From: Ron Weitzman [mailto:ronweitzman@redshift.com]
Sent: Tuesday, June 02, 2015 9:47 PM
To: GWR
Cc: waterplus@redshift.com; pwnaction@lists.riseup.net; Californian; Carmel Pine Cone; Cedar Street Times; Channel 11; Herald City Editor; Jim Johnson; KION TV ; KSMS TV; MC Weekly Editor; Sara Rubin; Shanna McCord
Subject: Comments on the GWR DEIR

Monterey Regional Water Pollution Control Agency
Administration Office
ATTN: Bob Holden, Principal Engineer

Dear Mr. Holden:

These comments apply to specific sections of the DEIR.

Section 4.9. Hazards and Hazardous Materials

My comments on the NOP referred to DDT and other such hazardous material in water sources proposed for this project, including the Blanco Drain. The attached letter from Stephen Collins indicates that these contaminants exist in such large amounts in some of the proposed water sources that they may be untreatable for agricultural let alone potable use. Yet the DEIR has failed to identify theseparticular contaminants and indicate how to deal with them. This excerpt from the letter by Mr. Collins captures the magnitude of the problem::

U-1

Legacy Pesticides, as its name would suggest, are compounds, normally inorganic in nature, and the result of chemical use from years ago that are still held in high concentrations in the soil. Examples include: DDT, DDE, Arsenic, Boron, a number of heavy metals, etc. Here is a direct quote from the Central Coast Region report: "The Salinas River Lagoon Management and Enhancement Plan cites a number of studies from the 1980's suggesting that soils in the northern Salinas Valley contain a reservoir of DDT that will continue to release DDT into aquatic environments well into the 21st century". The primary source of this pollution into the Reclamation Ditch, is the Blanco Drain. The DDT study was performed using a normal study practice utilizing a living organism and measuring its body intake of the pesticide in question, in this case Corbicula (clams) planted in the Blanco Drain. The result "was the highest concentration of Total DDT (and other chemicals) ever seen in California."

The FEIR must deal with this problem.

Section 6. Alternatives to the Proposed Project

This section dismisses the DeepWater and People's projects as not likely to be completed prior to the CDO deadline. Cal Am's project, as well as the proposed GWR project, is certain not to be completed by that date. Within the next few weeks, both DeepWater and People's will issue NOPs. Each has fewer physical hurdles to overcome than Cal Am's or the proposed GWR project does, and People's has fewer permitting obstacles before it since its intake and outfall pipes have been grandfathered. The FEIR must includeconsideration of each of these projects as a whole.

U-2

Missing from the alternatives considered is a GWR project that would provide all the product water projected by the combined Cal Am and GWR projects. Since the Cal Am component is based on an

U-3

intake experiment that may fail, this alternative is at least as reasonable to consider as Cal Am's alternative without GWR. The FEIR must consider this alternative. U-3 Con't

Another alternative that the FEIR may well consider is the use of slant or slope wells in the Carmel Bay. Though vertical wells may not work there, the chance that slant wells will work there would appear to be at as least as great as in Marina. This is an important alternative to consider because its development would preclude the need for the north-to-south pipes in the alternatives of Cal Am's desal alone or combined with GWR. It would also eliminate the problem of source-water rights bedeviling both the Cal Am desaland GWR projects. U-4

Appendix C

The Summary Chart in Part E of this appendix shows that the proposed GWR project has no water rights for any of the four sources of water needed for the project. The FEIR will have no practical meaning unless a sufficient number of these rights have been obtained for the project to work prior to the FEIR's issuance. This problem affects the very viability of the project as well as its timeliness in comparison with alternative projects. In fact, because of this problem, the issuance of the DEIR appears to be premature. U-5

Two Other Critical Concerns

- In its initial form, the GWR proposal was to use source water only from urban sewer water treated for agricultural use but unused during the three or four winter months. If that proves to be the only viable source of water, then the advanced-treatment facility needed to make the water potable would have to have three-to-four times the production capacity of one that could operate all year because it would have to produce the required 3,500 acre-feet per year in only one-third or one-fourth of that time, when the source water is available. The treatment facility, involving the same reverse osmosis as desalination, would have to have the capacity to produce up to 14,000 acre-feet per year. A facility with that capacity could produce more than enough water to meet the entire needs of the Monterey Peninsula if the remaining possible water sources should prove viable. This is another reason the FEIR should consider as analternative a GWR project that could meet all of the Monterey Peninsula's water needs without desalination. U-6
- The GWR project in Orange County uses settlement ponds as part of its recycling process. The proposed GWR project does not; it uses direct injection into an aquifer from which water will later be drawn for distribution to customers. State law requires that directly-injected water needs an equal amount of potable water (called diluent) to accompany it. The DEIR does not indicate where that supplemental potable water will come from. The FEIR must do that. U-7

Respectfully,

Ron Weitzman

President, water Ratepayers Association of the Monterey Peninsula

STEPHEN P. COLLINS, M.S., C.P.A. (Inactive)

February 19, 2013

To: Press, Friends and Public

From: Steve Collins

Re: Utilization of Reclamation Ditch, Blanco Drain and retention pond waters for recycle

With complete incredulity, I watched Supervisor Calcagno announce from the dais last week, that the Monterey County Pollution Control District Board had overwhelming approved "an olive branch" extended by the Ag Industry from the Salinas Valley, to allow waters from the Blanco Drain, the Salinas Valley Reclamation Ditch and settling ponds off Davis Road to be used for recycling and ASR in the Seaside aquifer. As bad an idea, of using recycled sewage for Seaside Basin recovery was, which the Ag Industry squelched, this is even worse. Recycled sewage is pristine compared to what is being proposed to the public, as a component of the Cal Am project. I will stay completely away from politics or musings in this letter, and stick strictly with published documents, but I feel compelled to say something. U-8

Included as attachments are:

1. Page 17 of the NOAA Fisheries "Biological Opinion", dated June 21, 2007, reference Page 1;
2. A "Study of DDT in the Salinas Valley", authors noted, Pages 2-6;
3. Page 139 from the Water Quality Control Board, Water Quality Assessment Study, Central Coast Region, "Fecal Coliform Log", page 7;
4. Page 141 of the same study as Number 3, showing the "Legacy Pesticides", contained in impaired waterways (Reclamation Ditch), Page 8;
5. Page 143 of the same study as Number 3, showing the Section 303d listings for various water bodies within and adjacent to the Reclamation Ditch, and organic and inorganic compounds contained therein;
6. Page 10 of the 2012 of the Central Coast Regional Water Quality Control Board TMDL report; Page 10.

U-9

I went to two on-line sources, the Monterey County Water Resource Agency Water Quality Assessment reports and the Central Coast Watershed Studies, authored as noted above.

The NOAA Fisheries "Biological Opinion" relates to the Salinas Valley Water Project diversion facility and its impacts to the Salinas River, fish mitigations and the quality and use of Salinas River water for irrigation. Here is a direct quote from the Opinion, "The SRDF diversion site is located in the vicinity of the Blanco Drain, which discharges to the Salinas River upstream of the SRDF site. Because water from the Blanco Drain is considered unsuitable for irrigation, MCWRA proposes to divert the drain's discharge to a point downstream of the SRDF site whenever the SRDG facility is impounding water for irrigation U-10

use". This is the very water, which is deemed unsuitable to irrigate a crop for human consumption, which is going to be "purchased" from the Salinas Valley, treated by MRWPCA and injected into the Seaside Aquifer for potable Title 22 drinking water on the Peninsula.

U-10 Con't

Legacy Pesticides, as its name would suggest, are compounds, normally inorganic in nature, and the result of chemical use from years ago that are still held in high concentrations in the soil. Examples include: DDT, DDE, Arsenic, Boron, a number of heavy metals, etc. Here is a direct quote from the Central Coast Region report: "The Salinas River Lagoon Management and Enhancement Plan cites a number of studies from the 1980's suggesting that soils in the northern Salinas Valley contain a reservoir of DDT that will continue to release DDT into aquatic environments well into the 21st century". The primary source of this pollution into the Reclamation Ditch, is the Blanco Drain. The DDT study was performed using a normal study practice utilizing a living organism and measuring its body intake of the pesticide in question, in this case Corbicula (clams) planted in the Blanco Drain. The result "was the highest concentration of Total DDT (and other chemicals) ever seen in California."

U-11

The area study map (titled Section 303d listings of various water bodies within and adjacent to the Reclamation Ditch Watershed) that shows many of the additives flowing from the Salinas Valley, through creeks, into the watershed include compounds such as Fecal Coliform, Nitrates, Priority Organics, Pesticides, Heavy Metals, etc. See Page 7, noted above, the Salinas Reclamation Canal (aka Ditch) has the highest concentration of Fecal Coliform in the entire study area.

Page 7 of the data is a graph (Figure 6.5) that shows the Mean fecal coliform at all CCAMP measured waterbodies throughout the Central Coast Region; number one is the Salinas Reclamation Canal (ditch).

U-12

The final document for your review is the 2012 CCRWQCB report on TMDL for the Lower Salinas River Watershed that states the following:

"Discharges of nitrogen compounds and orthophosphate are occurring at levels in surface waters which are impairing a wide spectrum of beneficial uses and, therefore, constitute a serious water quality problem. The municipal and domestic drinking supply (MUN, GWR) beneficial uses and the range of aquatic habitat beneficial uses are currently impaired; potential or future beneficial uses of the agricultural irrigation water supply (AGR) for sensitive crops may be impaired." Et, al.

The report finds the Region in violation of three water quality area:

1. Violations of drinking water standards for nitrate;
2. Violations of the Basin Plan general toxicity objective for inland surface waters and estuaries (violation of un-ionized ammonia objective);
3. Violations of the Basin Plan narrative general objective for biostimulatory substances in inland surface waters and estuaries (as expressed by excessive nutrients, chlorophyll a, algal biomass and low dissolved oxygen).

U-13

I cannot imagine this concept ever being approved by the State of California, but understand what is going on here; the farming community is required by State law to clean up these water sources, at huge

U-14

expense to themselves. You see the fight with the State Regional Water Quality Control Board routinely reported in the paper. This is the very same water the Salinas Valley is offering the Peninsula for recycling and ASR. The following questions should be considered, in my opinion, before this concept, and $750,000 is spent doing this study for the third time:

U-14 Con't

1. Two prior EIR's have been performed in the past, one for the Salinas Valley Reclamation Project and one for the Salinas Valley Water Project. Both times, the water quality of the Blanco Drain, which drains into the Salinas River and has connectivity to the Reclamation Ditch have been deemed "unsuitable" for irrigating a crop, in both instances.
   a) Does the technology to clean this water to Title 22 Drinking Water Standard exist?
   b) If so, what is the cost for doing so, and how does it compare to desalination costs?
   c) Is it possible to completely eradicate all inorganic compounds from the source water or are we simply trying to meet minimum standards?

U-15

2. These waters are deemed surface waters by the State of California, and, I believe a diversion permit will be required by the State. Has the legal and biological implications of this been considered?

U-16

3. The final destination for this water is recharge into the Seaside Basin aquifer for subsequent withdrawal and distribution to the Peninsula residents. Has the Seaside Basin Water Master weighed in on this process?

U-17

I believe the answer to many, if not all, of the above questions is no.

I know many of the Mayors, members of the Board of the MRWPCA, and others working to provide a solution to the Peninsula water crisis are diligent, community minded individuals with a simple goal, solve the issue before 2016. Spending $750,000 of public money on a recycling plan that has been previously reviewed in EIR's before, and found wanting is not a good expenditure of time or resource. My guess; they have not been provided the data included herein, and believe this water source has value from a drinking water supply standpoint. The Monterey County Health Department must be apoplectic.

U-18

Stephen Collins

See attachments

from Nacimiento Reservoir beginning the eighth day after the first adult steelhead passage day[3] occurs on the Salinas River near Spreckels after January 1st. These flows will be continued through May 31st. Until further studies are conducted to determine adequate rearing flows in the Nacimiento River below the reservoir during summer and fall, MCWRA will release a minimum of 60 cfs throughout the year as minimum rearing flow as long as the water surface elevation of Nacimiento Reservoir is above the elevation 687.8 feet mean sea level (msl), the reservoir's minimum pool.

d. Water Quality Improvements and Other Changes to the Blanco Drain

The SRDF diversion site is located in the vicinity of the Blanco Drain, which discharges to the Salinas River upstream of the SRDF site. Because water from Blanco Drain is considered unsuitable for irrigation, MCWRA proposes to divert the drain's discharge to a point downstream of the SRDF site whenever the SRDF facility is impounding water for irrigation use.

The Blanco Drain drainage area consists of approximately 6,400 acres of farmland, scattered rural housing, and county roads. Summertime drainage is primarily agricultural drain water. Wintertime drainage is primarily storm runoff. MCWRA operates a pump during the summer to discharge the drain water to the Salinas River.

The Central Coast Regional Water Quality Control Board (CCRWQCB) has listed Blanco Drain as an impaired water body pursuant to Section 303(d) of the CWA for pesticides, with medium priority. To reduce contaminant loads of diazinon and chlorpyrifos from reaching the Salinas River, MCWRA proposes to create a vegetated treatment system within Blanco Drain. A vegetated treatment system generally consists of vegetation throughout a reach of channel bottom designed to reduce water velocity and retain pollutants by various processes, such as microbial degradation, plant uptake, sorption, chemical reactions, and sediment retention. The specific design for the Blanco Drain vegetative treatment has not been completed, and the specific location for the vegetated channel sections has not been identified. MCWRA will monitor the vegetated treatment system to determine the efficacy of contaminant reduction.

In the event that the vegetated treatment system is inadequate to sufficiently reduce diazinon and chlorpyrifos loads within the Blanco Drain, then MCWRA will pursue other options (see page 26 of MCWRA (2005a)). Options include, though are not limited to, diverting the water to the regional wastewater treatment plant for recycling, and diverting Blanco Drain water to Alisal Slough. A specific definition of "inadequate to sufficiently reduce diazinon and chlorpyrifos loads" has not been provided to NMFS.

e. SRDF Maintenance

Maintenance of the SRDF will primarily consist of, but will not necessarily be limited to, periodic removal of deposited sediment, periodic removal of debris, annual scour restoration, annual pressure washing of fish screens, periodic maintenance and lubrication of equipment, and

[3] The first day of passage is the beginning date of the first period with five consecutive days with flows of 260 cfs or higher at Chualar. The first potential spawning day in the Nacimiento River is assumed to be 8 days after the first passage day.

FROM NOAA FISHERIES "BIOLOGICAL OPINION" 17
DATED JUNE 21, 2007 ADMIN. NO. 151422SWR2003SR8711

(1)

DDT IN THE SALINAS VALLEY

A Special Report on
the Probable Source of Technical Grade DDT
Found in the Blanco Drain Near Salinas, California

STATE OF CALIFORNIA
WATER RESOURCES CONTROL BOARD

EDWARD C. ANTON, CHIEF
DIVISION OF WATER QUALITY

MURT LININGER, CHIEF
HAZARDOUS WASTE SECTION

JOHN M. YOUNGERMAN, CHIEF
SURVEILLANCE AND MONITORING UNIT

THIS REPORT WAS PREPARED BY
BRUCE A. AGEE

Special Water Quality Monitoring Report No. 86-2 WQ

(2)

INTRODUCTION

The sale and use of DDT, once thought to be the ultimate pesticide, was banned by the U. S. Environmental Protection Agency in 1972 after it was found to be responsible for the rapid decline of several predator species in the environment and questions were raised concerning potential effects on human health. California had curbed the sale and use of DDT two years earlier in December 1970.

The special characteristics that made DDT such a persistent and deadly pesticide are also the characteristics that still make it a potent environmental hazard. DDT, or dichloro-diphenyl trichloroethane, is a white amorphous powder that is nearly insoluble in water, but readily soluble in organic solvents. It has a low volatility and is not easily decomposed by sunlight. When DDT does break down, it is converted initially to DDD or DDE. Usually, DDE is the major initial breakdown product. However, in sediments, DDD can also be a significant component. These products--DDD and DDE--are also toxic and very persistent in the environment. DDE is the chemical linked to the thinning of eggshells in birds and was responsible for the reproductive failures of the Brown Pelican along the California coast.

DDT and its related products are found virtually everywhere on earth. Its high solubility in (non-polar) organic mixtures such as oils or fats causes it to have a high affinity for living organisms; once ingested by an organism, DDT or its metabolites are not quickly lost, so they tend to accumulate. As predator eats prey, DDT is passed upwards in the food chain in higher and higher concentrations.

Although use of DDT was banned in California in 1970, it is still found in high concentrations in fish from several California rivers and lakes. For example, in 1983 DDT was found at levels exceeding National Academy of Sciences (NAS) guidelines for predator protection in fish from seven rivers and streams, including the Old Salinas River, the Salinas River at Blanco Drain, Harbor Park Lake, San Joaquin River at Vernalis, Alamo River, New River, and San Diego Creek.

As in previous years, speculation as to the possible sources of DDT included old residues, continued illegal use, leaky waste dumps, or contamination from use of a related pesticide, Kelthane (dicofol). In an attempt to identify the possible sources of DDT, monitoring staff began to look more closely at DDT isomers and breakdown products rather than simply at the total concentration of DDT.

The term "Total DDT", as used in this report, refers to the sum of the individual concentrations of DDT and its closely related breakdown products, DDD and DDE. Some laboratories (e.g., Department of Fish and Game) also measure two minor breakdown products, DDMU and DDMS, found in small amounts. When found, these are also included in Total DDT (Figure 1). Each of these

3

Breakdown of DDT

- DDT slowly breaks down in the Drain sediments; by the time it reaches the Salinas River, it has broken down to about 20 percent Technical DDT, 35 percent DDD, and the remainder DDE. The major breakdown products, DDD and DDE are as undesirable in the environment as the parent compound.

- The persistence of DDT in the soils could not be determined by this study, but it is probably very persistent. Earlier studies conducted in the Salinas/Elkhorn Slough area reported lesser amounts of Total DDT in soils than found in this study. Further study is needed to determine how persistent DDT is in Salinas soils.

- Salinas area agricultural soils contain a "reservoir" of DDT, which is being released to the aquatic environment (drains, canals, rivers, bays, etc.) through soil erosion due to agricultural practices and rainfall runoff events. Considering the mixing of DDT into the soil column and normal soil erosion rates, it is probable that this release of DDT into the Salinas River will continue well into the 21st Century.

Possible Transport Mechanisms

- Fields on the east end of the Drain are literally plowed over the edge and into the Drain. Sediments in the east end of the Drain contain the unmistakable fingerprint of soil-based DDD and Technical DDT. In the lower portions of the Drain, where berms exist, DDD and DDT ratios are more characteristic of sediment. Staff are convinced that the observed practice of plowing over the edge of the Drain is a major source of DDT to the Drain. Other erosion events may also contribute to the DDT found in the Drain.

- Corbicula (clams) planted by State Mussel Watch in the Blanco Drain contained the highest concentrations of Total DDT (and other chemicals) ever seen in California: 3,800 ppb (3.8 ppm, wet weight). This indicates that much of the transport of DDT is via very fine suspended materials through and out of the Drain.

DDT on Food Crops

- DFA regularly tests vegetables in the Salinas area and has reported finding no (or extremely little) DDT in unwashed vegetables. This has generally been true ever since the use of DDT was discontinued in 1972. This strongly indicates that there has been no continued use of DDT in the Salinas area for agricultural purposes.

Corrective Measures

- Positive steps taken to reduce or eliminate soil erosion could result in major reductions in the amounts of DDT input to the aquatic environment, with increased water quality/aquatic life benefits. If these steps are

4

One isomer of DDT, o-p'-DDT, was believed by scientists to be fairly unstable and was expected to break down more rapidly than the p-p' isomer in the aquatic environment. Dr. Risebrough found that in the soils contiguous to the Blanco Drain the o-p' isomer was, if anything, breaking down less rapidly than the p-p' isomer and stated that the DDT was likely not fresh, simply well preserved. (Risebrough, 1985).

After considering the preliminary results, Phase 2 of the study was initiated. The purposes of the second phase study were to verify the Phase 1 results and to isolate and identify possible sources of DDT to the Blanco Drain from adjacent fields. In the second phase survey, sediment was collected from 23 locations while soil was collected from 13 locations.

FINDINGS

Soils

- Soils from fields adjoining the east leg of Blanco Drain contain up to 5,000 ppb (5 ppm) Total DDT and average 3,100 ppb (3.1 ppm) DDT while soils from fields adjoining the west leg of the Drain contain up to 3,000 ppb (3 ppm) DDT and average 1,800 ppb (1.8 ppm) DDT.

  With the exception of one sampling station, soils from fields adjoining all parts of the Drain contain a nearly uniform 66 to 80 percent Technical DDT (average 72 percent).

- With the exception of the same sampling station, soils from fields adjoining all parts of the Drain contain a uniform 1.4 to 5.6 percent DDD (average 3.5 percent).

- DDT and DDD from the exceptional station more closely resemble the DDT and DDD found in the sediments in the Drain itself, and there is some indication that the soils at that station were derived from sediment moved when the Drain was physically relocated at that location.

- Most of the soil samples also contain 15 to 20+ percent o-p'-DDT as a percentage of Technical DDT (average 17 percent). This is very similar to the original formulation of Technical DDT.

Sediments

- Bottom sediments in the east leg of the Drain had levels of Total DDT ranging from 800 ppb (0.8 ppm) to 6,200 ppb (6.2 ppm). The average concentration was 2,200 ppb (2.2 ppm). Sediments in the west leg of the Drain had levels of Total DDT ranging from 200 ppb (0.2 ppm) to 1,700 ppb (1.7 ppm). The average was 800 ppb (0.8ppm). These levels are 200 to 400 times the levels measured in the Salinas River above the outfall of Blanco Drain.

5

chemicals actually occurs in two closely related forms, or isomers. Most of a given chemical is found in the "para-para" form (e.g., p,p'-DDT, p,p'-DDD, p,p'-DDE). However, often the "ortho-para" forms are also present (e.g., o,p'-DDT, o,p'-DDD, o,p'-DDE). The original formulation of DDT, as applied to crops, is referred to as "Technical DDT" and is a mixture of roughly 80 percent p,p'-DDT and 20 percent o,p'-DDT. When DDT breaks down, the relative amounts of DDD and DDE that are formed depend on environmental conditions. Over time, DDD will break down to other products (e.g., DDMU and DDMS) and eventually disappear from the environment. DDE is much more stable and remains in the environment for a long time.

SUMMARY

DDT has been found in moderate to high concentrations in the Salinas River and lower Moss Landing watershed for many years. In 1984, staff from the State Water Resources Control Board (State Board) devised some simple criteria designed to indicate how closely the Total DDT resembled Technical DDT as compared to its breakdown products, DDD and DDE.

Upon analysis, staff found that fish from the Salinas area were among those that had unusually high fractions of Technical or "fresh" DDT. In particular, both fish and sediment samples from the Salinas River clearly indicated that one source of this material was the Blanco Drain which empties into the Salinas River. At the time, we considered any measurement greater than 10 percent Technical DDT (DDT only) as compared to Total DDT (DDT + DDD + DDE) as high and worthy of further investigation. Approximately 25 percent of the Total DDT found in sediments and fish from the mouth of the Blanco Drain was Technical DDT. This value was about as high as had been found in the Toxic Substances Monitoring Program.

These results provided the impetus for a special study in the Blanco Drain to determine the probable source of the DDT found at the mouth of the Drain. That study, coordinated by the State Board, involved the cooperation and resources of several local and state agencies including the Monterey County Agricultural Commissioner, the County of Monterey, the Central Coast Regional Water Quality Control Board, the California Department of Fish and Game (DFG), the California Department of Food and Agriculture (DFA), and the Moss Landing Marine Laboratory.

The study was conducted in two phases. Phase 1 was intended to characterize the Blanco Drain. Fifteen sediment samples were collected by staff and five composite soil samples were collected by Dr. Robert Risebrough in cooperation with State Board staff. The results were striking. Both the soils and sediments of Blanco Drain contained up to 5 parts per million (ppm) Total DDT and up to 70 percent Technical DDT. The percent Technical DDT was the highest ever measured in the TSM program. In addition, the sediment data indicated that the highest values were confined to a few stations, possible "hot spots" along the Drain.

6

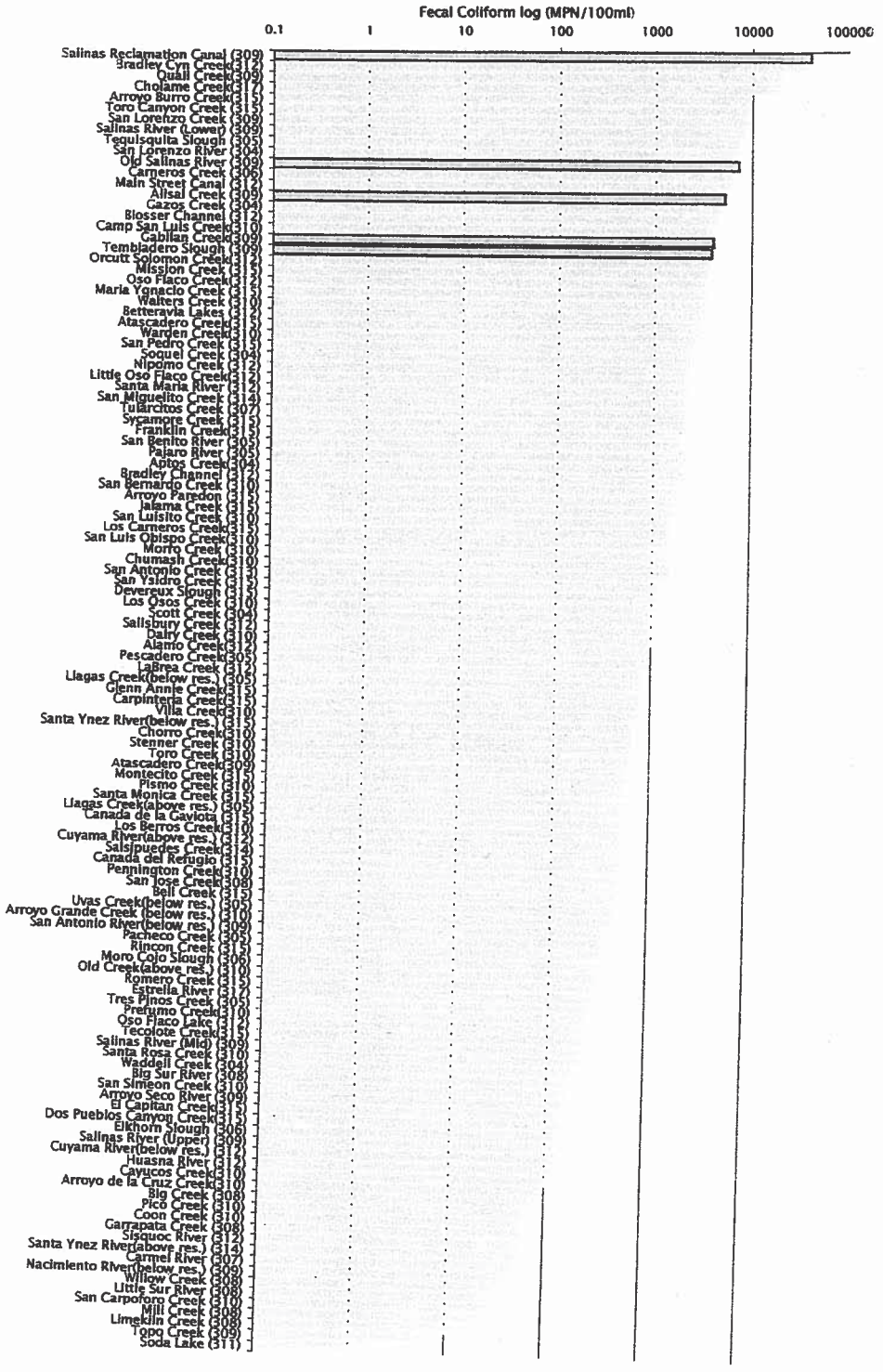

Figure 6.5 Mean fecal coliform at all CCAMP measured waterbodies throughout the Central Coast Region 3. Waterbodies in the Reclamation Ditch Watershed are shown in dark red (Units: log scale MPN/100 ml).

Legacy pesticides

Legacy pesticides are those that are no longer used, but are persistent in the environment. Many are organochlorine insecticide compounds that were banned primarily in the 1970s. The best known is DDT and its byproducts, DDE and DDT, used in the Reclamation Ditch Watershed apparently for mosquito abatement, agricultural, and urban uses. These compounds are still found in the waters and sediments of the Reclamation Ditch Watershed.

The Salinas River Lagoon Management and Enhancement Plan (JGA et al., 1997) cites a number of studies from the 1980s suggesting that soils in the northern Salinas Valley contain a reservoir of DDT that will continue to release DDT into aquatic environments 'well into the 21st Century'. During relatively quiescent conditions in 1999, CCAMP measured p,p'-DDE in sediments at above 35 µg/kg at OLS-POT and GAB-BOR and above 5 µg/kg at REC-AIR, REC-BOR, and TEM-PRE (Worcester et al., 2000) (see Table 6. for explanation of site codes). Four years later during a storm in March 2003, Kozlowski et al., (2004b) measured p,p'-DDE in sediments at 65 µg/kg at REC-JON, 61 µg/kg at OLS-POT, and 27 µg/kg at TEM-RAI. These concentrations fail to meet objectives pertaining to biological toxicity. Long et al., (1995) define the biological effects range median (ERM) for p,p'-DDE as 27 µg/kg . Kozlowski et al., (2004b) also detected DDT byproducts and Dieldrin in the water column - calculating an export to Moss Landing Harbor and the Monterey Bay National Marine Sanctuary of about 3 grams of DDT byproducts per hour during the storm that was sampled.

The above data are not easily comparable over time because Worcester et al., sampled during a quiescent period, and Kozlowski et al., sampled during a storm - when legacy pesticides are expected to reach elevated levels due to the mobilization of the sediments to which these compunds typically bind. There is however, some evidence for a gradual decline in DDT byproducts levels in the neighboring Blanco Watershed. Here, Mischke et al., (2003) reviewed total DDT levels in 1984 to average 2100 µg/kg, whereas Kozlowski et al.. measured levels of 256 and 305 µg/kg respectively at two sites in the watershed.

303d list of Impaired Waterbodies

Several water bodies of the Reclamation Ditch Watershed and others downstream have been listed as having water quality that does not meet set water quality standards

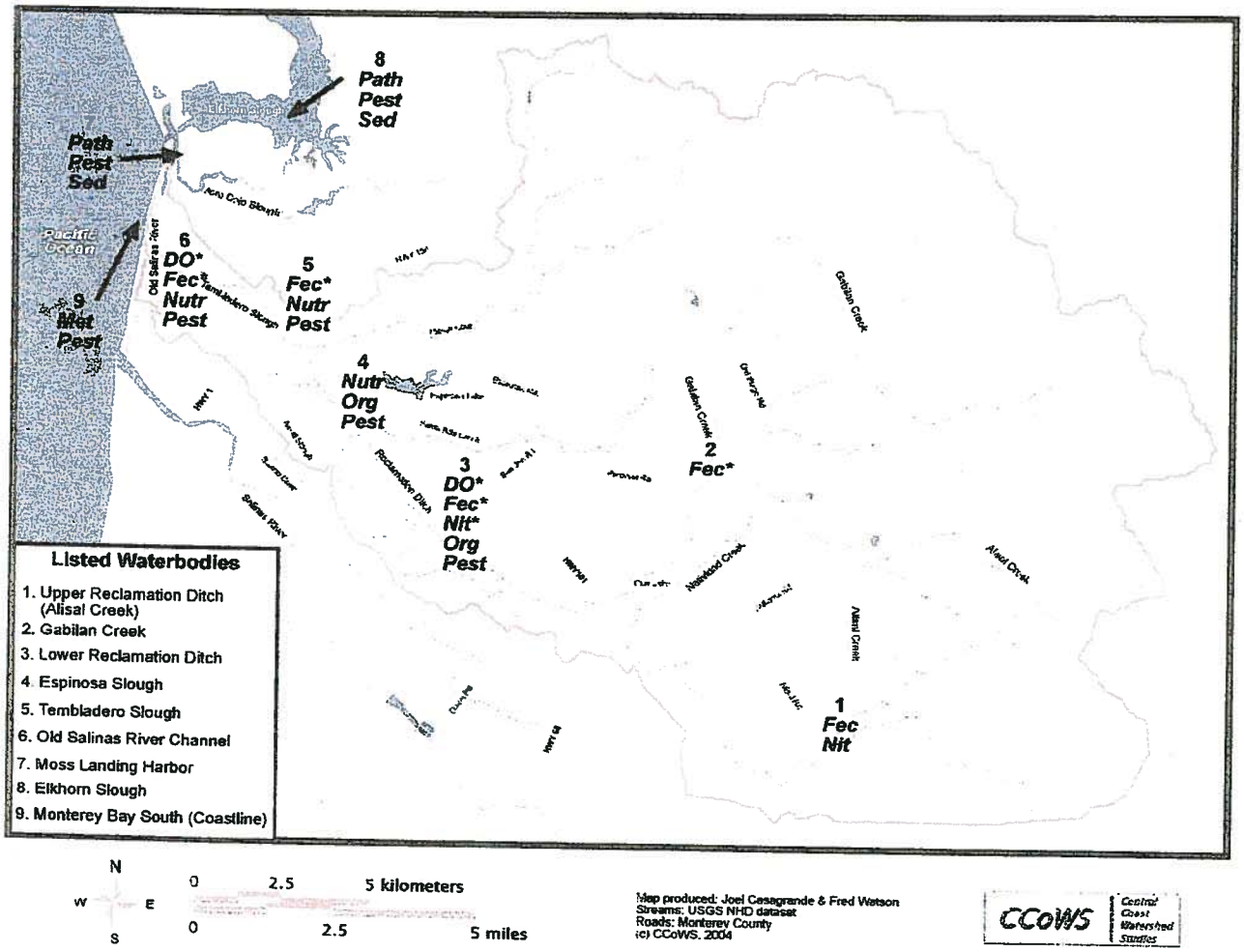

Figure 6.6 Section 303(d) listings for various water bodies within and adjacent to the Reclamation Ditch Watershed.

DO = Low dissolved oxygen
Fec = Fecal Coliform
Nit = Nitrate
Nutr = Nutrients
Org = Priority Organics
Pest = Pesticides
Sed = Sedimentation/Siltation
Met = Metals
* Listings added in 2002 (approved by EPA, 2003). All others were included in the 1998 listing.

The TMDL progress report (http://www.swrcb.ca.gov/centralcoast/water_issues/programs/tmdl/docs/salinas/nutrients/sal_nut_dataanalyrpt_061410.pdf) did not address 'critical' environmental factors associated with nutrient loading in the Lower Salinas River Watershed, in which a slight increase in nutrients could lead to exceedance of water quality objectives. However, the progress report does specify some indicators that can impair the beneficial uses of the regional water bodies.

Data analysis for the June 2010 California Regional Water Board Progress Report included:

- A delineation of watershed boundaries
- A list of subwatersheds
- Stream classification, which revealed in general low gradient streams on the valley floor were perennial, and many headwater streams tended to be ephemeral.
- An assessment of groundwater as baseflow. For the TMDL project area baseflow index values for groundwater ranged from 38 to 26 percent.
- An assessment of mean groundwater nitrate concentrations for the project area. Values reported ranged from 0.1-10.0 mg/l to 100.1-200.0 mg/l of nitrate.
- An assessment of mean annual precipitation for the project area. For the project area values ranged between 11.1 inches to 33.5 inches on average annually.
- An analysis of land use and land cover. In the project area, land uses include approximately 34% farmland, 31% grazing land, 8% urban, and 26% undeveloped/forested/restricted.

2012 TMDL Report

The 2012 CCRWQCB project report draft of TMDL for nutrients in the Lower Salinas River Watershed (LSRW) (Monterey County, CA)[1] is titled: *Total Maximum Daily Loads for Nitrogen Compounds and Orthophosphate* for the *Lower Salinas River and Reclamation Canal Basin, and the Moro Cojo Slough Subwatershed, Monterey County, California* AND WAS COMPLETED/FILLED DATE. Nutrients are defined as biologically-accessible nitrogen compounds and orthophosphate loading into waterways of the LSRW.

This draft report indicates a proposed geographic scope of around 405 acres in the Lower Salinas Valley of northern Monterey County, focused on the two major drainages, the Reclamation Canal Drainage and the Lower Salinas River Drainage (pictured at right). The Moro Cojo subwatershed is identified as a subwatershed in the report.

The ultimate receiving body (drainage) of both waterways and tributaries is the Monterey Bay and the Monterey Bay National Marine Sanctuary. Pollutants addressed by the proposed 2012 TMDL draft are nitrate, un-ionized ammonia, and orthophosphate. Reductions in pollutants are expected to target 303(d)-listed impairments from low dissolved oxygen (DO) and chlorophyll-*a* within the project area. These impairments relate to the biostimulatory effects of nitrate and orthophosphate on freshwater systems.

According to the draft TMDL report (2012):

> "Discharges of nitrogen compounds and orthophosphate are occurring at levels in surface waters which are impairing a wide spectrum of beneficial uses and, therefore, constitute a serious water quality problem. The municipal and domestic drinking water supply (MUN, GWR) beneficial uses and the range of aquatic habitat beneficial uses are currently impaired; potential or future beneficial uses of the agricultural irrigation water supply (AGR) for sensitive crops may be impaired. A total of 34 waterbody/pollutant combinations are impaired due to exceedances of water quality objectives. The pollutants addressed in this TMDL are nitrate, un-ionized ammonia, and orthophosphate. Orthophosphate is included as a pollutant due to biostimulatory impairments of surface waters. Reducing these pollutants is also anticipated to address several 303(d)-listed dissolved oxygen and chlorophyll a impairments in the TMDL project area. As a result of these conditions, beneficial uses are not being protected." *and*
> "By developing TMDLs for the aforementioned pollutants, the water quality standards violations being addressed in this TMDL include:
>
> - Violations of drinking water standard for nitrate
> - Violations of the Basin Plan general toxicity objective for inland surface waters and estuaries (violations of un-ionized ammonia objective)
> - Violations of the Basin Plan narrative general objective for biostimulatory substances in inland surface waters and estuaries (as expressed by excessive nutrients, chlorophyll a, algal biomass, and low dissolved oxygen)"

According to the CCWRQCB draft TMDL nutrient report (2012):

> "*There does not appear to be a significant geologic reservoir in the project area that could contribute to elevated nitrogen loads to surface waters.*"

Eutrophication of waterways may occur when excess nutrients are present and environmental conditions promote algal growth. Biologically-accessible nitrogen and phosphorus are *limiting nutrients* in many ecosystems (CITE). In general, sources of nutrients in watersheds include: urban runoff, fertilizers, groundwater, livestock, wastewater treatment plants, and septic systems. Specifically for the Lower Salinas River Watershed (Anderson et al. 2003) [3] identified irrigated agriculture as the dominant source of nutrients in watersheds in the region.

According to the SWRCB-contracted UC Davis report[4] (Harter and Lund 2012) on nitrate in California's Drinking Water for the State Water Resources Control Board (SWRCB), nitrates are reducing quality of drinking water from shallow wells. The report concludes that: "Most nitrate in drinking water wells today was applied to the surface decades ago."

The report is part of a contracted study for the SWRCB as part of the Senate-mandated *Groundwater Nitrate Project* as part of biannual reporting on initial studies into nitrate effects on drinking water in the Tulare Basin and Salinas Valley. The report also cites agriculture as the estimated source of 96% of nitrate loading to groundwater--200 Gg/yr (1 Gg = 1100 tons) within these regions, with the next largest (estimated) source (wastewater treatment and food processing wastes) loading 3.2 Gg nitrate/yr to groundwater.

Letter U: Water Ratepayers Association of the Monterey Peninsula

U-1 As discussed in Chapter 3 of the Draft EIR and Appendix D "Pure Water Monterey Groundwater Replenishment Project Water Quality Statutory and Regulatory Compliance Technical Report," planning for the Proposed Project included the following:

- Characterizations of the quality of the new source waters to be diverted to the Regional Treatment Plant and Advanced Water Treatment Facility. The list included general water quality parameters (such as total nitrogen and total organic carbon), pathogens and indicator bacteria, constituents with California drinking water standards (inorganic chemicals, metals, organic chemicals, disinfection by-products, radionuclides), constituents with California action levels for lead and copper, constituents with California Notification Levels and archived Advisory Levels, United States Environmental Protection Agency (EPA) Priority Pollutants, chemical constituents included in the EPA Unregulated Contaminant Monitoring Rule Lists 1, 2 and 3, pesticides of local interest based on the agricultural activity/usage in the area, and constituents of emerging concern (pharmaceuticals, ingredients in personal care products, etc.). The list specifically included DDT, DDE, arsenic, and boron.

- A pilot study of some of the source waters and treatment technologies intended to be part of the new Advanced Water Treatment Facility.

As described in the Draft EIR in Section 2.8, the proposed full-scale Advanced Water Treatment Facility would consist of pre-treatment (using ozone, and potentially biologically activated filtration); membrane filtration; reverse osmosis; advanced oxidation using ultraviolet light and hydrogen peroxide; and post-treatment stabilization. The State Water Resources Control Board - Division of Drinking Water (DDW), Regional Water Quality Control Board (RWQCB), and a National Water Research Institute expert panel provided oversight for the above technical studies, including water quality characterization, and project planning. The DDW has conditionally approved the Project's design (see Draft EIR Appendix D). As described in the Draft EIR in Chapter 3 and in Appendix D, the proposed treatment for the purified recycled water for injection into the groundwater basin would remove pathogen and bacterial indictors present in the wastewater and new source waters to levels below detection. The Advanced Water Treatment Facility alone would achieve pathogen reduction credits of 13.5 for virus, 11.5 for *Giardia*, and 11.5 for *Cryptosporidium*, which are greater than the credits required by the Final Groundwater Replenishment Regulations. The treatment to be provided by the Proposed Project would effectively remove any chemical constituents present in the wastewater and new source waters to levels below detection and/or safe levels prior to groundwater injection. Based on the source water sampling, piloting testing results, information on the predicted performance and water quality of the proposed full-scale Advanced Water Treatment Facility based on performance and water quality monitoring of other existing groundwater replenishment projects, and pertinent research, the purified recycled water that would be produced by the Regional Treatment Plant and full-scale Advanced Water Treatment Facility would meet DDW and RWQCB health and water quality regulations for groundwater replenishment. See Chapter 3, Section 4.10, and Appendix D of the Draft EIR for more information.

U-2 As stated on page 6-10 of the Draft EIR, the Monterey Bay Regional Water Project, proposed by DeepWater Desal, LLC, and the Peoples' Moss Landing Water Desalination Project are not considered to be alternatives to the Proposed Project. They would not achieve the objective of providing replacement water for the Monterey District service area customers within the approximate timeframe specified in the Proposed Project's objectives, because they could not be developed for several years. In addition, neither of the proposed desalination projects would be alternatives that would avoid or reduce the environmental effects of construction of the

Proposed Project because they would require a greater extent of new infrastructure (in particular, pipelines) to be built compared to the Proposed Project. Seawater desalination projects also require substantially more electricity per unit of water produced (due to the high pressures required to desalinate ocean water) and therefore, the resultant greenhouse gas emissions would be higher than under the Proposed Project. The Draft EIR text on page 6-10 has been amended to include this clarification regarding the potentially greater environmental impacts of the two projects. See **Chapter 5, Changes to the Draft EIR**.

. The comment suggests that the timing of the two desalination projects has changed and that the desalination projects must be considered as alternatives to the Proposed Project in the Draft EIR.

According to a report prepared for the MPRWA by SPI, Inc. in Jan 2013, the timeline from the commencement of the Environmental Impact Report (EIR)/Environmental Impact Statement (EIS) process for the Monterey Bay Regional Water Project (DeepWater Desal Project) to completion of construction was estimated to be just over four years (see page 6-9 of the report) (http://www.mprwa.org/wp-content/uploads/2013/01/MPRWA-Report.Update.Jan-2013.pdf).

The Notice of Preparation (NOP)/Notice of Intent (NOI) to Prepare an EIR/EIS for the DeepWater Desal Project was published June 1, 2015 and can be viewed at the following websites:

- http://www.soquelcreekwater.org/sites/default/files/documents/Reports/DWD_NOP-NOI%20June_2015_Final-1.pdf, and
- https://www.federalregister.gov/articles/2015/06/01/2015-12877/proposed-monterey-bay-regional-water-project-desalination-facility-intent-to-prepare-a-draft).

Assuming publication of the NOP/NOI commences the "Complete EIR/EIS" task in the schedule in the SPI report, the construction of the Deep Water Desal Project may be complete by the middle of 2019. Based on this information, the Deep Water Desal Project would not meet the timeframe objective of the Proposed Project.

According to a report prepared for the MPRWA by SPI, Inc. in Jan 2013, the timeline from the commencement of the Environmental Impact Report (EIR)/Environmental Impact Statement (EIS) process for the People's Moss Landing Water Desalination Project (People's Project) to completion of construction was also estimated to be just over four years (see page 6-11 of the report) as shown the (http://www.mprwa.org/wp-content/uploads/2013/01/MPRWA-Report.Update.Jan-2013.pdf). A NOP to Prepare an EIR for the People's Project was published in late June 2015 and can be viewed at the following website: http://www.mosslandingharbor.dst.ca.us/downloads/NOP_Peoples%20Desal%20-%20Final%20for%20Publication%20-%202015JUN25%20%282%29.pdf).

Assuming publication of the NOP commences the "Complete EIR/EIS" task in the schedule in the SPI report, the construction may be complete by the middle of 2019. Based on this information, the People's Project would not meet the timeframe objective of the Proposed Project.

Also, neither desalination project would meet the following secondary project objectives:

- Provide additional water to the Regional Treatment Plant that could be used for crop irrigation through the Salinas Valley Reclamation Plant and Castroville Seawater Intrusion Project system; and
- Assist in preventing seawater intrusion in the Seaside Groundwater Basin.

In accordance with Section 15126.6 of the CEQA Guidelines, "the range of potential alternatives to the Proposed Project shall include those that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects. The EIR should briefly describe the rationale for selecting the alternatives to be discussed. ….Among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are:(i) failure to meet most of the basic project objectives, (ii) infeasibility, or (iii) inability to avoid significant environmental impacts." Neither the Monterey Bay Regional Water Project (DeepWater Desal, LLC) nor the People's Moss Landing Water Desalination Project would be feasibly implemented by the MRWPCA, and neither are considered alternatives that would avoid or reduce the significant effects of the Proposed Project based on information provided. See Master Response #12: Adequacy of Range and Scope of Alternatives in **Chapter 3, Master Responses to Comments.**

U-3 The comment states the Final EIR must consider an alternative to the Proposed Project that could provide all the needed water supplies for the Cal Am Monterey District service area. A larger AWT Facility is not needed to accomplish the project objectives. Further, a larger AWT Facility would not reduce the significant effects of the Proposed Project. See also response to comment U-6, and Master Response #12: Adequacy of Range and Scope of Alternatives in **Chapter 3, Master Responses to Comments.**

U-4 The comments suggest the EIR consider the use of slant or slope wells in the Carmel Bay as an alternative water supply and to preclude the need for the north-to-south pipes in the alternatives of CalAm's desalination project and address source-water rights for the Cal Am desalination project and the Proposed Project**.** Although it does not say this explicitly in the comment, it is assumed that the comment intends the slant wells be built to collect seawater or brackish groundwater for a desalination plant. The scope and range of alternatives described and evaluated in the Draft EIR are considered reasonable. Designs and locational information about any potential slant well near Carmel Bay (in addition to the required desalination plant, brine disposal, pipelines and pumps) have not been presented; however, it is a reasonable assumption that such a project would have additional or more severe environmental impacts. In addition, it is also reasonable to assume that the amount of analysis, planning, and permitting needed to implement a new potential slant well and the required associated collection, distribution, and treatment infrastructure would preclude that component from meeting the basic project objective of timing. For the reasons stated above, this seawater desalination alternative (i.e., one with slant wells collecting water from Carmel Bay) is not analyzed further in this EIR. See Master Response #12: Adequacy of Range and Scope of Alternatives in **Chapter 3, Master Responses to Comments.**

U-5 This comment concerns the timing of the water right agreements. The agencies anticipate that the source waters will be addressed through a Definitive Agreement, which likely will be finalized after the certification of the EIR. To the extent that rights need to be obtained from the State Board, such applications will be pursued after the certification of the EIR. The State Board would act as a responsible agency and would be able to rely on this EIR for its approvals. Publication of this EIR is not premature; rather an EIR is needed for the State Board to act on the pending water rights applications.

U-6 The comment states the earlier versions of the Proposed Project assumed source waters only from urban wastewater sources. The comment asserts that if wastewater is the only viable water supply source, the Final EIR must consider an alternative to the Proposed Project that could provide all the product water projected by the combined CalAm and Pure Water Monterey projects year-round. See Master Response #3: Availability, Reliability, and Yield of Source Water Supplies**.** The technical reports and documentation in this EIR identify source water supplies and rationale for their inclusion. The EIR project objectives identify supplying 3,500 acre-feet of water to the Cal-Am system. Source water documentation and requirements for agreements provide evidence that the sources of availability will not have to rely solely on the urban wastewater supplies during the winter months as documented in the Draft EIR and in

Master Response #3: Availability, Reliability, and Yield of Source Water Supplies. A larger AWT Facility with a capacity to produce 3,500 AF all during the four winter months (i.e., to shut down for 8 months every year) was not analyzed in this EIR because it would have greater environmental impacts (including, but not limited to, larger plant footprint and process equipment sizes, larger construction disturbance areas, larger product water conveyance pumping and pipeline capacities, additional electricity use and greenhouse gas emissions). In addition, the scenario of using the AWT Facility only during the winter months was determined to be infeasible by the MRWPCA during early project planning due to engineering and technical considerations of operations of an advanced water treatment plant. See Master Response #12: Adequacy of Range and Scope of Alternatives in **Chapter 3, Master Responses to Comments**.

U-7 The GWR project in Orange County (Groundwater Replenishment System or GWRS) uses both surface spreading ponds and injection wells for groundwater replenishment. The recycled water contribution for the GWRS is 100%, meaning no diluent water is required for either the surface or subsurface application components of the project. As discussed in Appendix D of the Draft EIR (the Water Quality Statutory and Regulatory Compliance Technical Report), the Final Groundwater Replenishment Regulations allow for RWCs of 100% for injection projects that use full advanced treatment (e.g., a treatment system with reverse osmosis and advanced oxidation) that meets specific performance criteria. The Project will utilize a full advanced treatment process as part of the AWT Facility that will meet the full advanced treatment criteria, and thus will be allowed to use up to 100% purified recycled water for injection in accordance with the regulations. The DDW has conditionally approved the Project's design.

U-8 See the responses to comments U-1 and Y-1.

U-9 This comment lists attachments to the letter that are provided herein; no response necessary.

U-10 See the responses to comments U-1 and Y-1.

U-11 See the response to comment U-1.

U-12 See the response to comment U-1.

U-13 See the response to comment U-1.

U-14 See the responses to comments U-1 and Y-1.

U-15 See the response to comment U-1.

U-16 See the responses to comments C-1 through C-6**.**

U-17 The Seaside Basin Watermaster has been actively involved in development of the Proposed Project and has reviewed the Draft EIR and provided comments. See letter N and responses to that letter. The siting and operational methods of the Proposed Project Injection Well Facilities were developed using the groundwater model developed by the Watermaster (i.e., the creator of the model, HydroMetrics WRI conducted the modeling).

U-18 The comment states an opinion of the Proposed Project and is referred to decision makers for their consideration. See the responses to comments U-1 and U-7.