



NSCARP Final EIR Comments
Mr. David Cuneo
Senior Environmental Specialist
Sonoma County Water Agency
404 Aviation Blvd.
Santa Rosa, CA 95403

RE: North Sonoma County Agricultural Reuse Project FEIR Comments

Dear Mr. Cuneo,

I am writing these comments on behalf of Russian Riverkeeper and our over 1400 members who fish, swim and obtain drinking water from the Russian River or adjacent groundwater and are gravely concerned about the North Sonoma County Agricultural Reuse Project (NSCARP). I am also submitting these comments focused on potential NSCARP impacts on our Endangered Species Act (ESA) listed fish on behalf of the Clean Water Coalition of Northern Sonoma County (CWCNSC).

I am disappointed to see that almost all our comments regarding potential project impacts to ESA listed Coho and Chinook salmon and Steelhead Trout were dismissed with no substantive information to the contrary or ignored completely. The NSCARP FEIR in particular dismissed all negative project impacts regarding NSCARP wastewater by claiming that no exposure of the projects tertiary treated wastewater to ESA listed fish. In addition the FEIR omits critically significant information contained in the Russian River Biological Opinion regarding the status and recovery plans for the ESA listed fish. I will illustrate in my comments and references to qualified experts that ESA listed fish require high water quality that is low in pollution, that normal NSCARP operation will expose the listed fish to increased pollutant loads and that the EIR omits critical information and fails to assess all impacts or provide adequate mitigation as required by law.

1. Significant New Impact: Use of NSCARP wastewater for frost protection will contaminate habitat for ESA listed fish and cause impacts not studied in the NSCARP DEIR or FEIR.

In the letter prepared for CWCNSC, Gus Yates, hydrologist, states that, "If recycled water is used for frost protection, there will be discharges of recycled water runoff along most of the length of Dry Creek and the Russian River where they cross the proposed NSCARP service area" (Yates, 2009). Three ESA listed species of Salmonids are present in the Russian River, Coho and Chinook salmon and Steelhead Trout and all three exist throughout the NSCARP project area according to the NSCARP FEIR discussion for Impact Bio-6 on page 3.4-44. This will impact ESA listed fish during spring when streamflows can be low and dilution is reduced and during the sensitive juvenile phase of development.

The introduction of NSCARP wastewater to Dry Creek, previously free of municipal wastewater discharge, will impact water quality for ESA listed Coho and Steelhead directly and indirectly through

aquatic habitat degradation according to the letter from Dr Teh, Fish Toxicologist at UC Davis (Teh, 2009)(attached). Additionally wastewater entering the Russian River in Alexander Valley or Russian River Valley would constitute a new widely dispersed discharge of waste and the potential effects of Steelhead has not been studied in the NSCARP FEIR

As we commented in the DEIR (NSCARP DEIR Comment V-10), the use of NSCARP wastewater for frost protection would cause discharges to surface waters and groundwater. In the response to comments we were referred to NSCARP FEIR Master Response 5 & 7 and J-1 none of which presented substantive information to evaluate this issue. The FEIR refuses to acknowledge any potential water quality issues resulting from overhead sprinkler frost control and referred us to NSCARP FEIR Master Response 7 and Response J-1 that discuss “user agreements” but offers no substantive discussion regarding the use of NSCARP wastewater for frost control. The purpose of frost control is not irrigation but crop protection and so agronomic rates do not apply. In fact, frost control uses huge quantities of water.

At the April 7th, 2009 Frost Control Workshop at the State Water Resources Control Board Glenn McGourty, University of California Cooperative Extension, Division of Agriculture and Natural Resources speaking as the vineyard irrigation expert told the audience that frost control requires “serious water...50gpm/acre” (McGourty, UCD, 2009). Further Mr. McGourty suggested to the audience that “spraying copper (is helpful)...even though it is extremely toxic to fish” (McGourty, 2009), so we have confirmation that frost control will be beyond what the soil can take. At the same workshop Ms Pam Jeanne, Deputy Chief Engineer for Sonoma County Water Agency, the proponent of NSCARP, stated that the use of recycled wastewater via projects like NSCARP is a solution to lack of water for frost control (Jeanne, SCWA, 2009). At the same workshop Sean White, Russian River Flood Control District and Laurel Marcus, California Land Stewardship Institute both stated they are going to implement wastewater storage projects for use on vineyard frost control, this is an unidentified cumulative impact with multiple projects using wastewater for frost control.

2. Significant New Impact: Use of NSCARP wastewater for vineyard irrigation will contaminate habitat for ESA listed fish and cause impacts that were not studied in the NSCARP FEIR

According to the Yates hydrology letter referenced above vineyard irrigation with NSCARP wastewater will lead to contamination of surface water, “constant seepage from groundwater into streams—without the seasonal reversal that occurs under existing conditions—creates a new pathway for chronic contamination of surface waterways by pollutants contained in recycled water” (Yates, 2009). This is significant new information that was not analyzed in the NSCARP DEIR and treated with assertions and no substantive evidence to the contrary in the NSCARP FEIR with a simple statement, “salmon would not come into contact with recycled water from project under normal operating conditions” (NSCARP FEIR 4-19). Contamination of ESA listed fish habitat is a significant and substantial adverse impact since vineyards that are identified for irrigation with NSCARP wastewater in the DEIR are located along the length of Dry Creek, where ESA listed Coho and Steelhead juveniles are present during the entire summer (Russian River Biological Opinion (RRBO), September 2008) when flows and dilution is low. According to the Dr. Teh letter, “The cumulative impacts of contaminants to key organisms and to food web species in the environment or through contaminant-induced changes in nutrient and oxygen dynamics will significantly alter the ecosystem function” and further states that, “indirect effects of contaminants across trophic levels in the Russian River-Dry Creek watershed may have profound implications” (Teh, 2009)

A few of the contaminants in NSCARP wastewater that pose a significant potential for adverse impacts include copper, nitrate, low dissolved oxygen, salinity and endocrine disrupting compounds. The NSCARP EIR shows that NSCARP wastewater would likely contain a median of 9.45 ug/L of copper. That is well in excess of the 2.3 – 3.0 ug/L that produces sublethal effects on Coho according to NOAA Fisheries research that stated, “Consequently, short-term influxes of copper to surface waters may interfere with olfactory-mediated behaviors that are critical for the survival and migratory success of wild salmonids” (Baldwin, 2003). Copper has a wide range of lethal and sublethal effects including impairing salmon’s ability to migrate, fight disease, avoid predators and killing or harming food sources (Woody, 2007).

Copper contamination alone poses a significant risk to ESA listed Coho and Steelhead and it is one of many potential pollutants in NSCARP wastewater that could have impacts.

3. Impact BIO-8: Inadequate analysis - NSCARP Reservoir leakage will cause degradation of water quality and potentially impact ESA listed Coho and Steelhead

Several NSCARP reservoir sites are located in headwaters of Coho and Steelhead spawning streams such as Turtle Creek below the Becnel, Bucher reservoirs, Felta below the Passalacqua reservoir and Mill Creek below the Kumelis reservoirs. The remaining NSCARP reservoirs are located on streams where Steelhead are present according to the NSCARP FEIR. According to the review of the NSCARP DEIR by Wilshire, “The NSCARP FEIS/EIR fails to resolve the basic issues of reservoir design and emplacement, lack of consistency in choice of reservoir sites, and the threat of surface and groundwater pollution by leakage of reservoirs” (Wilshire, 2009). This points to inadequate analysis of significant impacts under CEQA and NEPA since the FEIR offered no substantial information to support their conclusion that no impacts will occur due to the use of clay liners and monitoring water quality to determine if leakage occurs. Using liners as a mitigation against leakage will not fully mitigate the problem as illustrated by Wilshire’s quote of a recent Windsor EIR, “Recognizing that liners do not provide “full protection” of surface and groundwater, leakage rates are estimated by CHM2HILL, 2008”. Monitoring water quality is not mitigation as it does not prevent harm, in this case to ESA listed species, as stated by Wilshire, “Master Comment 8, with reference to monitoring, only establishes when the horse is out of the barn, not how to prevent the problem” (Wilshire, 2009). The NSCARP DEIR/FEIR fails to provide substantial evidence that either mitigations proposed clay liners and/or monitoring groundwater would “fully protect” groundwater and surface water as claimed in the NSCARP FEIR.

4. Significant New Information: Russian River Biological Opinion published September 2008

Since 1999, the Sonoma County Water Agency (SCWA), who is a co-proponent of NSCARP, has been in ESA Section 7 consultation with NOAA Fisheries regarding Agency operations impacts and required mitigations on listed fish in the Russian River. In September 2008, the Agency was well aware as a partner to the section 7 consultation that the Russian River Biological Opinion (RRBO) was published. In the RRBO, NOAA Fisheries concluded that current SCWA operations posed “jeopardy” to the continued existence of the listed species so a list of “reasonable and prudent alternatives” was developed as mitigation for Agency impacts on listed fish (RRBO, Pg vi). The four major alternatives that pertain to NSCARP are reductions in summer flows on Dry Creek and the Russian River, maintenance of a closed estuary, investment of up to \$100 million in creating low velocity side channel rearing areas for endangered Coho and threatened Steelhead juveniles and if the restoration fails build

a pipeline to convey water supply flows that used to flow down Dry Creek thus reducing flows. According to the RRBO, current summer water supply releases increase flows above suitable levels for small juvenile ESA listed Coho and Steelhead. The Dry Creek enhancement project will create side-channels along the banks to create lower velocity refuges for the juvenile fish (RRBO, 2008; SCWA, 2009). These same side-channels will be the areas where NSCARP wastewater seeps into Dry Creek as referenced in # 4 above so the pollutants seeping to the side-channels will have very low dilution and therefore a greater adverse affect on the very fish we are spending \$100 in taxpayer funds to recover. The duration and timing of exposure are particularly significant since irrigation and therefore seepage will occur all summer during low flows and during the developmental period of Coho and Steelhead when they are very sensitive to pollutants (Teh, 2009).

“Salmonids are very sensitive to water pollution” according to Dr Teh in his letter to CWCNSC, (Teh, 2009). At different life stages the fish can be more vulnerable such as egg, emergent fry and juvenile stages and can accumulate pollutants throughout their lifetime according to Dr. Teh. In addition, the populations of Coho and Steelhead are vulnerable to extinction (RRBO, pg ix, 238) so any additional stressors such as increases in pollutants during juvenile period when most susceptible could imperil the entire population and is by definition a significant adverse impact.

In addition, if the low-velocity habitat restoration is not successful then a bypass pipeline will be constructed to convey current summer water supply releases down Dry Creek (RRBO, pg xvii) further reducing flows and potentially further increasing concentrations of NSCARP pollutants and increasing impacts on ESA listed fish in the main channel of Dry Creek, thereby adversely affecting all fish and biota. The timing and duration of the exposure to NSCARP wastewater with the contemplated Dry Creek Pipeline would act to focus the contamination, thereby increasing potential for impacts.

As stated above and in letters by qualified experts, NSCARP operation will create substantial adverse impacts on these federally mandated recovery actions under the RRBO. None of these adverse impacts were even identified in the NSCARP FEIR, much less adequately discussed.

5. Impact Bio-8: Inadequate analysis of ecological risk of ESA listed fish exposure to endocrine disrupting compounds and other chemicals in wastewater

As previously discussed, NSCARP wastewater will find its way either directly or indirectly into surface waters where ESA listed Steelhead and Coho migrate spawn and rear. Further the comments to Bio-8 in the DEIR are totally inadequate

The NSCARP EIR contained mitigations that entailed monitoring research and staying abreast of science – this is not mitigation, as it does not reduce harm to ESA listed fish from NSCARP wastewater. Science has produced numerous lists of EDCs that occur in municipal wastewater effluent that were not studied in NSCARP FEIR. Analytical methods exist to test for EDCs and toxicological endpoints are available for many EDCs as noted in Shlenk’s attached letter on page 7 so proposed NSCARP BIO-8 mitigations are clearly inadequate.

6. Cumulative impacts of NSCARP wastewater exposure along with vineyard chemicals in NSCARP area combined with other stressors on salmon never studied

In the NSCARP project area the vineyards receiving project wastewater also apply agricultural chemicals that along with NSCARP wastewater will run-off or seep to the Russian River and Dry Creek would compound potential effects to ESA listed Steelhead and Coho. In the latest pesticide use report for Sonoma County by the Department of Pesticide Regulation, the following highly toxic pesticides are used in vineyards, 1,3-Dichloropropene, Mancozeb, Simazine, Oryzalin, Bifenthrin, Phosmet, and Myclobutanil. According to the report by Teh, "Low concentrations of anthropogenic chemicals such as insecticides (malathion, carbaryl, chlorpyrifos, diazinon, and endosulfan) and herbicides (glyphosate, atrazine, acetochlor, metolachlor, and 2,4-D), separate or combined in low concentrations (2-16 ppb), can affect aquatic communities composed of zooplankton, phytoplankton, periphyton, and larval amphibians" (Teh, 2009) showing that vineyard chemicals combined with NSCARP wastewater contaminants would pose a doubly high potential for adverse impact. Other vineyard chemicals such as nitrate and other fertilizers would also combine with Nitrate and other biostimulatory substances in NSCARP wastewater to degrade fish habitat. This issue was not studied nor adequate information presented in the NSCARP FEIR to address it although Clean Water Coalition of North Sonoma County member Westside Association to Save Agriculture brought up this issue in their comment AT-39 on page 539 in the NSCARP DEIR.

Conclusion

The NSCARP DEIR/ FEIR contains numerous substantial omissions, erroneous assumptions and does not meet the legal standard for review of potential impacts to ESA listed fish. CEQA law does not allow this level of omission and it is inexcusable since SCWA is being entrusted to implement the restoration projects meant to save the same ESA listed fish that SCWA's NSCARP project could harm. The NSCARP project will have long-term effects on the Dry Creek ecosystem and the ESA listed fish (Teh, 2009).

I appreciate your consideration of these comments and feel free to call me to discuss these comments.

Sincerely,



Don McEnhill
Riverkeeper

References:

Baldwin DH, Sandahl JF, Labenia JS, Scholz NL, Sublethal effects of copper on coho salmon: impacts on nonoverlapping receptor pathways in the peripheral olfactory nervous system., 2003, National Oceanic and Atmospheric Administration, Northwest Fisheries Science Center, 2725 Montlake Boulevard East, Seattle, Washington 98112, USA.

Jeanne, Pam; SCWA, Russian River Frost Protection Workshop, Presentation to SWRCB Frost Control Workshop, April 2009 (attached)

Johnson, Nicholas M., Water Resources Consultant, Potential Water-Supply Impacts to Dry Creek Valley from NSCARP and a Bypass Pipeline, Prepared for Dry Creek Valley Association, December 2008

McGourty, G; Smith, R: Frost Control Considerations, Presentation to SWRCB Frost Control Workshop, April 2009 (attached)

Russian River Biological Opinion, NOAA Fisheries, September 2008

Shlenk, D. Environmental Toxicologist: Review of City Santa Rosa Discharge Compliance Project Draft EIR, April 2008 (attached)

Teh, Swee J. Aquatic toxicopathologist, Dry Creek Watershed: Potential Effects of Contaminants and Emerging Pollutants to Food Web and Salmonids, April 2009 (attached)

Wilshire, H.; Letter to David Cuneo, SCWA re; NSCARP FEIR, April 2009

Woody, C. A., Summary of: Copper: Effects on Freshwater Food Chains and Salmon A literature review, August 2007. Summary prepared by Trout Unlimited for the Alaska State Legislature, September 2007.

Yates, G. NSCARP: Revised Versions of Nick Johnson's Water and Salt Balance Tables for Dry Creek Basin, March 3, 2009

Yates, G. Northern Sonoma County Agricultural Reuse Project, Final Environmental Impact Report: Technical Review of Hydrology and Water Quality Issues, Letter to CWCNSC, April 2009

Attachments:

SCWA 2009 Dry Creek Enhancement brochure

Shlenk letter

Teh letter

Jeanne frost control presentation

McGourty frost control presentation