHEREAS, in response to the drought conditions, Governor Brown declared a statewide drought emergency, and issued an Executive Order requiring state agencies to save water, increase enforcement against water waste and invest in new technologies; and local water retailers to pursue conservation and new local water supplies; and

WHEREAS, technology is being developed to transport and deliver large volumes of water, long distances through the ocean, using large waterbags linked into long trains, possibly using solar or diesel powered pilotless drone technology; and WHEREAS, proponents of waterbag technology have identified a source of water being offered by the Humboldt Bay Municipal Water District at a shoreline location at which water could be transported to locations along the California coastline; and

WHEREAS, further consideration and successful demonstration of waterbag technology could advance waterbag transport technology in California and could be beneficial to the people in both Northern and Southern California.

**NOW, THEREFORE, BE IT RESOLVED,** that the Board of Directors of the West Basin Municipal Water District declares as follows:

- West Basin encourages Metropolitan Water District and the Department of Water Resources to further investigate the utilization of waterbag technology as a tool to repair levee breaks and transport freshwater to Southern California;
- 2. West Basin will transmit a copy of this resolution to Metropolitan Water District and the California Department of Water Resources to encourage further consideration of waterbag technology.

PASSED, APPROVED AND ADOPTED on \_

ATTEST:

Anton

Secretary (SEAL

From:	Doug Hoiles <hoiles@me.com></hoiles@me.com>
Sent:	Tuesday, October 20, 2015 8:21 AM
То:	BDCPcomments
Subject:	Comments on the Twin Tunnels Project

The problem is that California is a semi-arid state with insufficient clean water for all needs. Rebalancing the shortages does not solve that problem.

We need more fresh water. \$100 billion dollars (the likely real cost of the twin tunnels project) would buy a lot of desalinization and reprocessing of sewer water into potable water where needed. It would also buy a lot more storage of rain, but only if we get the rain.

Governor Brown would truly leave a fine legacy if he would lead the state into having much more fresh water. For the same money.

Doug Hoiles 10047 East Acampo Road Acampo, CA 95220 From: Sent: To: Subject: Mendoza, Tiffany Tuesday, October 20, 2015 7:52 AM BDCPcomments FW: Environmental Impact Statement Bay Delta Conservation Plan (BDCP)

From: Roderic Ward [mailto:roderic.ward@gmail.com]
Sent: Monday, October 19, 2015 6:22 PM
To: info@baydeltaconservationplan.com
Cc: Rod Ward; Bruce Moneymaker; Chuck Lenert; Bill Wells; John Laird
Subject: Environmental Impact Statement Bay Delta Conservation Plan (BDCP)

October 19, 2015

To:

Environmental Impact Statement Bay Delta Conservation Plan (BDCP) email: <u>info@BayDeltaConservationPlan.com</u> PO Box 1919 Sacramento CA, 95812

From: Roderic Ward, email: <u>roderic.ward@gmail.com</u>, phone 916-966-2688 7630 Tobia Way Fair Oaks, CA 95628

Tunnel comments extended to October 30, 2015 for the BDCP EIR:

1. The planned export of northern California fresh water is a massive mis-use of existing public northern California water assets.

2. This planned loss of fresh water will cause salinity intrusion damage to existing farming.

3. The economic cost of the loss of northern California water will ultimately exceed the the cost of desalination.

4. This plan has not been approved by the California voters or the EPA.

Thank you for your reading of this draft EIR/ EIS; please refer to my 6/6/2014 input.

Roderic Ward, California Boater and Taxpayer

copy to: John Laird, Bruce Moneymaker, Commodore Sacramento Yacht Club, Delta Chamber of Commerce, John Wells

From:	Marilyn Dilday <bsktsrgreat@yahoo.com></bsktsrgreat@yahoo.com>
Sent:	Monday, October 19, 2015 8:41 PM
То:	BDCPcomments
Subject:	Delta Tunnels

To Whom It May Concern,

I'm sure you have heard all of the reasons for NOT building these tunnels that will devastate the Delta. This letter is to add our names to those that so vehemently oppose this project.

With so many roads needing repairs, schools needing help, etc., I don't understand why building tunnels to destroy the countryside, farming, homes, jobs and life as many know it is so very important when it does not manufacture one drop of additional water. It just takes from one end of the state and deposits into another!

What will happen when we need water, is the south going to send it back?!!?!? We are already in a drought and water rationing. How can Governor Brown justify sending what little we have away?

Your consideration of this grave situation is greatly appreciated.

Marilyn Togninali, Lodi, CA Rosalie Togninali, Stockton, CA

From:	K Conde <condeman@msn.com></condeman@msn.com>
Sent:	Monday, October 19, 2015 7:56 PM
То:	BDCPcomments
Subject:	Bay Delta Conservation Plan

I am a concerned citizen who is strongly opposed to the construction of the "Delta Tunnels".

My concerns are:

How does the construction of these tunnels conserve water? What is being done to replace the water which will be forever lost and diverted? How will the loss to agriculture be determined and reimbursed? Do we really know what destruction to the delta and delta habitats will be done?

This is political folly!

K Conde

RECIRC1995.

From:

Sent: To: Subject: Earthjustice <action@earthjustice.org> on behalf of Cindy stein <info@earthjustice.org> Monday, October 19, 2015 9:20 PM BDCPcomments Oppose the Delta Tunnels/"California Water Fix" (Alternative 4A)

Oct 19, 2015

Bay Delta Conservation Plan CA

Dear Conservation Plan,

We must protect our water. It's a precious commodity. The impact that this tunnel could have is harmful in too many ways. Environmental, people's health and the economic repercussions. Please don't allow the Delta Tunnel to go forward.

I am writing to express my strong opposition to the Delta Tunnels Plan.

The deceptively named "California Water Fix" does not address the multitude of adverse environmental, public health, and economic impacts the proposed Delta tunnels project would cause. Further, the plan ignores alternatives that would save California tax- and ratepayers billions of dollars, while investing in jobs and local water sources that build sustainability, instead of severely damaging the Delta and Bay ecosystems.

I urge you not to permit the Delta Tunnels/California Water Fix (Alternative 4A) project to move forward.

Sincerely,

Mrs. Cindy stein 647 Flaming Star Ave Thousand Oaks, CA 91360-1522 cinfish65@yahoo.com From:

Sent: To: Subject: Earthjustice <action@earthjustice.org> on behalf of Michael Pollack <info@earthjustice.org> Monday, October 19, 2015 10:20 PM BDCPcomments Oppose the Delta Tunnels/"California Water Fix" (Alternative 4A)

Oct 20, 2015

Bay Delta Conservation Plan CA

Dear Conservation Plan,

Please do not forsake the wildlife. Healthy ecosystems are a priority for me and I hope you will act to protect them.

I am writing to express my strong opposition to the Delta Tunnels Plan.

The deceptively named "California Water Fix" does not address the multitude of adverse environmental, public health, and economic impacts the proposed Delta tunnels project would cause. Further, the plan ignores alternatives that would save California tax- and ratepayers billions of dollars, while investing in jobs and local water sources that build sustainability, instead of severely damaging the Delta and Bay ecosystems.

I urge you not to permit the Delta Tunnels/California Water Fix (Alternative 4A) project to move forward.

Sincerely,

Mr. Michael Pollack 10475 San Fernando Ave Cupertino, CA 95014-2834 m\_pollack@comcast.net

RECIRC1997.

From:

Sent: To: Subject: Earthjustice <action@earthjustice.org> on behalf of Karen Wilson <info@earthjustice.org> Tuesday, October 20, 2015 1:50 AM BDCPcomments Oppose the Delta Tunnels/"California Water Fix" (Alternative 4A)

Oct 20, 2015

Bay Delta Conservation Plan CA

Dear Conservation Plan,

Too much money for a project that will not accomplish goals. In fact, the damage it would cause to the Delta, disrupting many natural processes, is illegal under the Clean Water Act.

I am writing to express my strong opposition to the Delta Tunnels Plan.

The deceptively named "California Water Fix" does not address the multitude of adverse environmental, public health, and economic impacts the proposed Delta tunnels project would cause. Further, the plan ignores alternatives that would save California tax- and ratepayers billions of dollars, while investing in jobs and local water sources that build sustainability, instead of severely damaging the Delta and Bay ecosystems.

I urge you not to permit the Delta Tunnels/California Water Fix (Alternative 4A) project to move forward.

Sincerely,

Ms. Karen Wilson 3505 Sonoma Blvd # 320 Vallejo, CA 94590-3197 karenwilson19@hotmail.com From:

Sent: To: Subject: Earthjustice <action@earthjustice.org> on behalf of Steven Gaylord <info@earthjustice.org> Monday, October 19, 2015 8:50 PM BDCPcomments Oppose the Delta Tunnels/"California Water Fix" (Alternative 4A)

Oct 19, 2015

Bay Delta Conservation Plan CA

Dear Conservation Plan,

For four years extremely toxic Lithium salts, aluminum, barium, strontium, and the extremely toxic Ethylene Dibromide (EDB), known desiccants have been heavily sprayed over thousands of square miles of the Eastern Pacific.

Several EDB "dry" fogs have come into southern CA overnight. The kill freshly formed flowers (such as lilacs and hydrangeas) and drain the plant's chlorophyll.

It's not about combatting global warming, it's a Zionist Rothschild Khazarian Mafia (RKM) evil malevolent attack on humanity.

I am writing to express my strong opposition to the Delta Tunnels Plan.

The deceptively named "California Water Fix" does not address the multitude of adverse environmental, public health, and economic impacts the proposed Delta tunnels project would cause. Further, the plan ignores alternatives that would save California tax- and ratepayers billions of dollars, while investing in jobs and local water sources that build sustainability, instead of severely damaging the Delta and Bay ecosystems.

I urge you not to permit the Delta Tunnels/California Water Fix (Alternative 4A) project to move forward.

Sincerely,

Mr. Steven Gaylord 2588 W Main St Barstow, CA 92311-3676 snakebellysg@gmail.com

**RECIRC1999.** 

ALISA J. STEPHENS 8267 South Lake Circle Granite Bay, CA 95746 Telephone: (916) 791-2251 Fax: (916) 791-3018 alisastephens@hotmail.com

October 15, 2015

OCT 2 0 2015

BDCP/WaterFix Comments P.O. Box 1919 Sacramento, CA 95812

Re: Opposition to the Delta Tunnels/California Water Fix (Alternative 4A)

To Whom It May Concern:

The purpose of this letter is to state my strong opposition to the Delta tunnels plan. I am a fifth generation Californian, and over the years have become very concerned about preserving our natural resources. The Delta tunnels would further destroy the fish and bird habitats of the Delta. Low water, warmer water and salt water intrusion have already damaged these and other species of the Delta. The tunnels plan would violate Section 7 of the Endangered Species Act. In addition, salt water intrusion will damage existing farms in the Delta.

Diverting Delta water for purposes of irrigating farms in the Southern San Joaquin Valley is a bad plan. This land should never have been planted in crops and orchards for which there was not sufficient ground water, and should be used for more sustainable uses. As you are aware, almonds are a water-thirsty crop and should not have been planted in that region.

Reclamation and DWR should prepare a new Draft EIR/EIS that will include alternatives that reduce water exports and increase Delta flows for consideration by the public and decision-makers. Such alternatives should comply with the Delta Reform Act and the federal Endangered Species and Clean Water Acts.

Very truly yours,

Actifican ISA J. STEPHENS



OCT 2 0 2015

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BDCP/WaterFix Comments P.O. Box 1919 Sacramento, CA 95812

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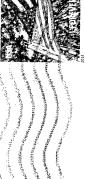
October 11,2015

RECIRC2000.

Dear Lovernor Jerry Brown; you will not build those tunnels and devostate the economy of my home, RECEIVED OCT 2 0 2015

Sincerely Dellie Eckel





HY Lomment BDCP/Wate Jul PO. Box 1919 Saeramente, ( 95812

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