

## FRIENDS OF THE NORTH FORK

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Stephen Moore, Vice Chair and  
Surface Water Wastewater Augmentation Lead  
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California State Water Resources Control Board  
1001 I Street, 24<sup>th</sup> Floor  
Sacramento, California 95814

Re: Water Augmentation Using Recycled Water Regulations  
Comment—Proposed SWA Regulations

Dear Vice Chair Moore:

The legislature directed regulations to augment surface potable water reservoirs with treated municipal sewage effluent from publicly owned treatment works (POTWs).

The authors of the two bills did not order deregulation of drinking water as proposed in overly permissive seriously incomplete indirect potable reuse (IPR) proposal the State Water Resources Control Board (Board) has released for comment.

Friends of the North Fork (Friends) formed 2004-2005 to protect the beauty and renewable natural resources of the North Fork American River. It's ironic and a measure of the Board's persistent inability to involve an informed public in POTW regulation, that our group opposes the Board's process:

- To adopt without an EIR in 2009 California's Water Recycling Policy that was supported by a self-appointed private stakeholder group that excluded Friends from participating in its meetings, and
- To advance these regulations from narrow groups of potable water experts who meet largely without the public present.

Friends is not opposed to the growing trends to increase wastewater reuse. But Friends has grave concerns about accelerating wastewater reuse in a manner that could set this trend back due to identified but unaddressed concerns about this proposal:

- Disregards public safety.
- Disregards the work of concerned scientists,

- Is proposed without disclosure of the wide ranging health, environmental and cost impacts of wastewater reuse, and
- Which is based on goals to increase the volume of reuse based on an old and incomplete voluntary survey of water reuse.

**All present and future expert meetings must be open to the public.**

We are concerned that the regulations are written not by the Board, but by an expert committee limited and narrow in membership and in a manner that may adequately give us and the Board the information we need to know what we're doing and where we're going. In reconvening experts as at present, we are concerned that they might focus on defending mistaken assumptions. The Board's use of stakeholders and experts that have been meeting during the last ten years must be corrected and so it is clear that the Board is directly authoring potable use regulations.

**The regulation proposes to reverse the history of sanitation without addressing it**

This proposal is historic in many ways. Community and personal hygiene have over hundreds of years progressed and are still progressing around the world to separate wastewater from drinking water. This includes limiting development in watersheds that supply drinking water.

These regulations propose to reverse the momentum of these histories. Wastewater and established drinking water reservoirs would now be combined. This regulation faces a parallel serious challenge in changing the attitude and regulation of POTWs and water suppliers. Joined by a regulation-forced engagement between sources and suppliers, the surface water direct potable would be the direct potable forced marriage.

Reuse advocates say that we already recycle in surface water by discharging treated wastewater into river water that is drawn from downstream for water supplies. Friends became aware of the regulatory gaps--the seeming no-person's regulatory land without regulation between POTW discharge and water supplier intakes. The Colfax sewer and our regional water board have no demonstrated interest or stated concern about potable use that takes place from a short distance below where the discharge ultimately enters the North Fork after first entering a ravine that would usually be dry without the discharge. Further down river our local water agency has no stated concern about Colfax discharges. We haven't asked the City of Sacramento about their drinking water intake.

These problems and the 1999 odors where the Colfax discharge enters the river, got Friends involved in efforts to clean up the sewer plant discharges using the NPDES five-year renewal process.

The Colfax process also caused us to see flaws in the State Board's proposed Water Recycling Policy adopted in 2009. That was when the Board took two old resolutions, numbers from a voluntary recycled water survey, and recommendations from a self-appointed stakeholder group, to create the policy and water reuse goals.

Each of these problems is consistent with the proposal's failure to address, explain and justify in the Initial Statement of Reasons the primary effect of the regulation which is to reverse the hundreds of years of sanitation history it has taken to separate wastewater and drinking water.

**The surface water regulations are not uniform indirect potable standards as required**

State law requires uniform statewide water recycling regulations.

The State Department of Public Health shall establish uniform statewide recycling criteria for each varying type of use of recycled water where the use involves the protection of public health. Water Code section 13521.

This is now the State Water Board's responsibility.

Uniform is defined:

"Uniform water recycling criteria" has the same meaning as in Section 13521. Water Code section 13561(e).

The proposed regulations are not uniform. The language permits proposed programs that could vary from the proposed regulations. Indeed, it appears to permit variation from every part of the proposal.

A statute is general and uniform in its operation when it operates equally upon all persons who are brought within the relations and circumstances provided for. Black's Law Dictionary

**The experts assembled did not find and use experience and input that is essential for the task given to them**

The hallmark of this proposal is the use of experts with narrow and inadequate ranges and areas of expertise to the point of incompleteness of effort. This may in part result from the fact that California does not have a State version of the Federal Advisory Committee Act. Further, the State and Regional water boards have long relied on stakeholder groups that these boards assemble from which the public is largely absent. Friends doesn't see outreach and offered public training or even individual NPDES permit public meetings.

Regardless of any cause, the experts were allowed to gather information beyond the experience of its membership, but, according to its reports and the Initial Statement of Reasons, it did not do so. This is so for each point addressed in this comment.

For example, the panel was specifically authorized to involve USEPA. The issues from the USEPA lab in Las Vegas are well-described in the Christian G. Daughton publications: <https://sites.google.com/site/daughton/home>

Dr. Daughton's schematics show the how and what of health and environmental impacts, personal care produce contamination, and so on, but one component missing from development of the regulations.

**The Division of Drinking Water mistakenly proposes to not disclose the regulation's environmental impacts**

Reuse advocates seem to believe that recycled wastewater is newly minted. However, existing water discharged from sewer plants has many environmental, water quality, water rights and other purposes.

An example is the mistakenly argument that wastewater discharged into the ocean is wasted. This is biologically akin to saying that river water flowing into the sea is wasted when it could instead be captured in dams.

This project falls under exceptions to the exemption to the cited CEQA exemption.

**The Federal Clean Water Act Industrial Pretreatment Program needs to be enforced throughout California and Pretreatment audits must be considered as part of allowing surface water augmentation, or, "I don't see anything here"**

The Federal Clean Water Act Industrial Pretreatment Program (Pretreatment) regulates discharges into sewer systems. Pretreatment programs are mandatory for Publicly Operated Treatment Works (POTWs) that discharge over five million gallons per day (mgd). The proposed regulations require Pretreatment programs for sources of wastewater used for surface water augmentation which is as it should be.

These regulations need to mandate that for each five-year period immediately prior to beginning or renewing surface water augmentation, the compliance investigation report audits must demonstrate that the program is in operation as approved and that it is effective. Additionally, Pretreatment programs approved only with the direction to implement a program pursuant to federal pretreatment regulation should not be eligible to be a potable water source because what the program is has not been defined by identifying the specific industrial users (Categorical and Significant) that are regulated, the local limits to prevent interference and pass through and so on.

From Friends experience in Region 5, we called attention to City of Colfax audit that identifies a number of major deficiencies in the only industry the city says that needs one of its industrial sewer discharge permits. This was followed by the enforcement officer saying, "I don't see anything here." This is understood to mean that none of the violations identified in the audits were recommended for enforcement action in the audits.

Pretreatment adequacy might be a problem throughout Region 5, and if so this could be an obstacle to approving reservoir augmentation permits. The one city permittee in Colfax had interference and upset for 90 days out of the first six months of 2015 leading to no discharge from the sewer plant during that period. This was not considered to be a violation of the Colfax

NPDES permit, apparently because the operation includes a 75-foot earthen sewer dam where discharges are put when the treatment process is not functioning.

Friends couldn't say it any better than, "We don't see any Pretreatment program here." Where we have looked at an operation required to have one because it discharges over 5 mgd (e.g. City of Roseville), they don't acknowledge having one and one person there said they aren't concerned about industrial discharges as long as they meet discharge requirements the point of discharge.

I have significant exposure to Pretreatment. I learned the basics of water pollution law in law school in 1969 when I studied the amendments of that time to the California Porter Cologne Water Quality Act. In 1982, I testified to Congress for the Sierra Club on the reauthorization of the Clean Water Act with a focus on the Pretreatment Program.

Then I commented on the two-volume draft of the New York City Industrial Pretreatment Program for its dozen POTWs and followed development of the program. The problem was ocean dumping at the sludge disposal site, a vast lifeless sea bed. When the NPDES permit for Manhattan's North River Treatment Plant came up for renewal I was the lead challenging the inadequacy of the implementation of the Pretreatment Program and that it should not have been approved. The challenge was unsuccessful. An audit bore out our concerns.

Pretreatment is the lynch pin of many Clean Water Act, Porter Cologne and safe drinking water laws and programs from biosolids to potable reuse.

USEPA delegated the Pretreatment program to the State of California in a c. 1989 memorandum of understanding.

**The inattention and vagueness regarding unregulated chemicals and contaminants must be dispelled with public lists of results of testing source water for all constituents of concern**

Source water must be tested for a complete listing and accounting of everything in the source water with the results made public by the water agencies. At the c. 2007 State Bar Environmental Law Conference, water agencies present stated that they were testing for everything in their water for their own purposes.

The Board needs to annually update a list of constituents that have MCLs and NLs here and abroad, and a list of constituents that do not have MCLs and NLs. The Board needs to recommend and support development of MCLs and NLs.

Given that one constituent of concern group assembled by the Board limited key aspects of its work to constituents that have established protocols, the Board needs to annually list those constituents with protocols, those for which protocols are being developed, and those that the Board recommends and supports for development as early as possible.

State, USEPA and other including international programs and efforts to create MCLs need to be identified.

The Board needs a state plan to address the identification and management of these constituents, chemicals, compounds, ARB and ARG. and so on.

There are many unregulated constituents in drinking water:

<https://www.scientificamerican.com/article/unregulated-chemicals-found-in-drinking-water/>

<http://www.nytimes.com/2009/12/17/us/17water.html>

### **The use and limits of the many indicators in the regulations must be addressed**

The use of indicators and surrogates permeate the regulation.

An appendix, table or other appropriate means needs to accompany the regulations listing each indicator and surrogate in the regulation and the limitations, discussion of the concerns about the use of specific indicators/surrogates and general concerns about them, and the alternatives to indicators and surrogates. This must be considered in the development of the regulations.

The use of indicators is widely recognized to be inadequate.

...Several reports indicate that only a fraction of waterborne disease incidences are ever reported; Craun suggested in 1991 that fewer than half of waterborne outbreaks occurring in the United States are investigated and reported (32). Nonpotable water, such as seawater, is also important; enteric viruses are able to persist for extended periods in the marine environment, which increases the probability of human exposure by recreational contact and accumulation in shellfish (102). Because shellfish are filter feeders, the concentration of viruses accumulated in their edible tissues may be much higher than that in the surrounding water (1). Consumption of shellfish harvested from enteric virus-contaminated waters often has led to human outbreaks (17, 18, 102).

In many countries, including the United States, regulators are still relying solely on bacterial indicators such as enterococci and fecal coliform and total coliform bacteria to assess the microbiological quality of water; however, bacterial indicators do not always reflect the risk from many important pathogens, such as viruses, stressed pathogenic bacteria (viable but nonculturable), and protozoa (54, 79, 118). Infectious enteric viruses have been isolated from aquatic environments that are in compliance with bacterial indicator standards, and there have been several virus-related outbreaks linked to ingestion of waters that met fecal coliform standards (32, 106). One of the major drawbacks in using fecal coliform bacteria and other traditional indicators (e.g., enterococci) is that these indicators may be found in both human and animal feces and naturally in soils.

Furthermore, they may regrow in the environment after being excreted from their host (148).

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1197419>

**The regulations must not be approved without comprehensive international review of up to date practices and science on Antibiotic Resistant Bacteria and Genes**

Antibiotic resistant bacteria are known as ARB. Antibiotic resistant genes, ARG.

In an overlapping time frame, the European Union Commission Joint Research Center released in February 2017 a final technical report titled “Minimum quality requirements for water reuse in agricultural irrigation and aquifer recharge,” version 3.3:

<https://circabc.europa.eu/w/browse/c5da4b87-9ced-44d0-af8c-02a472fe984f>

June through July 10, 2017, the Scientific Committee on Health, Environmental and Emerging Risks (SCHEER) released its 24-page scientific advice on the February report, “Proposed EU minimum quality requirements for water reuse in agricultural irrigation and aquifer recharge”

[http://ec.europa.eu/health/scientific\\_committees/updates](http://ec.europa.eu/health/scientific_committees/updates)

The SCHEER report should be required reading for anyone involved in potable reuse. It documents issues and factors that demonstrate the need for regulations and reinforces our support for immediate further work on the regulations.

Yet, the SCHEER report has a different emphasis and relies on more recent research than referenced in the Potable Experts report. The SCHEER scientists conclude, “Therefore, “the risks of transmission of antibiotic resistance from the environment to humans must be managed under the precautionary principle, because it may be too late to act if we wait until we have concrete risk values” (Manaia, 2017).”

Biofilm, which is one of the sources of antibiotic organisms and genetic fragments inside pipes, is not a distant issue, for example, this Newport Beach/Orange County study:  
<http://foresternetwork.com/daily/water/stormwater-drainage/regrowth-of-enterococci-fecal-coliform-in-biofilm/>

The potable experts assembled by the Board compared potable recycled water to water in existing sources of drinking water and estimated that the treatment process would mean that “...finished potable water is likely to reduce ARB and ARG concentrations in recycled water to levels well below those found in Conventional drinking water. Expert Report page 185. This is a philosophical statement.

The SCHEER report says we should be more guarded. But so do the Potable Experts in their recommendations for ARB and ARG that (1) research is needed on ARB and ARG risk to humans, (2) for standardized tests for ARB and/or ARG concentrations in treatment processes are needed, and (3) characterization and evaluation of ARB and ARG removal using advanced water treatment processes needs to be quantitatively determined. Expert Report page 186

**Walkerton, Canada E.coli strain 517:H7 dangerous outbreak and Flint criminal prosecutions for saying water is good when it is known otherwise**

C. 2000 a dangerous form of E.coli entered the Walkerton drinking water system from a well known to be contaminated and problematic. Many were sickened and a number of people died, and there may be long term health impacts. Ultimately the water supply system had to be replaced. Health and system replacement costs are potential cost factors that the Board needs to identify, quantify, guard against and, ultimately, pay for.

Walkerton water system officials knowingly falsely insisted that the water was safe and were prosecuted. There may be no end in sight to the Flint Michigan criminal prosecutions.

Where is the line between the water boards, water sources and water suppliers saying or implying in these regulations and in this regulatory process that the augmented drinking water would be safe? What is this line when these regulations are issued without attention to identified potential hazards to the public and to the environment? This should be addressed.

A recent enactment that I think was in a budget bill dealt with waiving liability for water suppliers, and this might have been about recycled water. This and other liability issues of water sources and suppliers needs to be addressed, including who is responsible is there is a problem.

**It's essential to extend the comment deadline so that public and the Board can get involved**

We are volunteers and have not had time her to address a number of our concerns. If the Board wants informed public input, in addition to opening up expert meetings to the public, it needs to extend the comment period. Friends, the only public NGO among the couple of reuse speakers at the September 7 hearing, asked for 10 minutes on our comment form, but comments were limited to three minutes and an extension for one point.

It's time, and there is no better issue than these regulations for the Board to organize public groups and citizens for meetings. In this more than most other issues, the public requires the same kind of participation in stakeholder groups and public meetings that dischargers and their consultants regularly have.

Yours truly,

/S/

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Cc:  
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Little Hoover Commission

