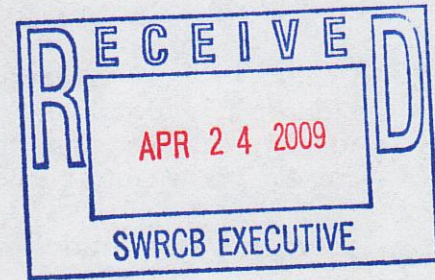




April 24, 2009

Jeannie Townsend
Clerk to the Board
State Water Resources Control Board
1001 I Street
Sacramento, CA 95814



Randy Poole
General Manager / Chief Engineer
Sonoma County Water Agency
PO Box 11628
Santa Rosa, CA 95406
(Sent via E-mail to: commentletters@waterboards.ca.gov & randy.poole@scwa.ca.gov)

RE: Comments for May 6th Workshop on Order WR 2009-0027-DWR

Dear Chairman Hoppin and Members of the Board,

I am writing to express my concern regarding impacts related to Order 2009-0027- DWR and propose modifications in permit terms that would reduce those impacts. The reduction in flows will cause severe impacts to water quality, recreation, community water systems, over-summering juvenile salmon and Steelhead as well as the lower River economy that depends on a healthy Russian River. I am representing our over 1400 members who are comprised of individuals and families who enjoy recreating in the Russian River, business such as river outfitters, hotels, other tourism related businesses and many vineyards and wineries and property owners.

Specifically we request the following changes in the Order to reduce impacts on the Russian Rivers water quality, senior water rights holders, small community well systems, juvenile salmon and steelhead, river outfitters and river related tourism business:

- **Increase frequency of chemical water quality monitoring to every two weeks with results posted promptly on a public website to proactively prevent water quality problems such as algae blooms from increased nutrient concentrations**
- **Include new provisions in the order to require flow changes in response to violations in water quality standards or as needed to protect juvenile ESA listed fish over the summer, the water agency released water to protect grapes from frost on April 14 to 16th so we expect increases to protect water quality as well**
- **Installation of additional gauges as needed to ensure instantaneous flow compliance levels are maintained, in 2004 and 2007 compliance levels were violated under previous orders**

- A minimum of 25% mandatory conservation for SCWA customers and users downstream of Dry Creek to help maintain water quality, flows and conserve water in case of multi-year drought.

- Mandatory conservation by all permitted water diversions upstream of Dry Creek including agricultural and rural residential diversions and streamside wells pumping underflow that depletes streamflows to help maintain water quality, flows and conserve water in case of multi-year drought.

- Additional prohibitions in the Order on junior rights holders or diversions that are not permitted in critically dry conditions or if needed a separate order restraining those unpermitted diversions to protect water storage in Lake Mendocino and maintain higher flows

- Expand prohibition on commercial turf grass irrigation to include all commercial turf using water from the Russian River outside of SCWA service area

We strongly support the following current permit terms:

- Mandatory 25% conservation in SCWA service area from 2004 levels

- Prohibition on commercial turf grass irrigation in SCWA service area

Summary of Impacts from Order 2009-0027-DWR

Juvenile Coho Salmon and Steelhead Trout will likely be harmed

Under current terms of Order we are very concerned that the flow reductions in the Order could have an unreasonable effect on ESA threatened juvenile Steelhead in the mainstem, lower river tributaries and estuary of the Russian River and ESA endangered Coho Salmon in the Estuary and lower river tributaries as a result of the flow reductions. The order claims no effect on fish but we question where is the data to support this conclusion? In 2004 and 2007 the reduced flows to 85cfs caused pools to dry up in lower River tributaries such as Green Valley Creek (Coho, Steelhead) and other tributaries that usually have water in pools that are at the same elevation as the mainstem. Due to the direct conductivity between lower river flow rates and lower river tributaries reduction in flows to 35cfs will dry up even more pools than previous years and have consequences for this year class of juveniles.

Last summer under normal flows a major algae bloom occurred on the lower Russian River from Vacation Beach to Villa Grande and regardless of the cause we are concerned this would be a more likely occurrence with reduced flows. These severe algae blooms cause diurnal depletions in dissolved oxygen that harm juvenile listed species. We are also concerned about higher water temperatures as a result of reduced flows having unreasonable effects on juvenile Steelhead that have been documented in the Alexander Valley by consultants working for Shamrock Materials in Cloverdale (Halligan, personal communication). The order seems focused strictly on fall run adult Chinook salmon and ignores the potential effects on juveniles in the river that could be harmed. This is of particular importance this year due to the low returns and need to ensure as many juvenile Steelhead and Coho make it through the summer. It is not easy to detect a large mortality event for juveniles as are harder to see and usually become prey as water quality deteriorates.

If should also be noted that in the Russian River Biological Opinion that Central Coast Chinook Salmon face the lowest risk of extinction due to their range but Steelhead Trout and Coho Salmon face a far greater risk of extinction (Russian River Biological Opinion, NOAA Fisheries, Sept 2008). So we are curious why the Order favors Chinook when they face the lowest risk of extinction?

Flow Reductions Will Cause Economic Losses in Recreational and Tourism Industry

On July 1st, when flows will be reduced to 25cfs above Dry Creek and 35 cfs below Dry Creek canoe and kayak passage will be impaired if conservation measures are not expanded beyond Sonoma County Water Agency. The flow reductions will negatively affect six river outfitters that employ over 100 individuals and would have a larger impact on employee's families. Some outfitters might have to shut down after July 1st due to safety issues with flows at or near 35cfs. In 2004 and 2007, the days when flows dropped to the 85cfs minimums caused canoe passage problems and caused complaints from customers and request for refunds according to several outfitters. Many canoe rental customers also stay at hotels, campgrounds, B&B's and eat at local restaurants so their absence will cause a far larger impact than to just outfitters.

According to indicator bacteria data from 2008 (www.waterboards.ca.gov/water_issues/programs/tmdl/records/region_1/2008/ref2534.pdf) bacteria concentrations at Monte Rio beach exceeded water quality standards and the beach was posted just prior to the annual Water Carnival. This event occurred during normal flows and any reduction in flows could increase concentration of indicator bacteria and lead to more closures that affect tourism not only this year but also in future years due to getting a reputation for pollution. Additionally, as mentioned above the flow reductions will result in increases of nutrients that will lead to increase algae blooms that will impact tourism due to less people wanting to swim. The Sonoma County Water Agency is not responsible for this pollution but the net effect of this order could increase concentrations regardless and must be addressed in this order.

Most of the lower River economy centered in Guerneville is based on river recreation and the income generated during the summer months is critical to producing an annual profit for businesses. Requiring mandatory conservation of all Russian river water users will help mitigate significant reduction in water quality.

Wells in Alluvial Floodplain Will Result in Losing Stream – causing more water loss

Due to the high transmissivity of alluvial soils, when wells in the floodplain pump water it depletes the aquifers adjacent to the River causing the River to recharge the aquifer. This is discussed in a memo by geo-hydrologist Nicholas Johnson in his report on the Santa Rosa Discharge Compliance Project EIR (att'd, pg 4-6) and affirmed in SR DCP technical memo TM I-8. The losing stream situation is further supported by a recent USGS study that found groundwater quality is influenced significantly by river percolation; the "similarity in ionic composition...suggests that recharge to most well, particularly wells that are less than 200 ft total depth and perforated in Quaternary alluvial deposits, may be a combination of infiltration from precipitation and seepage from the Russian River or its tributaries" (Metzger, et al, 2006, p50). This is not unique to Alexander Valley and it very likely true in all alluvial wells suggesting that without any restraint on this pumping river flows will be negatively impacted. In a normal flow year having a losing stream is buffered by higher flows. This year with critically dry flow rates this floodplain pumping with have a significant effect on river flows. This will cause SCWA to make additional flow releases from Lake Mendocino and lead to increased depletion of storage contrary to the goals of this order. This

pumping will also cause a reduction in the buffer over reduced flows that will affect water quality, recreation and senior rights holders.

We have attached a **picture of new well being installed** adjacent to Gallo's wells for Mac Murray Ranch that were recently named in a water rights violation complaint by the Division of Water Rights. If this new pump is turned on it will deplete stream-flow, how will this order restrain such pumping?

Issues From TUC Orders in 2004 and 2007

In the 2007 Sonoma County Water Agency report on water conservation almost all the current conservation efforts are not a response to a dry year flow reduction and are what should be expected of all water users every day. We do not see any conservation measures that went above and beyond existing efforts to respond to a critical situation. Has the Water Agency achieved the future water conservation amounts required by Term 17 of Order 2007-0015-DWR term 17? Has the water agency and their contractors achieved "eliminate the use of residential water wasting devices" also in term 17 of 2007 order? We would say they haven't based on daily observations of sidewalk rinsing with hoses, landscape over-irrigation dumping water into gutters and people washing cars with the hose running.

In the 2004 and 2007 SCWA Water Conservation Reports they include potential water savings from the unfunded North Sonoma County Agricultural Reuse Project that USEPA declared had no way of ensuring any water savings (USEPA, L Fujii, NSCARP DEIR). In addition this project has a high potential to cause aquifer water quality to exceed water quality standards in a short period of time thus compromising current and potential future water supplies (see www.cwcnorthernsonoma.org). The SCWA also appears to rely on their 2005 Urban Water Management Plan that was struck down in court in October of 2008 as insufficient. Judge Nadler ruled that SCWA's UWMP ignores or understates many severe constraints on future water supply, and that SCWA violated the UWMPA in the following respects:

- (1) The SCWA failed to coordinate with relevant agencies as required by the Act;
- (2) The Plan fails to include the degree of specificity required by the Act;
- (3) The Plan fails to adequately consider environmental factors, specifically, the effect of changed water flows during period of water shortfalls on the salmonids, and other potential implications of the Endangered Species Act;
- (4) The Plan fails to adequately address the effect of recycled groundwater on the availability of water supply in the future; and
- (5) The Plan fails to quantify with reasonable specificity the scope of water demand management measures which are relied upon to address the anticipated water shortfalls.

(Ruling attached)

In particular we call your attention to point #5 as it shows that current plans to aren't specific enough to address anticipated water shortfalls. The ruling is attached to this letter. It is our opinion in light of the claims in the prior year conservation reports and actual performance as well as response to this emergency that claims of demand hardening are false. I have attached my own water bill to illustrate this point. Since 2004 our family of four have been working to reduce our total water demands and have achieved an average of less than 45 gallons per person per day including landscape irrigation. Our two children take a bath

every night, we wash over 8 loads of laundry each week, we have landscaping that requires irrigation and we wash our cars sometimes and yet we are comfortably using 70% less water than SCWA customers proving that there is plenty of room for additional water conservation actions.

We also object to the type of chemical water monitoring conducted by USGS for SCWA in 2004 and 2007. They conducted a single sampling event in mid-September well after the peak heat of summer and after the recreation season is largely over. What good is data on water quality collected after worst-case scenario months of July and August when recreation is at its peak along with the heat and period of highest stress for juvenile Coho and Steelhead?? Although the five datasondes were capturing data continuously it is only a short list of physical parameters and didn't include nutrients or other chemical pollutants of concern and had limited value in preventing any potential problems from occurring.

Impacts to Community Water Systems

Many community water systems such as Palomino Lakes mutual Water Company and Alexander Valley Acres Mutual Water Company have experienced increases in TDS and Boron in 2004 and 2007 (L. Tolbert and D. Rose, personal communication). We are concerned that without significant conservation by all Russian River users some of these community well systems could face impaired water quality.

Comments on SCWA Water Advisory Committee and City of Santa Rosa Letters

The arguments that the order constitutes a "disincentive" to continued water conservation efforts are completely misplaced. In the Russian River we are facing constant shortfalls of storage in Lake Mendocino (2002, 2004, 2007 and 2009) and a growing population and increased use of water in vineyards. Everyday water conservation should be practiced each year regardless of whether we face a water shortage or not to ensure reliability of water systems and adequate water for the environment, recreation and endangered fish. In an emergency year it is not adequate to rely on everyday conservation measures such as the CUWC MOU measures but requires emergency measures in addition to CUWC or other everyday measures. Santa Rosa and other cities claiming demand hardening at 130 gallons per capita per day when as mentioned above some families with similar water needs are achieving less than 50 gallons per capita per day. In an emergency we argue that watering lawns especially commercial turf that is not put to any practical use except aesthetics is a waste of water. We are galled that the Mayor of Santa Rosa claims that the commercial turf prohibition "will injure lawful user of water" while a greater number of employees in the River recreation business will lose their jobs as a result of the order without this provision. The commercial turf contractors have far more options than those in river recreation - Why aren't these contractors keeping employees working by offering to convert commercial turf into low water using native plant landscapes that will use far less water? We've heard that the commercial turf contractors saying that turf grass helps reduce global warming - this is not true as any small amount of carbon capture by grass is offset many times by the high emissions of small engines on lawn mowers and leaf blowers used by the industry. Also the claims by Santa Rosa that they do not have the authority are negated by the fact that in Southern California cities this has been accomplished.

We urge the Board to hold the line on the Order terms requiring 25% conservation by SCWA contractors and prohibition on commercial turf irrigation.

Requested Modifications to Order

Our requested modifications to the Order 2009-0027-DWR are based on the fact that we are facing a critical water shortage this year and this requires emergency measures to mitigate the impacts listed above and ensure adequate water storage for fall Chinook migration and 2010 water supply.

- Increase frequency of chemical water quality monitoring to every two weeks with results posted promptly on a public website to proactively prevent water quality problems such as algae blooms from increased nutrient concentrations
- Include new provisions in the order to require flow changes in response to violations in water quality standards or as needed to protect juvenile ESA listed fish over the summer, the water agency released water to protect grapes from frost on April 14 to 16th so we expect increases to protect water quality as well
- Installation of additional gauges as needed to ensure instantaneous flow compliance levels are maintained, in 2004 and 2007 compliance levels were violated under previous orders
- A minimum of 25% mandatory conservation for SCWA customers and users downstream of Dry Creek to help maintain flows and conserve water in case of multi-year drought.
- Mandatory conservation by all permitted water diversions upstream of Dry Creek including agricultural and rural residential diversions and streamside wells pumping underflow
- Additional prohibitions in the Order on diversions that are not permitted in critically dry conditions or if needed a separate order restraining those un-permitted diversions to protect water storage in Lake Mendocino and maintain higher flows
- Keep order prohibition on commercial turf irrigation in SCWA service area and expand to include all commercial turf using water from the Russian River

I believe that modifying Order 2009-0027-DWR to include these provisions will improve water quality, protect juvenile endangered Coho and Steelhead, result in higher flows due to reduced diversions and leave more water in storage at Lake Mendocino to provide fall water supply and a small buffer against potential low rainfall in 2010. I appreciate your consideration of these comments and will plan to be at the workshop on May 6th to provide verbal comments.

Sincerely,

Don McEnhill
Riverkeeper

Attachments:

2008 Russian River bacteria monitoring results (ref2534.pdf)
Water bill with water usage amounts for McEnhill family (Water bill.pdf)
Nicholas Johnson, PhD, RG, CHg, May 2008 (discharge compliance
DEIR_commentsNMJcopy.pdf)
EPA Comments NSCARP Draft EIS.pdf

Superior Court Ruling 10-28-2008.pdf

References:

Halligan Dennis, Fishery Biologist, Stillwater Sciences, Personal communication, November 2008

Metzger, Loren F, et al, Geohydrology and Water-Chemistry of the Alexander Valley, Report 2006-5115, Sonoma County, California, 2006

Rose, Daniel MD, Director, ALEXANDER VALLEY ACRES MUTUAL WATER COMPANY, personal communication April 2009

Russian River Biological Opinion, NOAA Fisheries, Sept 2008, available at <http://www.sonomacountywater.org/projects/rrifr/index.php>

TM I-8 Regional Groundwater - Surface Water Interactions along the Russian River and the Laguna de Santa Rosa, available at http://ci.santa-rosa.ca.us/departments/utilities/irwp/discharge/Pages/studies_reports.aspx

Tolbert, Lee, Director, Palomino Lakes Mutual Water Company, personal communication, August 2007

Summer 2008 Russian River Bacteria Data

Red Type - exceeds Department of Health guidelines (Scroll to bottom to view Department of Health guideline values)

Camp Rose

Date	Total Coliform (MPN/100mL)	Total Coliform 30-day log mean average (MPN/100mL)	E.Coli (MPN/100mL)	E. Coli 30-day log mean average (MPN/100mL)	Enterococcus (MPN/100mL)	Enterococcus 30-day log mean average (MPN/100mL)
5/27/2008	1112	N/A	<10	N/A	<10	N/A
6/3/2008	1259	N/A	20	N/A	20	N/A
6/10/2008	1664	N/A	41	N/A	<10	N/A
6/17/2008	2755	N/A	<10	N/A	<10	N/A
6/24/2008	2359	1722	<10	15	<10	11
7/1/2008	2613	2043	20	17	<10	11
7/8/2008	3282	2474	74	23	20	11
7/15/2008	2187	2613	20	20	10	11
7/22/2008						
7/29/2008						
8/5/2008						
8/12/2008						
8/19/2008						
8/26/2008						
9/2/2008						

Healdsburg Memorial Beach

Date	Total Coliform (MPN/100mL)	Total Coliform 30-day log mean average (MPN/100mL)	E.Coli (MPN/100mL)	E. Coli 30-day log mean average (MPN/100mL)	Enterococcus (MPN/100mL)	Enterococcus 30-day log mean average (MPN/100mL)
5/27/2008	1153	N/A	31	N/A	31	N/A
6/3/2008	1515	N/A	52	N/A	<10	N/A
6/10/2008	1210	N/A	63	N/A	10	N/A
6/17/2008	1198	N/A	10	N/A	10	N/A
6/24/2008	2014	1385	74	38	10	13
7/1/2008	8164	2049	10	30	<10	10
7/8/2008	2723	2304	31	27	10	10
7/15/2008	987	2212	30	23	<10	10
7/22/2008						
7/29/2008						
8/5/2008						
8/12/2008						
8/19/2008						
8/26/2008						
9/2/2008						

CONTINUE SCROLLING DOWN FOR MORE SITES AND DEPARTMENT OF HEALTH GUIDELINE VALUES

Steelhead Beach

Date	Total Coliform (MPN/100mL)	Total Coliform 30-day log mean average (MPN/100mL)	E.Coli (MPN/100mL)	E. Coli 30-day log mean average (MPN/100mL)	Enterococcus (MPN/100mL)	Enterococcus 30-day log mean average (MPN/100mL)
5/27/2008	1421	N/A	62	N/A	<10	N/A
6/3/2008	960	N/A	10	N/A	<10	N/A
6/10/2008	1145	N/A	10	N/A	<10	N/A
6/17/2008	884	N/A	30	N/A	10	N/A
6/24/2008	1046	1076	<10	18	<10	10
7/1/2008	794	958	<10	12	<10	10
7/8/2008	1046	975	10	12	10	10
7/15/2008	754	896	10	12	<10	10
7/22/2008						
7/29/2008						
8/5/2008						
8/12/2008						
8/19/2008						
8/26/2008						
9/2/2008						

Forestville Access Beach

Date	Total Coliform (MPN/100mL)	Total Coliform 30-day log mean average (MPN/100mL)	E.Coli (MPN/100mL)	E. Coli 30-day log mean average (MPN/100mL)	Enterococcus (MPN/100mL)	Enterococcus 30-day log mean average (MPN/100mL)
5/27/2008	1935	N/A	30	N/A	<10	N/A
6/3/2008	2098	N/A	20	N/A	<10	N/A
6/10/2008	2187	N/A	20	N/A	<10	N/A
6/17/2008	1354	N/A	30	N/A	30	N/A
6/24/2008	1664	1821	10	20	31	16
7/1/2008	754	1508	10	16	<10	16
7/8/2008	1354	1381	10	14	10	16
7/15/2008	1333	1251	10	12	<10	16
7/22/2008						
7/29/2008						
8/5/2008						
8/12/2008						
8/19/2008						
8/26/2008						
9/2/2008						

CONTINUE SCROLLING DOWN FOR MORE SITES AND DEPARTMENT OF HEALTH GUIDELINE VALUES

Johnson's Beach

Date	Total Coliform (MPN/100mL)	Total Coliform 30-day log mean average (MPN/100mL)	E.Coli (MPN/100mL)	E. Coli 30-day log mean average (MPN/100mL)	Enterococcus (MPN/100mL)	Enterococcus 30-day log mean average (MPN/100mL)
5/27/2008	1989	N/A	31	N/A	<10	N/A
6/3/2008	1439	N/A	<10	N/A	10	N/A
6/10/2008	2359	N/A	31	N/A	10	N/A
6/17/2008	2987	N/A	41	N/A	31	N/A
6/24/2008	2247	2144	30	26	10	13
7/1/2008	1935	2132	20	24	20	14
7/8/2008	2755	2428	52	33	10	14
7/15/2008	4106	2713	31	33	10	14
7/22/2008						
7/29/2008						
8/5/2008						
8/12/2008						
8/19/2008						
8/26/2008						
9/2/2008						

Monte Rio

Date	Total Coliform (MPN/100mL)	Total Coliform 30-day log mean average (MPN/100mL)	E.Coli (MPN/100mL)	E. Coli 30-day log mean average (MPN/100mL)	Enterococcus (MPN/100mL)	Enterococcus 30-day log mean average (MPN/100mL)
5/27/2008	1086	N/A	41	N/A	20	N/A
6/3/2008	1658	N/A	41	N/A	<10	N/A
6/10/2008	2613	N/A	30	N/A	<10	N/A
6/17/2008	1553	N/A	10	N/A	<10	N/A
6/24/2008	>24192	2815	20	25	<10	11
7/1/2008	19863	5034	278	37	65.9	15
7/8/2008	7270	6766	1071	71	187	26
7/15/2008	1017	5602	20	65	<10	26
7/22/2008						
7/29/2008						
8/5/2008						
8/12/2008						
8/19/2008						
8/26/2008						
9/2/2008						

CONTINUE SCROLLING DOWN FOR A SUMMARY OF STATE GUIDANCE VALUES

**California Department of Health Services Draft Guidance for Fresh Water Beaches
(last updated July 24, 2001)**

The following values are currently recommendations only and are not enforceable since the Draft Guidance has not been adopted and is subject to change

Single Sample Values

Beach posting is recommended when indicator organisms exceed any of the following levels:

- Total Coliforms: 10,000 MPN per 100 ml
- E. Coli: 235 MPN per 100 ml
- Enterococcus: 61 MPN per 100 ml

Thirty-Day Log Mean Average Values

Additional sanitary surveys and other related evaluations, including more frequent sampling if levels appear to be on an increasing trend, are recommended when indicator organisms exceed any of the following, based on the log mean of at least 5 equally spaced samples in a 30-day period.

- Total Coliforms: 1,000 MPN per 100 ml
- E. Coli: 126 MPN per 100 ml
- Enterococcus: 33 MPN per 100 ml

MPN: Most probable number

ml: milliliter

N/A: Not applicable. 30-day log mean average values require 5 results before calculation begins

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May 5, 2008

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Subject: Comments on March 2008 City of Santa Rosa Incremental Recycled Water Program Discharge Compliance Project (DCP) Draft Environmental Impact Report (DEIR)

At the request of the Clean Water Coalition of Northern Sonoma County, this letter presents comments on the March 2008 City of Santa Rosa Incremental Recycled Water Program Discharge Compliance Project (DCP) Draft Environmental Impact Report (DEIR). This letter's comments are directed at potential impacts on non-municipal drinking water supplies from proposed treated-wastewater discharge to the Russian River. Section, page, and appendix references pertain to the DEIR unless otherwise specified. The notation "TM X-#" refers to one of the technical memoranda supporting the project's draft engineering report (full citations provided at end).

The City of Santa Rosa (City) is both the project applicant and lead environmental agency, with direct control over the preparation of the DEIR and CEQA (California Environmental Quality Act) process. As such, the City is using the EIR process to facilitate the project design, evaluate the feasibility of various alternative project components, and maintain project flexibility. The proposed project includes alternative components of uncertain technical feasibility, poor regulatory compliance, and significant potential impact. The DEIR acknowledges that certain alternatives, if selected for implementation, may require further study, monitoring, impact assessment, and formulation and implementation of mitigation measures subsequent to the Final EIR (e.g., Sections 3.3 & 3.5). Commenting on whether or not this approach complies with CEQA exceeds the scope of this letter.

The following DEIR comments are grouped into four categories: (1) proposed discharge facilities, (2) vulnerability of non-municipal drinking-water wells, (3) determination of potential-impact significance, and (4) potential cumulative impacts.

1. Proposed Treated-Wastewater Discharge Facilities

The project's objectives pertain entirely to the need for wastewater disposal of less than significant impact, with the exception of a supporting objective to increase the availability of potable water supplies (p. 1-2). However, the DEIR does not address the project's design, implementation, or expected performance with regard to any potential potable or environmental water-supply benefits. The project is presented as a disposal project only, and not as a project to conjunctively use treated wastewater to provide a needed supplemental supply of water.

Project Alternative 2 (p. 2-20) involves the direct discharge of treated wastewater to the Russian River at one of three proposed locations. The two upstream locations, D3 and D4, are of most concern to Healdsburg-area drinking water supplies. Site D3 is immediately downstream of Healdsburg and upstream of the Dry Creek confluence. Site D4 is upstream of Healdsburg at the Alexander Valley Road bridge.



The proposed construction and use of riverbank outfalls at either D3 or D4 could achieve the project's needed capacity for treated wastewater disposal. However, a study conducted for the DEIR (TM D-4) indicates that these outfalls may achieve poor mixing of treated wastewater in the river, requiring up to several miles of downstream flow for complete mixing. This is in part because high concentrations of treated wastewater may tend to hug the river bank and/or river bottom for long distances downstream.

To achieve better mixing, the project proposes to construct two injection wells at either D3 or D4. Each injection well would consist of several perforated laterals radiating beneath about eight feet of river bed from a point along the river bank. However, the feasibility of these injection wells is questionable in several regards:

- According to a supporting study (TM D-3b), various geotechnical complications may arise when constructing the in-bed radial injection wells.
- Another supporting study (TM D-3c) concluded that channel scour and fill would be problematic because (a) scour could damage the wells, (b) changes in the depth of alluvium overlying the well laterals due to repeated scour and fill would continually alter the operational hydraulics, and (c) scour could be worsened by the buoyant forces resulting from injection.
- The expected performance of the proposed injection wells may be overly optimistic. The design capacity of each well is 10 million gallons per day (mgd), or nearly 7,000 gallons per minute (gpm). This is an exceptionally high injection rate, especially for a pair of adjacent wells, which would require optimal conditions for satisfactory operation. Because no site-specific testing has been done, whether or not such rates could be achieved is uncertain. If the laterals were placed deep enough to avoid scour, relatively low permeability conditions and/or layers could be encountered, significantly impeding performance.
- The DEIR fails to acknowledge that injection wells are prone to clogging, a situation that could be exacerbated by the turbidity, chemical composition, and nutrient load of the treated wastewater. The project description does not indicate whether the injection well design allows for regularly needed backflushing. Clogging could significantly impede the performance of the proposed injection wells.
- Even assuming optimal performance, the proposed pair of injection wells at either D3 or D4 would have insufficient capacity for the needed discharge of treated wastewater roughly one-third of the time (i.e., high wastewater flows beginning somewhere between the 50th and 10th percentiles; TM D-4).

Because of the expected capacity limitations of the proposed injection wells, the project proposes to include a riverbank outfall at either location to achieve the needed maximum capacity, despite the expected poor mixing performance of an outfall. Reliance on the riverbank outfall could be much greater than anticipated given the various injection-well uncertainties and limitations described above. As such, the injection wells may provide minimal improvement over the expected poor mixing performance of the riverbank outfalls.

One of the project's supporting studies (TM D-7) developed a predictive correlation between river discharge and treated wastewater requiring disposal. Because Santa Rosa wastewater includes urban runoff, there is a general correlation between wastewater flows and river discharge. Generally, this means that large wastewater flows can be diluted into large river flows, and small wastewater flows



can be diluted into small river flows. However, the analysis does not acknowledge the potential for significant departures from this correlation. For example, major storms near the beginning or end of a wet season (or during drought) could generate large wastewater flows at times when river flows are relatively low, especially considering the lag time required for wastewater collection, treatment, and conveyance to discharge locations. Additionally, failures elsewhere in the wastewater system could result in unintended usage of the river discharge facilities. In such cases, acceptable rates of mixing might not be achieved.

The proposed river discharge also could be limited by the following:

- Sonoma County Water Agency (SCWA) has proposed pipeline conveyance of Dry Creek diversions as an alternative to in-channel conveyance. This would result in reduced river flows and less wastewater dilution downstream of D3 than considered by the DEIR.
- SCWA's consideration of other alternative water-management options could be constrained by the proposed wastewater discharge facilities.

The DEIR concludes that significant and unavoidable water quality impacts to the Russian River could result from the proposed discharge of treated wastewater at sites D3 and D4. Potential impacts include exceeding criteria for river temperature, turbidity, specific conductance, and concentrations of total dissolved solids, nitrate, other nutrients, dissolved oxygen, and mercury. Furthermore, the public could be exposed to chemicals, radionuclides, and pathogenic viruses at concentrations detrimental to human health.

According to the DEIR, mitigation measures, such as adjusting the rate and timing of treated-wastewater discharge, could reduce impacts to less than significant at D3 but to a much lesser degree at D4. Given the uncertainties and caveats discussed above, the potential impacts may be worse than predicted by the DEIR, and the efficacy of the proposed mitigation measures may be less.

2. Vulnerability of Non-Municipal Drinking-Water Wells

Potable water supplies in the Healdsburg area are obtained almost exclusively from wells. As stated in supporting study TM I-8, wells located near the Russian River induce leakage from the river to sustain their production, such that some wells are considered to be essentially pumping directly from the river (p. 9). Ample documentation exists for the existence of municipal, agricultural, community, and domestic wells downstream of direct-discharge sites D3 and D4, including (a) Water Well Driller Reports filed with the California Department of Water Resources (CDWR); (b) wells registered with the California Division of Water Rights as either riparian or appropriative sources of drinking water; and (c) wells designated by county and/or state health departments as groundwater under the influence of the river. Many of these wells are within the river flood plain, and some are within the active flood way.

The DEIR explicitly acknowledges that local groundwater usage includes municipal and agricultural wells (Section 4.5, pp. 21-27). With regard to non-municipal drinking water wells, the DEIR only acknowledges that they "*may be present*" (Section 4.5, p. 42), contrary to readily available documentation of their existence.

A September 2006 letter from the California Department of Health Services (CDHS; provided in DEIR Appendix A) comments on the DCP Initial Study and EIR Notice of Preparation (NOP). It states that the City should conduct an in-depth evaluation of the project's potential impacts on all drinking water sources within one-half mile of proposed discharge locations. A subsequent July



2007 CDHS letter does not suspend this requirement. Nevertheless, the DEIR fails to explicitly acknowledge, inventory, or assess non-municipal drinking water wells in the vicinity of proposed discharge locations D3 and D4.

One vague reference to an actual non-municipal well was provided in supporting document TM I-2, which pertained to indirect discharge facilities no longer included in the proposed project. In this instance, indirect discharge site I-1 in the Soda Rock area was deemed unfavorable because of the "proximity to an existing well" (footnote, p. 32). This possibly refers to one of the Alexander Valley Acres Mutual Water Company wells. Figure 16 in TM I-8 seems to show a rough representation of this well's capture zone, although it is not clearly labeled as such. The Water Company identified its wells in an August 2006 letter to the City commenting on the DCP Initial Study and EIR NOP (DEIR Appendix A). Despite (a) acknowledging an "existing well" in TM I-2 and (b) receiving written notice of the Water Company well in its response to the EIR NOP, the DEIR does not explicitly consider potential impacts to these or similar wells downstream of the proposed direct-discharge sites.

If local drinking water supplies become impaired as a result of the proposed wastewater discharge, the DCP Engineering Report offers that "small domestic water supply wells can be replaced by water from other sources if necessary" (TM I-2, p. 23). The DEIR, however, does not consider or evaluate the need or feasibility of providing replacement water supplies to potentially impacted non-municipal water users. Furthermore, the willingness to provide replacement water contradicts one of DCP's supporting objectives, which is to dispose treated wastewater in a manner that protects the existing beneficial uses of receiving waters (DEIR p. 1-2).

In a general reference to non-municipal drinking water wells along the river, the DEIR claims that the permitting of such wells by the Sonoma County Environmental Health Department indicates that they are safe from pathogens that might enter groundwater from the river (Section 4.5, p. 42). This claim is a poor and inadequate substitute for a specific analysis of potential impacts to such wells. Furthermore, a similar rationalization was not assumed for municipal wells.

TM I-8 presents a generic analysis of potential impacts to municipal and non-municipal wells from the direct discharge of treated wastewater to the Russian River. The approach is described as a "screening-level analysis where the local hydrologic budgets are developed based on generalized assumptions rather than a site-specific analysis" (Section 4.5, p. 31). As applied, this approach is flawed in several ways:

- The DCP Engineering Report utilized at least two other groundwater modeling approaches that were more sophisticated and applicable than the approach used by the DEIR. TM I-9 used a transient three-dimensional numerical groundwater flow model (MODFLOW) of the Alexander Valley for evaluating the feasibility of treated-wastewater injection wells. TM D-4 used a steady-state quasi-three dimensional analytic element model (WhAEM) to simulate the pattern of groundwater flow discharging from horizontal river-bed injection wells. Compared to the water-balance method used in TM I-8, each of these methods demonstrated a better and more appropriate method for evaluating potential impacts to wells as a result of DCP.
- The analysis assumes complete mixing of treated wastewater in the river at or near the point of discharge. As discussed above, it is reasonable to expect that the DCP would rely heavily on riverbank outfalls, which provide poor mixing. As such, concentrated streams of wastewater



could be drawn into the alluvial aquifer in response to hydraulic gradients imposed by nearby pumping wells.

- The DEIR's water-budget approach for evaluating potential groundwater quality degradation at a well is not sufficiently accurate with regard to actual patterns of groundwater flow.
- Several of the water-budget assumptions are arguable, as discussed further below.
- A September 2006 CDHS letter commenting on the DCP Initial Study and EIR NOP stipulated that the EIR should demonstrate the calibration and validation of methods used to assess potential well impacts (Appendix A). A subsequent July 2007 CDHS letter did not suspend this requirement (Appendix K). The DEIR or its supporting documents does not appear to provide such documentation, however.

TM I-8 uses a default and rather arbitrary procedure for delineating a circular protection zone around a well. A generic local water budget is applied to this area without regard to actual patterns of groundwater flow. The assumed water budget overestimates treated-wastewater dilution by ignoring the strong hydraulic interconnection between the river and nearby wells. Similarly, the DEIR's water-budget approach accounts for agricultural pumping wells, but not in the critical hydraulic sense.

Several of the TM I-8's water-budget assumptions appear to bias the approach toward greater wastewater dilution:

- The general water budget appears to underestimate evapotranspiration and overestimate groundwater recharge (Table B6, TM I-8):

$$\text{Precipitation} = \text{Evapotranspiration} + \text{Groundwater Recharge}$$

$$42 = 23 + 19 \text{ inches/year}$$

The estimated rate of evapotranspiration is representative of native not developed conditions. Furthermore, the equation fails to account for storm runoff, which actually accounts for roughly two-thirds of the estimated "groundwater recharge."

- The conceptual water budget appears to emphasize the role of precipitation recharge and de-emphasize the role of river recharge. However, a review of river gaging data and irrigated acreage in Alexander Valley suggests that roughly a third of all groundwater recharge derives from the river. A recent USGS study found that groundwater quality is influenced significantly by river percolation; the "similarity in ionic composition... suggests that recharge to most wells, particularly wells that are less than 200 ft total depth and perforated in Quaternary alluvial deposits, may be a combination of infiltration from precipitation and seepage from the Russian River and its tributaries" (Metzger and others, 2006, p. 50). Furthermore, despite a significant increase in acreage irrigated with groundwater over the past several decades, long-term groundwater-level trends have been fairly insignificant, suggesting compensating recharge from the river.
- The TM I-8 water budget shifts 30 percent of rainfall recharge estimated for winter to spring based on other studies in entirely different settings. This assumption increases the estimated dilution of wastewater during spring conditions, decreasing the estimated impact of wastewater discharges at that time. It is reasonable to assume that the shallow, highly transmissive alluvial aquifers of the Healdsburg area respond more quickly to winter recharge.



- River percolation is assumed to be relatively unlikely along some gaining reaches downstream of the proposed wastewater outfalls based on a conceptual model of gaining and losing reaches along the Russian River (Figure 15, TM I-8). However, this interpretation is based on data 25 or more years old (1975-1983, CDWR), which do not reflect recent increases in irrigated acreage. This interpretation also appears inconsistent with groundwater level records that show slightly downward trends that would enhance losing-river conditions (Metzger and others, 2006).
- The assumptions used to estimate mountain-front recharge were adopted from a previous study of a desert environment.

Based on a hydraulic rather than simply water-budget approach, pumping wells establish a potentially strong hydraulic connection with the river such that groundwater production may be largely derived from river percolation. Residential and community wells positioned between the river and agricultural pumping (for irrigation and frost protection) have a significant potential to intercept percolated river water. Consistent with the annual cycle between gaining and losing river conditions, drawdown created by seasonal agricultural pumping typically persists beyond mid-summer peak pumping and into early autumn. Thus, wastewater discharges associated with early wet-season storms have a high potential for recharging groundwater.

The DEIR concludes that the proposed discharge of treated wastewater has a significant potential to degrade river-water and groundwater quality, resulting in public health hazards, particularly in the case of cumulative impacts. Based on the impact-significance criteria discussed below, the DEIR further concludes that direct discharge site D4 requires a more detailed hydrogeologic study, consistent with direction provided by a July 2007 letter from CDHS to the City (Appendix K). It is unclear why the DEIR did not conduct a more detailed analysis of D4, one of its primary discharge alternatives.

Proposed mitigation measures include adjusting the rates and timing of wastewater discharge and implementing a Well Protection Program (Section 3, p. 45). Monitoring would be implemented for wells estimated to potentially receive more than 5 percent treated wastewater (10 percent in the case of non-municipal wells). If monitoring indicated groundwater quality impacts deemed deleterious to public health, one of the following mitigation measures could be applied:

- Modify the well so that it is less impacted
- Construct a new well that is less impacted
- Provide wellhead treatment
- Provide a replacement water supply

This reactive rather than preventative approach for maintaining access to adequate potable water supplies appears extremely contrary to the reasonable interests of existing groundwater users. Furthermore, it does not seem consistent with CEQA.

3. Determination of Potential-Impact Significance

A July 2007 letter from CDPH to the City (Appendix K) stated CDHS's position regarding the proposed direct discharge of treated wastewater. As context, CDHS observed the following:

There are several rivers used as major drinking water sources by California communities with wastewater discharge contributions in the 3 – 5 % range. These rivers are tapped either directly with surface intakes, or indirectly from wells near the



rivers. The protection provided by the standard provisions of the Clean Water Act and Safe Drinking Water Act assures a safe drinking water under these conditions. (p. 2)

Most of the rivers' reaches that are adjacent to well fields are gaining during the City discharge season during most years. (p. 3)

Based on (a) apparent precedent elsewhere in California, (b) limited potential exposure most of the time, (c) unspecified CDHS investigations of the impact of wastewater contributions to surface- and ground-water drinking water sources, and (d) CDHS's review of TM I-8, the July 2007 CDHS letter establishes "threshold cumulative wastewater contributions" applicable to DCP's proposed direct discharge operations. Further investigation of the need for additional treatment would be triggered by wastewater contributions of:

- 5 percent or more over short durations, in order to control pathogenic microorganisms
- 10 percent or more averaged over long periods, to control chemical contaminants

The CDHS letter does not indicate whether this is an *ad hoc* policy precipitated by site and project conditions or a policy consistent with current wastewater-reuse regulations at the Regional Board and/or State level.

Despite allowing wastewater contributions up to these thresholds, it appears important to CDHS that such instances are limited by the generally gaining-streamflow conditions. On the other hand, threshold exceedences only trigger further investigation, allowing for extended periods of exceedence. Relative to the range of chemicals and concerns associated with treated wastewater disposal, the CDHS thresholds appear somewhat crude and arbitrary.

In the case of irrigation with treated wastewater, long-term increases in salts and nitrate concentrations are principal concerns. In the case of treated-wastewater direct discharge to the river, poorly mixed, bank-hugging wastewater plumes migrate rapidly downstream in contact with highly transmissive and heavily pumped alluvial aquifers. As such, the principal concern becomes acute exposure to pathogens and toxic contaminants. The DEIR should identify and evaluate the potential instances when these acute exposures may occur.

Studies for the DCP Engineering Report predict regular, significant exceedences of Russian River surface-water quality criteria downstream of the direct discharge sites, especially considering cumulative influences. In the case of site D4, these impacts are expected to remain potentially significant after mitigation.

As a result of treated-wastewater direct-discharge, concentrations of trace contaminants are predicted to increase from levels that are currently below detection to concentrations as high as 50 percent of drinking water standards. Compared to these very large percent increases in predicted concentrations, relatively small variations in the underlying assumptions could result in the exceedence of drinking water standards. Even greater uncertainty applies to emerging, not-yet regulated contaminants and potential future contaminants.

TM I-8 estimates that the proposed DCP direct-discharge alternatives would exceed the CDHS 5-percent wastewater-contribution threshold in pumped groundwater during only a few instances of a 95-year period. Given the numerous and highly approximate assumptions upon which the analysis is based (as discussed above), the results seem coincidental with only a few exceedences above the threshold. It would be possible to adjust these assumptions until nearly all the results fell below the



5-percent threshold. It is important to ask, "what assumptions were adjusted and modified during this analysis, and has the full range of outcomes been reported?"

The 5-percent cumulative wastewater contribution threshold is exceeded for groundwater produced from Healdsburg's municipal wellfields downstream of discharge site D4. Despite this finding, residential and water company wells along the river between D4 and Healdsburg are evaluated only in a generic sense, as critiqued above. The water-budget approach failed to consider patterns of groundwater flow imposed by groundwater pumping gradients. Furthermore, the DEIR applies a 10-percent rather than a 5-percent wastewater-contribution threshold in the case of non-municipal wells because their potential exposure to wastewater pathogens is somehow considered to be lower. The DEIR's generic analysis of non-municipal wells did not result in exceedences of the 10-percent threshold. However, non-municipal wells along the river downstream of both D3 and D4 are potentially as—or more—vulnerable than municipal wells given poorer wastewater mixing closer to the outfall, high aquifer transmissivity, and hydraulic gradients away from the river toward agricultural wells.

4. Potential Cumulative Impacts

As described above, potential cumulative impacts from treated-wastewater discharge include:

- Reduced dilution of discharged wastewater if SCWA conveys its Dry Creek diversions by pipeline.
- More constrained river- and diversion-management options.

These are inadequately addressed in the DEIR.

Furthermore, the DEIR fails to consider potential cumulative impacts resulting from SCWA's implementation of the North Sonoma County Agricultural Reuse Project (NSCARP). Agricultural irrigation with treated wastewater, as proposed by NSCARP, is predicted to result in significant mineral and chemical loadings to the alluvial aquifer along the Russian River (Johnson, May 2007; p. 11):

Although most of the recycled water used for irrigation would be lost to evapotranspiration, most of the minerals and other chemicals dissolved in the recycled water would remain in the soil and dissolve into percolating rainfall recharge during the wet season. Because the estimated rate of [deep] recharge [would be] only half the rate of recycled water irrigation, the resulting concentration of minerals and chemicals in the recharge water would be at least twice that of the recycled water.

The discharge of impacted groundwater to the river under gaining streamflow conditions could significantly exacerbate river water quality degradation resulting from DCP's proposed wastewater outfalls. Percolation of DCP-impacted river water during losing streamflow conditions could significantly exacerbate impacts to local groundwater quality from wastewater irrigation. The DEIR's failure to assess these potential cumulative impacts is a serious omission.

5. Summary and Conclusions

The City of Santa Rosa is evaluating a broad range of treated-wastewater disposal options through the EIR process. The objectives of the Discharge Compliance Project (DCP) pertain primarily to the need for wastewater disposal under acceptable levels of potentially adverse impacts. Potentially positive impacts to the water supply or environment are not articulated or evaluated. From the



standpoint of the Clean Water Coalition of Northern Sonoma County, *the proposed DCP represents potential adverse impacts with no defined potential benefit.*

Proposed Treated-Wastewater Discharge Facilities

The project involves the direct discharge of treated wastewater into the Russian River at one of two possible locations that potentially threaten Healdsburg-area drinking water supplies (sites D3 & D4). The needed discharge capacity could be achieved with a riverbank outfall, although with poor downstream mixing. The planned additional use of injection wells would provide better mixing, although with minimal significance about a third of the time when the riverbank outfall would operate during high flow. Additionally, the feasibility of injection wells is questionable with regard to geotechnical, geomorphic, hydraulic, and operational considerations. *The DEIR should provide a more thorough evaluation of injection-well feasibility and more realistic expectations of downstream mixing.*

The impact analysis assumes a predictable correlation between river and wastewater flows. However, significant impacts could occur at times when conditions differ from normal. *The DEIR should evaluate the full range of conditions when wastewater dilution could be less than acceptable.*

The DEIR concludes that significant and unavoidable water quality impacts to the Russian River and groundwater could result from the proposed direct discharge of treated wastewater at sites D3 and D4. Given the uncertainties and caveats identified above, *it is reasonable to infer that the potential impacts and the efficacy of proposed mitigation measures will be worse than described.* The DEIR acknowledges that impacts and mitigation measures associated with these discharge sites may require further study, monitoring, and evaluation.

Vulnerability of Non-Municipal Wells

Potable water supplies in the Healdsburg area are obtained almost exclusively from wells. Wells located near the Russian River induce leakage from the river that helps sustain their production. Plumes of wastewater formed in the river downstream of the proposed direct-discharge facilities could be drawn into the alluvial aquifer in response to hydraulic gradients imposed by pumping wells. Accordingly, wells near the river have the potential to intercept significant concentrations of wastewater as a result of the proposed project. *The potential threat to non-municipal wells is not adequately addressed by the DEIR.*

The California Department of Health Services directed the City to evaluate potential impacts to all drinking water sources within one-half mile of proposed DCP direct-discharge locations. Ample documentation exists for various non-municipal wells downstream of discharge sites D3 and D4. Furthermore, the Alexander Valley Acres Mutual Water Company identified its wells to the City in a written response to the EIR NOP. Nevertheless, the DEIR explicitly evaluated only municipal wells. *The DEIR should have inventoried and analyzed all non-municipal wells with potential potable use in the vicinity of proposed discharge locations D3 and D4.* Although also requested by CDHS, *the DEIR did not demonstrate the calibration or validation of its analytical methods for assessing potential impacts.*

The water-budget approach used by the DEIR to evaluate potential impacts to wells is not sufficiently representative of actual groundwater-river interactions. Furthermore, the DEIR approach appears biased toward greater wastewater dilution and relies on an outdated conceptual model of gaining and losing river reaches. *The DEIR does not adequately address the potential for non-municipal wells to intercept high concentrations of treated wastewater drawn into the aquifer by*



agricultural pumping. The DEIR should have used more sophisticated and applicable modeling approaches, such as used elsewhere in the DCP Engineering Report (e.g., MODFLOW).

As mitigation, the DEIR proposes a Well Protection Program that includes monitoring, well modification or replacement, wellhead treatment, and/or a replacement water supply. A need for treated or replacement water would *contradict DCP's supporting objective of protecting the existing beneficial uses of receiving waters. Instead, a preventative rather than reactive approach is needed to protect existing water users and maintain the status quo of local access to non-degraded potable water.*

Determination of Potential-Impact Significance

CDHS has established "threshold cumulative wastewater contributions" for drinking water supplies potentially impacted by DCP. The proportion of wastewater in drinking water should not exceed 5 percent over short durations (to control pathogenic microorganisms) and 10 percent averaged over long periods (to control chemical contaminants).

Users of groundwater produced from wells operating in strong hydraulic connection to the river risk acute and repeated exposure to pathogens and toxic contaminants from wastewater percolation. *The water-budget approach used by the DEIR fails to adequately characterize these risks.*

The City has little control over contaminant loading to its wastewater stream. As with current "emerging" contaminants, future contaminants of uncertain toxicity could enter the wastewater stream at any time. Because of the potential direct link between wastewater discharged to the river and groundwater produced from wells near the river, *zero tolerance for wastewater contributions greater than 5 percent should be adopted and enforced.*

The DEIR estimates that groundwater produced from Healdsburg's municipal wells downstream of D4 will at times exceed the 5-percent cumulative wastewater contribution threshold. Based on this finding, *the DEIR should have evaluated all other potable wells between D4 and Healdsburg. Furthermore, the DEIR's use of a 10-percent rather than a 5-percent wastewater-contribution threshold in the case of non-municipal wells is unjustified.*

Potential Cumulative Impacts

The DEIR fails to consider potential cumulative impacts from SCWA's proposed North Sonoma County Agricultural Reuse Project (NSCARP). Agricultural irrigation with treated wastewater is predicted to cause significant mineral and chemical loadings to the alluvial aquifer (Johnson, May 2007). Under gaining streamflow conditions, the discharge of NSCARP-impacted groundwater would exacerbate DCP's degradation of river water quality. Under losing streamflow conditions, percolation of DCP-impacted river water would exacerbate NSCARP's degradation of groundwater. *The DEIR's failure to assess these potential cumulative impacts is a serious omission.*

Thank you for the opportunity to provide these comments on the City's DCP DEIR.

Sincerely,

Nicholas M. Johnson
Water Resources Consultant, PhD, RG, CHg



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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

May 18, 2007

Mr. David Cuneo
Sonoma County Water Agency
P.O. Box 11628
Santa Rosa, CA 95406-1628

Subject: Draft Environmental Impact Statement for North Sonoma County
Agricultural Reuse Project (NSCARP), Sonoma County, CA (CEQ#
20070123)

The U.S. Environmental Protection Agency (EPA) has reviewed the above-referenced document pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act. Our detailed comments are enclosed.

EPA commends the reuse of highly treated wastewater in order to increase the operational flexibility of water supply systems to benefit in-stream flow requirements, reduce the use of over-drafted groundwater, and to benefit fisheries. While we support the water reuse concept of this project, there is a lack of project detail on which to determine specific impacts.

Based on our review, we have rated the Draft Environmental Impact Statement (DEIS) as Environmental Concerns – Insufficient Information (EC-2) (see enclosed "*Summary of Rating Definitions*") due to the need for additional detailed information regarding project components, alternatives, and potential air and water quality impacts. EPA specifically recommends that the FEIS: 1) identify the anticipated volumes of water dedicated to fisheries and in-stream beneficial uses and the mechanisms that will ensure in-stream beneficial use commitments are met, 2) provide specific information on the project phases, 3) document potential water quality and air quality impacts of future construction phases, 4) include a detailed evaluation of the practicability of utilizing the existing Gallo Asti Reservoir, and 5) describe expected water quality within the reservoirs.

We appreciate the opportunity to review this DEIS. When the FEIS is released for public review, please send one (1) hard copy to the address above (mail code: CED-2). If you have any questions, please contact me at (415) 972-3846 or Laura Fujii, the lead reviewer for this project. Laura can be reached at (415) 972-3852 or fujii.laura@epa.gov.

Sincerely,

/s/

Nova Blazej, Manager
Environmental Review Office

Enclosure:
Summary of EPA Rating Definitions
Detailed Comments

cc: Douglas Kleinsmith, Bureau of Reclamation

EPA DETAILED DEIS COMMENTS NORTH SONOMA COUNTY AGRICULTURAL REUSE PROJECT, SONOMA COUNTY, CA., MAY 18, 2007

Project Scope

Provide additional information regarding project components. The North Sonoma County Agricultural Reuse Project (NSCARP) would provide recycled water to agricultural users to be used in-lieu of potable water supplies for irrigation. As a result, there would be fewer agricultural diversions from the Russian River and its tributaries which would enable the Sonoma County Water Agency (SCWA) to release less water from storage in Lake Mendocino and Lake Sonoma to meet water demands and in-stream flow requirements. This would result in more water being conserved in storage which would provide more operational flexibility to benefit fisheries in the Russian River. The project is expected to be constructed in phases over a 10 to 20 year period.

While the DEIS provides a general description of the project, it does not present specific information on the potential amount and location of reduced agricultural diversions; potential amount of water dedicated to fisheries, in-stream, and wetland beneficial uses; potential increase in summer tributary flows; projected amount and location of recycled water use; prospective users; or the potential design and schedule of the construction phases. We believe this information would better define the benefits and anticipated environmental effects of the NSCARP.

Recommendation:

We recommend the final environmental impact statement (FEIS) include specific information regarding the following items:

- Potential amount and location of reduced agricultural diversions,
- Potential amount of water dedicated to fisheries, in-stream, and wetland beneficial uses,
- Minimum required stream flows in the Russian River and tributaries, who requires these flows, and the adequacy of these flows for fisheries and other in-stream beneficial uses,
- Probable amount of recycled water to be stored and used,
- Location and volume of potential increased summer tributary flows,
- Projected energy consumption required to convey and store recycled reuse water compared to the energy requirements of the existing irrigation system,
- Prospective agricultural users, and
- Potential design (e.g., proposed reservoirs, pipeline segments), schedule, and environmental documentation of future construction phases. We recommend a clear commitment in the FEIS to environmental analysis for the future project phases. The degree to which future environmental analysis will tier to the existing evaluation should be clearly described.

Ensuring project needs are met. Given anticipated urban growth, climate change, and the potential effect of climate change on water quantity¹, it is likely there will be increasing demands on SCWA supplies, the Russian River, and its tributaries. Although a primary purpose of the project is to allow water to remain in the Russian River system to improve habitat for listed fish species (ES-1), the DEIS does not discuss how the project would ensure the conserved water is used to improve listed fish habitat or the mechanisms to ensure adaptability with changing water supply and demand conditions.

Recommendation:

We recommend the FEIS describe the type and volume of demand for the water stored in Lake Mendocino and Lake Sonoma. The FEIS should also describe the mechanisms in place, or to be developed, to ensure the stored water and improved operational flexibilities benefit fisheries, fish habitat, and other in-stream beneficial uses. For example, describe whether specific language--reconfirmation of existing water rights and the use of operational flexibility for fishery benefits--will be included in the proposed Recycled Water Use Agreements.

Project Alternatives

Provide additional information on the development of project alternatives. The DEIS states that potential irrigation demand associated with serviceable lands in three of the four subareas exceeds the proposed reservoir storage capacity and identified dry-season recycled water supplies. Therefore, scaled-back subarea alternatives were developed (p. 2-16).

Recommendations:

We recommend the FEIS include additional information on the process and criteria used in developing these scaled-back alternatives. For instance, describe the rationale for selecting the specific alternate subareas, proposed reservoirs, and pipeline routes.

Since potential irrigation demand exceeds water supplies, we recommend the FEIS evaluate the feasibility of increasing irrigation efficiencies and other conservation practices to maximize the acreage that can utilize available recycled water. The FEIS should identify the entities that could implement these irrigation efficiencies.

Provide additional evaluation of the Gallo Asti Reservoir. The DEIS states that use of the existing Gallo Asti Reservoir for storing recycled water would require a major diversion of natural inflow to isolate the reservoir from its tributary drainage area pursuant to California Title 22 Code of Regulations for the use of tertiary-treated recycled water which requires a separation between natural surface flows and recycled water (p. 2-33).

¹ Our Changing Climate--Assessing the Risks to California. A Summary Report from the California Climate Change Center to Governor Schwarzenegger and the Legislature. July 2006. Available at: http://www.climatechange.ca.gov/climate_action_team/index.html.

Recommendation:

Given the need for a major diversion of natural inflow to utilize this reservoir, we recommend the FEIS provide a detailed evaluation of the benefits, costs, and feasibility and need for this project component. For instance, describe how critical this component is for the project and the context for its inclusion in the project design.

Identify how the 'beneficiary pays' principle may be applied. The NSCARP would be financed with a combination of funding sources, including local funds, grants, loans, and bonds (p. 2-66). The total estimated project cost for the preferred alternative, Alternative 2—Entire NSCARP, would be \$385.3 million with a capitalized unit storage cost of \$696 per acre-feet (pps. 2-19, 2-21).

Recommendation:

Given the cost and scale of the proposed project, we recommend the FEIS evaluate the applicability of the 'beneficiary pays' principle, whereby users that benefit from the project, shall be responsible for funding a reasonable proportion of the costs associated with implementation.

Water Quality

Water quality within the reservoirs. There is little description in the DEIS of the expected water quality within the proposed new reservoirs. For instance, the DEIS states that project construction would not create objectionable odors (p. 3.3-17) because there would not be any construction component with the potential to create this odor. However, the possibility of odors from stored water does not appear to be evaluated.

Recommendation:

We recommend the FEIS include additional description of the water quality within the proposed reservoirs. For instance, address the likelihood of algae blooms and subsequent odors in these reservoirs.

Air Quality

Provide an updated description of Air Quality Regulations. As stated in the DEIS, the NSCARP area is in attainment of the National Ambient Air Quality Standards (NAAQS) for all pollutants other than ozone (p. 3.3-8). The project area is also designated non-attainment for ozone and particulate matter 10 microns or less in diameter (PM10) under the California standards (p. 3.3-9). While the DEIS states the Bay Area Ozone Attainment Plan forecasts attainment of the 1-hour ozone NAAQS by 2006, it does not indicate whether this attainment date has been achieved. We note that the Clean Air Diesel Rules, which would significantly cut nitrogen oxides, an ozone precursor, may soon be in effect [Final Rule, Federal Register Volume 69, Number 124, June 29, 2004; <http://www.epa.gov/cleandiesel>].

Recommendations:

We recommend the FEIS update the description of the Air Quality Regulatory Setting to include information on the current status of the Bay Area Ozone

Attainment Plan to meet NAAQS, and the requirements for control of emissions from the diesel fleet.

To minimize air emissions, we recommend a commitment in the FEIS to reduce emissions to the greatest extent possible during construction. For example, EPA recommends the FEIS commit to use of the cleanest on-road vehicles available and the most recent pollution control equipment for all off-road equipment, use of electrical power for all stationary equipment, reduction of haulage miles, and scheduling to minimize the overlap of emission producing activities, where feasible.

General Comments

Describe possible research on subsurface storage of recycled water and conjunctive use. The DEIS states that subsurface storage would meet project objectives but is currently not feasible due to the need to identify, test, and permit possible underground storage sites (p. 2-14).

Recommendation:

EPA recommends the FEIS describe possible future research, research entities, and funding sources that may help determine whether subsurface storage of recycled water and conjunctive use is feasible in the project area for this and future projects.

Describe the relationship to the City of Santa Rosa water reuse system and other reuse projects. EPA received a copy of the May 3, 2007 Santa Rosa Sub-regional Water Reuse System Incremental Recycled Water Program Discharge Compliance Project Revisions to the August 2006 Notice of Preparation and Initial Study. Although the DEIS mentions the City of Santa Rosa Incremental Recycled Water Program (p. 1-4), the relationship between past recycled water projects and the North Sonoma County Agricultural Reuse Project is not clear.

Recommendation:

We recommend the FEIS clarify the relationship between the North Sonoma County Agricultural Reuse Project and other water reuse projects by the City of Santa Rosa, Sonoma County Water Agency, Town of Windsor, City of Healdsburg, City of Cloverdale, Geyserville, and Geysers steam field. For example, provide a list or chart of past and current projects, their environmental documents, and whether or not the projects are linked in any manner.

Correction of discrepancies between text and tables. The DEIS has slight discrepancies between the text and tables regarding the loss of riparian vegetation and potential impacts to wetlands.

Recommendation:

We recommend the FEIS correct the following discrepancies:

1. Table ES-1 should indicate there will be a loss of riparian vegetation as stated in Table 3.4-2.
2. Table 2-1.3 (page 2-70) should identify the Federal Wetlands Executive Order as Executive Order 11990, Protection of Wetlands.
3. Add scientific names to the special status species descriptions starting on page 3.4-4.
4. Ensure the acreage impact figures in Table 3.4-2 are consistent with the figures presented in the nearby text.

1 HON. GARY NALDER
2 Superior Court of California
3 County of Sonoma, Department 20
4 3035 Cleveland Avenue, Suite 200
5 Santa Rosa, CA 95403
6 Telephone: (707) 521-6726

FILED

OCT 28 2008

SUPERIOR COURT OF CALIFORNIA
COUNTY OF SONOMA
By *[Signature]*
Deputy Clerk

8 SUPERIOR COURT OF CALIFORNIA
9 COUNTY OF SONOMA

10 SONOMA COUNTY WATER COALITION,
11 NORTH COAST RIVERS ALLIANCE,
12 WESTSIDE ASSOCIATION TO SAVE
13 AGRICULTURE, ATASCADERO CREEK
14 GREEN VALLEY CREEK WATERSHED
15 COUNCIL, O.W.L. FOUNDATION, RUSSIAN
16 RIVER WATERSHED PROTECTION
17 COMMITTEE, BELLEVUE TOWNSHIP,
18 SEBASTOPOL WATER INFORMATION
19 GROUP, FRIENDS OF THE EEL RIVER,
20 PETALUMA RIVER COUNCIL, COAST
21 ACTION GROUP, BLUCHER CREEK
22 WATERSHED COUNCIL, COMMUNITY
23 ALLIANCE WITH FAMILY FARMERS,
24 FOREST UNLIMITED and ELEANOR KNEIBLER,

SCV 240367

DECISION RE:
WRIT OF MANDATE

18 Petitioners/Plaintiffs,

19 v.

20 SONOMA COUNTY WATER AGENCY,
21 SONOMA COUNTY WATER AGENCY
22 BOARD OF DIRECTORS (aka SONOMA
23 COUNTY BOARD OF SUPERVISORS),
24 and DOES 1-20, inclusive,

23 Respondents/Defendants,

24 and DOES 21-50, inclusive,

25 Real Parties in Interest.,
26 _____ /

27 //

28 /

INTRODUCTION

The Legislature has declared that "every urban water supplier should make every effort to ensure the appropriate level of reliability in its water service sufficient to meet the needs of its various categories of customers during normal, dry, and multiple dry water years." The Act includes the Legislative pronouncement that "[a] long-term, reliable supply of water is essential to protect the productivity of California's businesses and economic climate." Water Code § 10610.2.

Petitioners here seek a peremptory writ of mandamus, declaratory relief, temporary and permanent injunctive relief, costs, and attorney's fees. This writ is sought pursuant to, *inter alia*, Water Code section 10651, which provides that judicial review of an urban water management plan shall address whether the respondent has proceeded in the manner required by law and if its action is supported by substantial evidence.¹

Petitioners challenge the 2005 Urban Water Management Plan ("Plan") prepared by the Sonoma County Water Agency ("SCWA"), pursuant to the Urban Water Management Planning Act, codified at Water Code §§ 10610 et. Seq. ("Act" or "UWMPA").² Relief is sought pursuant to the Act and the Public Trust Doctrine. In

¹Review is also sought pursuant to Code of Civil Procedure section 1085, which provides that a writ of mandate "may be issued by any court . . . to any inferior tribunal, corporation, board, or person, to compel the performance of an act which the law specially enjoins, as a duty resulting from an office, trust, or station." Petitioners seek a peremptory writ of mandate, and declaratory relief pursuant to Code of Civil Procedure section 1060, which provides, in pertinent part, that "[a]ny person . . . who desires a declaration of his or her rights or duties with respect to another . . . may, in cases of actual controversy relating to the legal rights and duties of the respective parties, bring an original action, in the superior court . . . for a declaration of his or her rights and duties in the premises . . ." Petitioners also request temporary and permanent injunctive relief pursuant to Code of Civil Procedure sections 526 and 527 and Civil Code section 3422, which authorize this Court to issue temporary and permanent injunctive relief where, and if, the respondents have violated duties owed to the petitioners and threaten unlawful action which might cause irreparable harm to the petitioners.

²Unless otherwise stated, all statutory references are to the Water Code.

1 general, Petitioners allege that the Plan (AR 66697-66851) fails to adequately and
2 accurately inventory, assess and allocate ground and surface water resources.
3 overlooks ground and surface water contamination, overstates water supplies,
4 understates water demands, and thus threatens to induce unsustainable urban
5 development throughout the area that will outpace water supplies. Respondents are
6 hereinafter collectively referred to as "Respondents" or "SCWA" or "Agency".

7 The court determines that the Plan is not supported by substantial evidence, and
8 accordingly, the court grants the writ of mandate vacating approval of the Plan. The
9 court remands this matter to Respondents, who shall comply with statutory
10 requirements in preparing its Urban Water Management Plan.

11 As more fully discussed below, the Plan has identified a potential shortfall in
12 water supply, starting in 2020. This shortfall ranges from 2,646 afy,³ increasing to
13 15,479 afy by 2030. To address this shortfall, the Plan relies upon certain assumptions,
14 with the admonition in Section 1-4 that those agencies intending to utilize the Plan "as a
15 reference for analysis of water availability are encouraged to check with the [SCWA] or
16 their appropriate water contractor for updated information regarding" the Plan's
17 assumptions. These assumptions include the construction of facilities for the
18 transmission of water; that the listing of salmonid species under the federal Endangered
19 Species Act will not reduce the water supply; and that the necessary licenses required
20 to meet the potential shortfall will be obtained. To address these potential shortfalls,
21 the Plan relies on voluntary reductions by its wholesale customers, and reduced
22 allocations. In addition, the Plan contemplates that the SCWA may petition the State
23 Water Resources Control Board for relief from the temporary flow requirements in the
24 Russian River and Dry Creek in order to allow for increased availability of water.

25 Under the Plan, while the *volume* of available water may be adequate to meet
26 future demands, the *availability* of that water has not been adequately addressed. Even
27

28 ³As used herein, "afy" or "af/y" refers to acre feet per year.

1 if there is a sufficient volume of water to draw from, access may be limited for other
2 reasons, such as environmental considerations and the existence of suitable facilities
3 for the transmission of that water. In addition, the Plan is flawed for lack of compliance
4 with the governing statutes relative to the method and scope of preparation.

5 With regard to the anticipated additional 26,000 afy of Russian River flows
6 necessary to support the anticipated demand, the SCWA does not yet possess the
7 rights to such flow, and there are factors which the Plan admits may affect the ability to
8 obtain those necessary rights. If the SCWA's application for the increased diversions is
9 rejected, allowing diversion only at current levels, the projected demand may exceed
10 the available supply of water in less than ten years.

11 As more fully explained below, the court has determined that the Plan is deficient
12 as follows:

- 13 (1) The SCWA failed to coordinate with relevant agencies as required by the
14 Act;
- 15 (2) The Plan fails to include the degree of specificity required by the Act;
- 16 (3) The Plan fails to adequately consider environmental factors, specifically,
17 the effect of changed water flows during periods of water shortfalls on the
18 salmonids, and other potential implications of the Environmental Species
19 Act;
- 20 (4) The Plan fails to adequately address the effect of recycled groundwater
21 on the availability of water supply in the future; and
- 22 (5) The Plan fails to quantify with reasonable specificity the scope of water
23 demand management measures which are relied upon to address the
24 anticipated water shortfalls.

25 II.

26 STANDARD OF REVIEW

27 In addressing the claims raised herein, the court is guided by Legislative policy,
28 to wit:

1 (a) The management of urban water demands and efficient use of water
2 shall be actively pursued to protect both the people of the state and their
water resources.

3 (b) The management of urban water demands and efficient use of urban
4 water supplies shall be a guiding criterion in public decisions.

5 (c) Urban water suppliers shall be required to develop water management
6 plans to actively pursue the efficient use of available supplies.”

6 Water Code § 10610.4.

7 In 1983 the California Legislature adopted the Urban Water Management Plan
8 Act, Water Code §§10610.2(a), (b).⁴ To achieve the goal of water conservation and
9 efficient use, urban water suppliers are required to develop water management plans
10 that include long-range planning to ensure adequate water supplies to serve existing
11 customers and future demands for water. Section 10610.2(d)(e.) The UWMPA requires
12 plans to address specific issues, and sets forth the procedural steps that urban water
13 suppliers must follow when preparing, reviewing, and amending their plans. (Sections
14 10631-10633, 10640-10645).

15
16 “In 1983, the Legislature adopted the UWMP Act to promote the active
17 management of urban water demands and efficient water usage in order
18 to protect the people of the state and their water resources. (Stats. 1983,
19 ch. 1009, § 1, p. 3556.) To achieve the goal of water conservation and
20 efficient use, urban water suppliers are required to develop water
21 management plans that include long-range planning to ensure adequate
22 water supplies to serve existing customers and future demands for water.
23 (§ 10610.2, subds.(d) & (e).) The plans must consider a 20-year time
24 horizon (§ 10631, subd. (a)) and must be updated at least once every five
25 years on or before December 31, in years ending in five and zero (§
26 10621, subd. (a)). The UWMP Act requires plans to address specific
27 issues. (§§ 10631, 10632 & 10633.) It also sets forth the procedural steps
28 that urban water suppliers must follow when preparing, reviewing, and
amending their plans. (§§ 10640-10645; see generally Waterman,
Addressing California's Uncertain Water Future By Coordinating
Long-Term Land Use and Water Planning: Is A Water Element in the
General Plan the Next Step?(2004) 31 Ecology L.Q. 117, 162-166
[overview of the UWMP Act].)”

26 *Friends of the Santa Clara River v. Castaic Lake Water Agency* (2004) 123 Cal.App.4th

28 ⁴Unless otherwise indicated, all statutory references are to the Water Code.

1 1 at 8.

2 In requiring that "urban water suppliers" such as SCWA develop "water
3 management plans to achieve conservation and efficient use," the UWMPA imposes
4 specific duties on each water supplier to "[i]dentify and quantify, to the extent
5 practicable, the existing and planned sources of water available to the supplier,"
6 including both surface and ground waters. §§10610.4(c), 10631(b). The UWMPA
7 directs further that each water supplier "shall include, as part of its urban water
8 management plan, an assessment of the reliability of its water service to its customers
9 during normal, dry, and multiple dry water years" and shall "describe plans to
10 supplement or replace" potentially unreliable or unavailable future sources with
11 "alternative sources." Section 10631(c).

12 Section 10631 requires that agencies such as the SCWA, in creating water
13 management plans,

- 14 (a) "[d]escribe the service area of the [water] supplier, including
15 current and projected population, climate, and other
demographic factors affecting the supplier's water
management planning;"
- 16 (b) "[i]dentify and quantify, to the extent practicable, the existing
17 and planned sources of water available to the supplier,"
18 including detailed information respecting existing and
planned use of groundwater;
- 19 (c) "For any water source that may not be available at a
20 consistent level of use, given specific legal, environmental,
water quality, or climatic factors, describe plans to
21 supplement or replace that source with alternative sources or
water demand management measures, to the extent
practicable."⁵
- 22 (d) "[d]escribe the opportunities for exchanges or transfers of
23 water on a short-term or long-term basis;"

24
25 _____
26 Respondents argue that the limitation "to the extent practical" does not require a
27 water agency creating a Plan to "spend time and money today to create a detailed plan
28 to meet a contingency that may or may not occur 20 years from now...." The court
disagrees with the meaning ascribed to that term by Respondents, and to the
implication of insignificance attributed to that language by Petitioners. By identifying
inconsistent years of availability of water supply, the SCWA is obliged to address those
forthcoming deficiencies, governed by notions of reasonableness and practicality.

- 1 (e) quantify past, current, and projected water use, broken down
2 by specific water use sectors;
- 3 (f) "[p]rovide a description of the supplier's water demand
4 management measures," including detailed information
5 regarding their implementation with respect to a wide array of
6 existing or potential management practices;
- 7 (g) provide "[a]n evaluation of each water demand management
8 measure identified;"
- 9 (h) "[i]nclude a description of all water supply projects and water
10 supply programs that may be undertaken by the urban water
11 supplier to meet the total projected water use," including "a
12 detailed description of expected future projects and
13 programs" that may be employed to increase future water
14 supplies;
- 15 (i) "[d]escribe the opportunities for development of desalinated
16 water;" and
- 17 (j)-(k) provide additional information regarding water supply and
18 demand management measures.

19 In *Friends of the Santa Clara River v. Castaic Lake Water Agency* (2004) 123
20 Cal.App.4th 1, the court reversed a denial of a petition for writ of mandate which alleged
21 that an urban water management plan was adopted in violation of the UWMPA. The
22 concern there was over two layers of an aquifer contaminated with perchlorate. As
23 written, the plan contemplated that there will be dry years, and that during those dry
24 stretches, the contaminated water would be treated to restore full production capacity.
25 However, the treatment facilities had not yet been built, and the plan failed to address
26 interim measures to cover the reduction in water.

27 "The UWMP mentions 'a groundwater cleanup plan ... being developed
28 (UWMP, § 1.6A.) to address the perchlorate contamination, but it does not
mention what stage of development has been reached or how much
longer it will take to complete and implement that plan. Assuming the
length of time needed to implement the plan is uncertain, the UWMP
does not describe the factors that have caused that uncertainty....the
UWMP does not state how fast the perchlorate contamination is
spreading in either the Saugus Formation or the Alluvial Aquifer, how far it
might reach within the 20-year period covered by the UWMP, or how the
rate of migration is affected by factors, such as the increased use of
Saugus Formation in dry years. To the extent that the answers to these
timing issues are uncertain, the UWMP does not discuss how this
uncertainty affects the reliability of the supply of groundwater. More
specifically, the UWMP does not state how it reached the implicit
determination that the quantities of groundwater set forth in the UWMP

1 met the reliability criterion of 90 percent, i.e., there was a 90 percent level
2 of certainty that those amounts would be available" Id., 123 Cal.App.4th
at 12-13.

3 Finding that the plan violated Section 10631(b)(c), the court determined that the plan did
4 not address the reliability of groundwater since, due to existing perchlorate
5 contamination, there may be sources that are not available at a consistent level and
6 the implementation of treatment processes could not be implemented instantaneously.
7 Further, the holding was based on Section 10610.2(d), inasmuch as the plan did not
8 show that the agency made every effort to ensure the appropriate level of reliability in
9 [their] water service sufficient to meet the needs of [their] various categories of
10 customers during normal, dry, and multiple dry years. Since the agency did not proceed
11 in a manner required by law, the matter was remanded to the superior court with
12 directions to grant the petition for a writ of mandate vacating approval of the plan.

13 In determining whether the Plan complies with law, and applicable to Petitioners'
14 claims herein, the inquiry is whether there was a prejudicial abuse of discretion. In
15 determining whether there was an abuse of discretion, the court must determine
16 whether *either* of the following has been established; (1) whether the SCWA has not
17 proceeded in a manner required by law, or (2) whether the SCWA's actions are not
18 supported by substantial evidence. *Friends of the Santa Clara River v. Castaic Lake*
19 *Water Agency* (2004) 123 Cal.App.4th 1 at 8-9.⁶ In reviewing for substantial evidence, a
20 determination that an opposite conclusion would have been equally or more reasonable,
21 or which argument is better after weighing conflicting evidence, is not the test. *Ebbetts*
22 *Pass Forest Watch v. California Dept. of Forestry And Fire Protection* (2008) 43 Cal.4th
23 936. In applying the substantial evidence standard to an agency's decision, all
24 reasonable doubts are to be resolved in favor of the administrative finding and decision.
25 *County of San Diego v. Grossmont-Cuyamaca Community College Dist.* (2006) 141

26
27 ⁶The court notes that the standard of review is similar to that applicable to
28 mandamus proceedings brought under the California Environmental Quality Act
("CEQA"). *Friends of the Santa Clara River v. Castaic Lake Water Agency* (2004) 123
Cal.App.4th 1 at 8-9.

1 Cal.App.4th 86. The court must review the findings, conclusions, and determinations
2 reached by the SCWA to determine whether there is enough relevant information and
3 reasonable inferences to support the subject conclusion, even if other conclusions may
4 also be reached. *Anderson First Coalition v. City of Anderson* (2005) 130 Cal.App.4th
5 1173.

6 III.

7 STANDING

8 Respondents raise the threshold issue of standing, that is, whether any of the
9 named Petitioners have standing to object to the 2005 Urban Water Management Plan
10 which is the subject of this proceeding. The court takes judicial notice, on its own
11 motion, of the date that the Petition was originally filed (March 19, 2007) and notes that
12 the Plan was adopted December 12, 2006 (AR 66698; 66784-66785).

13 To have standing to seek a writ of mandate, a party must be "beneficially
14 interested" (Code Civ. Proc., § 1085), i.e., have "some special interest to be served or
15 some particular right to be preserved or protected over and above the interest held in
16 common with the public at large." This standard ... is equivalent to the federal "injury in
17 fact" test, which requires a party to prove by a preponderance of the evidence that it has
18 suffered "an invasion of a legally protected interest that is '(a) concrete and
19 particularized, and (b) actual or imminent, not conjectural or hypothetical.'" *Associated*
20 *Builders & Contractors v. San Francisco Airports Comm'n* (1999) 21 Cal.4th 352,
21 361-62 (citations omitted).

22 Petitioners consist of nonprofit corporate entities, unincorporated associations,
23 and one individual plaintiff.

24 A. Respondent's Standing Challenge Based On The Corporations Code

25 Respondents argue that there is a lack of standing because no formal action was
26 taken on behalf of the members of the organizations and corporations to file the lawsuit.

27 Respondents point to a requirement that corporations, and unincorporated
28 associations, must act through resolutions by a duly elected Board of Directors (Corp.

1 Code §5210), and that certain Petitioners failed to do so before filing this action.
2 Respondents point to O.W.L Foundation, a California non-profit corporation, which
3 allegedly had no meetings to discuss the Plan, had no minutes which reflect any
4 discussion of the Plan, and adopted no resolutions concerning the Plan. See
5 Deposition of Person Most Knowledgeable ("PMK") of O.W.L. Foundation D.T., Exh. A
6 to Mitchell Dec., pp: 41:6-13; 45:4-12; 45:18-20; 47:10-25; and 48:1-8.) Another
7 example was Friends of the Eel River, a nonprofit public benefit corporation. It is
8 alleged that this entity's Board of Directors failed to meet regarding the Plan before the
9 lawsuit was filed, that there are no minutes that reflect any reference to the Plan, and
10 that there are no resolutions by the Board with respect to the Plan. (PMK of FOER
11 D.T., Exh. B to Mitchell Dec., pp. 25:18-27:1.) With respect to unincorporated
12 associations, Respondents point to Petitioner Coastal Action Group ("CAG"), a "group
13 of like interested parties" without any formal organization. Noting that it has 20 to 40
14 members, the decision to file the lawsuit was made in an informal phone call involving
15 between four and seven of its members. (PMK of CAG D.T., Exh. C to Mitchell Dec.,
16 pp. 27:19-29-17; 37:4-5.) When asked to describe harm to the members, the PMK
17 described that "poor planning could injure all ratepayers," although it was conceded that
18 only approximately 4 of the 40 members are ratepayers of the Agency or its contractors.
19 (Id., pp. 37:4-5; 65:11-19). Bellevue Township is simply a geographic area in Southwest
20 Santa Rosa, with a self appointed "interim mayor". It has no rules, no members, no
21 taxing authority, no dues, no governing documents, and there were no meetings to
22 discuss the Plan. (PMK of the Township D.T., Exh. D to Mitchell Dec., pp 8:7-12;
23 11:13-16; 19:6-14; 58:15-25.) The North Coast River Alliance ("NCRA") is a "loosely
24 knit group" consisting of four Board members, with no other members. There was no
25 Board meeting to discuss the Plan or joining the lawsuit. (PMK of NCRA D.T., Exh. E to
26 Mitchell Decl., pp. 25:3-26:18; 34:11-35:11.) Finally, it is argued that the Sonoma
27 County Water Coalition has no real human members; it is an association of
28 associations. (Petition, ¶12).

1 Respondents contend that the filing of the complaint, without the consent,
2 authority, or direction of the Board of Directors of the corporate petitioners, violates
3 Corporations Code § 5210, which provides, in pertinent part, as follows:

4 "The activities and affairs of a corporation shall be conducted and all
5 corporate powers shall be exercised by or under the direction of the
6 board."

7 Petitioners Friends of the Eel River, O.W.L. Foundation, Westside Association to
8 Save Agriculture, Forest Unlimited, Community Alliance with Family Farmers, and
9 Russian River Watershed Protection Committee are organized as public benefit
10 corporations. First Amended Verified Petition (filed March 10, 2008) at ¶¶ 14, 16, 17,
11 20, 24 and 25.

12 The Petitioners organized as unincorporated associations are North Coast Rivers
13 Alliance, Coast Action Group, Sonoma County Water Coalition, Atascadero Creek
14 Green Valley Creek Watershed Council, Blucher Creek Watershed Council, Bellevue
15 Township, Petaluma River Council, and Sebastopol Water Information Group. See,
16 First Amended Verified Petition (filed March 10, 2008) at ¶¶ 12, 13, 15, 18, 19, 21, 22
17 and 23.

18 Petitioners point to Corporations Code § 5141, which is contained within Title 1,
19 Division 2, applicable to such entities:

20 "No limitation upon the activities, purposes, or powers of the corporation
21 or upon the powers of the members, officers, or directors, or the manner
22 of exercise of such powers, contained in or implied by the articles or by
23 [Corporations Code provisions that govern dissolution] shall be asserted
24 as between the corporation or member, officer or director and any third
25 person, except in a proceeding: (1) by a member or the state to enjoin the
26 doing or continuation of unauthorized activities by the corporation or its
27 officers, or both, in cases where third parties have not acquired rights
28 thereby, (2) to dissolve the corporation, or (3) by the corporation or by a
member suing in a representative suit against the officers or directors of
the corporation for violation of their authority."

29 Arguing that the exceptions contained in § 5141 are inapplicable, Petitioners
30 assert that Respondents have no "standing" to complain of the actions taken by
31 Petitioners herein. In response, Respondents argue that the filing of the lawsuits
32 violated the *statutory* limitations imposed by Corporations Code section 5210, rather

1 than some internal bylaw or article. Since section 5141(a) does not govern limitations
2 on statutory violations, but rather only on internal violations, the entire basis for the "no
3 standing to challenge standing" argument is unsupported.

4 The court determines that, pursuant to Corporations Code § 5141. Respondents
5 are each a "third person" which may not assert against "the corporation or member,
6 officer or director" any "limitation upon the activities, purposes, or powers of the
7 corporation or upon the powers of the members, officers, or directors, or the manner of
8 exercise of such powers" which are otherwise specified or implied by the articles of the
9 corporation as defined by Corporations Code § 154. If a corporation acts without
10 authority under its articles and by-laws in bringing suit, only a limited classes of persons
11 have standing to object. Respondents are not within those enumerated classes.

12 With regard to the unincorporated associations, the Corporations Code
13 provisions that govern unincorporated associations, set forth in Title I, Division 3,
14 impose only minimal requirements for the operation of such entities. §§ 18000 *et seq.*
15 The provisions of the Corporations Code that provide for the governance of
16 unincorporated associations set standards for membership termination, voting,
17 amending governing documents, mergers, and dissolution, none of which apply here.
18 See §§ 18300-18420. Unlike the Code's provisions governing general corporations
19 (Division 1) and public benefit corporations (Division 2), the Code does not include a
20 provision in Division 3 requiring unincorporated associations to operate through a board
21 of directors. Compare §§ 300(a) and 5210 with §§ 18300-18240. The Code does not
22 impose any requirements for the unincorporated petitioners' authorization of this lawsuit.
23 Thus, as to these parties, Respondent's statutory argument fails.

24 Respondents point to *Dominguez v. Superior Court* (1983) 139 Cal.App.3d 692.
25 Involved there was Corporations Code § 208, which is identical to Corporations Code §
26 5141 (section 208 applies to general corporations, and 5141 applies to public benefit
27 corporations). Both involve *ultra vires* challenges to corporate entities based on
28 violations of internal articles or bylaws. In *Dominquez*, the Court held that an *ex post*

1 *facto* ratification of a previously unauthorized corporate action was meaningless if it was
2 beyond the statute of limitations. Respondents argue that the rationale of this case
3 would also apply to a case involving section 5141, since the statutes have identical
4 language. However, in *Dominguez* the court acknowledged that it was presented with
5 one of the limited circumstances where a third party is permitted to contest the
6 operations of a corporation: a proceeding by the state to dissolve the corporation.
7 *Dominguez, supra*, 139 Cal.App.3d at 695 ("a full reading of [Corporations Code section
8 208] shows the state is excepted" from the bar against outsiders' attacks on corporate
9 authorization). Thus, under section 208, the state's Superintendent of Banks was
10 permitted to contest a dissolved bank's authorization of the suit that challenged the
11 Superintendent's takeover of the bank. *Id.* If the suit had not involved a proceeding by
12 the state to dissolve the bank, the third party – the Superintendent – would not have had
13 standing to argue that the bank improperly authorized the suit. Here, because this case
14 does not involve any of the statutory exceptions provided in either section 5141 or
15 section 208, respondents are not statutorily authorized to challenge the organizational
16 petitioners' authorization of the instant Petition.

17 Respondents also rely on *Dominguez*, asserting that any authorization effected
18 after the 90 day statute of limitations has run is ineffective. Inasmuch as the court has
19 determined that Respondents do not have standing to object to the entities' party-status,
20 this issue is moot.

21 B. Alleged Lack of Beneficial Interest

22 Respondents next assert that Petitioners lack standing because they are not
23 beneficially interested.

24 "To have standing to seek a writ of mandate, a party must be "beneficially
25 interested" (Code Civ. Proc., § 1085), i.e., have "some special interest to
26 be served or some particular right to be preserved or protected over and
27 above the interest held in common with the public at large." This standard
28 ... is equivalent to the federal "injury in fact" test, which requires a party to
prove by a preponderance of the evidence that it has suffered "an
invasion of a legally protected interest that is '(a) concrete and
particularized, and (b) actual or imminent, not conjectural or hypothetical.'" *Associated Builders & Contractors v. San Francisco Airports Comm'n*

1 (1999) 21 Cal.4th 352, 361-62 (citations omitted).

2 In *Waste Management of Alameda County, Inc. v. County of Alameda* (2000) 79
3 Cal.App.4th 1223, 1233-1234, the court addressed the "citizen action" exception to the
4 beneficial interest requirement for purposes of standing:

5 "There are two prongs to the test for the beneficial interest required to
6 pursue an action in mandamus. The first...is whether the plaintiff will
7 obtain some benefit from issuance of the writ or suffer some detriment
8 from its denial. The plaintiff's interest must be direct... and it must be
9 substantial. Also, it generally must be special in the sense that it is over
10 and above the interest held in common by the public at large. ..The
11 second prong of the beneficial interest test is whether the interest the
12 plaintiff seeks to advance is within the zone of interests to be protected or
13 regulated by the legal duty asserted." [Citations omitted].

14 The *Waste Management* court described the citizen action exception to the
15 beneficial interest requirement, applicable where "the question is one of public right and
16 the object of the action is to enforce a public duty-in which case it is sufficient that the
17 plaintiff be interested as a citizen in having the laws executed and the public duty
18 enforced. In determining whether the exception applies, the court must engage in a
19 balance of the interests involved, "and the interest of a citizen may be considered
20 sufficient when the public duty is sharp and the public need weighty." " *Id.*, 79
21 Cal.App.4th at 1236.-1237. Pertaining to entities as compared with individual citizens,
22 the *Waste Management* court stated as follows:

23 "when a nonhuman entity claims the right to pursue a citizen suit, the
24 issue must be resolved in light of the particular circumstances presented,
25 including the strength of the nexus between the artificial entity and human
26 beings and the context in which the dispute arises. (See *Roberts v. Gulf*
27 *OilCorp.* (1983) 147 Cal.App.3d 770, 797 [195 Cal.Rptr. 393].) Among the
28 factors which may be considered are whether the corporation has
demonstrated a continuing interest in or commitment to the subject matter
of the public right being asserted (see *Environmental*
ProtectionInformation Center v. Department of Forestry & Fire Protection,
supra, 43 Cal.App.4th at p. 1019; *American Friends Service Committee v.*
Procunier (1973) 33 Cal.App.3d 252, 255 [109 Cal.Rptr. 22]); whether the
entity is comprised of or represents individuals who would be beneficially
interested in the action (see *Brotherhood of Teamsters & Auto Truck*
Drivers v. Unemployment Ins. Appeals Bd., *supra*, 190 Cal.App.3d at pp.
1521-1522); whether individual persons who are beneficially interested in
the action would find it difficult or impossible to seek vindication of their
own rights (see *Driving Sch. Assn. of Cal. v. San Mateo Union High Sch.*
Dist. (1992) 11 Cal.App.4th 1513, 1519 [14 Cal.Rptr.2d 908]; *McDonald v.*
Stockton Met. Transit Dist., *supra*, 36 Cal.App.3d at p. 443); and whether

1 prosecution of the action as a citizen's suit by a corporation would conflict
2 with other competing legislative policies (see *Nowlin v. Department of*
3 *Motor Vehicles*, supra, 53 Cal.App.4th at pp. 1538-1539)." Id., 79
4 Cal.App.4th at 1238.

5 Before the court engages in balancing the competing factors, it must address
6 objections made to the declaration filed by Mr. Volker, to wit, hearsay and lack of
7 foundation. In addition, Respondents argue that the verified petition may not serve as
8 substantive evidence to support the issue of standing. With respect to the verified
9 petition, the court determines that it not sufficient to support the issues of standing.

Code of Civil Procedure 446(a) provides:

10 "When the verification is made by the attorney for the reason that the
11 parties are absent from the county where he or she has his or her office,
12 or from some other cause are unable to verify it, or when the verification is
13 made on behalf of a corporation or public agency by any officer thereof,
14 the attorney's or officer's affidavit shall state that he or she has read the
15 pleading and that he or she is informed and believes the matters therein
16 to be true and on that ground alleges that the matters stated therein are
17 true. *However, in those cases the pleadings shall not otherwise be*
18 *considered as an affidavit or declaration establishing the facts therein*
19 *alleged.*" (Italics added).

20 Here, the First Amended Verified Petition For Writ Of Mandate And Complaint For
21 Declaratory and Injunctive Relief was verified by counsel, on the stated basis that the
22 represented parties are located outside of the county where counsel's office is
23 maintained. As such, the verified allegations may not be considered.

24 Petitioners submitted, in support of their standing argument, a Reply Declaration
25 of Stephan C. Volker and Exhibits A to N Thereto, Exhibits O-Z, and AA-BB.

26 Respondents object to this declaration on grounds of hearsay and lack of foundation.

27 These objections are overruled.

28 The court determines that the issues here presented are those of a public right.

The object of this Petition is to enforce public duty arising from the UWMPA.

Considering Exhibits O through ZZ of the Volker declaration, the court determines that

Petitioners have standing. Standing is also conferred pursuant to the "public interest"

exception to the beneficial interest requirement.

1 "An exception to the general requirement that only persons who are
2 beneficially interested may seek mandamus exists ' where the question
3 is one of public right and the object of the mandamus is to procure the
4 enforcement of a public duty, ... Under such circumstances ' the relator
5 need not show that he has any legal or special interest in the result, since
6 it is sufficient that he is interested as a citizen in having the laws executed
7 and the duty in question enforced. ' (Ibid.) These liberal standing
8 requirements have been applied to individuals acting in the public interest
9 to protect against effects of environmental abuse. *Liadlaw Environmental*
10 *Services, Inc. v. Local Assessment Committee* (1996) 44 Cal.App.4th 346.
11 354.

12 Where the question presented is one of public right, and the writ would compel
13 enforcement of a public duty, plaintiff need not show any special interest in the result. "It
14 is sufficient that he is interested as a citizen in having the laws executed and the duty in
15 question enforced." [Citing *Green v. Obledo* (1981) 29 Cal.3d 126, 144].

16 IV.

17 SURFACE WATER SYSTEM AS DESCRIBED BY THE PLAN AT SECTION 2

18 Most of the Agency's water supply is obtained from the Russian River and from
19 the groundwater. All of the water supplied by the Agency is sold wholesale to water
20 retail agencies. The Russian River watershed drains an area of 1,485 square miles that
21 includes much of Sonoma and Mendocino counties. The headwaters of the Russian
22 River are located in central Mendocino County, approximately 15 miles north of Ukiah.
23 The Russian River is approximately 110 miles in length and flows generally southward
24 to Mirabel Park, where it changes course and flows westward to the discharge point at
25 the Pacific Ocean near Jenner, approximately 20 miles west of Santa Rosa.

26 The Plan describes two federal projects that impound the water supply diverted
27 and delivered by the Agency through its transmission system: the Coyote Valley Dam
28 on the Russian River east of the city of Ukiah in Mendocino County (forming Lake
Mendocino), and the Warm Springs Dam on Dry Creek (a tributary of the Russian River)
northwest of the City of Healdsburg in Sonoma County (forming Lake Sonoma). The
Agency has the right to control releases from the water supply pools of both reservoirs.

The Pacific Gas & Electric Company (PG&E) Potter Valley Project ("PVP")
includes a diversion tunnel to transfer Eel River water to the Russian River watershed.

1 Water for the PVP is stored in Lake Pillsbury on the Eel River. Water from Lake
2 Pillsbury is released to the Eel River. Some of this water is re-diverted 12 miles
3 downstream at Cape Horn Dam to the Potter Valley Power Plant in the Russian River
4 watershed through PG&E's diversion tunnel. The water then flows through the East Fork
5 of the Russian River to Lake Mendocino. PVP diversions are regulated by a license
6 issued to PG&E by FERC. Early fall releases of water stored in Lake Mendocino
7 resulting from PVP diversions are important to the fall migration of threatened Chinook
8 salmon in the Russian River watershed.

9 The PVP imports water from the Eel River into the Russian River watershed.
10 Lake Sonoma and Lake Mendocino, and their associated facilities, collectively referred
11 to in the Plan as the Russian River Project, are subject to minimum instream flow
12 requirements for Dry Creek and the Russian River. Flood management releases from
13 both reservoirs are controlled by the United States Army Corps of Engineers (USACE).
14 The Agency diverts water from the Russian River near Forestville and conveys the
15 water via its transmission system (including diversion facilities, treatment facilities,
16 pipelines, water storage tanks, and booster pump stations) to its wholesale customers.

17 The Coyote Valley Dam impounds water, forming Lake Mendocino on the East
18 Fork of the Russian River. Lake Mendocino captures water from two sources: (1) runoff
19 from a drainage area of approximately 105 square miles and (2) diverted Eel River
20 water downstream of the PG&E generating station and not consumed by agricultural
21 irrigation. Natural drainage and stream flow (as opposed to reservoir releases)
22 contribute the majority of the Russian River flow downstream of Coyote Valley Dam and
23 above Dry Creek during the rainy season (November through April). During the drier
24 months of May through October, water released from Lake Mendocino accounts for
25 most of the water in the Russian River upstream of Dry Creek.

26 Lake Sonoma lies approximately 10 miles northwest of the City of Healdsburg on
27 Dry Creek. Runoff from a drainage area of approximately 130 square miles contributes
28 water to Lake Sonoma. Lake Sonoma has a design capacity of 381,000 ac-ft at the

1 spillway crest and a design water supply pool capacity of 245,000 ac-ft. The Agency
2 controls water supply releases from Lake Sonoma and the USACE manages flood
3 control releases.

4 Natural drainage and stream flow (as opposed to reservoir releases) contribute
5 the majority of the Dry Creek flow downstream of Warm Springs Dam during the rainy
6 season (November through April). During the dry season (May through October),
7 reservoir releases contribute the majority of the flow in Dry Creek. Such reservoir
8 discharges supply flow to meet minimum instream flow requirements and municipal,
9 domestic, and industrial demands in the lower Russian River area. Water from Lake
10 Sonoma via reservoir releases and runoff from other tributaries contribute to meeting
11 these demands.

12 According to the Plan, in addition to surface water, groundwater is an important
13 source of water in Sonoma County because it provides the domestic water supply for
14 most of the unincorporated portion of the County, and is a primary source of water for
15 agricultural uses. Groundwater, extracted from three wells located along the Russian
16 River, also provides a portion of the Agency's water supply. Some of the contractors
17 and other Agency customers have their own local groundwater supplies.

18 The Agency's transmission system extends from the Agency's Russian River
19 diversion facilities located near Forestville to the Santa Rosa, Petaluma, and Sonoma
20 valleys.

21 V.

22 THE SCWA FAILED TO COORDINATE WITH FERC, NOAA FISHERIES,
23 THE STATE WATER RESOURCES CONTROL BOARD,
24 AND THE U.S. ARMY CORPS OF ENGINEERS

25 Section 10620(d)(2) provides that "[e]ach urban water supplier shall coordinate
26 the preparation of its plan with other appropriate agencies in the area, including other
27 water suppliers that share a common source, water management agencies, and
28 relevant public agencies, to the extent practicable." The court determines that the

1 SCWA failed to coordinate the preparation of the Plan with the Federal Energy
2 Regulatory Commission ("FERC"), NOAA Fisheries (formerly the U.S. Fish and Wildlife
3 Service), the State Water Resources Control Board ("SWRCB"), and the U.S. Army
4 Corps of Engineers ("USACE").

5 The Plan includes an assumption that "regulatory agencies may make different
6 decisions or take different actions than those assumed by the Agency, which may affect
7 the availability of water and the adequacy of the Agency's transmission system." (AR
8 66709). In addressing the water supply versus future demand, the plan concludes that
9 there is an adequate water supply through 2030 "except for single-dry years, starting in
10 2020. In single-dry up years starting in 2020, the Agency will work with its contractors to
11 reduce water demands..., utilize emergency local sources, or both." (AR 66767).

12 The Plan includes a description of coordination with various agencies, as
13 contained in Table 1-1 at Section 1-3 of the Plan. (AR 66708) This included SCWA's
14 contractors and customers, wastewater agencies, the counties of Marin and Sonoma,
15 and with the general public. However, under the Act, the SCWA must coordinate with, to
16 the extent practical, water suppliers that share a common source; water management
17 agencies; and otherwise undefined "appropriate" and "relevant" agencies in the area.

18 A. The Extent To Which the SCWA Must Coordinate With Other Agencies

19 The court determines that the SCWA never secured the input of the very
20 agencies whose review is essential to an informed assessment of potential restrictions
21 on SCWA's future planned diversions of water. Rather than confer with the agencies
22 that control SCWA's future supplies, Respondents consulted only with their existing and
23 potential customers – SCWA's contractors, two counties, and several local waste water
24 agencies. (AR 66708).

25 The Plan must be coordinated with agencies "in the area" to the extent practical.
26 As described in Section 1.3 of the Plan, the Agency coordinated with the City of Cotati,
27 the North Marin Water District, the City of Petaluma, the City of Santa Rosa, the City of
28 Rohnert Park, the City of Sonoma, the Valley of the Moon Water District, the Town of

1 Windsor, the Forestville Water District, the Marin Municipal Water District, the Novato
2 Sanitation District, the Petaluma Wastewater Treatment Facility, the Santa Rosa
3 Subregional Reclamation System, the Sonoma Valley County Sanitation District, and
4 the Town of Windsor Water Reclamation Division. (Plan at Section 6.2). However, the
5 question remains as to whether the SCWA was obliged to coordinate the Plan with
6 those agencies that are the subject of the Petition.

7 The SCWA's discretion is limited to the mandate of the governing statutes in
8 order to effectuate the purpose of the Act. The coordination with "other appropriate
9 agencies in the area, including other water suppliers that share a common source, water
10 management agencies, and relevant public agencies" is mandatory. Section
11 10620(d)(2). Although the statute limits such coordination to agencies "in the area," the
12 SCWA's Plan must "actively pursue the efficient use of available supplies" (Section
13 10610.4). Respondents argue that the Act does not specify what such "coordination"
14 should consist of, and by use of the phrases "relevant," "in the area," and "to the extent
15 practicable," the Legislature meant to afford the urban water supplier discretion with
16 respect to determining which public agencies are the most important ones with which to
17 coordinate. According to Respondents, Petitioners' claim that the control of the future
18 water supply includes the authority of the Federal Energy Regulatory Commission, the
19 National Marine Fisheries Service ("NMFS"), the State Water Resources Control Board,
20 and the U.S. Army Corps of Engineers, is factually wrong. According to Respondents,
21 most of the Agency's formal coordination during the process of drafting the Plan took
22 place with the most relevant public agencies "in the area" – the Agency's water
23 contractors. Respondents argue that discussions between the water contractors and the
24 Agency with respect to the contractors' expected demands, future conservation
25 programs, and future sources of local supply, were extensive and critical to the
26 Agency's preparation of its Plan. (AR 50776-50778; AR 66764-66766; AR
27 40930-41453)

28 /

1 During an administrative hearing concerning the proposed Plan, a representative
2 of the SCWA and its contractors addressed the board of directors on December 5,
3 2006. First, Mr. Jasperse stated that the SCWA, in preparing the proposed Plan,
4 utilized certain assumptions. One relied upon the model that was used by FERC to
5 modify the PVP license. At the time of the hearing, it was stated that the SCWA learned
6 that the modeling assumptions used were incomplete, and that the SCWA would attend
7 a public hearing on December 14, 2006 which would include, inter alia, FERC and
8 NOAA. It was further explained that additional meetings would be necessary in the
9 future to determine what changes may be needed to ensure that all modeling is
10 accurate. Mr. Jasperse stated that the agency did not yet know if there would be any
11 impact on the agency's water supply, although there was knowledge that somewhat less
12 water would probably flow into Lake Mendocino. At that same hearing, Mr. Selsky stated
13 that several important water supply assumptions were made. First, that the listing of the
14 three salmonid species under the Endangered Species Act would not reduce the
15 amount of water that could be diverted from the Russian River. Second, that the PVP
16 FERC license interpretation or modifications would not reduce the amount of water that
17 could be diverted from the Russian River. Third, that the water project would be
18 constructed as described in the EIR Notice of Preparation. (AR 50774-50778). A review
19 of this portion of the administrative record indicates the relevance of the public agencies
20 involved, and underscores the need for coordination of the ultimate Plan with these
21 agencies.

22 Respondents argue that such coordination was unnecessary, since there was
23 frequent and continuing communication between the SCWA and these agencies.
24 Further, Respondents argue that it would be, essentially, futile to coordinate since the
25 agencies in question would not be in a position to provide answers or responses without
26 first proceeding with formal hearings, and public input. As to this latter point, the court
27 notes that the Biological Assessment, relied on as support by Respondents, was
28 provided to several agencies for comment. There is no basis for any assumption that

1 some comment could not have been obtained from these agencies with respect to the
2 proposed Plan. Concerning the assertion that the previous history of communication
3 between the SCWA and these agencies was sufficient, the court determines that there
4 is no evidence in the administrative record that any of these agencies was presented
5 with the proposed Plan prior to adoption, particularly as to the potential shortfalls.

6
7 B. Whether the agencies allegedly omitted agencies should have been
8 involved in coordinating the Plan

9 Considering the foregoing scope of the SCWA's duties under the Act, it must
10 next be determined the extent to which such obligations were unfulfilled.

11 (1) State Water Resources Control Board

12 The State Water Resources Control Board ("SWRCB") controls whether or not
13 the SCWA will be able to receive permits to release additional water, including the
14 additional 26,000 acre feet for which it has applied in connection to its proposed Water
15 Project. (AR:66710, 66713). The Plan itself provides that the SCWA "recognizes that
16 regulatory agencies may make different decisions or take different actions than those
17 assumed by the Agency, which may affect the availability of water and the adequacy of
18 the Agency's transmission system." (AR 66709). The Plan further provides that the
19 SCWA's ability to deliver water is based on the intended construction and operation of
20 facilities described in its Notice of Preparation of the environmental impact report. The
21 Plan specifically recognizes that the SWRCB and the National Marine Fisheries Service
22 "could impose requirements that would change the Water Project." (AR 66710).

23 Clearly, communicating with the SWRCB is practical, as evidenced by the substantial
24 communication regarding other issues prior to the development of the Plan. To exclude
25 this agency on the basis that it is not "in the area" would constitute an abuse of
26 discretion. Along with other agencies, the SWRCB participates and to an extent
27 controls a common water source and is involved in the water management process.
28 Clearly, the participation of this agency would be considered relevant to the purposes

1 required to be addressed under the Act.

2 Respondents point to formal appearances by the SCWA before the SWRCB
3 itself in 2004 in connection with approval of temporary urgency change petitions. In
4 2004, SCWA was granted a temporary urgency change order approving a petition
5 regarding water rights permits. A cover letter from the Chief of the SWRCB, Mike P.
6 Floyd, includes a telephone number to call with regard to questions about the Order.
7 (AR 12819). The permit in question concerned a temporary water permit, and related
8 flow discharges, that were in effect through December 31, 2004, years before this Plan
9 was completed. Of particular note, pertinent to the issues here involved, are the
10 "Comments Regarding The Petition" found at section 3.0 of the Temporary Urgency
11 Change Order. (AR 12824-12825). Note was made that the SWRCB received written
12 comments from the National Marine Fisheries Service and the California Department of
13 Fish and Game regarding the proposed temporary urgency change. The proposed
14 Change Order apparently triggered comments concerning dry-year requirements for that
15 year, and the effect of the proposed change on water storage levels and the survival of
16 listed fish species. It is true that the SWRCB held public hearings in connection with the
17 requested Petition in 2004, a fact upon which Respondents rely. However, just as the
18 SWRCB solicited comments, so should the SCWA in preparing the Plan. It is not
19 enough to assume that the agency would have no comments, or that its position would
20 be the same as that presented in 2004. In fact, the foreseeable circumstances
21 addressed by the Plan have not been addressed by the SWRCB.

22 In 2005, the SCWA provided a "Report To The State Water Resources Control
23 Board On Water Conservation". (AR 40930-40957). This report responded to a
24 request made in February, 2005 from the Chief of the Division of Water Rights of the
25 SWRCB. The request was for additional information addressing "a detailed plan of
26 water conservation efforts that will offset future increases in demand, which in turn will
27 result in no increase in Russian River diversions." (AR 40936). In this response, the
28 SCWA noted that "[t]o prepare its 2005 UWMP, the Water Agency and its contractors

1 began a process in November 2004 to estimate future demands." In connection
2 therewith, the SCWA noted that future demands, future water savings, and a
3 cost-benefit analysis for each conservation measure will be evaluated. Further, mention
4 was made of technologies that were being evaluated to determine the feasibility of new
5 water conservation measures. This report addressed present and future conservation
6 methods, and in addition, addressed the potential for increased diversion of water to
7 satisfy future water needs. (AR 40930-40957). Portions of the SCWA's year 2000
8 Urban Water Management Plan were provided as part of this report. (AR 40934). This
9 provides further support for the relevance of the SWRCB, and the practicality of such
10 coordination.

11 The SCWA argues that it has had ongoing contact with SWRCB staff about
12 pending Agency water rights applications and other issues. The record discloses that
13 the SCWA has "taken a proactive approach to developing a cooperative relationship"
14 with agencies, including the SWRCB, in recent years prior to December, 2007. This
15 included, inter alia, facilitation of a Water Rights Solutions Group which addressed
16 issues pertaining to "water rights challenges of the Russian River basin." This group
17 was broadly represented, including agricultural and environmental representatives, and
18 representatives of regulatory agencies including the SWRCB. (AR 70477-70478).

19 Another example is found at AR 12685, which reflects an informational report sent to
20 SWRCB from the SCWA, concerning presentations involving endangered species, a
21 water quality monitoring program update, and an update on the status of the Russian
22 River. On June 17, 2004, the SCWA sent information regarding a pilot study that was
23 being considered. The transmittal letter of that date proposed a meeting with the
24 SWRCB staff to discuss the pilot study, including "steps that will need to be completed
25 to authorize changed flows for study purposes....[which] may include (1) identification of
26 the changes in D1610 minimum flows that the State Water Board might be willing to
27 consider and the process for State Board consideration; ...(3) identification and
28 completion of any impact analysis that may be necessary; and (4) the preparation and

1 filing of any necessary petitions with the State Water Board.” (AR 12645).

2 The Act contemplates that in addressing the potential shortfall, and the purposes
3 of the Act, the SCWA shall coordinate with other agencies to effectuate the purposes of
4 the Plan. It is noted that Appendix C contemplates that, in the event of a severe water
5 supply shortage, “the Agency could also petition the State Water Resources Control
6 Board for temporary relief from the minimum instream flow requirements in the Russian
7 River and Dry Creek, in order to conserve the remaining water supply in Lake Sonoma
8 and Lake Mendocino.” The relevance of this agency to the Plan is clear. The
9 importance of this agency to the overall process of the supply and delivery of water is
10 equally clear. Regardless of prior dealings, the SCWA had a responsibility under the
11 Act to coordinate its Plan with the SWRCB, and it failed to do so.

12 The court determines that the SWRCB is a relevant public agency as
13 contemplated by Section 10620(d)(2). The Plan itself notes that the SCWA will need to
14 obtain additional water rights from the SWRCB. It is undisputed that the SWRCB is a
15 water management agency.

16 Respondents argue that it is impractical to coordinate with the SWRCB since
17 nothing could be learned, and no direction could be taken, due to the agency's need to
18 vote on any application following public hearing. Further, Respondents argue that
19 Section 10620(d)(2) does not require a formal “consultation” about the actual text of the
20 Plan, and that there is no requirement in the Act that draft Plans must be circulated to
21 all public agencies having regulatory authority over the supplier. Respondents argue
22 that, by requiring unspecified “coordination” only “if practicable” with “appropriate” or
23 “relevant” agencies “in the area,” the Legislature gave water suppliers discretion as to
24 the extent of such coordination. Respondents point to the ongoing agency contacts as
25 satisfying the coordination requirement of the Act.

26 Under the Act the SCWA “shall coordinate” the preparation of the Plan with
27 appropriate agencies. By its own terms, the Plan omitted this agency from the list of
28 agencies with which coordination occurred. Indeed, the administrative record discloses

1 a history of communication between the SCWA and the SWRCB as to issues similar to
2 those addressed by the Plan. The proposed findings, conclusions, and solutions
3 described in the Plan which directly involve the SWRCB should have been the subject
4 of coordination, particularly related to the Plan's conclusions addressing anticipated
5 future shortfalls.

6 The court determines that, for the purposes of the water storage and
7 transmission system that is the subject of the Plan, the SWRCB is "in the area" as
8 contemplated by the Act.

9 (2) U.S. Army Corps of Engineers ("USACE")

10 As described in the Plan, at Section 2.3.2,

11 "the Agency and the Mendocino County Russian River Flood Control and
12 Water Conservation Improvement District have water right permits
13 authorizing storage up to the design capacity of 122,500 acre-feet per
14 year (ac-ft/yr) in the reservoir. The design water supply pool capacity of
15 Lake Mendocino is 72,000 ac-ft. The Agency controls releases from the
16 water supply pool in Lake Mendocino. However, the USACE manages
17 flood control releases when the water level exceeds the top of the water
18 supply pool elevation. The USACE allows the Agency to encroach into the
19 flood pool in the spring so that the summer water supply pool can be
20 increased to 86,000 ac-ft."

21 Under the Plan, "[f]lood management releases from both [Lake Sonoma and
22 Lake Mendocino] reservoirs are controlled by the United States Army Corps of
23 Engineers (USACE)." (AR 25626; 66718). Three major reservoirs provide water supply
24 storage for the Russian River watershed: Lake Pillsbury on the Eel River, Lake
25 Mendocino, and Lake Sonoma. Coyote Valley Dam impounds Lake Mendocino, and is
26 located on a tributary of the Russian River. Warm Springs Dam impounds Lake
27 Sonoma, and is located at the confluence of Warm Springs Creek and Dry Creek. Lake
28 Mendocino is a multipurpose reservoir providing flood protection to areas below Coyote
Valley Dam and which also supplies water for domestic, industrial, and agricultural use.
With respect to flood control, the flood control pool is typically large enough to store
runoff. However, there are reductions in the lake level occurring during late spring and
early summer. When the water level rises above the top of the water supply pool, and

1 into the flood control pool, the USACE determines releases. (AR 25623-25624).

2 Addressing the first issue, to wit, whether there is an obligation to coordinate the
3 Plan with the USACE, the court determines that this agency shares a common source
4 with the SCWA, and that it is a "relevant public agency" as contemplated by the Act.
5 Respondents offer portions of the administrative record in support of their argument that
6 the SCWA has, by virtue of its considerable prior dealings, in effect coordinated its
7 water plan with the USACE. This latter point will be addressed below. However, as to
8 the relevance of USACE relative to the requirements under the Act, the court notes that
9 the parties entered into a memorandum of understanding which addresses, in part, the
10 effect on coho salmon and steelhead trout in the Russian River which would result from
11 an increase in the amount of water diverted from the Russian River (AR 20058-20066).
12 This is precisely the sort of environmental concern that could affect the flow
13 requirements potentially necessary to meet the increased demand during multiple dry
14 years.

15 In September of 2004, the USACE wrote a letter seeking formal consultation on
16 matters related to the proposed Biological Assessment. This document addresses
17 environmental concerns relative to changes in water flow. Of interest in this letter is the
18 statement that the time line to proceed through the SWRCB process to modify water
19 flow could be as long as five years. It was recognized that over the past six years, there
20 had been extensive collaborative efforts by various agencies, including the agencies
21 that are the subject of this Petition claiming error. The ultimate purpose of the
22 Biological Assessment is to provide protection for listed salmon and steelhead and to
23 promote the opportunity for recovery of these populations and the Russian River basin.
24 An offer was made to work collaboratively with the SCWA. (AR 20016-20018).

25 Respondents argue that, even if the court determines that coordination is
26 required under the Act, any meetings concerning the Plan would be useless since these
27 are agencies that cannot act without public hearings and other public due process
28 rights. The letter described above mitigates against any such interpretation. In fact, the

1 various documents pointed out by Respondents support that the parties frequently
2 communicated, and continued to communicate, about matters jointed affecting the
3 SCWA and the USACE. The record does not support an inability, or futility, to
4 coordinate with this agency.

5 As part of the record, the Russian River Biological Assessment was submitted.
6 This is offered by Respondents as evidence of the efforts made to work with the
7 USACE, and the coordination efforts between that agency and the SCWA. As
8 evidenced by the Executive Summary, the project was undertaken to evaluate the
9 potential effects of the project resulting from certain activities in the Russian River and
10 the potential effect on salmonid species and their habitat. The proposed changes to the
11 project that were addressed, in part, by the Assessment include modified flow releases
12 from the warm Springs Dam and Coyote Valley Dam (after the SWRCB modifies the
13 SCWA's water-right permits). In addition, the assessment was intended to address
14 additional water supply measures to meet future demand while protecting fish habitat.
15 In addressing the flow proposal that was a part of this assessment, it was noted that the
16 goal is to maintain a suitable rearing habitat for the listed salmonids. The executive
17 summary then noted that "lower flow rates necessary for suitable rearing habitat would
18 make it more difficult for SCWA to meet future supply demands of the water
19 contractors," and that "additional water-supply measures would be needed so that
20 SCWA could continue to meet all of its contractors' demands for water." The summary
21 addressed some of the measures under consideration, noting that the SCWA was
22 reviewing the types and feasibility of these facilities to meet water supply needs. Upon
23 review of this assessment, it seems clear that the subject matter is relevant to the
24 scope and substance of the Plan. The issue, then, is whether participation in this
25 Biological Assessment satisfies the requirement that the SCWA coordinate with
26 relevant agencies. The court determines that the Russian River Biological Assessment
27 does not satisfy the requirement of coordination. For example, the Plan addresses
28 future water supply and demand, noting an anticipated shortfall beginning in 2020. In

1 addition to conservation, the Plan contemplates at Section 7 utilizing emergency local
2 sources. Considering the anticipated increase in water supply use, even that currently
3 permitted under existing licenses, it is reasonable to assume that the USACE (as well
4 as other agencies) may provide input that could affect the ultimate conclusions of the
5 Plan. This input was not received. Regardless of the extensive history of cooperation
6 between the SCWA and the USACE, the Plan should have been the subject of
7 coordination between these agencies. In fact, it is precisely due to this history that
8 mitigates in favor of such coordination. Respondents point out that as between the
9 Agency and USACE, although the USACE owns the Lake Sonoma and Lake
10 Mendocino facilities, the Agency has the right to release water from those reservoirs for
11 water supply purposes, and the USACE has no control over such releases. (AR
12 68164). However, the record discloses that the USACE does in fact control aspects of
13 the water delivery system, and its input as to the anticipated shortages and plan to
14 address the same is certainly relevant.

15 Respondents argue that the SCWA has had constant contact and discussions
16 with various entities, including the USACE, on issues relating to the Agency's water
17 supply for the past 10-plus years. Respondents point to the fact that since 1997 the
18 Agency has been engaged in ongoing formal consultation under Section 7 of the
19 federal Endangered Species Act with NMFS and USACE about the impact of the
20 Agency's water supply activities on the three salmonid species listed under ESA. (AR
21 20058-20066; 25503-25508). As a part of this formal consultation, a "Public Policy
22 Facilitating Committee" was formed, comprised of representatives of NMFS, USACE,
23 and the SCWA (among others). (AR 20058-20066; 25503-25508). The purpose of the
24 committee was to receive reports from the Agency and its ESA consultant, as well as
25 public comment, on the analysis of the impact of the Agency's activities on the listed
26 species and proposals to mitigate those impacts. This committee met over 19 times
27 from 1998 through 2006. (AR 68995). These formal meetings of the working group
28 were comprised of staff from the participating agencies, and met on an ongoing basis.

1 The meetings included working together on studies evaluating the impact of the
2 Agency's activities on listed species. (AR 69005-69009). According to Respondents,
3 due to this history of meetings and consultation, when the Agency prepared its Plan, it
4 had a full understanding of the potential constraints on its existing and future water
5 supply operations that might be required by NMFS. Indeed, these potential constraints
6 are, as asserted by Respondents, fully set forth in the 2004 Russian River Biological
7 Assessment.

8 The court determines that USACE is a water supplier that shares a common
9 source with the SCWA; and that it is a relevant public agency in the area. The Act
10 requires coordination, and is not satisfied by assumptions of what the agency would
11 likely offer in connection with the anticipated future shortfalls. The Plan should have
12 been coordinated with USACE, and it was not.

13 (3) Federal Energy Regulatory Commission ("FERC")

14 FERC controls SCWA's diversions of Eel River water under PG&E's Potter
15 Valley Project's license. Thus, Petitioners argue that FERC has a regulatory role in
16 managing the Agency's facilities and supplies, and therefore should have been
17 consulted during the Plan's preparation. The Plan includes an acknowledgment that
18 diversion of water by P,G & E from the Eel River Watershed into the Russian River
19 watershed "has been a source of controversy" but that the diversion was ongoing for
20 100 years. Based on this history, the SCWA postulated its "reasonable" assumption
21 that the PVP diversions into the Russian River watershed would continue. (AR
22 66709-66714). There is no disagreement as to the importance of the continued
23 diversion of water from the Eel River as part of the water management plan. The issue
24 here presented, however, is whether the Agency sufficiently coordinated the Plan with
25 FERC.

26 Respondents claim that, with respect to FERC, the Agency was an active
27 participant in the FERC proceedings that resulted in the 2004 amendment to PG&E's
28 license for the Potter Valley Project, and Agency staff have a detailed understanding of

1 the operations of the PVP and its impact on water supplies in the Russian River basin.
2 For example, the Agency has developed a sophisticated model to evaluate the impact
3 of changes in PVP operation on flows into the Russian River watershed. (AR
4 10378-10417). The terms of PG&E's license for the Project have been set until 2022.
5 This history, according to Respondents, excuses any further need to coordinate with
6 FERC, particularly since there is nothing presently pending at FERC. Respondents
7 point to its constant contact and discussions with FERC on issues relating to the
8 Agency's water supply for the past 10-plus years.

9 As contained in the Plan, FERC retains authority over the Potter Valley Project
10 ("PVP"), which diverts more than 159,000 acre feet annually from the Eel River to the
11 Russian River, supplying most of the Russian River's summer flow. (AR 66710);
12 *Friends of the Eel River v. Sonoma County Water Agency* (2003) 108 Cal.App.4th 859,
13 866. NOAA Fisheries, along with the SWRCB, SCWA, and the U.S. Army Corps of
14 Engineers, control water releases from Warm Springs Dam (Lake Sonoma) on Dry
15 Creek, a principal tributary of the Russian River, and from Coyote Dam (Lake
16 Mendocino) on the Russian River's main stem. (AR 25626, 66718). Together, water
17 from the PVP, Warm Springs Dam and Coyote Dam provide most of respondents'
18 summer water supply from the Russian River.(AR 25623-25624).

19 A review of the administrative record discloses the substantial issues that arise
20 from projected changes in flow from water sources. For example, counsel for the
21 SCWA submitted a motion to intervene in order to protest a proposal pending before
22 FERC. This proposal involved, in general, a request by Pacific, Gas and Electric
23 Company to amend the minimum flow release schedule for the PVP. Arguing that the
24 projections were flawed, the SCWA asserted that the flow changes could impact on,
25 inter alia, Russian River irrigation, fisheries, and other beneficial uses. (AR
26 10327-10375).

27 It is clear that Respondents failed to coordinate with FERC as to the Plan. The
28 specific issues raised include future supply and demand. While it is conceivable that

1 FERC will add little or nothing to the analysis, without coordinating as required by
2 statute, such is unknown.

3 (4) NOAA Fisheries (formerly the U.S. Fish and Wildlife Service)

4 NOAA Fisheries, along with the SWRCB, SCWA, and the U.S. Army Corps of
5 Engineers, control water releases from Warm Springs Dam (Lake Sonoma) on Dry
6 Creek, a principal tributary of the Russian River, and from Coyote Dam (Lake
7 Mendocino) on the Russian River's main stem. (AR 25626, 66718). Together, water
8 from the PVP, Warm Springs Dam and Coyote Dam provides most of respondents'
9 summer water supply from the Russian River. (AR 25623-25624).

10 There is no evidence of any coordination with NOAA Fisheries. The record
11 does, however, support that this agency bears a role in controlling water releases from
12 water sources shared by the SCWA. Although there is a record of communication
13 between these two agencies, none relates specifically to the Plan.

14 VI.

15 THE PLAN FAILS DUE TO FAILURE TO ADDRESS THE IMPACT OF
16 FUTURE WATER SUPPLY SHORTFALLS

17 As stated previously, the Plan concludes that there will be adequate water
18 supplies throughout the planning period," except as to "single-dry years, starting in
19 2020." The magnitude of the potential shortfalls is 15% of normal demand by 2030.
20 The Plan relies on working with the SCWA's contractors to reduce water demands
21 pursuant to the Water Contingency Analysis (Exhibit "C") and "to utilize emergency local
22 sources, or both." (Section 7-1).

23 The Plan does address sources of water and conservation measures. However,
24 as more fully addressed below, the environmental factors potentially affecting the need
25 for increased flow have not been adequately addressed.

26 A. Water Supply Limitations

27 Section 1063(c) requires that an UWMP "describe plans to supplement or
28

1 replace" any "source that may not be available at a consistent level of use." Clearly,
2 increased water flow is one of the alternative sources relied upon by the Plan. At the
3 same time, the Plan notes a physical constraint to the use of this increased flow.
4 Specifically, the Plan provides that the present capacity of the transmission system
5 physically constrains the ability to deliver water, particularly during high demand periods
6 in the summer months. (Section 4.1.1). At the same time, Table 7-6 identifies shortfalls
7 ranging from 2,646 afy to 15,479 afy by 2030. The future water supply projections
8 assume that the planned infrastructure improvements (referred to herein as "Water
9 Project") will be approved and constructed. The Plan points out that such a Water
10 Project has been initiated since the early 1990's, but that it continues to be subjected to
11 legal challenges. The SCWA has entered into a legal agreement ("Restructured
12 Agreement") which addresses the maximum water allocations for customers. This, in
13 turn, is premised on the SCWA's ability to increase water flow, and the construction of
14 the Water Project. (Section 4.1.2) The Plan, in addressing this issue, projects
15 completion of the Water Project in 2020. (Table 4-10). This would provide sufficient
16 time to allow for the increased water flow. The Plan is sufficient in this regard.

17 B. Water Demand Management Measures

18 During the Years of potential shortfall, the Plan contemplates that "the Agency
19 would work with its contractors to reduce water demands as described in Appendix C"
20 beginning on AR 66817. The contents of Appendix "C" are summarized as follows:

- 21 • The SCWA is a water wholesaler, and as such, cannot impose use
22 restrictions on end users of water in the event of a shortage; such
restrictions must be taken by the wholesale customers of SCWA;
- 23 • In the event of a water shortage, the SCWA approved a water
24 allocation methodology ("Restructured Agreement") describing the
25 manner in which the SCWA is to allocate water to its customers in
26 the event of a temporary impairment of the capacity of water
27 delivery. Further, under the SCWA's water rights permits, it may
impose a 30% deficiency in deliveries from the Russian River
whenever the quantity of water in storage at Lake Sonoma drops
below a certain level before July 15 of any year. The
circumstances justifying the deficiency are more fully described in
this Appendix C;

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- The Plan confirms that the water supplies are sufficient to meet transmission system demands, "except in a critically dry year" as noted in Section 7 of the Plan. If it appeared that a water supply shortage might occur, the Plan refers to a first stage of action which involves notification by the SCWA of that possibility to its contractors, customers, and the general public. In such case, the contractors and customers would be encouraged to voluntarily reduce demand and to maximize use of local water supplies. In addition, the Plan calls for the SCWA to publicize the potential shortage, and to encourage non-Agency and agricultural converters from the Russian River and Dry Creek "to reduce diversions to the extent possible"

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If the measures initiated in the first phase are unsuccessful such that the transmission system demands exceed the available water supply, the Plan contemplates that the SCWA would calculate the amount of water available to its contractors, customers, and other users, and utilize the existing allocation methodology contained in the Restructured Agreement to limit allocation to such users. Further, in the event of a severe water supply shortage, the SCWA noted the right to petition the State Water Resources Control Board for relief from the temporary flow requirements in the Russian River and Dry Creek, thus conserving the Lake Sonoma and Lake Mendocino water supply.

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- 14
- The Plan includes a response in the event of a "catastrophic" interruption of supply.

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Section 10631(c), as noted above, provides that a plan must, "[f]or any water source that may not be available at a consistent level of use, given specific legal, environmental, water quality, or climatic factors, describe plans to supplement or replace that source with alternative sources or water demand management measures, to the extent practical." In addition to addressing alternative water sources, the Plan relies on management of existing resources. Section 10610.2.(a)(4) provides that "[a]s part of its long-range planning activities, every urban water supplier should make every effort to ensure the appropriate level of reliability in its water service sufficient to meet the needs of its various categories of customers during normal, dry, and multiple dry water years." Thus, the issue here to be determined is whether the Plan, through management measures, has adequately addressed this stated purpose.

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Section 10632 provides that the Plan shall provide an urban water shortage contingency analysis which includes each of the following elements:

28 /

- 1 (1) Stages of action to be undertaken by the urban water supplier in
2 response to water supply shortages, including up to a 50 percent
3 reduction in water supply, and an outline of specific water supply
4 conditions which are applicable to each stage.

5 Appendix "C" of the Plan contains a Water Shortage Contingency Analysis which
6 addresses action to be undertaken by the SCWA in response to water supply
7 shortages, including up to a 50 percent reduction in water supply, and an outline of
8 specific water supply conditions which are applicable to each stage. The Plan
9 addresses each such stage, and also incorporates the Restructured Agreement For
10 Water Supply (AR 32424-32487).

- 11 (2) An estimate of the minimum water supply available during each of
12 the next three water years based on the driest three-year historic
13 sequence for the agency's water supply.

14 Appendix "C" refers to Table 7-7, noting that no supply reduction is projected
15 under this scenario

- 16 (3) Actions to be undertaken by the urban water supplier to prepare
17 for, and implement during, a catastrophic interruption of water
18 supplies including, but not limited to, a regional power outage, an
19 earthquake, or other disaster.

20 Appendix "C" includes a "Catastrophic Supply Interruption Plan-Water Code
21 Section 10632(c)" section which includes actions summarized in Table 3.

- 22 (4) Additional, mandatory prohibitions against specific water use
23 practices during water shortages, including, but not limited to,
24 prohibiting the use of potable water for street cleaning.
- 25 (5) Consumption reduction methods in the most restrictive stages.
26 Each urban water supplier may use any type of consumption
27 reduction methods in its water shortage contingency analysis that
28 would reduce water use, are appropriate for its area, and have the
ability to achieve a water use reduction consistent with up to a 50
percent reduction in water supply.

Penalties or charges for excessive use, where applicable.

Appendix "C" describes that the SCWA, as a wholesale supplier, has no ability to
directly restrict the use of water, or to impose financial penalties, on end users.
However, the Plan does incorporate the Restructured Agreement For Water Supply

1 (AR 32424-32487), specifically, at Section 3.5(e) of that agreement. This section does
2 address prohibitions, penalties, and outlines a plan for consumption reduction.

- 3 (6) An analysis of the impacts of each of the actions and conditions
4 described in subdivisions (a) to (f), inclusive, on the revenues and
5 expenditures of the urban water supplier, and proposed measures
6 to overcome those impacts, such as the development of reserves
7 and rate adjustments.

8 Appendix "C" includes an analysis as required under this subsection.

- 9 (7) A draft water shortage contingency resolution or ordinance.
10 A mechanism for determining actual reductions in water use
11 pursuant to the urban water shortage contingency analysis.

12 The Plan includes an allocation methodology in Attachment 1. Those
13 purchasing water from the SCWA would need to adopt individual contingency
14 resolutions in the event of a water shortage. Appendix "C" also includes a monitoring
15 procedure in the event of allocation pursuant to Section 3.5 of the Restructured
16 Agreement For Water Supply (AR 32424-32487).

17 The purpose of the UWMPA is "to provide assistance to water agencies in
18 carrying out their long-term resource planning responsibilities to ensure adequate water
19 supplies to meet existing and future demands for water." Water Code § 10610.2(b).
20 Here, the Plan includes a water shortage contingency analysis, a component of which
21 are stages of action to be undertaken in response to water supply shortages, and an
22 outline of specific water supply conditions which are applicable to each stage.

23 Considering the foregoing, the court determines that the SCWA has proceeded
24 according to law, except as otherwise determined herein.

- 25 C. The Plan Assumes That Water Diversions from Warm Springs Dam Will
26 Not Be Reduced in Order to Protect Threatened and Endangered Species
27 in the Russian River and Eel River

28 In the Plan's "Assumptions" section, Respondents assume that "the listing of
three salmonid species as threatened or endangered under the Endangered Species
Act (ESA) will not reduce the amount of water [the Russian River] can supply,
principally from the water stored in Lake Sonoma (Warm Springs Dam), using its

1 Russian River diversion facilities." Plan at 1-4. The Plan similarly assumes, without
2 further analysis, that the FERC license for the PVP "will not be modified, or that any
3 license modifications (and the terms of any new license) will not reduce the amount of
4 water available for diversion by the Agency." Plan at 1-4. According to Petitioners,
5 Respondents' assumption fails to take into account the fact that the PVP license is
6 subject to Endangered Species Act ("ESA") restrictions and other federal environmental
7 laws, and therefore may be subject to flow adjustments at any point in the future when
8 necessary to protect fish and wildlife, including during critically dry and multiple dry
9 years.

10 In response, Respondents assert that the Plan's assumption that PVP flows will
11 continue is reasonable given the factors discussed in the Plan, each of which is
12 supported by substantial evidence in the record: the flows have been in place for 100
13 years and extensive agricultural, municipal, and commercial economies have
14 developed in reliance on the flows (AR:54108-54110); FERC recognizes the
15 importance of the diversions to the Russian River watershed); and, as the SWRCB has
16 recognized, the flows are critical for the fall migration of Chinook salmon in the Russian
17 River (AR 12827). Finally, because the Agency will update its Plan by the end of 2010
18 and every five years thereafter, if in the future it appears more likely that FERC will
19 order a further reduction in PVP flows into the Russian River watershed, the Agency
20 can address that in an updated Plan.

21 Both Petitioners and Respondents point to the Biological Assessment. Some
22 guidance is found in the executive summary, addressing the issue of flow management.
23 Noting that decreased flows improve the habitat for the listed fish species, the summary
24 goes on to state as follows:

25 "The goal of the Flow Proposal is to maintain suitable rearing habitat for
26 listed salmonids. Because the lower flow rates necessary for suitable
27 rearing habitat would make it more difficult for SCWA to meet future
28 supply demands of the water contractors, additional water-supply
measures would be needed so that SCWA could continue to meet all of
its contractors' demands for water. Some of the measures under
consideration include an aquifer storage and recovery (ASR) program.

1 additional diversion facilities, and new raw water pipeline. SCWA is
2 reviewing the types and feasibility of these facilities to meet water supply
needs. (Biological Assessment, Executive Summary, p. xl)

3 Essentially, the issue here addressed is this- the Plan assumes that the
4 endangered species, the subject of which was addressed in the Biological Assessment,
5 will not reduce the amount of water that could be supplied, relying principally on the 100
6 year history involving flow releases. The Biological Assessment is a product of a joint
7 assessment by the USACE, SWCA, NOAA Fisheries, and a Mendocino County flood
8 control district. The SCWA entered into a Memorandum of Understanding with NMFS
9 and USACE for a consultation under Section 7 of the ESA on the impacts of SCWA
10 and USACE operations on the listed species. (AR 26949-26852) In September 2004,
11 the SCWA and USACE submitted to NMFS the Russian River Biological Assessment,
12 ("Biological Assessment") a detailed analysis of the impact of their actions on the listed
13 species, containing proposals for changes in operation to benefit the species. (AR
14 26851)

15 Petitioners allege that the Order Amending License in the FERC proceedings
16 contained provisions allowing FERC to revisit the issue of permissible flows, depending
17 upon the state of the endangered fish, prior to the relicensing in 2022. *California*
18 *Sportfishing Protection Alliance v. FERC* (9th Cir. Ct. App. Nos. 04-73498, et seq.,
19 Petitioners' Excerpts of Record Vol. 4 (January 28, 2004): Tab 20: Order Amending
20 License, Articles 51-58. Petitioners allege that, given this uncertainty in the availability
21 of the water supply, the Plan fails to account for such potential flow reductions, in
22 violation of the UWMPA. Thus, Petitioners argue that the SCWA did not "proceed in a
23 manner required by law.

24 The Biological Assessment explicitly states that actions taken to protect listed
25 species will *reduce* water supplies available to the SCWA. The Biological Assessment
26 refers to analysis of the "additional water-supply measures" needed to "meet future
27 supply demands of water contractors." These analyses are *exactly* what is required by
28 the UWMPA's section 10631(c), which mandates "[f]or any water source that may not

1 be available at a consistent level of use, given specific legal [and] environmental
2 factors, [the Plan must] describe plans to supplement or replace that source with
3 alternative sources or water demand management measures, to the extent practicable.”
4 The issues raised by the Biological Assessment are “environmental factors” that may
5 affect the consistent water supply, and in particular, the increased demand that the Plan
6 relies on during shortfall periods. The Plan dismisses these environmental concerns,
7 using what amounts to the following logic: over a 20 year period, the SCWA can
8 determine the most likely outcome of regulatory decisions; and given the facts currently
9 available, there is no known impediment to the availability of water to address the
10 potential shortfall in supply. The Plan admits that “regulatory agencies may make
11 different decisions or take different actions than those assumed by the [SCWA], which
12 may affect the availability of water and the adequacy of the Agency’s transmission
13 system.” (Section 1.6). However, the Plan fails to address the known issues raised by
14 increased or decreased flows and the salmonid population. Historically, violations of
15 the Endangered Species Act have significantly affected the availability of water from the
16 SCWA’s primary sources. Even the Plan itself is inherently inconsistent on this issue. It
17 concludes its analysis with the following:

18 “Given the analysis set forth in the Biological Assessment and the
19 Agency’s ongoing communications with NMFS’ staff, it is reasonable to
20 assume that with the implementation of mitigation measures, ESA
constraints will not affect or impair the water supply available to the
Agency for delivery to its transmission system customers.”(AR 66733)

21 However, the Plan admits that NOAA Fisheries’ Biological Opinion “may require
22 the Agency to modify its water supply facilities or operations.” (AR 66733). Further, it
23 states that “[i]t is uncertain what modifications NMFS may ultimately require the Agency
24 to implement . . . for future operations, including an increase in the Agency’s Russian
25 River diversions.” Id. Thus, the SCWA clearly recognizes that its operations “may be
26 modified” because of the existence of the listed species, and it acknowledges that the
27 extent of those modification is uncertain. This directly undercuts the Plan’s assumption
28 that “ESA constraints will not affect or impair the water supply available to the Agency

1 for delivery," and throws substantial doubt on the reliability of the Agency's key water
2 supplies in the future.

3 The assertion by Respondents that the above-noted deficiency can be
4 addressed through future plans is insufficient to comply with statutory directives. The
5 Act requires agencies to "[i]dentify and quantify, to the extent practicable, the existing
6 and planned sources of water available to the supplier" for five year periods, over the
7 course of 20 years. Section 10631(a)(b). The Plan does not presently identify how the
8 environmental issues presented are to be addressed, including alternative measures in
9 the event that these environmental factors serve to limit the increased flow necessary.

10 In *Friends of Santa Clara River*, the Plan noted contamination of an aquifer relied
11 on for water, noted that effective treatments were developed, and noted that a plan was
12 worked out to remove the contamination from the aquifer. Finding that plan to be
13 insufficient, the Court of Appeal determined that the plan did not address what stage of
14 development was reached, or how long it would take to implement that plan. The court
15 specifically noted that the process referred to in that plan was subject to CEQA review,
16 and that this review would increase the time needed to implement that process.

17 Here, the Plan relies heavily upon the assumed approval of a group of planned
18 future projects, collectively called the Water Supply, Transmission, and Reliability
19 Project ("Water Project"). (AR 66710, 66749-66750). This Water Project would
20 substantially increase SCWA's Russian River diversions, by up to one-third, from
21 75,000 ac-ft/yr. to 101,000 ac-ft/yr. (AR 66713, 66730). Respondents assume that
22 they will construct and operate all of the facilities now planned for the Water Project.
23 (AR 66710, 66749-66751). At the same time, the Plan admits that "State and federal
24 agencies, including the National Marine Fisheries Service (under the ESA) and the
25 .SWRCB[] (which issues water rights permits) could impose requirements that would
26 change the Water Project." (AR 66710). The Plan admits that the SCWA has only
27 applied for such an increase, but does not yet possess the rights to the additional
28 26,000 ac-ft of Russian River flows. (AR 66730). Even if the Water Project is completed

1 within the anticipated time frame, approval of a permit for an increase in Russian River
2 diversions is tenuous for the reasons stated. If Respondents' application for the
3 increased diversions are rejected, allowing diversions only at their current levels, the
4 projected demand would outstrip the available supplies by 2016 in multiple dry year
5 periods. (AR 66767-66770). The UWMPA demands not only a full analysis of the
6 uncertainties of this critical future supply, but equally important, a full discussion of
7 SCWA's "plans to replace that source with alternative sources."

8 D. The Plan Does Not Adequately Address the Threats Posed to Water
9 Supplies by the Disposal of Treated Sewage Water into the Russian River
10 Watershed at Locations Upstream of Groundwater Wells and Intakes for
11 SCWA Drinking Water Supplies

11 The Plan provides that the SCWA does not supply recycled water to offset
12 potable water uses. (AR 66761). However, the plan does address at Section 5 the use
13 of recycled water by its contractors. As noted by the Plan, the use of recycled water
14 reduces peak demands on the SCWA's water supply system (AR 66756-66762). For
15 example, the Santa Rosa Subregional Reclamation System disposes wastewater which
16 is not recycled into the Russian River. The treatment level is tertiary. In 2005, 3681
17 acre-feet per year were disposed; is projected that in 2020 7,362 acre-feet will be
18 disposed. (AR 66761). As shown in Table 5-6, Santa Rosa used 344 acre-feet during
19 2005 for urban purposes that offset potable water use. (AR 66760-66762).

20 The Act includes the objective to ensure that water supplies are not
21 contaminated in order to prevent adverse impacts on water quality. Contaminated
22 water, if a source relied on in the Plan, affects the issue of reliability. Sections
23 10610.2(a)(5), (9). Petitioners claim that the Plan fails to address threats to SCWA's
24 water supply from the planned use of treated sewage water for irrigation. Further claim
25 is made that the long-term availability of potable water may be severely threatened in
26 areas whose surface or groundwater may be contaminated by treated sewage.

27 In a 2006 letter from Randy Poole, the General Manager of the SCWA, to the
28 City of Santa Rosa, Mr. Poole provided comments regarding the draft Environmental

1 Impact Report involving Santa Rosa's recycled water program. The letter indicates
2 that the SCWA operates six collector wells along the Russian River which supply
3 drinking water for approximately 600,000 people in Sonoma and Marin counties.
4 Mention was made of the potential for an expanded water supply system which could
5 include new collectors upstream of existing collectors. Mr. Poole stated that the SCWA
6 was concerned that Santa Rosa's project could detrimentally affect the quality of
7 drinking water, and in particular, the SCWA's supply facilities due to the presence of
8 pathogens and inorganic and organic compounds that may be present in the
9 wastewater.(AR 03907-03909).

10 According to Petitioners, the Plan fails to acknowledge these concerns. The
11 Plan states that "no impacts to water supplies due to water quality deficiencies are
12 foreseen to occur in the next 25 years." (AR 66754-66755). Since the SCWA does
13 not supply recycled water to offset potable water uses, the issue to be here determined
14 is whether the Plan should have, but did not, consider use of recycled water by
15 contractors and the potential effect of said use on the reliability of drinking water that *is*
16 the subject of the Plan. (AR 66761-66762). The Act requires the SCWA to provide
17 descriptions of its groundwater management strategy, including "the manner in which
18 water quality affects water management strategies and supply reliability." §§ 10631(b),
19 10634, 10635. The Plan fails to address these concerns, except to the extent that
20 generalized statements are made dismissing such concerns. While it is true that
21 Sections 10633(f) and (g) of the Act specifically "encourage the use of recycled water"
22 and require "optimizing the use of recycled water" by the water agency, to the extent
23 that it may affect the reliability of water sources it must be addressed. The likelihood of
24 any future disposal of treated wastewater to the Russian River upstream of the
25 Agency's facilities is *not* pure speculation, as shown by Mr. Poole's letter. Even though
26 any future project to discharge wastewater to the Russian River or for the beneficial use
27 of recycled water would be subject to CEQA requirements, the potential impact of such
28 eventuality must be considered in connection with the Plan.

1 E. The Plan Fails To Explain How, When, And To What Extent Its Water
2 Conservation Program Will Reduce Water Demand

3 Water Code Sections 10631(f)(g) provide that a plan shall include:

4 "(f) ... a description of the supplier's water demand management
5 measures. This description shall include all of the following:

6 (4) An estimate, if available, of existing conservation savings on
7 water use within the supplier's service area, and the effect of the
8 savings on the supplier's ability to further reduce demand."

9 Section 10631(g) requires the Plan to include:

10 "An evaluation of each water demand management measure listed
11 in paragraph (1) of subdivision (f) that is not currently being
12 implemented or scheduled for implementation. In the course of the
13 evaluation, first consideration shall be given to water demand
14 management measures, or combination of measures, that offer
15 lower incremental costs than expanded or additional water
16 supplies. This evaluation shall do all of the following:

- 17 (1) Take into account economic and noneconomic factors,
18 including environmental, social, health, customer impact, and
19 technological factors.
- 20 (2) Include a cost-benefit analysis, identifying total benefits and
21 total costs.
- 22 (3) Include a description of funding available to implement any
23 planned water supply project that would provide water at a
24 higher unit cost.
- 25 (4) Include a description of the water supplier's legal authority to
26 implement the measure and efforts to work with other relevant
27 agencies to ensure the implementation of the measure and to
28 share the cost of implementation."

21 According to Petitioners, the Plan does not include how, when, and to what
22 extent it will reduce the demand for water. (AR 66764-66766). The Plan, according to
23 Petitioners, in calculating projected water demands, bases the projections upon a
24 predicted substantial reduction in water use based on future implementation of water
25 conservation and best management measures. The Plan does not describe how each
26 measure functions, whether or not it has been fully implemented, or its effectiveness.
27 According to Petitioners, the Plan is defective since it precludes informed evaluation of
28 how, and whether, the SCWA plans to supply sufficient water to meet expected future

1 demands.

2 In response, Respondents point to Water Code Section 10631(j):

3 'Urban water suppliers that are members of the California Urban Water
4 Conservation Council and submit annual reports to that council in
5 accordance with the "Memorandum of Understanding Regarding Urban
6 Water Conservation in California," dated September 1991, may submit
7 the annual reports identifying water demand management measures
8 currently being implemented, or scheduled for implementation, to satisfy
9 the requirements of subdivisions (f) and (g)"

10 The Agency is a member of the California Urban Water Conservation Council
11 (CUWCC). AR06:05:13030-13081. Under the MOU, the Agency submits annual reports
12 to CUWCC which identify the BMPs being implemented by the Agency

13 The issue to be determined is whether the report, contained at Appendix 2 of the
14 Plan, satisfies the requirements imposed by statute. (AR 66719-66816). The court
15 determines that the report submitted pursuant to Section 10631(j), and the Plan, does
16 not include any supporting data to demonstrate the water savings from its participation
17 in the California Urban Water Conservation Council. The Plan does not provide the
18 dates by which the claimed measures will be in effect. As such, the Plan is not
19 supported by substantial evidence.

20 VII.

21 VIOLATION OF THE PUBLIC TRUST DOCTRINE

22 In *Environmental Protection and Information Center V. California Department of*
23 *Forestry and Fire Protection* (2008) 44 Cal.4th 459, 515, the Supreme Court addressed
24 a challenge to an approved logging plan arising from a settlement. The court addressed
25 "two distinct public trust doctrines" there at issue: "the common law doctrine, which
26 involves the government's 'affirmative duty to take the public trust into account in the
27 planning and allocation of water resources" and "a public trust duty derived from
28 statute, specifically Fish and Game Code section 711.7, pertaining to fish and wildlife."
In that case, the court observed that although the two doctrines overlap, "the duty of
government agencies to protect wildlife is primarily statutory."

1 Here, the duties which are the object of this mandamus action are primarily
2 statutory. As such, and considering the complex nature of the water distribution system
3 and forecasting related thereto, the court abstains from invoking the Public Trust
4 Doctrine in deference to the regulatory oversight being provided by public authorities.
5 See, for example, *Center For Biological Diversity, Inc. V. FPL Group, Inc.* (2008) 166
6 Cal.App.4th 1349.

7 VIII.

8 ATTORNEYS FEES

9 Petitioners seek recovery of their attorney's fees and litigation costs pursuant to
10 Code of Civil Procedure sections 1021.5 and 1032, and Government Code section 800.
11 Petitioners seek an award of attorney's fees under each of their causes of action herein
12 pursuant to Code of Civil Procedure section 1021.5, in that the successful disposition of
13 this Verified Petition for Writ of Mandate and Complaint for Declaratory and Injunctive
14 Relief and Attorney's Fees will result in the enforcement of an important right affecting
15 the public interest; a significant benefit will be conferred upon the general public and a
16 large class of persons arising from enforcement of state laws and regulations protecting
17 the quantity and quality of the State's waters and associated public trust interests; and
18 the necessity and financial burden of private enforcement are such as to make the
19 award appropriate. Petitioners seek to recover their attorney's fees pursuant to
20 Government Code section 800, which authorizes the award of up to \$7,500 in attorney's
21 fees to petitioners in actions to overturn agency actions, such as those at issue herein,
22 that are arbitrary and capricious. Additionally, petitioners request reimbursement of
23 their litigation costs pursuant to Code of Civil Procedure section 1032, subdivision (b),
24 which provides in pertinent part that: "[e]xcept as otherwise expressly provided by
25 statute, a prevailing party is entitled as a matter of law to recover its costs in any action
26 or proceeding." In light of the determinations made herein, the court will address any
27 claims for attorneys fees pursuant to a separate motion, to be filed within 30 days of the
28 date of service of this order.

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4 **IT IS SO ORDERED**

5 Dated: October 28, 2008

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Hon. Gary Nadler
Judge of the Superior Court

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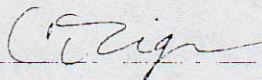
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PROOF OF SERVICE BY MAIL

I certify that I am an employee of the Superior Court of California, County of Sonoma, and that my business address is 600 Administration Drive, Room 107-J, Santa Rosa, California, 95403; that I am not a party to this cause; that I am over the age of 18 years; that I am readily familiar with this office's practice for collection and processing of correspondence for mailing with the United States Postal Service; and that on the date shown below I placed a true copy of the foregoing attached papers in an envelope, sealed and addressed as shown below, for collection and mailing at Santa Rosa, California, first class, postage fully prepaid, following ordinary business practices.

Date: October 28, 2008

Denise L. Gordon
COURT EXECUTIVE OFFICERby  _____

Deputy Clerk

--ADDRESSEES--

MITCHELL, STEVEN C
GEARY, SHEA, O'DONNELL & GRATTAN
37 OLD COURTHOUSE SQ FL 4
SANTA ROSA, CA 95404VOLKER, STEPHAN C
LAW OFFICES OF STEPHAN C VOLKER
436 14TH ST STE 1300
OAKLAND, CA 94612WOODSIDE, STEVEN M
COUNTY COUNSEL
575 ADMINISTRATION DR STE 105A
SANTA ROSA, CA 95403

Please detach top portion and return with payment.

Account Number
00124885-03

Name
DON MC ENHILL

Service Address
716 REVEL RD

Meter Number	Read Dates		Billing Days	Meter Readings		Multiplier	Usage	Units	Power Factor
	Present	Previous		Present	Previous				
ELECTRIC: 0000014474	02/02/2009	01/05/2009	28	34401	33168	1	1233	kWh	
WATER: 0000003475	02/02/2009	01/05/2009	28	2768	2763	1	5	HCF	

BILLING SUMMARY

Previous Balance as of : 01-21-09 \$345.14
 Payments & Adjustments 02-17-09 (\$345.14)
 Balance Forward as of : 02-20-09 \$0.00
 Current Charges as of : 02-20-09 \$237.05
 Total Amount Due \$237.05

PREVIOUS BALANCE
 PAYMENT 02/17/2009
 BALANCE FORWARD

345.14
 -345.14
 0.00

Electric-Baseline D4 0.121680 610 74.22
 Electric Tier 2 0.139870 610 85.32
 Electric Tier 3 0.218890 13 2.85
 Elec-Res. Care Program - 15% Disc -24.36
 Total Electric Charges 138.03

CA Energy Com Surcharge 2.85%
 State Energy Surcharge .00022

Water Basic Charge 32.40
 Wtr-Res. Care Program - 15% Disc. -4.86
 Pump Zone Surcharge - Cadoul 7.06
 Total Water Charges 34.60

Sewer Basic Charge 36.97
 Residential-Storm Water 7.01
 Sewer Usage Charge AI 30.85
 Drain-Res. Care Program - 15% -1.05
 Swr-Res. Care Prog. - 20% Disc. -13.56
 Total Sewer Charges 60.22

Month	Day	Electric Use (kWh)	Avg. kWh per day	Water Use (Gallons)	Avg. Gal per day
02-09	28	1233	44	3740	134
01-09	34	1877	55	5236	154
12-08	29	1039	36	3740	129
11-08	31	988	32	4488	145
10-08	30	1025	34	5236	175
09-08	30	1219	41	5236	175
08-08	32	1206	38	5236	164
07-08	31	1217	39	5984	193
06-08	32	998	31	5984	187
05-08	30	964	32	5236	175
04-08	29	1067	37	4488	155
03-08	25	927	37	2992	120
02-08	31	1757	57	2244	72

ELECTRIC & WATER USAGE HISTORY

Rate Usage Charges
 0.121680 610 74.22
 0.139870 610 85.32
 0.218890 13 2.85
 -24.36
 138.03

CA Energy Com Surcharge 2.85%
 State Energy Surcharge .00022

Water Basic Charge 32.40
 Wtr-Res. Care Program - 15% Disc. -4.86
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 Sewer Usage Charge AI 30.85
 Drain-Res. Care Program - 15% -1.05
 Swr-Res. Care Prog. - 20% Disc. -13.56
 Total Sewer Charges 60.22

13 month avg - 389 gallons per person
 44.7 gal per person
 CURRENT CHARGES - Summer -
 TOTAL AMOUNT DUE -
 \$237.05
 \$237.05

Total Water use of 4
 Total Payment of 4



City of Healdsburg
 401 Grove Street
 Healdsburg, CA 95448
 www.cityofhealdsburg.org

Bill Type	Account Type	Bill Date	Due Date	Amount Due	Payment Type
REGULAR	RESIDENTIAL	02/20/2009	03/17/2009	237.05	PLEASE PAY BY DUE DATE

MESSAGES: FOR CITY UPDATES AND NEWS OR TO SIGN UP FOR E-NEWS
 VISIT OUR WEBSITE;
 http://www.ci.healdsburg.ca.us

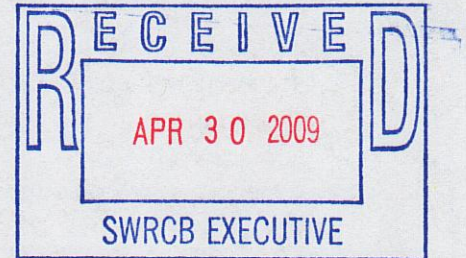
Office Hours: Monday-Friday 8:30am-5:00pm Customer Service: (707) 431-3307 Fax: (707) 431-3171

Gus Yates, Consulting Hydrologist
PG 7178 CHg 740

1809 California Street, Berkeley, CA 94703 • Tel/Fax 510-849-4412 • gusyates@earthlink.net

April 21, 2009

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



Subject: Northern Sonoma County Agricultural Reuse Project, Final Environmental Impact Report: Technical Review of Hydrology and Water Quality Issues

Dear Mr. Cuneo:

I am a registered geologist and hydrogeologist in the State of California, with 25 years experience conducting local and basin-scale investigations of groundwater and surface-water hydrology and water quality. My project experience has included work for Sonoma County agencies preparing environmental impact reports related to winery wastewater, forest conversion to vineyards, and aggregate mining along the middle reach of the Russian River. I recently completed a technical review of a report on Dry Creek Valley groundwater conditions (Johnson 2008) on behalf of the Clean Water Coalition of Northern Sonoma County (CWCNSC). A copy of the memorandum describing my findings and additional analysis is attached. CWCNSC also asked me to review the subject FEIR to determine whether the analysis of hydrology and water quality impacts was complete and adequate. This letter contains the results of that review.

I have found that several important impacts were overlooked and that the analysis of others was cursory or unsubstantiated. As it stands, the FEIR is not an adequate document to fully inform SCWA and permitting agencies of the potential impacts of the proposed project. I recommend that the FEIR not be certified until these deficiencies have been corrected. My concerns are listed below with supporting data and analysis that may be useful in revising the FEIR.

1. New Impact: Use of NSCARP water for frost protection is likely to contaminate surface water and groundwater.

The project description states that frost protection is an allowed use of recycled water (FEIR Vol. 1, p. 2-11). Sprinkling for frost protection occurs on clear nights in spring, when soil moisture is typically near field capacity from winter rains and crop ET demand is low. Under these conditions, surface runoff of applied water is likely and has been observed by rural residents. This runoff—including all of the salts, nitrate, dissolved organic carbon, metals and other pollutants contained in the water—flows without dilution to local creeks and the

Russian River. 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. The potential magnitude of these discharges is not trivial. NSCARP contemplates delivery of recycled water to 21,000 acres of vineyard along the Russian River and Dry Creek. A typical sprinkling rate for frost protection is 0.12 inches per hour (Kaismatis and others 1982). If all of the service area were simultaneously sprinkled on a cold night, the total application rate would be 2,500 cfs. If only 30% of the applied water became runoff, it would amount to 760 cfs of discharge into surface waterways, which is greater than or equal to the mean monthly flow for April in the Russian River at Healdsburg in 29 of the 68 years of record. The impact on fish and downstream municipal supply impacts could obviously be large during frost protection events. The FEIR failed to disclose this potential impact.

Frost protection water that infiltrates instead of running off is an equally large problem. Again, because soil moisture in spring is commonly close to field capacity, additional infiltration tends to simply pass through the root zone via large pores in the soil and percolate to the water table. Thus, most of the frost protection water that does not run off flows fairly directly to the water table, along with the salts, nitrate, metals and organic carbon it contains. This contamination of groundwater creates potentially significant impacts on groundwater salinity (see comment 3), toxics (see comment 4) and surface water quality by way of indirect discharge (see comment 5).

2. Impact HWQ-4: Inadequate analysis of nitrogen impacts on viticulture and groundwater

The discussion under HWQ-4 (FEIR p.3.8-42) dismisses potential nitrate impacts on viticulture and groundwater in two sentences:

“Nitrate levels in recycled water, applied in accordance with accepted irrigation practices, are below the nitrate requirements of crops. Therefore, nitrate in recycled water would be almost entirely taken up by vegetation with minimal migration beyond the root zone.”

This analysis is inadequate for three reasons. First, the annual nitrogen load from NSCARP water may exceed the annual requirements for wine grapes. At buildout, NSCARP contemplates delivering as much as 20,135 AF/yr of recycled water to 21,521 acres of vineyard and orchard (of which 99% is vineyard; FEIR Vol. 1 Table 2.2 and p. 2-19). This corresponds to an average annual application of 11.5 inches per year. The nitrogen content of the recycled water averages 10.7 mg/L (as N) (FEIR Vol. 1, Table 3.8-2), which leads to an annual load of 27.8 pounds per acre per year. While this is within the normal annual range for table grapes (22-44 pounds [Peacock 1998]), it exceeds what many north coast wine grape growers apply. The University of California/Napa Sanitation District study cited in the FEIR (p. 3.2-26) stated that 14-21 pounds of nitrogen per acre per season is:

“not exceptionally high, but it may be enough to be of concern to some growers.... There are some vineyards that rarely (if ever) receive nitrogen additions. Potential mitigation measures for growers concerned about nitrogen in the NSD recycled water include selective use of cover crops and having an additional source of water available for irrigation.”

The Lake County Winegrape Growers agree: “grapevines require very little nitrogen, and in some vineyards nitrogen is seldom, if ever, applied” (<http://www.lakecountywinegrape.org/growers/suswine.php> accessed 3/31/2009).

The second point of inadequacy in the analysis of nitrogen impacts is that it ignores the seasonality of nitrogen utilization by grape vines and the close attention paid by growers to vine nutrient status. Even if the annual total nitrogen content of recycled water is acceptable, use of recycled water for irrigation eliminates growers' ability to manage water and nitrogen applications separately. A brief literature survey quickly turned up scientific and commercial studies confirming the seasonality of nitrogen uptake by grape vines and the impact of incorrect fertilizer timing and quantities on the grape crop and subsequent winemaking (for example, Peacock and others 1998; Keller 2005). Nitrogen uptake increases steadily from bud break to veraison, then declines. Excessive nitrogen applications lead to luxuriant canopy growth which must be pruned back to prevent mildew on the berries. Inadequate nitrogen status can reduce the amount of yeast available nitrogen in the berries, which interferes with fermentation. Nitrogen applications outside the season of uptake have a higher tendency to contaminate groundwater. The inability to manage the timing of irrigation and fertilization separately poses a large and undesirable constraint for growers. This will lead to adverse impacts on winegrape production, or low acceptance of NSCARP water by winegrape growers.

The third weakness of the nitrogen impact analysis is the omission of data for existing nitrate concentrations in groundwater. For example, Johnson (2008) compiled available water quality data for 12 wells in the Dry Creek valley and found elevated nitrate concentrations in three of them. One of two wells that received additional testing had traces of simazine (an herbicide) and trichloromethane (a disinfection byproduct). These results demonstrate that nitrogen and other contaminants can and do percolate past the root zone. Nitrogen concentrations in NSCARP water exceed the drinking water standard (10 mg/L as N). Recycled water applied for frost protection would not experience substantial losses by plant uptake at that time of year, and dilution from other sources of recharge would be diminished by NSCARP (see comment 5, below). Therefore, nitrate concentrations in rural domestic wells would likely increase and could theoretically exceed the drinking water standard.

In light of this additional information, the two-sentence discussion of nitrogen impacts in the FEIR is clearly inadequate.

3. Impact HWQ-4 and Master Response 15: Inadequate analysis of salinity impacts on groundwater

Mr. David Cuneo

April 22, 2009

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The discussion of impact HWQ-4 in the FEIR (Vol. 1, p. 3.8-42) incorrectly characterizes the impact of irrigating with NSCARP water on groundwater salinity as “minor” and incorrectly implies that such increases are in compliance with State law because of a certain clause in the Water Code. The discussion provides no data or calculations to support the claim that salinity increases would be minor. Master Response 15 estimates that salt concentrations would “double”, citing the cumulative impact analysis completed for Santa Rosa’s Discharge Compliance Project FEIR (City of Santa Rosa, 2008). A doubling of groundwater salinity is not minor, and can violate water quality standards or jeopardize beneficial uses.

For example, the total dissolved solids (TDS) concentration of groundwater in Dry Creek Valley averages about 200 mg/L (Johnson 2008). Average annual applications on vineyards are approximately 3.3 inches for frost protection and 10 inches for summer irrigation. Deep percolation of rainfall and irrigation water beneath the root zone averages about 7 inches per year (Johnson 2008; Wagner & Bonsignore 1999). All of the solutes in the applied water are dissolved into the deep percolation. A simple mass balance calculation indicates that the TDS concentration in deep percolation under existing conditions must be approximately 264 mg/L. NSCARP water has an average TDS concentration of 432 mg/L (FEIR Table 3.8-2). Assuming normal irrigation of 11.5 inches at NSCARP buildout plus 1.7 inches per year of extra sprinkling for heat protection (Wagner & Bonsignore 1999), plus infiltration of 70% of water applied for frost protection (see comment 1, above) leads to an estimated TDS concentration of approximately 680 mg/L. This concentration is slightly more than double the concentration under existing conditions.

More importantly, 680 mg/L of TDS violates the state drinking water standard of 500 mg/L. The assertion in the FEIR that “The California State Water Code states that minor changes in salinity associated with recycled water projects are acceptable.” (FEIR p. 3.8-42) is extremely misleading. First, there is no such statement in the Water Code. The closest similar statement is different in important respects:

13523.5. A regional board may not deny issuance of water reclamation requirements to a project which violates only a salinity standard in the basin plan.

Although a Regional Board might have the authority to waive compliance with its own basin plan standards, it would not have the authority to authorize violation of drinking water standards.

Groundwater TDS would be lower than deep percolation TDS if there were dilution with other sources of recharge. However, dilution from one of the major sources of recharge—stream percolation—would substantially decrease under NSCARP (see comment 5 below). Therefore, a domestic well downgradient of vineyards irrigated with NSCARP water would be at risk of pumping groundwater that violates the drinking water standard for TDS.

Master Response No. 15 (FEIR Vol. 3, p. 3-15) relied upon two studies conducted for the City of Santa Rosa’s Discharge Compliance Project FEIR. One of the studies contained a

significant error and the other involved hydrogeologic conditions very different from those in the proposed NSCARP service area. The first study was the evaluation of cumulative impacts of the DCP and other projects on the percent recycled water in groundwater at potable supply wells. The analysis included a critical error regarding salt loading of the groundwater system. The analysis assumed that only 11% of applied irrigation water would percolate to the water table, based on an assumed 89% irrigation efficiency (Merritt Smith Consulting 2008, p. 4). The analysis proceeded to calculate the percent recycled water reaching wells, as if the 11% of irrigation water that percolates to the water table contains only 11% of the salts and other pollutants. In fact, deep percolation would contain nearly all of the dissolved constituents in the recycled water, because annual deep percolation is sufficient to flush them from the soil zone (see the University of California/Napa Sanitation District study cited in the discussion of Impact AG-4; FEIR Vol. 1, p. 3.2-27). Thus, although the analysis might have correctly estimated the percentage of recycled water molecules reaching the wells, that percentage grossly underestimates the percentage of recycled water salts that reach the wells.

The second study cited from the DCP EIR monitored groundwater quality near cropland on the Santa Rosa Plain irrigated with recycled water from Santa Rosa's wastewater treatment plant. [Add details here when I can find them.]

In summary, this comment lists five significant flaws in the analysis for Impact HWQ-4 and Master Response 15. The FEIR should not be certified until the flaws have been corrected and salinity impacts on groundwater have been characterized more realistically.

4. Impact PUB-7 and Master Response No. 9: Inadequate analysis of risks to aquatic and human health from groundwater contamination

The discussions of potential groundwater contamination from irrigation with recycled water (FEIR Vol. 1 pages 3.12-25 to 3.12-26 and Vol. 3 p. 3-11) rely on compliance with generic regulations regarding treatment level and setbacks from wells to conclude that the impacts would be less than significant as long as irrigation applications are not excessive. This analysis is inadequate because it ignores local conditions and studies that indicate a significant risk of contamination. It also ignores regulatory directives that call for additional analysis and restrictions if aquifer vulnerability is high.

The recycled water policy adopted by the State Water Resources Control Board two months ago exemplifies this tiered approach to regulation. Landscape irrigation projects using recycled water may proceed under a general statewide permit unless "unusual conditions" are present (section 7.b.(1)). The example of unusual conditions provided in the policy document is exactly the condition present throughout most of the NSCARP service area: "irrigation over high transmissivity soils over a shallow high quality aquifer".

A second example of regulatory adjustment to reflect high aquifer vulnerability is the Westside Recycled Water Project in western San Francisco (see http://sfwater.org/msc_main.cfm/MC_ID/13/MSC_ID/377). Recycled water used for landscape irrigation in Golden Gate Park and nearby areas will be treated with reverse osmosis in addition to the

disinfected tertiary level of treatment normally required for such projects. This additional level of treatment probably reflects the high risk of aquifer contamination due to the presence of dune sand soils and the absence of clay confining layers above the water table.

Groundwater in the proposed NSCARP service area (Alexander Valley, Dry Creek Valley and the Middle Reach of the Russian River) is similarly vulnerable to contamination. The surficial soils (predominantly loams and sandy loams) are more likely to adsorb pollutants than the Sirdrak Sand soils in western San Francisco. However, the soils are not thick and are underlain by exceedingly permeable sands and gravels. Removal of many pollutants in the subsurface is by adsorption onto the surfaces of mineral particles, particularly silts and clays. The lack of such fine-grained sediments is evidenced by the fact that alluvial sands and gravels along the Russian River are very desirable for aggregate mining. At the Syar Industries gravel quarry pits along the Middle Reach, for example, the Yolo Loam "overburden" is typically 10 feet deep and as little as 3 feet deep (ESA 2007). Along Dry Creek, Yolo Loam and sandier soils comprise 80% of the valley floor. In the Alexander Valley, riverwash, sandy alluvial land and Cortina Very Gravelly Sandy Loam are widespread in addition to Yolo Loam varieties. The lack of fines in shallow alluvial materials is further confirmed in the California Department of Water Resources Bulletin 118 description of the basin, which notes that wells only 25-50 feet deep near Healdsburg can yield 200-500 gpm (http://www.groundwater.water.ca.gov/bulletin118/basin_desc/basins_s.cfm#gwb49htm accessed 4-20-2009). I obtained a drillers log for a well along Dry Creek near Pena Creek that conforms with this pattern. The alluvium is only 44 feet deep and consists of 7 feet of loam over clean sands and gravels. Although the well has only 21 feet of screen, it reportedly produces 1,300 gpm.

Local data also demonstrate that attenuation of pollutants in the subsurface is unusually low. Field and laboratory tests of subsurface transport of pollutants in recycled water were completed for the City of Santa Rosa's Discharge Compliance Project (Kennedy/Jenks Consultants 2007a and 2007b). The laboratory test involved percolation of recycled water through columns of soils collected from the Russian River floodplain. The field study examined groundwater quality in monitoring wells downgradient of the "Basalt Pond", which receives effluent from the City of Healdsburg's municipal wastewater treatment plant. In both studies, transport of copper and nickel was much greater than expected. For example, 38% of the nickel was still present at a monitoring well 5,300 feet from the Basalt Pond. Attenuation of the metals by adsorption was not considered sufficient to meet the California Toxics Rule, which sets numerical standards for those and other pollutants.

Additional tests gave support to the hypothesis that the metals failed to adsorb to sediments because they chelated with organic compounds also present in the recycled water. These interactive effects were not considered in prior modeling studies that had indicated low subsurface mobility. The fact that the results of the experiments were unexpected is equivalent to an "unusual circumstance" from a regulatory standpoint. The fact that the transport distances were higher than expected undermines the conclusion in the FEIR that small (50 foot) setbacks from water supply wells or surface water bodies are sufficient to protect human and aquatic health.

Thus, groundwater in the NSCARP service area is sufficiently vulnerable to contamination that adherence to standard regulations and setbacks is an inadequate basis for concluding that aquatic and human health will not be impacted.

5. New Impact: NSCARP will substantially alter local groundwater balances such that all surface waterways in the service area will convert from consistently losing to consistently gaining streams. This will increase contamination of groundwater and surface water by salts and pollutants in recycled water.

The FEIR fails to describe the fundamental shift in groundwater balances that would result from replacing groundwater with recycled water as the primary source of irrigation supply. One response to comment mentions simply that the Santa Rosa DCP EIR “concluded that reduced groundwater pumping can result in discharge of groundwater to surface water sources” (comment T-5, FEIR Vol. 3, p. 4-32). This grossly understates the impact that NSCARP would have. The decrease in groundwater pumping would be large enough to reverse the current stream-aquifer relationships in summer and eliminate stream percolation as a source of groundwater recharge. Without this recharge, deep percolation beneath irrigated cropland—which would contain concentrated levels of salts and pollutants—would experience little dilution in the aquifers. Without dilution, groundwater at potable supply wells could exceed drinking water standards for salinity (see comment 3, above) and California Toxics Rule limits for copper and nickel (see comment 4, above). Furthermore, 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. Each link in this cascade of impacts is elaborated below.

A recent USGS study of groundwater conditions in the Alexander Valley used the difference in flow between two gages on the Russian River (Cloverdale and Healdsburg) to demonstrate that the river gains flow along the valley in winter and loses flow in summer (Metzger 2006). In a recent year of normal flow (2000) the cumulative dry season flow loss was 2,800 AF. Assuming 10 inches of summer irrigation on the 6,629 acres of vineyard in the Alexander Valley, current dry-season groundwater pumping is approximately 5,524 AF. Comparing the pumping and flow loss figures shows that concurrent seepage from the Russian River supplies about half of the dry-season groundwater pumping. If NSCARP water replaced all of the groundwater used for irrigation—which is the long-term assumption in the FEIR—the dry-season groundwater balance would shift from negative to positive, and groundwater would seep into the river instead of the other way around. An evaluation of groundwater-surface water interactions along the Russian River completed for the Santa Rosa Discharge Compliance Project EIR reviewed several additional studies that showed that pumping induces seepage from the river and causes losing conditions in summer (Kennedy/Jenks Consultants 2007c).

The same seepage reversal would occur in Dry Creek Valley. Johnson (2008) tabulated flow differences between gages near Warm Springs Dam and the Russian River and found that the

average cumulative flow loss during June-October was over 3,000 AF. Groundwater pumping to irrigate the 5,909 acres of vineyard and 188 acres of orchard in Dry Creek Valley is approximately 5,100 AF (again assuming 10 inches of applied water). Thus, as in the Alexander Valley, about half of the dry-season groundwater pumping is supplied by concurrent seepage from Dry Creek. Replacing groundwater with NSCARP water would shift the groundwater balance from negative to positive and would shift the creek from losing to gaining.

Reversing the direction of seepage along Dry Creek and the Russian River has significant water quality implications. First, salts, metals, dissolved organic carbon and other pollutants in recycled water are evaporatively concentrated in the soil following irrigation. The concentrated solutes then percolate to the water table. Under existing conditions, recharge from deep percolation is diluted by induced recharge from the river during the dry season, but with NSCARP this dilution would no longer occur. Other sources of recharge for dilution—such as groundwater inflow from hillsides along the creek and river valleys—are relatively small. This leads to a condition in which solute concentrations in groundwater will gradually approach the concentrations in deep percolation, and under NSCARP those concentrations would exceed drinking water standards and the California Toxics Rule.

Reversing the seepage direction along Dry Creek and the Russian River would also create a new pathway for contaminants to enter those waterways. The waterways intersect the groundwater system at the water table. The shortest and fastest subsurface flow paths for recycled water that has reached the water table is to flow laterally to the creek or river. Deeper flow paths offer much greater resistance to flow because they are longer and because hydraulic conductivity along deep flow paths is much lower due to greater compaction of the alluvium and anisotropy caused by grain orientation and layering of the alluvial deposits. Therefore, recharge from deep percolation beneath cropland under NSCARP would not mix uniformly throughout the groundwater system before discharging to creeks and rivers. Rather, most of it would flow laterally at shallow depth to the discharge point, with little dilution by deeper groundwater.

The short, fast flow paths from the water table beneath vineyards to nearby creeks and rivers provide a conduit for pollutants in recycled water to enter surface waterways during the summer low-flow season. Field studies have demonstrated that some pollutants are only partially removed during flow through aquifers. The field investigation of subsurface transport of wastewater contaminants downgradient of the "Basalt Pond" (which receives discharges from the City of Healdsburg's wastewater treatment plant) found surprisingly low attenuation of copper and nickel at wells as much as 5,300 feet downgradient. Much of the proposed NSCARP irrigation service area is within 5,300 feet of Dry Creek or the Russian River (Kennedy/Jenks Consultants 2007b), so percolated pollutants from applied irrigation water could reach those waterways.

In addition to elevated concentrations of copper and nickel, the field study found that groundwater derived from infiltrated recycled water was consistently low in dissolved

Mr. David Cuneo

April 22, 2009

Page 9

oxygen. This would pose an additional threat to aquatic life when the groundwater discharges into Dry Creek or the Russian River.

To summarize this impact, NSCARP would fundamentally change the dry-season groundwater balance, which in combination with other project effects would create a pathway for concentrated pollutants derived from NSCARP irrigation water to enter surface waterways, with potentially significant impacts on water quality and aquatic life.

Each of the five comments presented above represents a major omission or flaw in the analysis presented in the FEIR. Until those errors have been corrected, the FEIR is not adequate as an informational document to guide decision makers responsible for approving or implementing the NSCARP. I recommend that the FEIR not be certified until the potential impacts described herein are fully evaluated and mitigated.

Thank you for considering these comments. Please do not hesitate to call me if you have any questions.

Sincerely,

Gus Yates PG, CHg

Attachment: Technical memorandum dated March 9, 2009 reviewing Johnson (2008) report.

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