

From: "John C. Hooper"

Date: Thursday, February 18, 2016 8:40 PM

To: Cody Aichele

Subject: Testimony re agenda item #11 BCDC hearing of 2/18/16 - submitted as requested by staff

Testimony before the BCDC on February 18, 2016

John Hooper, representing Protect Our water

Members of the BCDC and Staff:

Thank you for this opportunity to appear today before an organization with both a core mission and a long, proud history of protecting and enhancing San Francisco Bay.

My name is John Hooper. I am a resident of San Francisco: I currently serve as Vice Chair of the California Tahoe Conservancy and much of your good work has a familiar ring. Today I am associating myself with a group called Protect Our Water. We started meeting last year because it had become clear that most local citizens, including decision-makers, had no idea of the threat to the future health of our Bay posed by the Delta water conveyance tunnels.

Part of the reason for public ignorance or confusion about the "Tunnels" proposal stems from the state's reassuring presentation on the so-called California WaterFix. It glosses over a whole array of immense problems and questions. These concerns need to be addressed before any responsible public body can legitimately make findings to support the advisability of this highly experimental plan.

The Brown Administration's proposed construction is being promoted relying on breathtakingly wild assertions. In his recent State of the

State speech, Governor Brown used the euphemism of a "reliable conveyance" to describe the tunnels - one that uses gravity to be "more natural"... with "no one getting more water and no one getting less water". The video imbedded in the Governor's address promises: *"No more damage to ecosystems" "Natural - replacing unnatural"*

Bland, pleasing and, unfortunately, entirely false assertions! In reality, the preponderance of scientific evidence suggests that we now face the greatest threat ever to the future of San Francisco Bay. It comes directly from Governor Brown's proposal - to export water from the Sacramento River north of the Delta through two 30 mile long tunnels, each 40 feet in diameter, at a projected cost to Californians of up to \$67 billion dollars and with an estimated construction time of 15 to 20 years.

In a report released just yesterday by **San Francisco Baykeeper**, the following bleak finding, contradicting the Administration's public relation's campaign, is reached. I understand this report has been included in Commissioners' reading packets today:

"By implementing three new intake sites on the southeast bank of the Sacramento River, water exported from the Delta to San Joaquin Valley and southern California will increase by 20%. However, **California WaterFix jeopardizes meeting "coequal goals" for conserving the San Francisco Bay-Delta Estuary and providing a stable water source for California** through further diversion of freshwater in the Delta, resulting in a cascade of downstream effects for the entire San Francisco Bay ecosystem."

Just last month, the Delta Independent Science Board's review of the draft EIR of the WaterFix said it: "Fails to adequately inform weighty decisions about public policy."

And only last weekend, Sally Stephens, writing in the San Francisco Examiner, reported that:

"The two tunnels, if operated at full capacity (15,000 cfs) could draw the entire flow out of the (Sacramento) River during the late summer and fall months.....The tunnels don't add one drop of water to the state's water systems. Fixing leaks in the state's water distribution systems - both in cities and rural aqueducts - could add enough water to the state system to supply Los Angeles for a year. We may not need the tunnels at all."

At the very least, Commissioners, there are critically important unanswered questions which we - the public - trust you to find answers to before voting on any aspect of this controversial plan under your jurisdiction.

After all, we are talking about the potential destruction of the largest estuary on the west coast of the Americas!

Thank you!

Good afternoon Commissioners. My name is Dick Allen and I live in San Francisco. In the year 2000 we formed the **Lake Merced Task Force** and I served as Co-Chair of the Water Committee.

The water committee was able to help save **Lake Merced** by stopping the over drafting of the **Westside Basin Aquifer**, which stretches from Golden Gate Park to the SF Airport.

I've also been a member of the San Francisco Chamber of Commerce Board of Directors. Good water management is good for our communities and good for business.

In order to better understand Governor Brown's abrupt conversion from the **Bay Delta Conservation Plan** to the **WaterFix** plan, I've been attending a number of public Bay/Delta Sacramento River water meetings, including the all day **CAWATER 2.0** water panel's conference in Sacramento last month.

The **WaterFix** plan clearly presents a new unpublicized threat to our SF Bay, the Delta and Estuaries. In reality, California **WaterFix** is a water **Mismanagement** plan.

The destructive capabilities that the massive twin tunnels can have on the Bay/Delta ecology and habitat will be devastating.

After six years of government water agency studies and meetings, WaterFix has already cost 240 million dollars. I don't believe the State has yet answered some of the most basic questions—questions which your own staff raised seven years ago.

Most basic are the following:

(1) What will be the negative impacts of the diverted Sacramento River water flows on the Delta and SF Bay?

(2) With two Federal agencies and a number of State water agencies involved in the **WaterFix**

program, the question is, ***Who's In Charge?*** Whose hand will be on the valve that sends water south?

(3) What will be your strategy if Federal and State Agencies just ignore BCDC's permitting requirements and do **"as they see fit"**?

I would like to call your attention to the six page memorandum written by your own **Coastal Program Analyst, Jessica Hamburger (Davenport), dated May 2009**. Here are two of the many solid recommendations made:

(1) Marsh Plan: "There should be no increase in diversions by State or Federal Governments that would cause violation of existing Delta Decision or Basin Plan standards..."

(2) "The EIR should include analysis of the fresh water flow needs of the entire estuary, not just the Delta."

Moreover, in July 2014 your **Executive Director Mr. Lawrence Goldzband** released a memorandum referring to the Bay Delta Conservation Plan Draft EIR and Impact Statement that included these points:

(1) "The Delta Stewardship Council's Independent Science Board noted that the Bay Delta Conservation Plan did not evaluate areas downstream of the Delta even though the National Research Council's scientific review specifically stated that this area should be included."

(2) "The analysis should establish clear standards and thresholds of significance, in consultation with scientific experts."

Commissioners, I urge you not to vote on a permit for the Twin Tunnels until the Twin Tunnels anticipated impacts on the bay are known.

It would be very beneficial if your Commission would provide us with updates on these two memorandums and your Commissions planned next steps.

Thank you for your time.

Dick Allen

Founding member, Lake Merced Task Force

MEMORANDUM

TO: Protect Our Water

FROM: San Francisco Baykeeper

DATE: February 17, 2016

RE: California WaterFix Threatens Integrity of San Francisco Bay-Delta Estuary

Summary

The California WaterFix, a project to export water from the northern Sacramento-San Joaquin Delta to facilities in the south Delta through two 30-mile long underground tunnels, is currently estimated to cost Californians up to \$67 billion. Touted as a potential drought “solution”, its 15 year construction period followed by unknown years/extent of operation endangers the already fragile San Francisco Bay-Delta Estuary.

Background

The Sacramento-San Joaquin Delta is the epicenter of California’s water supply, providing both drinking water and agricultural irrigation. The California WaterFix Project (“Alternative 4A” of the Bay-Delta Conservation Plan) purports to upgrade currently operating “reverse flow” pumps that create unnatural Delta flows and divert fish from their natural migrations, while mitigating dwindling water reserves in southern California during persistent drought conditions. By implementing three new intake sites on the southeast bank of the Sacramento River, water exported from the Delta to San Joaquin Valley and southern California will increase by 20%. However, **California WaterFix jeopardizes meeting “coequal goals” for conserving the San Francisco Bay-Delta Estuary and providing a stable water source for California** through further diversion of freshwater in the Delta, resulting in a cascade of downstream effects for the entire San Francisco Bay ecosystem.

Water diversions via California WaterFix will reduce freshwater flows through the Delta, thereby decreasing water quality. Abstraction of higher quality water from above the Delta, rather than in the South Delta, closer to the San Joaquin River, ensures less freshwater is circulated through the Delta, which increases water residence time and temperature, while decreasing sediment delivery. Sediment loads (i.e., turbidity) to the Bay have decreased by 35% since 1998 ^[1,2], increasing light penetration and potential for eutrophication events^[2,3,4,5]. Further, decreased turbidity facilitates the spread of invasive macrophytes ^[6] that replace habitats, limit refugia, and increase predation on young fishes ^[7,8].

Reduced water flows increase contaminant concentration (e.g., selenium, mercury, pesticides) ^[e.g. 9,10,11] as well as the frequency and magnitude of harmful algal blooms (HABs) that emit toxins (e.g., microcystin) ^[6]. While increased salinity in the Bay can limit HABs^[6], associated toxins are unaffected and can be transported westward via currents^[12]. For example, Microcystin, which is toxic to humans and wildlife ^[12], is regularly detected in the Delta and San Francisco Bay above acceptable levels and is present in a high proportion of Bay mussels ^[13],

despite originating in the Delta. A 9% decrease in sediment loads to the Delta could increase the frequency and magnitude of HABs as well as the availability of sediment to maintain wetlands^[5]. Because both contaminants and HAB toxins can bioaccumulate in fish and invertebrates, HABs and contaminants cause declines in pelagic fish; even at low concentrations, HABs can affect food web processes via biomagnification^[14].

Threatened fish species will be further imperiled by changes in Delta water flow. The effects of changes in water quality on native fish is well-documented, particularly as they pertain to reduced water flow. For example, green and white sturgeon^[15] rely on high flow rates, especially at spawning sites^[16]. Decreased flow rates enhance selenium concentrations in the Delta, where selenium bioaccumulation is already high in sturgeon prey items^[17,18], such that there is a 10% mortality rate in sturgeon hatchlings^[19].

Declines in Delta and Longfin smelt populations have been attributed to changes in water exports that increased salinity, turbidity, selenium, and Microcystis HABs^[20,21,22,23,24,25,26,27]. As a result, smelt food supplies, productivity, abundance, growth and spawning habitat were greatly reduced^[21,22, 24, 26,28,29, 30,31,32,33,34,35,36,37,38]. Due to their short life spans (up to two years)^[40], smelt populations exhibit legacy effects from previous years' flows, such that a single wet year cannot adequately compensate for several subsequent dry years, and dry years that coincide with already small populations can cause the loss of an entire cohort or population^[24]. Thus, habitat restoration alone does not compensate for water flow^[33]. Further, smelt entrainment increases with magnitude of "reverse flows" from Delta intake pumps^[39]. Once amongst the most abundant forage fish in the San Francisco Bay-Delta Estuary, the severe declines in smelt populations are *strongly* indicative of the degradation of food webs in this estuary^[32, 37, 38, 40].

Central Valley salmonid species, particularly Fall-run Chinook salmon species, support commercial and sport fishing in California. The stability of San Francisco Bay-Delta Estuary food webs is integral to the viability of this fishery and its degradation/extinction will incur critical socioeconomic ramifications. As with smelt, water deliveries and turbidity mediate Chinook salmon populations^[41,42,43]. Current through-Delta survival rates of Chinook salmon are so low that populations are eliminated within a few generations^[41,42,44]. Salmonid species exhibit relatively inelastic life histories, preventing their populations from adjusting to rapidly changing environmental conditions^[44,45,46]. Synergistic negative effects on early life stages, in particular, temporarily and permanently influence later life history stages^[42, 43, 46, 47]. In addition to reduced flow and turbidity^[7,8,48,49], juvenile salmonids are impacted by invasive macrophytes that facilitate predation and HABs^[6] as well as entrainment^[21,49].

Winter-run salmon are especially endangered^[51], with higher mortality across all life stages than other Chinook salmon populations^[52,53]. Current drought conditions have enabled unsustainable water exports, resulting in increased water temperatures that jeopardize both winter-run and fall-run Chinook salmon^[53]. Delayed spawning due to adverse environmental conditions increases hybridization among runs, further threatening Central Valley Chinook salmon populations^[38,54].

During the current drought, the State Water Resources Control Board and fisheries agencies have waived Delta water quality standards to compensate for water shortages. These actions have resulted in lethal water temperatures for many native fishes (especially at early life stages), and increased abundances of non-native fishes. Declines in native fish species can affect productivity and interannual variability among mammals, waterfowl, and predatory fish species from San Francisco Bay to the Gulf of the Farallones ^[55,56].

Poor water quality and threats to Bay-Delta Estuary ecology will be exacerbated by imminent environmental change. Climate change is expected to induce prolonged drought conditions with low freshwater flows ^[57], while reducing 20-40% of snowpack water storage by 2050 and 25% of Delta water exports by 2100 ^[58]. Consequently, overall water quality will decrease due to increases in the magnitude and frequency of HABS, water residence times within the Bay, contaminant loads, intrusion of salt into Delta water supplies, and invasive vegetation ^[58, 59,60,61]. Further, sea level rise is expected to increase up to 61 inches by 2100 ^[62], which will ultimately weaken levees and other coastal infrastructure, increase salt intrusion, reduce wetland resilience to erosion, and disrupt the freshwater-salt water balance of the Estuary ^[63, 64]. While the cumulative impacts of climate change and the California WaterFix Project will critically upset Bay-Delta dynamics, model outcomes of these scenarios are qualitative, simplified, and overly optimistic. Thus, it is important to clarify how California WaterFix will further alter the rapidly changing San Francisco Bay-Delta ecosystem.

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