

California Regional Water Quality Control Board
San Diego Region

Response to Comments Report

Tentative Order No. R9-2022-0005
NPDES No. CA0107417

Waste Discharge Requirements
for the South Orange County Wastewater Authority
Discharge to the Pacific Ocean
through the San Juan Creek Ocean Outfall

March 9, 2022



**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION**

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INTRODUCTION

This report contains the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) responses to written comments received on Tentative Order No. R9-2022-0005, NPDES No. CA0107417, *Waste Discharge Requirements for the South Orange County Wastewater Authority Discharge to the Pacific Ocean through the San Juan Creek Ocean Outfall* (Tentative Order).

The San Diego Water Board provided public notice of the release of the Tentative Order on January 4, 2022 and provided a period of 30 days for public review and comment on the Tentative Order. The public comment period ended on February 3, 2022. Written comments on the Tentative Order were timely received from:

1. South Orange County Wastewater Authority
2. South Coast Water District
3. Roger E. Bütow, Founder & Executive Director, Clean Water Now
4. Capo Cares
5. Penny Elia
6. Cynthia Love
7. Orange County Coastkeeper
8. Miller Marine Science & Consulting, Inc.
9. South Laguna Civic Association
10. Los Angeles/Orange Counties Building and Construction Trades Council
11. CalDesal
12. Dana Point Chamber of Commerce
13. Karl W. Seckel, P.E., Municipal Water District of Orange County
14. Robert J. Hunter, Municipal Water District of Orange County
15. Susan Hinman
16. Mesa Water District
17. Local Union 652
18. Laguna Bluebelt Coalition

Comments and Responses

The following pages provide the written comments as provided in the comment letters and San Diego Water Board responses to the comments. In some cases, the San Diego Water Board modified formatting, but did not correct spelling or grammatical errors in the comments submitted. The responses include a description of any actions taken to revise the Tentative Order in response to the comment. Changes to the Tentative Order are show in red-underline for added text and ~~red-strikeout~~ for deleted text.

COMMENTS AND RESPONSES

1. Comments from South Orange County Wastewater Authority (SOCWA), dated February 3, 2022

Thank you for the opportunity to comment on the Tentative Order No. R9-2022-0005 NPDES Permit for the San Juan Creek Ocean Outfall. SOCWA and its member agencies would like to thank the Board and their staff for their assiduous work on this Tentative Order as we support the approval of this NPDES Order at the March 9, 2022 San Diego Regional Water Quality Control Board meeting. The overriding concerns that SOCWA has are related to the increase in monitoring costs and adherence to compliance with Clean Water Act monitoring methodologies that are contained in this Tentative NPDES permit. While SOCWA will not be challenging the scope or need that the Regional Board has identified since the previous permit cycle, SOCWA welcomes the opportunity to work with the Regional Board on matters that may directly result on escalating permitting costs into the future. SOCWA would like to work with the Board on the formation of a public group to evaluate the pressing scientific questions associated with ocean discharge to identify shared problem identification, tools available to answer the developed questions, and strategies to achieve the proposed monitoring questions in a cost-effective manner.

Response

Comment noted.

2. Comments from South Coast Water District (SCWD or District), dated February 3, 2022

2.1. Comment – Background

South Coast Water District (the District) appreciates the opportunity to comment on Tentative Order R9-2022-0005 (Tentative Order) for the San Juan Creek Ocean Outfall (SJCOO). Listed below are comments on the Tentative Order for consideration by the San Diego Regional Water Quality Control Board (RWQCB) staff for incorporation into the adopted Order.

By way of background, the Doheny Ocean Desalination Project (the Project) represents the culmination of more than fifteen years of technical studies and stakeholder consultation, including a successful slant test well program from 2010 - 2012. The Project is an essential component of the District's water supply portfolio and has consistently been identified as the preferred solution to ensure a climate change resilient water supply. Over the past several years, District staff have worked closely with RWQCB and State Water Resources Control Board (Water Board) staff in developing a Project that is not only fully compliant with the Water Board's May 2015 Amendments to the Water Quality Control Plan for Ocean Waters of California (Desalination Amendment), but also implements the preferred technologies for intake and discharge, i.e., subsurface slant wells and

comingled brine discharge with treated wastewater. Such technologies will eliminate mortality due to seawater intake and minimize salinity and shearing impacts due to the discharge of brine.

While an owner or operator with subsurface intakes is not required to do an Empirical Transport Model (ETM)/Area of Production Forgone (APF) analysis for such intakes and is not required to mitigate for intake-related operational mortality, the owner or operator must estimate operational mortality related to discharges. (See Desalination Amendment, Chapter III.M.2.e.(1)(a)). The area in excess of receiving water for salinity shall be determined by modeling and confirmed with monitoring. With respect to shearing stress resulting from the facility's comingled discharge, the owner or operator should determine the incremental increase in mortality resulting from this comingled discharge using any acceptable approach approved by the RWQCB. (See *id.*, Chapter III.M.2.e.(1)(b)).

Although the final project design details, such as RO Recovery, have not been fully determined at this time (as the Project will be delivered via Design-Build), it was necessary to model and estimate the APF that may be potentially impacted by the comingled brine discharge for inclusion in this Tentative Order.

Therefore, while we understand the need to use 50% recovery as an assumption for the purposes of determining certain intake and discharge flowrates, and subsequent mitigation requirements, we appreciate the Board's willingness to re-open the permit once the design has progressed and more definitive flowrates have been determined, which may affect the current mitigation assumption.

Subject to South Orange County Wastewater Authority's (SOCWA) comments and our comments below, we strongly support the Tentative Order and the Water Code section 13142.5(b) determination.

Response

Comment noted.

2.2. Comment – Salinity Effluent Limitation

Page 14, Table 10 – For salinity, the 232.4 ppt instantaneous minimum should not be required. 232.4 ppt is extremely high - perhaps it was intended to be an instantaneous maximum?

Response

The San Diego Water Board agrees with the comment and has corrected the salinity limitation in Table 10 of the Tentative Order from an instantaneous minimum effluent limitation to an instantaneous maximum effluent limitation.

2.3. Comment – Flow Limitation

Page 15, Table 10, Note 2 – The flow limitation should not include off-spec product water. If all off-spec product water is included in the flow limitation, the monthly average could be exceeded quickly during these instances, as both off-

spec product water and brine would be discharged. This includes startup and commissioning activities. The District suggests changing Note 2 to:

“The flow limitation includes reverse osmosis (RO) brine concentrate flow and calcite contactor backwash flow. Periodic off-spec product water or flows during start-up and commissioning activities are not included.”

Response

The San Diego Water Board agrees with the comment and has modified Table 10, Note 2 of the Tentative Order as requested.

2.4. Comment –Mitigation Requirements - Order Language

Page 25, [section] 6.1.2.3 – the District suggests the following modifications consistent with 6.3.2.3: [added text in red underline]

“The Water Code section 13142.5(b) determination described in Attachment H of this Order does not expire and shall remain in effect unless: 1) the Dischargers propose a change in design or operation of the Doheny Desalination Project in a manner that could increase intake or mortality of marine life, consistent with the [*Water Quality Control Plan for Ocean Waters of California*] Ocean Plan definition of an expanded facility, 2) there is a significant reduction in the volume of wastewater available for dilution of brine, or 3) if the Dischargers do not meet the requirements for the mitigation. Such a proposed change will require a new Water Code section 13142.5(b) determination for an expanded facility as required by the Ocean Plan chapter III.M.1.e.(5). If the Mitigation [Area of Production Forgone] APF Re-Evaluation Study and/or Larval Study demonstrate that the mitigation requirements of this Order are excessive to fully compensate for the mortality of all forms of marine life associated with the Doheny Desalination Project, then the Dischargers may apply for a new Water Code section 13142.5(b) determination.”

Response

The San Diego Water Board agrees with the request to add the last sentence to section 6.1.2.3 as requested. The added sentence is consistent with section 2.4.7; section 6.3.2.3.3; section 6.3.2.4.3; section 6.3.2.5.1; Attachment F, section 6.2.2.3; and Attachment F, section 6.2.2.4 of the Tentative Order.

In lieu of adding the word “significant” to this section, the San Diego Water Board has modified the language to be consistent with section 2.4.4 of the Tentative Order as follows:

2) there is a significant reduction in the volume of wastewater available for dilution of brine the Dischargers reduce the volume of wastewater discharged through the SJCOO below the flow rate required for a positively buoyant plume more than 5% of the time over a 6-month period based on the average daily salinity at Monitoring Location M-001,

2.5. Comment – Reopener Provision

Page 26, [section] 6.3.1.1 – the District suggests the following modifications consistent with [section] 6.1.2.3.: [added text in red underline]

“This Order may be reopened to modify provisions governing compliance with Water Code section 13142.5(b) and the Ocean Plan if a new Water Code section 13142.5(b) determination is required by the terms of this Order or if the Dischargers propose a change in design or operation of the Doheny Desalination Project in a manner that could increase or decrease intake or mortality of all forms of marine life, consistent with the Ocean Plan definition of an expanded facility, beyond that which is approved in this Water Code section 13142.5(b) determination. This Order may be reopened at any time for modification of provisions governing compliance with the receiving water limitation for salinity as set forth in Ocean Plan section III.M.3.”

Response

The San Diego Water Board agrees with the comment and has modified sections 6.1.2.3 and 6.3.1.1 of the Tentative Order as requested.

2.6. Comment – Larval Study

Page 32, [section] 6.3.2.4 – The District is concerned that “all marine species shall be identified and counted, including vertebrate and invertebrate species” is much too broad. Typically, larval studies count and identify to the lowest practical level (1) fish eggs, (2) fish larvae, and (3) target shellfish larval stages. Because zooplankton are so abundant, and because little is known about the life histories of so many, studies focus on a subset of recreationally or commercially important taxa. Examples of target shellfish taxa from past studies include California spiny lobster (puerulus life stage), rock crabs (megalops stage), market squid (paralarvae), sand crabs/mole crabs, and ridgeback rock shrimp.

A mesh size of 335 microns will result in the collection of thousands of planktonic organisms. It makes sense to count the above-mentioned target taxa. However, identifying, counting, and measuring thousands of holoplankton (i.e., organisms like diatoms) would be extremely time consuming and serve little purpose.

All of the entrainment studies¹ conducted in Southern California over the last 25 years have focused the sampling on fish eggs and larvae, and larvae from a few select invertebrates (meroplankton). The study plans for several of these studies have been collaborative efforts involving staff and scientists from the utilities, consultants, staff from regulatory agencies, as well as independent scientific experts from academia. The scientists involved in formulating the plans for these studies have generally resisted calls to include sampling for a broad range of invertebrate larvae for several reasons. First of all, shellfish such as crabs and

¹ While entrainment is not at issue here given the use of subsurface intakes, currently available studies concerning APF estimates focus on entrainment. If additional shearing impact studies or other useful methods for estimating turbulence mortality become available, we will present them to the RWQCB.

lobster go through multiple stages before developing into a larval form that can be identified to species. To address the issue of impacts on invertebrates many of these studies have included processing samples for later stage larvae of commercially important species.

Another reason the studies have not included a broader suite of invertebrate larvae is the additional sampling needed to adequately sample the small earliest life stages of many of these species. The mesh used in most of these studies for sampling fish larvae is 0.33 millimeters or 0.01 inches. A common mesh size used for invertebrate larvae is a third smaller at 0.20 millimeters. This small mesh size creates enormous problems for sampling as the nets clog and become less efficient. Essentially, the only way to adequately sample all invertebrate larvae is to conduct a completely independent sampling effort.

As briefly discussed above, the Empirical Transport Model (ETM) is generally used for calculation of Area of Production Forgone (APF) and is required to be used in the Ocean Plan Amendment for Desalination Intakes. The ETM requires an estimate of larval duration, or period of exposure, for the time larvae are susceptible to entrainment. This larval duration is then used to calculate displacement during the exposure period, and adequately scale the source water area. Larval duration is derived by measuring larvae and dividing the difference between maximum and minimum growth rates by an estimated larval growth rate. Therefore, ETM/APF efforts should focus on taxa for which there are published growth rates.

Finally, a broad range of invertebrates have not been included in the studies because the sampling efforts have been designed to include source water sampling that is used to estimate the proportional effects of entrainment on the populations. This estimate of proportional mortality can then be used to extrapolate impacts to life stages not included in the sampling. The same approach is used to account for entrainment of fish eggs which also cannot generally be identified to species. For example, sampling is used to estimate the proportional entrainment mortality for white croaker, a common species of nearshore fish. The estimates are based solely on data collected on the larvae of this species because the eggs cannot be identified to species. From other data on this species we know the number of days the eggs are planktonic and potentially exposed to being entrained. Therefore, when the total mortality due to entrainment is calculated for white croaker, the same proportional entrainment mortality estimated for the larvae is also applied for the number of days the eggs are exposed to entrainment. This same approach is used to account for entrainment of the earlier larval stages of invertebrates not included in the sampling. This approach and the underlying assumptions have been agreed to by all of the scientists involved in these studies.

Therefore, consistent with previous desalination studies, and in consultation with the RWQCB, some planktonic groups may not be identified in the larval study analysis. As such, for clarification, please modify the paragraph as follows:

“The design of the Larval Study shall be consistent with Chapter III section M.2.e.(1)(a) of the Ocean Plan. At minimum, the Larval Study shall include monthly sampling at locations within the source waterbody for a period of one year. Samples shall be collected throughout the water column using a mesh size no greater than 335 microns. ~~and all~~ All fish eggs, fish larvae, and target invertebrate taxa individuals collected shall be ~~counted, measured, and~~ identified to the lowest taxonomical level practical and counted. The target taxa shall be determined in consultation with the SDRWQCB. A subset of the taxa to be analyzed for determination of APF shall be measured for purposes of determining age structure and larval duration. ~~For the purpose of the Larval Study, all marine species shall be identified and counted, including vertebrate and invertebrate species.”~~

Furthermore, please change all uses of “species” to “taxa” or “taxon” (which includes species) or “organisms” throughout the document. This is recommended due to taxonomic limitations and sample condition uncertainties, but still acknowledges that identification will be to the lowest practical taxonomic level.

For example, Page 33, 6.3.2.4.3. – please modify the following section:

- “A description of climatic and physical oceanographic conditions at the time of sampling (weather observations, wind and current speed and direction, swell or wave action, time of sampling, tide height, water temperature, etc.);
- A description of the sample collection, preservation, and **species** identification procedures used in the study;
- A description of targeted species taxa identified within the source waterbody, including the habitats used by the species during their juvenile and adult life stages;
- An analysis of the larval duration and size of the species organisms collected during the study;
- An analysis of the potential for species taxa to be absent or undercounted due to unfavorable spawning conditions;
- An analysis of whether the larval duration used to calculate the APF in this Order accurately reflect the species present in the source waterbody; and
- An analysis of whether the species taxa impacted by the Doheny Desalination Project come from habitats other than the proposed mitigation habitat. If so, the Dischargers shall develop mitigation ratios for San Diego Water Board concurrence.”

Response

The San Diego Water Board agrees that the Dischargers² should not be required

² The term “Dischargers” refers to SOCWA, Santa Margarita Water District, Moulton Niguel Water District, City of San Clemente, and South Coast Water District.

to identify holoplankton or other taxa that do not have sufficient life history information, particularly larval durations, needed for the APF analysis. The San Diego Water Board has modified section 6.3.2.4 of the Tentative Order as requested.

2.7. Comment – Facility Description of the Doheny Desalination Project

Attachment F, [page] F-11, [section] 2.1.8 – because the treatment system has not yet been fully designed, the District suggests the following modification: [added text in red underline]

“The treatment system will likely include pretreatment consisting of flocculation, sedimentation, catalytic media filtration, RO membranes, and post treatment conditioning, which will include UV disinfection, calcite contactors, and a product water storage tank sized to provide necessary chlorine contact time.”

Response

The San Diego Water Board agrees with the comment and has modified Attachment F, section 2.1.8 of the Tentative Order as requested.

2.8. Comment – Acres of Mitigation

Attachment F, [page F-58], [section] 6.2.2.3. – the District suggests the following modification to the first sentence consistent with 6.3.2.3: [added text in red underline]

“Subject to the Mitigation APF Re-Evaluation Study, this Order requires 7.45 acres of mitigation to compensate for the marine life mortality associated with the Doheny Desalination Project construction, operation, intake, and discharge.”

Response

San Diego Water Board has modified Attachment F, section 6.2.2.3 of the Tentative Order to be consistent with the language in sections 2.4 and 6.1.2.3 of the Tentative Order by adding the following sentences:

As described in sections 2.4 and 6.1.2.3 of this Order, if the Mitigation APF Re-Evaluation Study and/or Larval Study demonstrate that the mitigation requirements of this Order are insufficient to fully compensate for the mortality of all forms of marine life associated with the Doheny Desalination Project, then the Dischargers shall apply for a new Water Code section 13142.5(b) determination. Sections 2.4 and 6.1.2.3 of this Order also state “If the Mitigation APF Re-Evaluation Study and/or Larval Study demonstrate that the mitigation requirements of this Order are excessive to fully compensate for the mortality of all forms of marine life associated with the Doheny Desalination Project, then the Dischargers may apply for a new Water Code section 13142.5(b) determination.”

2.9. Comment – Mitigation Requirements – Attachment H Language

Attachment H, H-7, Finding No. 6 – the District suggests the following modification consistent with 6.3.2.3 and 6.3.2.5.1:

“This Water Code section 13142.5(b) determination is conditioned in part on the submission and approval by the San Diego Water Board of the Mitigation APF Re-Evaluation Study, the Larval Study, and the Final Marine Life Mitigation Plan. If the conclusions of the Mitigation APF Re-Evaluation Study and/or the Larval Study demonstrate that the mitigation requirements in this Order are insufficient to fully compensate for the mortality of all forms of marine life associated with the Doheny Desalination Project, then the Dischargers are required to apply for a new Water Code section 13142.5(b) determination. If the Mitigation APF Re-Evaluation Study and/or Larval Study demonstrate that the mitigation requirements of this Order are excessive to fully compensate for the mortality of all forms of marine life associated with the Doheny Desalination Project, then the Dischargers may apply for a new Water Code section 13142.5(b) determination.”

Response

The San Diego Water Board does not agree that the requested language is necessary to include in Attachment H of the Tentative Order. The Water Code section 13142.5(b) determination is conditioned, in part, on the mitigation requirements in the order being insufficient to fully compensate for the mortality of all forms of marine life associated with the Doheny Desalination Project. The Water Code section 13142.5(b) determination is not conditioned on the mitigation requirements of the order being excessive. Sections 2.4.7, 6.3.2.3.3, 6.3.2.4.3, and 6.3.2.5.1 of the Tentative Order make clear that the Discharger may request a new Water Code section 13142.5(b) determination if the Mitigation APF Re-Evaluation Study and/or Larval Study demonstrate that the mitigation requirements of the order are excessive to fully compensate for the mortality of all forms of marine life associated with the Doheny Desalination Project. The San Diego Water Board has not made changes to the Tentative Order as a result of this comment.

3. Comments from Roger E. Bütow, Founder & Executive Director, Clean Water Now (CWN), letter dated February 2, 2022

3.1 Comment - Division of Water Rights (DWR)

Herein are comments regarding the DWR investigation but also the proposed Doheny Desalination Project (DDP) and its syphoning (extraction) impacts. CWN considers them inextricably bound and should not be viewed in isolation or separated, disentangled jurisdictionally.

Response

Comment noted. The San Diego Water Board believes Mr. Bütow is referring to the State Water Resources Control Board (State Water Board), Division of Water Rights investigation of the water rights complaint received from the District on August 14, 2015 against the San Juan Basin Authority and the City of San Juan Capistrano. The State Water Board’s investigation of this complaint is summarized in an August 25, 2021 State Water Board, Division of Water Rights

report, *Report of Investigation, INV 7806, San Juan Basin Authority and City of San Juan Capistrano, Natalie Stork, Senior Engineering Geologist, Victor Vasquez, Senior Water Resource Control Engineer* (Report of Investigation). For more information about the water rights investigation, please refer to the Report of Investigation. Separately, the San Diego Water Board is considering Tentative Order No. R9-2022-0005, NPDES No. CA0107417, *Waste Discharge Requirements for the South Orange County Wastewater Authority Discharge to the Pacific Ocean through the San Juan Creek Ocean Outfall*. While the San Diego Water Board understands CWN's concern that there are several projects currently being considered by the San Diego Water Board and the State Water Board that address issues in the San Juan Creek watershed, each agency considers the totality of the administrative record relevant to the action being considered. Further, the San Diego Water Board is semi-autonomous from the State Water Board. For the March 2022 Board meeting, the San Diego Water Board is only considering the adoption of the Tentative Order.

3.2 Comment - Seawater Intrusion

We believe that South Coast Water District (SCWD) has **NOT** provided sufficient proof or evidence that the DDP won't increase seawater intrusion: It is our position that the two (2) wells operated by SCWD have already triggered both lateral and vertical encroachments, that the proposed DDP has the potential to exacerbate those intrusion dynamics and hydraulic mechanisms.

Response

The Doheny Desalination Project is not expected to increase seawater intrusion. The effects of seawater intrusion from the Doheny Desalination Project are described in section 4.8 and Appendix 10.10.1 of the *Draft Environmental Impact Report State Clearinghouse No. 2016031038 Doheny Ocean Desalination Project* (Draft EIR). Modeling indicates that the installation of slant wells at Doheny State Beach would provide benefits to San Juan Basin groundwater as the slant wells will create a pumping "trough" that will reduce seawater intrusion into the Basin. Additionally, as noted in Response L6-7 of the *Final Environmental Impact Report and Responses to Public Comments, State Clearinghouse No. 2016031038, Doheny Ocean Desalination Project* (Final EIR), seawater intrusion brought on by the slant wells will be tracked with existing and, as necessary, additional new strategically located monitoring wells. Wells will be equipped with continuously recording water level and electrical conductivity transducers which will track any changes that occur in groundwater salinity with time. SCWD will share the groundwater monitoring results with the San Juan Basin Authority.

3.3 Comment –CWN and Other Parties

The chronological history of CWN's constant trailing, persistent watchdog efforts matter in these two (2), *prima facie* superficially distinct issues. CWN is the **ONLY** NGO to have tracked the DDP via subsequent, innumerable analyses

triggered by attendance at public hearings, workshops and interrogatories addressed to SCWD Board, staff and consultants.

CWN's credibility should be taken seriously as 90% of the SOC utility meetings exhibit **ZERO** NGO attendance. Since 2010, CWN has been a constant attendee at SJBA meetings where NGO representation has been glaringly MIA.

CWN was in fact the **ONLY** NGO present when SCWD announced the filing of their water rights complaint (circa 2015), naming the City of San Juan Capistrano and the parent San Juan Basin Authority (SJBA) as culpable. We have continued to track it up to this day and have greatly appreciated the DWR's acknowledgment, i.e., via recent petition granting us **Interested Party Status** in their objective, final pursuit regarding resolution of that complaint.

CWN was the **ONLY** NGO present at the San Juan Creek Watershed Study Management meeting co-hosted by the USACE and County of Orange over 20 years ago when this project was presented by MWDOC in its infancy, its nascent conceptual launch via a PP Presentation. It proposed an open ocean intake.

Up until 2010-11, we were the **ONLY** NGO to participate via attendance and public testimony as it gathered municipal and utility partner momentum: SCWD, MWDOC, Moulton Niguel Water District, the cities of San Clemente, San Juan Capistrano, and Laguna Beach **ALL** contributed staff time and funds to sustain this desalination's progress.

Suddenly, all of the aforementioned parties announced their summary withdrawal, abandoned their fiscal contributions and removed themselves as partners, including creator and original advocate MWDOC, save one: SCWD. This jarring, *en masse* exodus was never explained to the public, there were rumors of personal disputes, friction between the new GM of SCWD and new GM at MWDOC that were never confirmed or openly divulged. CWN did hear that it was already looking too expensive, not just in construction costs (estimated at ≈\$85 million in 2011) but compared to MET supply costs a deal breaker. So they all dropped out.

Response

Comment noted. On June 27, 2019, the SCWD Board of Directors certified the Final EIR for the Phase I Local Doheny Ocean Desalination Project, which would produce up to 5 million gallons per day (MGD) of new drinking water supplies for the area. SCWD certified the Final EIR sixteen years after the Municipal Water District of Orange County (MWDOC) and six other local water agencies, including SCWD, first began studying the possibility of placing an ocean desalination plant at Doheny State Beach. MWDOC undertook years of hydrogeologic studies, slant well pilot tests, engineering feasibility reports, extended pumping, and a test slant well before SCWD took over the project in 2015. MWDOC began exploring the feasibility of developing an ocean desalination facility in 2002 as part of a program to improve water supply reliability in south Orange County. MWDOC, in partnership with participating

agencies, undertook a comprehensive investigation into the feasibility study of the Doheny Desalination Project. A 2004 Water Reliability Study recommended an ocean desalination project in Dana Point due to the geology, availability of land, existing outfall for brine disposal, and proximity to existing water pipelines. The feasibility investigation included three phases. Phases 1 and 2 Testing were successfully completed from 2005 to 2007 at Doheny State Beach in Dana Point. Phase 3, Extended Pumping and Pilot Plant Testing, was completed in 2012. The investigation found that the construction and operation of slant wells along Doheny State Beach is feasible.

3.4 Comment – Slant Well Technology

The most commonly uttered concerns, the dominant suspicions, uncertainty and wariness in addition to the growing, mounting administrative expenditures was the unpredictability, the experimental nature of probationary slant well drilling, its dicey risks regarding unforeseeable technological operational failures, high energy costs, and ongoing maintenance that could **only** be performed or supervised by the sole source patent holder: **Dr. Dennis Williams of GeoScience**.

As reflected in Monterey’s ocean desalination, slant well usage hasn’t cleared jurisdictional hurdles, hence there were no successful precedents, no multiple well array installations of this technology anywhere in the State’s coastal waters--or elsewhere for that matter.

The SDRWQCB may receive directly or be provided by SCWD letters of support from a gamut of stakeholders. CWN believes that it’s garnered support because the sub-surface intake is the lesser of evils, the least objectionable, it’s as if **ANYTHING** but an open ocean intake merits kudos and **“huzzahs,”** delighted enthusiastic hoorays.

The prototype that was operated by MWDOC at Doheny Beach didn’t instill a lot of confidence for many reasons: A single boring barely to the Mean High Tide (MHT), this was in essence a conceptual, feasibility installation (only 350 feet in length) as it did **NOT** drill out to the projected eventual distances (600-1200 feet) or depths of the final fan, the multiple **“snout”** array (graphic displayed later in this submission).

In fact, it was a single tubular extraction device, yet SCWD has asserted, concluded and CWN alleges falsely extrapolated full build out Pollyanna success from a modest test well that didn’t mime eventual installation conditions. [CWN included aerial map with Pacific Coast Highway, San Juan Creek, the test well location, access route, and parking lot staging area.]

Response

Slant wells are not untested technology. The preferred intake technology in the Ocean Plan is subsurface intakes. As discussed in section 8.3.2.1.2 of the Ocean

Plan Desalination Amendment Final Staff Report³ (Desalination Staff Report), slant wells are similar to vertical wells, but are drilled into source water aquifers at an angle using directional drilling methods. Like vertical intake wells, the wellheads of slant wells are generally buried in a vault beneath the ground to maintain shoreline aesthetics. Although slant wells are more expensive to construct than vertical beach wells, slant wells can minimize above-ground shoreline structures.

Slant wells have been successfully used for potable water supply by the Lewis & Clark Regional Water System in Vermillion, South Dakota (3 years of operation); the South Central Regional Water District in Bismark, North Dakota (5-10 years of operation); the Town of Bethlehem Water Distribution System in Selkirk, New York (10 years of operation); the City of Burnsville in Burnsville, Minnesota (6 years of operation); the Poweshiek Water Association in Brooklyn, Iowa (7 years of operation); and the Minnesota Department of Transportation in Minneapolis, Minnesota (1 year of operation). Additionally, slant wells have been installed for agricultural purposes in Cartwright, North Dakota (1 year of operation). Although these slant wells are used under freshwater rivers or lakes, the same principles apply to marine systems. (See California American Water Slant Well Survey Final Report, October 2015.)⁴

SCWD conducted slant well pilot testing at the mouth of San Juan Creek, at Doheny State Beach, to determine the feasibility of the subsurface intakes for the Doheny Desalination Project. SCWD operated the slant well continuously for 18 months from December 28, 2010 to April 24, 2012 (Pilot Study). In a transmittal letter, dated July 17, 2020, GHD, consultant for SCWD, stated that the Pilot Study was successful and found that the construction and operation of subsurface intakes using slant wells along Doheny State Beach is feasible. Slant well technology has also been tested successfully for ocean desalination use at the Monterey Peninsula Water Supply Project Test Slant Well in Marina, California. The Monterey Test Slant Well was drilled to a length of 720 feet along an angle of 19 degrees below horizontal. The Monterey Test Slant Well is substantially similar to the current well design for the Doheny Desalination Project, which considers wells up to 1,000 feet in length at an angle of approximately 10 degrees. The Monterey Test Slant Well was pumped

³ The State Water Board's Final Staff Report Including the Final Substitute Environmental Documentation for the Desalination Amendment to the Ocean Plan, Adopted May 6, 2015, Amendment to the Water Quality Control Plan for Ocean Waters of California, Addressing Desalination Facility Intakes, Brine Discharges and the Incorporation of Other Non-Substantive Changes, available at https://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2015/rs2015_0033_sr_apx.pdf

⁴ The California American Water Slant Well Survey Final Report is available at: <https://www.dropbox.com/s/tlk2csg56cz7tkg/20151029%20California%20American%20Water%20-%20Final%20Slant%20Well%20Study.pdf?dl=0> (as of February 10, 2022)

successfully for approximately 3 years from April 2015 to February 2018 at an average daily production capacity of 3 MGD. The well remains operational and is intended to be used for full-scale production to supply a planned seawater desalination plant as part of the Monterey Peninsula Water Supply Project.⁵

Please also refer to the Final EIR, Master Response 4: Slant Well Technology.

Please see Response to Comment No. 3.5 regarding project costs.

3.5 Comment – CWN and Costs

Living in proximity to SCWD's offices, I personally was able to attend all of the numerous workshops and hearings as CWN's representative. Once in a blue moon, an NGO representative from another group would attend. Post 2011, a search of SCWD and SJBA minutes and submissions archives sustain that persistent stakeholder participation.

What started at a projected \$85 million total price tag 10 years ago is currently up to \$120 million and rising by SCWD's own 2021 public main stream media quoted admissions. While burning through grant and significant ratepayer funds in the millions, apparently money is no object, disregarding the minor size of the customer base in relation to other utilities.

I was appointed by SCWD to serve on their ad hoc sustainability committee several years ago, and it became immediately apparent that its primary purpose was to rubber stamp the DDP. Unrecorded, no minutes taken, no public in attendance as they were not notified or invited, it intentionally avoided, did not have to meet Brown Act standards. From my opening remarks, I repeatedly voiced my concerns about not only the cloudy atmosphere of rubber-stamping tactics/allegations, the glaring deficiencies of slant wells but also my distress regarding no public stakeholder transparency.

Response

As part of the Water Code section 13142.5(b) determination, the San Diego Water Board is required to consider a range of feasible alternatives for the best available site, the best available design, the best available technology, and the best available mitigation measures to minimize intake and mortality of all forms of marine life. In particular, feasible is defined as "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors." (Ocean Plan, Appendix I.) Regarding project costs, the San Diego Water Board is required to consider economic and social factors as they relate to the minimization of intake and mortality of all forms of marine life. The San Diego Water Board's role is to ensure that the project's site, design, technology, and mitigation are feasible to minimize intake and mortality of all forms of marine life.

⁵ For more information on the Monterey Peninsula Water Supply Project, visit <https://www.watersupplyproject.org/test-well> (last viewed on February 16, 2022)

SCWD provides water and wastewater services to approximately 35,000 residents, 1,000 businesses, and 2 million visitors per year in the south coastal area of Orange County. The SCWD service area includes the communities of Dana Point and South Laguna, and areas within San Clemente and San Juan Capistrano. It is anticipated that the Doheny Desalination Project will not make residential water bills unaffordable. According to the SCWD Staff Report (Subject: Doheny Ocean Desalination Project – Water Cost Analysis By Clean Energy Capital And Rate Impacts By HF&H Consultants) presented to its Board of Directors on September 2, 2021⁶ (2021 Cost Analysis), SCWD projects that the Doheny Desalination Project will increase the residential water bill for their customers by approximately \$2.38/month for the 5-million gallons per day (MGD) Project. To enhance project affordability, SCWD has also reported that to date it has secured more than \$30 million in low-interest grant funding including:

- \$10 million California Department of Water Resources Desalination Construction Grant;
- \$8,3 million US Bureau of Reclamation, Water Infrastructure for the Nation Act Grant;
- \$11.7 million US Bureau of Reclamation Water Infrastructure for the Nation Act Grant; and
- \$2.4 million, USEPA Grant (for slant well demonstration project).

3.6 Comment –Partners/Members

It is not unreasonable to pause and ask the reader simple questions:

- Why did all of the other previous partners/members drop out and never return to the slant well fold?
- Why, in the past 5 years typified by SCWD Board and staff shamelessly begging former partners or new ones to join them, invest, has no agency signed aboard?
- Why didn't the largest, employing by far SOC's most knowledgeable and innovative staff, notably savvy Board and **“asset-wealthy”** utility, Santa Margarita Water District, ever invest?

Response

Comment noted. The Final EIR, Master Response 1: Project Description Details, states, “The Draft EIR evaluates the Local Project capacity as being “up to” 5 MGD, recognizing that the District may proceed with a smaller scale Project. A potential future Regional Project would require partnership with other water agencies (see Master Response 2) to share financial responsibility and to create

⁶ The September 2, 2021 SCWD Staff Report is available at: https://scwd.granicus.com/MetaViewer.php?view_id=3&clip_id=2529&meta_id=164921 (as of February 10, 2022)

a regional product water conveyance system. These regional components have not been identified and would be beyond the capabilities and project goals of the District itself. Even with the Local Project, should the District proceed with the full 5 MGD of potable water capacity, the District could make some of this water available to other local water agencies, as noted in the Draft EIR (and discussed further in Responses O2-1 and O2-2), following further California Environmental Quality Act (CEQA) review. However, as no partners, commitments, or funding agreements are in place for use beyond the District, the amount of water, its destination, or how it would be used by other water agencies is speculative.”

The Final EIR, Master Response 2: Local Project vs Regional Project Clarifications, states, “The Doheny Ocean Desalination Project is anticipated to be developed in two or more phases. Phase I would have a capacity of up to five (5) MGD of potable water, and the Regional Project would have a capacity of up to 15 MGD. At this time, the District is only pursuing approvals for the Phase I Project, as there are currently no regional partners identified for the Regional Project. Accordingly, this EIR evaluates the Phase I Project at a “project-level” for final CEQA review for use by Responsible and Trustee agencies in the project’s future permit and approval process. The Regional Project (up to 15 MGD) is evaluated at a “programmatic” level pursuant to CEQA, although construction approvals are not being sought at this time and the District will complete additional CEQA review and associated regulatory approvals for any capacity above 5 MGD.”

Please also refer to the Responses to Comment Nos. 3.3 and 3.5.

3.7 **Comment - Fiduciary Responsibilities**

- Is it possible that like the game of roulette, SCWD is failing its fiduciary responsibilities and duties by gambling, by placing all of someone else’s money on RED 1, that everyone else but SCWD sees the literal bankrupt strategy being proposed? I bluntly asked their Board and GM in open session many times if they’d consider alternative conventional pumping methods and placement strategies: The retort was basically **ONLY** slant wells on the beach would be considered and **“damn the torpedoes.”**

Response

Please see Response to Comment No. 3.4 regarding the slant well technology. Please see Response to Comment No. 3.5 regarding the cost of the Doheny Desalination Project.

3.8 **Comment – Slant Wells**

- That the sole source slant well commitment which SCWD pushes as **“innovative”** is in fact experimental, unproven, radical and extreme, plus fails any objective, disinterested 3rd party risk or cost benefit litmus test. Obviously as they’ve been no takers, only lip service support, something is amiss.

Response

Please see Response to Comment No. 3.4 regarding the slant well technology. Please see Response to Comment No. 3.6 regarding SCWD's plans to involve regional partners in future phases of the Doheny Desalination Project to expand the service area to help meet water demands at a regional scale.

3.9 Comment - Division of Water Rights (DWR) and Conflict of Interest

INTRODUCTION

It's CWN's formal position that the drafting of the Lower San Juan Creek, including water rights held by SCWD (**WRP 21138—A030337**), Basin Plan Objectives (BPO) violations, the proposed **amendment to NPDES No. CA0107417**, tentatively scheduled for SDRWQCB approval in March of 2022 in conjunction with the San Juan Creek Ocean Outfall (SJCOO) NPDES Permit (**R9-2022-0006**), plus DDP prescriptions/conditions for approval are inextricably linked, should be seen in their totality not in isolation.

The groundwater perched sub-surface in lower San Juan Creek from just above Stonehill Drive to Doheny State Beach (≈ 1 mile) and extended seaward is a continuum, protrudes farther out into the Pacific Ocean than SCWD's admission in its vendors supporting biased studies. **That vendor (GeoScience) has a distinct Conflict of Interest in both matters, the ROI fracas plus the hydrogeological studies performed for the DDP (explained further in this submission).**

Furthermore, this lower reach has been found to be a distinct sub-basin, separated from its larger upstream portion (San Juan Basin) by an occlusion, a barrier that severs the upper from the lower.

There is physical interplay, connectivity, a hydraulic relationship between the ground and surface water reflected in SWRCB's jurisdictional oversight and water rights permits. Even though a low priority groundwater basin, CWN petitions both the SWRCB and SDRWQCB to consider the main goals of the Sustainable Groundwater Management Act (SGMA) and its basic principles to be relevant.

In light of the most recent, evidence-based hydrogeological analyses and conclusions reached by the SJBA *et al*, the lowest reach should be declared a candidate for more intense scrutiny:

- Identify, i.e., declare the lowest reach of San Juan Creek as a separate sub-basin subject to critical hydraulic/habitat conditions and protected from jeopardizing overdraft, hence distinct enforcement procedures not imposed upon the known upper reach (larger San Juan Basin---Managed by the SJBA).
- Develop unique management practices/activities and objectives for the sustainable management of this lowest segment's surface and groundwater;

- from the now-known barrier, the estuary and out beyond the point of immediate surface discharge.
- Revise the San Juan Creek groundwater basin boundaries, developing specific regulations in collaboration with SCWD as it is the only SJBA member with water rights in this lowest unit, a distinct, readily distinguishable segment portion. Who knows how long SCWD has been abusing its POD permit? How does anyone assess the fiscal benefits of lengthy non-compliance by SCWD, or the fiscal worth of a decade or more of ecological degradation?
 - We ask the SWRCBDWR to consider that their investigation bolsters and sustains our long-held position: There's a **"fair argument standard"** case to be made that SCWD as a condition of approval should be required to shut them down asap pending resolution of the water rights dispute, the complaint filed by SCWD against its fellow JPA members.
 - If not, at minimum, then mandate the decommissioning of the 2 wells upon the onset, the first day that ocean desalination pumping commences as it attempts to clear the paleo channel (*stratigraphic depositional zone*) cone of depression. If the DDP is eventually fully permitted, SCWD will have no need for said wells anyway, correct? SCWD should be required by the State to decommission them at least temporarily to assist more accurate analyses plus as a condition of approval, i.e., an exaction, a concession/exaction, or mitigation for the DDP.

[CWN included an image of text that reads: In addition to supplying water to the root zone of plants, groundwater can also contribute to surface flows, influencing the timing, duration, and magnitude of surface flows, particularly base flows. These base flows provide essential support to aquatic invertebrates, avian fauna, and fish species, including native resident and anadromous fishes. In addition, groundwater that only seasonally supports surface flows can contribute to the life-cycle of migratory fishes, such as steelhead, that can make use of intermittent flows for both migration, spawning and rearing (Erman and Hawthorne 1976, Boughton *et al.* 2006, 2009).]

Response

Comment noted. For clarification purposes, it should be noted that the National Pollutant Discharge Elimination System (NPDES) permit for the San Juan Creek Ocean Outfall is Tentative Order No. R9-2022-0005.

The Tentative Order does not convey any property rights of any sort, including water rights, or any exclusive privileges. The State Water Board has sole administrative authority over water rights in California. Please see Response to Comment No. 3.1 regarding the San Diego Water Board's independent consideration of the Tentative Order. For more information about the water rights investigation, please refer to the State Water Board Report of Investigation referenced in the Response to Comment No.3.1.

Please see Response to Comment No. 3.2 for information on seawater intrusion and plans to track inland groundwater elevation and water quality.

The alleged conflicts of interest noted by the Commenter regarding the Doheny Desalination Project are outside the San Diego Water Board's purview and should be raised with the project proponent, SCWD.

3.10 Comment – Separate Sub-basin

CWN strongly encourages both agencies to address the undesirable potential results to prevent further harm in this now proven, separate sub-basin:

- Chronic lowering of the groundwater levels within this sub-basin
- Significant and unreasonable reduction of groundwater storage
- Seawater intrusion
- Degraded water quality
- Degraded threatened/endangered habitat by drawing down surface regime flows. Adverse estuarine impacts that substantially interfere with mixing zone beneficial uses, including fresh resource de-watering of the estuary and increased salinity.
- Depletions of interconnected surface water that have significant and unreasonable adverse impacts on beneficial uses of the surface water.

Response

Please see Response to Comment No. 3.2 for information on seawater intrusion and plans to track inland groundwater elevation and water quality. Please see Response to Comment No. 3.1 regarding the San Diego Water Board's independent consideration of the Tentative Order. For more information about the water rights investigation, please refer to the State Water Board Report of Investigation referenced in the Response to Comment No. 3.1. Please see Response to Comment No. 3.9 regarding the impacts to habitats, species, and the lagoon.

The Tentative Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code, sections 2050 to 2097) or the federal Endangered Species Act (16 U.S.C.A. sections 1531 to 1544). The Dischargers are responsible for meeting all requirements of the applicable Endangered Species Act. (Please see Attachment F, section 3.3.5 of the Tentative Order.) Please see the Draft EIR, section 4.3, and Final EIR, Response F2-6 regarding impacts to habitats, species, including southern steelhead trout, and lagoon water levels. As stated in section 4.3 of the Draft EIR, slant wells at Doheny State Beach could result in lowering the San Juan Creek Lagoon water by approximately 0.14 to 0.26 feet. However, this variation is within normal lagoon water level variations.

Additionally, pursuant to Mitigation Measure BIO-4, SCWD will monitor San Juan Creek Lagoon water levels following commencement of pumping for the first slant well installed at Doheny State Beach to ensure that the slant wells at Doheny State Beach do not create a significant impact to San Juan Creek Lagoon water levels relative to southern steelhead trout, as determined by the National Marine Fisheries Service (NMFS). NMFS will make a determination as to whether the Doheny Desalination Project impacts endangered species and the Tentative Order does not limit NMFS from taking actions to prevent impacts to endangered species.

3.11 Comments - Priorities

Priorities:

- The negative historical **and** potential future effects of SCWD diversions in lower San Juan Creek as noted by DWR's ROI 7806 (coaxing of seawater upstream) shouldn't be viewed in isolation. The two (2) desalter wells should be taken offline until such a time as both the DWR and SDRWQCB staff have concluded this investigation, including conditioned mitigations to avoid seawater barrier intrusions in the future. State and federal anti-degradation policies should be brought into the dispute narrative.
- Focus upon adverse impacts on lower San Juan Creek's BPO due to desalting draft practices, that have and will take place, that need further unbiased, independent 3rd party analyses.
- Pumping activities have threatened and will continue to jeopardize the approval of the San Juan Creek Watershed **Salt & Nutrient Management Plan (SNMP)** currently in progress, in coordination with SDRWQCB staff for certification. SCWD/SOCWA should create adequate implementation BMP's/procedures for achieving or ensuring compliance with water quality objectives. Post facto monitoring is the equivalent of trying to put the horse back through a long ago, left open barn door. Damage, degradation and entropy may already be in place.
- Address the additional burden which could be placed upon critical fresh ground and surface water replenishment resources in both lower San Juan Creek and the estuarine zone if SCWD is allowed/certified to pump ≈ 9.4 mgd from the Creek mouth/Doheny State Beach as being applied for currently. This ≈ 9.4 added burden, this allowance should also be set aside, stripped from the Tentative Order R9-2022-0005 to be heard on March 9, 2022. As SCWD has stated, it will take several years to build/install the infrastructure, that is adequate time for CWN's proffered studies to either sustain or rebut SCWD allegations of "**nil/negligible**" adverse estuarine and sea water intrusion impacts.
- The Basin has been intensively studied by the SJBA's vendors, **Wildermuth Environmental Inc.** (now **West Yost**) and **G3SoilWorks** beginning in 2013.

They've been followed by the current, unfinished peer review by **Wesley Danskin (USGS)**, all sustain the existence of said blockage. All strongly embrace the highly probable existence of a distinct lower Basin.

- At minimum, neither the pumping activities/SJCOO discharges of the 2 named SCWD wells or DDP/amended NPDES permit should proceed until Mr. Danskin's final report/analysis has been completed and accepted/certified in open session public hearings before the SJBA, and the SWRCBDWR completes its own investigation and closes the file. We assume via sanctions like compensation for staff time, any ACLs and/or SEPs/ECAs.
- CWN strongly encourages both the DWR personnel and SDRWQCB staff to try and see it from our perspective: CWN believes that due to the overwhelming, mounting evidence by the SJBA's team of consultants since 2015, coupled with the DWR ROI 7806, a more refined investigation of the negative aspects of SCWD's lower creek diversions and reassessment of its desire to amend the SJCOO/ratify the DDP should take place in tandem, not in its current isolationist view.

Response

The San Diego Water Board disagrees with the assertion that the Board should wait until the groundwater studies have concluded before considering the inclusion of the Doheny Desalination Project in the Tentative Order. Please see Response to Comment No. 3.9 regarding the District's water rights. Please see Response to Comment No. 3.2 for information on seawater intrusion and plans to track inland groundwater elevation and water quality.

The San Diego Water Board also disagrees with the assertion that the Board should require that the SCWD Groundwater Recovery Facility be taken offline until the groundwater studies have concluded. The Tentative Order establishes intake requirements, effluent limitations, water quality objectives, and mitigation requirements for the Doheny Desalination Project, and the effluent limitations for the SCWD Groundwater Recovery Facility, but it does not preclude any requirements set by the Division of Water Rights regarding water rights. Please see Response to Comment No. 3.1 regarding the San Diego Water Board's independent consideration of the Tentative Order. For more information about the water rights investigation, please refer to the State Water Board Report of Investigation referenced in the Response to Comment No. 3.1.

The SNMP requirements are outside of the scope of this Tentative Order. CWN will need to submit its comments on the SNMP separately.

3.12 Comment - ROI 7806

The information embedded in the **ROI 7806** sustains our suspicions. We look forward to the resolution of this matter and sanctions but would reiterate what our position of 8+ years (beginning in 2014) regarding distressing concerns openly expressed verbally and in writing at both SCWD and SJBA hearings:

- SCWD has amplified upstream, ocean water intrusion via its 2 wells (Stonehill & Creekside) noted in ROI 7806. Our increasingly loud, vehement objections are a matter of public record (oral and written testimony); our alarm continues regarding the jeopardizing of the saltwater barrier and **Basin Plan Objectives** (BPO), including critical habitat for listed endangered/threatened species, concerns documented but unresolved.
- We believe that this ancient occlusion, the rock and rubble blockage in the lowest segment of the Creek above Stonehill Drive has hydraulically cleft the Basin in two, starting just upstream of SCWD infrastructure. Sub-surface groundwater flows out a considerable distance beyond the beach as it comingles, it doesn't stop at the Pacific's edge.
- SCWD's sole focus appears to be selfishly consumptive, greedily extractive and without provision for freshwater recharging, thus triggering significant natural resource reductions affecting federally protected threatened and endangered flora and fauna, California species of concern including protection and restorations of native habitat. These issues were pointed out in SCWD's documentation by its own vendor, The Chambers Group (PDF attached).
- **In the case of the Southern Steelhead Trout (SST), San Juan Creek Watershed enjoys the highest level of protection prioritization, it is designated as a Core One recovery unit by NOAA (NMFS)**
[CWN included an image of text that reads: Unfortunately, habitat for this species has been adversely affected by loss and modification of physical or biological features (substrate, water quality and quantity, water temperature channel morphology and complexity, passage conditions, riparian vegetation, introduction of non-native invasive species, etc.) through activities such as surface-water diversions and groundwater extractions (See "Current DPS-Level Threats Assessment", pp. 4.1 – 4-11, and "Threats and Threat Sources", pp. 9-14 – 9-17, in NMFS 2012; also, NMFS 2016). Thus many of the physical and biological features of designated critical habitats have been significantly degraded (and in some cases lost) to the detriment of the biological needs of steelhead. These habitat modifications have hindered the ability of designated critical habitat to provide for the survival and ultimately recovery of this species.]
- SCWD shouldn't be allowed, should be conditionally restrained from altering the **physical** (water levels and duration/variations thereof), **chemical** (water quality/salinity) and **biological** integrity of the estuarine zone per BPO. SCWD's groundwater extractions have already imbalanced the fresh/seawater mixture as the SWRCB investigation reveals, and because of biased monitoring it is uncertain for what duration and to what extent degradation has occurred. The DPP has the potential to incur into extended estuarine waters as defined by the State

[CWN included an image here that includes the California Ocean Plan's definition for Estuaries and Coastal Lagoons.]

- SCWD's own submission reflects this freshwater extension, although CWN would contest the depth and distance portrayal:

[CWN included an image here of a Slant Well Schematic.]

- CWN does not blame the State, that these permits we specify progress and are certified in separate venues, divisions and/or departments. CWN **does** believe that a wider, more thoroughly holistic vantage point should stimulate State agency conversations that mandate more in depth, objective 3rd party advanced analyses and investigations.
- [CWN included an image of text that reads: Furthermore, the Public Trust Doctrine imposes a related but distinct obligation to consider how groundwater management affects public trust resources, including navigable surface waters and fisheries. Groundwater hydrologically connected to surface waters is also subject to the Public Trust Doctrine to the extent that groundwater extractions or diversions affect or may affect public trust uses. (*Environmental Law Foundation v. State Water Resources Control Board* (2018), 26 Cal. App. 5th 844; *National Audubon Society v. Superior Court* (1983), 33 Cal. 3d 419.) The groundwater agency (GSA) has, "an affirmative duty to take the public trust into account in the planning and allocation of water resources, and to protect public trust uses whenever feasible." (*National Audubon Society v. Superior Court* (1983), 33 Cal. 3d 446.) Accordingly, Source: NOAA (NMFS)]
- CWN alleges that due to the overwhelming, mounting evidence by the SJBA's team of consultants since 2015, coupled with the **DWR ROI 7806**, a more refined investigation of the negative aspects of SCWD's lower creek diversions and careful reassessment of its desire to amend the SJCOO NPDES, plus certify the DDP should take place in tandem, contemporaneously: Both State agencies in collaboration and in coordination, in tandem, in conjunction with each other, not in regulatory silos.

Response

Please see Response to Comment No. 3.1 regarding the San Diego Water Board's independent consideration of the Tentative Order. For more information about the water rights investigation, please refer to the State Water Board Report of Investigation referenced in the Response to Comment No. 3.1. Please see Response to Comment No. 3.9 regarding the District's water rights and impacts to habitats, species, and the lagoon. Please see Response to Comment No. 3.2 for information on seawater intrusion and plans to track inland groundwater elevation and water quality.

3.13 Comment – Steelhead Trout

Current efforts like the **Southern Steelhead Recovery Project** led by **Dr. Sandra Jacobs of Cal-Trout** and **Mr. George Sutherland of Trout Unlimited** stand little chance of estuary restoration and preservation let alone San Juan Creek SST passage to upper reaches, repopulation of said federally listed endangered species if the estuarine **“smolting, transitional”** zone for juveniles is never mitigated nor concessions/exactions offered. Less fresh surface water and potential hyper-salinity are not conducive to many aquatic and phreatophytic species either in residence (see attached Chambers Group Study) or subjects for re-population, future restoration planning efforts.

SST, an ESA-listed species, is just one of the reasons that CWN objects to the proposed sub-surface drafting of ≈ 9.4 mgd at San Juan Creek Mouth/Doheny State Beach and its conveyance, its co-mingling and discharge via the SJCOO operated by the parent JPA, the SOCWA. We are not assured nor have confidence in SCWD or its vendors that this drafting won't directly affect the seawater barrier and/or estuary.

Once SCWD/SOCWA acquire the right to syphon and discharge, it will be nearly impossible to withdraw/alter those entitlements except by expensive, complex, time consuming legal proceedings or formal measures. It could take **YEARS** of monitoring before the significant adverse impacts are realized. Since the proponent, SCWD, only seems to hire those that tell them what they wish to hear (confirmation bias), does the State really believe that this utility will blow the whistle on itself?

Response

Please see Response to Comment No. 3.10 regarding the impacts to habitats, species, and the lagoon.

3.14 Comment – CWN Proposed Alternatives

ALTERNATIVES

- When SCWD certified its FEIR for the DDP in 2017 it **“hid the ball,”** i.e., it never considered less environmentally obtrusive or fiscally viable alternatives per CEQA in the same location: Vertical wells off the beach thus no recreational use dislocation impacts (beneficial uses).
- On November of 2019, a fellow SJBA member called these slant wells **“very risky,”** conveyed serious seawater intrusion concerns and suggested a viable, much more cost-effective alternative. This member directed SCWD to consider the estimated $\approx 6,000$ afy that could be extracted using vertical wells (e.g., Ranneys) from the Creek contiguous, just below, the proposed Title 17 plant. CWN would add that decommissioning the 2 wells named in the ROI would ensure that acceptable groundwater recharging and estuarine replenishment levels could be sustained.
- Why didn't SCWD pursue the diversion of the surplus secondary affluent from the JB Latham plant just across San Juan Creek from the proposed DDP site

property owned by SCWD? The SOCWA operated JB Latham plant discharges ≈8 mgd via the SJCOO, affluent truly wasted. A no-brainer but never offered as an alternative.

- With an approximate 80% or greater reclamation efficiency and recovery rate (DDP only 50%), this alternative would not only significantly reduce ocean pollutant discharge gross volumes (per the Ocean Plan). The DDP would discharge 5 mgd of hyper-saline briny waste that also contains concentrations of a gamut of chemicals from the desalination process itself.
- DPR would result in a similar significant reduction of both volumes and type in the concentrations of briny waste. This fulfills the State's goals and objectives of recovery, recycling and reuse plus conservation in one fell swoop.
- A hybrid model, vertical wells plus the SOCWA surplus.
- Whether DPR, IDR, or hybrid, CWN has done its homework: They could be accomplished for about ½ of what SCWD is projecting in eventual costs (over \$120 million), and ½ the projected timeline for the DDP to become fully operational in/around 2030. We believe that our offered alternative could be accomplished by 2026, not incur violations or jeopardy regarding the prohibitions embedded in anti-degradation policies.

Response

Section 5.0 of the Draft EIR evaluated vertical wells as an alternative technology. As described in section 5.0 of the Draft EIR, vertical wells may have a greater impact on the upstream groundwater levels in the San Juan Basin due to the potential for a significant percentage of inland groundwater being drawn into the vertical wells. Vertical wells may also be subject to increased variability in groundwater quality, likely requiring additional pretreatment. As discussed in the Response to Comment No. 3.4, slant wells can minimize above-ground shoreline structures compared to vertical wells. Please see Response to Comment No. 3.2 for information on seawater intrusion and plans to track inland groundwater elevation and water quality. Please see Response to Comment No. 3.1 regarding the San Diego Water Board's independent consideration of the Tentative Order. For more information about the water rights investigation, please refer to the State Water Board Report of Investigation referenced in the Response to Comment No. 3.1.

As stated in the State Water Board Desalination Staff Report, section 8.3.2, "Subsurface intakes extract marine water from beneath the ground, filtering the seawater through the geological features of the seafloor. Because the water is naturally filtered as it moves through sediments, it generally contains lower levels of contaminants such as suspended solids, silts, organic contaminants, oil, and grease." This natural filtration reduces the need for pretreatment/chemicals before reverse osmosis treatment and thus reduces the environmental impact. Also, the natural filter results in null impingement and entrainment at the intake.

In terms of increasing recycled water production or pursuing direct or indirect potable reuse instead of the Doheny Desalination Project, it has long been a policy of the San Diego Water Board to encourage and promote water recycling while taking into consideration the need to protect beneficial uses of the waters of the State of California (State) and protect the public health. Water recycling should be carefully considered by persons proposing to discharge once-used wastewater to the ocean whenever practical. SOCWA and its member agencies have an extensive history of collaborating to implement water recycling projects that are protective of water quality and help to ensure the sustainability of the water supply. Since the early 1990's, the use of recycled water has played a vital role in increasing the reliability and sustainability of the overall water supply within the SOCWA service area. SOCWA reports that its recycled water program regulated under the San Diego Water Board's Order No. 97-52 currently produces just under 20,000 acre feet per year (AFY) of recycled water for use within its service area, thereby saving approximately 6.5 billion gallons of domestic water each year that otherwise would be used for those purposes. Future projects are in the planning stages in the SOCWA service area to further maximize water reuse for greater resiliency and sustainability of future drinking water supplies. Examples of such projects include Moulton Niguel Water District's ongoing investigation of the beneficial reuse of recycled water for implementation in a Direct Potable Reuse Project and Santa Margarita Water District's proposed multi-phased San Juan Watershed Project to increase the capture and storage of urban runoff and stormwater, optimize recycled water use, and augment local groundwater supplies.

From a legal perspective, the San Diego Water Board is not required to reduce discharges of treated effluent from publicly owned treatment works (POTWs) when reissuing an NPDES permit. Water Code section 13263, which is the San Diego Water Board's statutory authority to issue NPDES permits regulating discharges into waters of the State, identifies the issues the San Diego Water Board is to "take into consideration" before issuing those permits. (Water Code, section 13263, subdivision (a).) These include "the beneficial uses to be protected, the water quality objectives reasonably required for that purpose, other waste discharges, the need to prevent nuisance, and the provisions of Section 13241." (Ibid.) None of those considerations involve the volume of water discharged. (See also Water Code, sections 13370, 13389.) Further, the discharger has the exclusive authority to decide whether to reuse or discharge wastewater produced by a POTW. (See *City of Santa Clara v. Von Rasefeld* (1970) 3 Cal.3d 239, 246; *Mefford v. City of Tulare* (1951) 102 Cal.App.2d 919, 924; see also Wat. Code, § 1210.) However, the San Diego Water Board may encourage dischargers to recycle water.

Lastly, it should be noted that the Doheny Desalination Project is consistent with SCWD's 2020 Urban Water Management Plan (UWMP),⁷ which states "The Doheny Ocean Desalination Project has been determined as the best water supply option to meet reliability needs of the District and South Orange County."

3.15. Comment – Mitigation - Negotiations

CWN has been informed that the Los Cerritos intertidal wetland (SLCW) was a result of last-minute, December 2021 negotiations between SCWD and SDRWQCB staff, that SOCWA staff was not privy to these discussions? Why was that if the lead agency SOCWA holds the Permit?

Response

SOCWA participated in many of the discussions regarding the Doheny Desalination Project. The discussions in December 2021 between the San Diego Water Board and SCWD were related to the selection of one of the mitigation projects considered by SCWD. Pursuant to Chapter III, section M.2.e(2) of the Ocean Plan, SCWD, as the owner or operator of the desalination facility, is required to mitigate for the mortality of all forms of marine life determined in the Marine Life Mortality Report. SCWD elected to mitigate for the mortality of all forms of marine life through the completion of a mitigation project. As such, SOCWA's participation in the meetings to discuss mitigation was optional. The San Diego Water Board did not prevent SOCWA from participating in the mitigation project discussions.

3.16. Comment – Mitigation – Intertidal Wetland

Imagine our surprise when on January 4, 2022, we opened the SDRWQCB agenda packet and at the very last page we found in Attachment H the suddenly named intertidal wetland. **What do the benthic and epibenthic larval species 2 miles out into the Pacific Ocean (in over 100 feet of seawater) and intertidal wetlands larvae 20 miles away have in common, to qualify as "in-kind?"** **Extraordinarily little according to our research.** [CWN included an image of text from Attachment H, Table H-2, Finding 60 of the Tentative Order]

Response

Chapter III, section M.2.e of the Ocean Plan requires SCWD fully mitigate for the impacts associated with the construction and operation of the Doheny Desalination Project. Mitigation is the replacement of all forms of marine life or habitat that is lost due to the construction and operation of the Doheny Desalination Project. The San Diego Water Board may approve out-of-kind mitigation for open water or soft-bottom species. In-kind mitigation should be done for all other species whenever feasible.

To determine whether a mitigation project provides in-kind or out-of-kind mitigation, the San Diego Water Board must know the species impacted by the

⁷ SCWD's 2020 Urban Water Management Plan is available at: https://www.scwd.org/T6_R81.php (as of December 24, 2021)

Doheny Desalination Project, including the habitats the impacted species occupy during the lifecycle. Due to the lack of larval data in the source waterbody of the discharge, the San Diego Water Board, in consultation with the State Water Board, took a conservative approach in concluding that wetland habitat provides in-kind mitigation for all impacted species. The species present in the source waterbody will be determined by the Larval Study required in section 6.3.2.4 of the Tentative Order. If it is determined that species impacted by the discharge come from habitats other than wetland habitat, the San Diego Water Board may revise the mitigation requirements, including applying mitigation ratios. If the San Diego Water Board concludes that all larvae are species from open ocean or softbottom habitat, a mitigation ratio could be applied reducing the required mitigation acreage.

It should be noted that the locations where planktonic larva is caught do not necessarily reflect the habitat the species utilize during other life stages.

3.17. Comment – Mitigation - List of Mitigation Candidates

Here’s the list of mitigation candidates according to SOCWA as of October 7, 2021, that CWN was tracking:

[The Commenter provided an image of text from SOCWA’s October 7, 2021 General Manager’s Status Report, which includes the following list of potential mitigation projects that was included in a submittal to the San Diego Water Board on September 29, 2021: Kelp Forest Restoration, Aliso Creek Estuary Restoration, Buena Vista Lagoon Enhancement Project, Batiquitos Lagoon Restoration, San Elijo Lagoon, San Juan Creek Estuary Restoration Opportunities Assessment, Los Penasquitos Lagoon Restoration Design and Feasibility Study, Marine Protected Area (MPA) Management and Protection Support.]

Response

Comment noted.

3.18. Comment – Mitigation - Doheny State Beach

A better, more pertinent, and appropriate mitigation is the long overdue, sorely needed environmental restoration of the Doheny State Beach estuarine zone. SCWD has had 10 years of sole control, its most recently funded study co-funded/sponsored by MWDOC 5.5 years ago, to help develop a model, to convene an ad hoc stakeholder working group, progress permitting, be **“shovel ready,”** announce a launch point (upon SDRWQCB approval). The past 5.5 years since the Chambers Group delivered could have been spent collaborating with NGO protectionists, regulatory, public trust and resource agencies on a workable environmental restoration adjacent to their DDP facility and extraction zone.

Knowing of the need for mitigation, in possession of the **Chambers Group Lower San Juan Creek & Seasonal Coastal Lagoon** Habitat Assessment,

more specifically to the SST as noted in their July 2016 deliverable: That “**this species has a moderate potential to occur near this site.**”

[CWN included an image of text that reads: Southern steelhead is federally listed as endangered and is a California Species of Special Concern. This species occurs in the ocean and in rivers and streams. Steelhead are born in fresh water and spends a portion of their lives in the ocean before returning to fresh water to spawn. Adults require cool, well- oxygenated streams for spawning. This species has been previously recorded in San Juan Creek (Hogarth 2005; Brennan 2008). San Juan Creek was designated Critical Habitat for the Southern California Steelhead Evolutionarily Significant Unit (Hogarth 2005). Although no observations of southern steelhead within lower San Juan Creek have been recorded since 2008, southern steelhead may pass through the mouth, when open, of San Juan Creek and may use the creek for foraging. The seasonal coastal lagoon potentially could be used by smolt on their downstream migration before they enter the ocean. Therefore, this species has a moderate potential to occur near the site. The San Juan and Trabuco Creek Watershed Recovery Plan has the goal of restoring the watershed to support steelhead populations in a sustainable manner (CDM 2007).]

The focal or marker species, the charismatic SST, its habitat restoration a #1 priority, would have by now, no doubt, gathered mass support, cleared permitting hurdles, resulted in an FEIR/FEIS, awaiting only funding by SCWD, grants and other supplemental monies. This lack of proffered mitigation for all indigenous, acknowledged sensitive species in the estuarine increases our suspicion that such a historical restoration: An estuary whose goals were that it return to its original physical, chemical and biological functionality (or viable resemblance thereof), would have jeopardized the DDP. The restoration’s calculus (system of reasoning) is both economically feasible and technologically possible.

Moreover, SCWD has been the sole project applicant and proponent since all of the original partners ceased participating. It merits repeating, the cities of San Juan Capistrano, San Clemente, Laguna Beach, Moulton Niguel Water District and MWDOC all pulled out nearly 10 years ago. **Therefore, SCWD has had in actuality 10 years to develop a mitigation project(s) in proximity, relevant to this area, this watershed, its groundwater, its estuary and the tidal Pacific Ocean.** And literally at the 11th hour of the last year in this 10-year slog it proposes a mitigation that is irrelevant to this locale’s species?

If GeoScience’s modeling is correct, then both the ocean desalination and the estuary restoration could have proceeded not only contemporaneously but harmoniously. Except SCWD never openly discussed this possibility with the public on my watch. Shouldn’t the State and its staff be asking themselves why this didn’t happen? What did SCWD know and when did they know it?

Response

Chapter III, section M.2.e(3)(a), of the Ocean Plan requires the owner or operator

of the desalination facility (i.e., SCWD) to submit a Mitigation Plan for the San Diego Water Board's review. The Ocean Plan requires the San Diego Water Board evaluate the feasibility of mitigation projects submitted by the facility owner or operator, as well as project conformance with Ocean Plan requirements. The Ocean Plan does not authorize the San Diego Water Board to dictate or direct the owner or operator to a specific mitigation project. Mitigation projects should be located close to the impacted area (i.e., the discharge point), but also a sufficient distance from the impact area so the mitigation project will replace the biological productivity that was lost instead of increasing the impact at the impact area.

SCWD evaluated seven potential mitigation projects, including creating a new artificial reef, restoration at Los Peñasquitos Lagoon, Los Cerritos Wetlands, Aliso Creek Estuary, Loma Alta Wetlands, Buena Vista Lagoon, and the South Carlsbad Boulevard Climate Adaptation Project. SCWD evaluated the potential mitigation projects based on various considerations including the ability to accommodate full project goals, ability to scale if needed, whether the mitigation project would provide marine habitat improvements, mitigation project proponents, acceptance of participatory funding by SCWD, suitability of the mitigation project timeline for mitigating the Doheny Desalination Project impacts, whether there is an existing mitigation program at the site, and if the mitigation project is located within the geographical boundaries of the San Diego Water Board's jurisdiction. The South Los Cerritos Wetlands mitigation project was determined to meet all the evaluation criteria except being located within the geographical boundaries of San Diego Water Board's jurisdiction. Thus, the South Los Cerritos Wetlands mitigation project was determined to be the most feasible mitigation project. The San Diego Water Board concurred with the findings of SCWD's mitigation project analysis.

Please see Response to Comment No. 3.10 regarding the impacts to habitats, species, and the lagoon. Please see Response to Comment No. 3.6 regarding regional partners.

3.19. Comment – Slant Wells and Conflict of Interest

CWN is also concerned that being an anomaly, with only SCWD's extraction studies and analyses, modeling, etc. as guidance, how can any State agency peer review for exactitude? The proposed experimental technology of the slant wells for extraction being proposed has its advantages, being sub-surface thus avoiding entrainment like an open ocean intake (drafting).

However, CWN cannot find one instance where this specific method is being used so close in proximity to a similar-sized (175 sq. miles) watershed's terminus, its ocean discharge. Hence there cannot be any exactitude regarding modeling as it's 100% unique.

Since 2015, SCWD and its vendors are the only ones who have disputed the degrading seawater intrusion caused by the 2 wells and refuse to accept the

existence of the occlusion, the ancient landslide barrier noted. Of deep concern to CWN since 2015 is that SCWD's primary hydrogeology firm, **GeoScience**, is owned by the patent holder (**Dennis Williams**) of the proposed slant well technologies, a glaring conflict of interest: Both regarding the DDP but leveraging others like Monterey without in-depth scrutiny.

Response

Please see Response to Comment No. 3.4 regarding the slant well technology. Please see Response to Comment No. 3.2 for information on seawater intrusion and plans to track inland groundwater elevation and water quality. Please see Response to Comment No. 3.2 for information on conflicts of interest.

3.20. Comment – Slant Well Technology and Conflict of Interest

As important is a simple yet disturbing fact: The modeling and supposedly in-depth analyses for this anomalous ocean desalination, drafting only 200 meters off of Doheny State Beach, at the terminus of San Juan Creek, a 176 sq. mile urbanized watershed, was performed by said GeoScience and/or in coordination with this corporation.

CWN challenges oversight entities to produce any ocean desalination in California that is on par, has the same hydraulic and environmental conditions. We cannot find a predecessor, a successful analog to this method or situation (creek or river mouth in California), and it is reasonable to wonder how SDRWQCB staff can assess modeling of an anomaly. Staff is essentially taking SCWD/GeoScience at their word, granting a waiver "**Hall Pass**" (see below).

The FEIR that SCWD approved for the DDP is based upon "**fruit from a poisoned tree.**" The source, GeoScience, is tainted by its **Conflict of Interest**, its inherent fiscal biases (plural), selective cherry-picking by SCWD, increasing our distrust and jaundiced eye. Though repeatedly challenged by CWN, SCWD has yet to provide a substantive rebuttal.

Response

Please see Response to Comment No. 3.4 regarding the slant well technology. Please see Response to Comment No. 3.2 for information on conflicts of interest.

3.21. Comment – Other SOCWA Members Desalters

What about the other SOCWA members regarding SJCOO capacity volumes and pollutant constituents/concentrations? How can they in the future, acting in good faith on behalf of their clients, assertively plan and pursue their own desalters in attempts to comply with State reuse and conservation objectives if SCWD is basically "**jumping the shark,**" cleverly and preemptively using a promotional gimmick (slant wells), unilaterally, allowed to dump 5 mgd of hypersaline into the outfall's discharge plumbing? Are SCWD and SOCWA putting off the inevitable, implying that the day will **never** arrive when the members will end up in a related legal dispute?

Response

The Dischargers are required to give notice to the San Diego Water Board of certain planned physical alterations or additions to the facilities permitted by the Tentative Order. (See Tentative Order, Attachment D, section 5.6.) The San Diego Water Board will review any notice of planned changes to determine if the order will need to be reopened to, among other things, reevaluate effluent limitations and monitoring requirements. While the San Diego Water Board supports a sufficient, diverse, and sustainable local water supply for the San Diego Region (see Chapter 6 of the San Diego Water Board's Practical Vision), the decision regarding appropriate sources for water supply lies with the water supply agencies. (See *City of Pasadena v. Charleville* (1932) 215 Cal. 384, 389.) Potential legal disputes between SCWD and other SOCWA member agencies are also outside the scope of this Tentative Order.

The SJCOO has a capacity of 24 MGD for gravity flow and 80 MGD for pumped flow. Section 4.1.1.9, Table 11, of the Tentative Order imposes an effluent limitation of 43.78 MGD for the commingled flow from all facilities, well below the maximum capacity of the SJCOO. Additionally, section 6.3.5.1 of the Tentative Order requires a San Juan Creek Ocean Outfall Capacity Report to ensure the capacity of the SJCOO is sufficient.

In terms of pollutant constituents and concentrations, the Dischargers will have to comply with all effluent limitations in the order, which are based on the water quality objectives in the Ocean Plan and are designed for the protection of aquatic life. While the Doheny Desalination Project will produce brine with high salinity, the brine from the Doheny Desalination Project will be commingled with wastewater from the other facilities connected to the SJCOO. The salinity of the commingled wastewater will be below natural background salinity the majority of the time. If the volume of wastewater used to dilute the brine from the Doheny Desalination Project is decreased such that salinity of the commingled discharge is above natural background salinity (i.e., the commingled discharge produces a negatively buoyant plume) more than 5% of the time, SCWD is required to apply for a new Water Code section 13142.5(b) determination.

3.22. Comment – Neutral Third-Party Reviewer

The SDRWQCB staff have included a significant caveat, a quasi-disclaimer that sustains our cynicism. It also supports our contention that this project lacks rigorous neutral, 3rd party peer review regarding all of the studies and models.

[The Commenter provided an image of text of Attachment H, Table H-2, Finding 2. Finding 2 addresses Chapter II.M.2.a.(1) of the Ocean Plan, which states: "The owner or operator shall submit a request for a Water Code section 13142.5(b) determination to the appropriate regional water board as early as practicable. This request shall include sufficient information for the regional water board to conduct the analyses described below. The regional water board in consultation with the State Water Board staff may require an owner or operator to

provide additional studies or information if needed, including any information necessary to identify and assess other potential sources of mortality to all forms of marine life. All studies and models are subject to the approval of the regional water board in consultation with State Water Board staff. The regional water board may require an owner or operator to hire a neutral third-party entity to review studies and models and make recommendations to the regional water board.”

In response to Chapter II.M.2.a.(1) of the Ocean Plan, the San Diego Water Board found that:

“On March 11, 2020, SCWD submitted a request for a Water Code section 13142.5(b) determination. The Dischargers submitted a Revised Compliance Matrix dated January 14, 2021.

The San Diego Water Board, in consultation with the State Water Board, reviewed the request and the Revised Compliance Matrix, and determined that it was unnecessary for the Dischargers to hire a neutral third-party entity to review studies and models and make recommendations.”]

Response

Chapter II.M.2.a.(1) of the Ocean Plan does not require the San Diego Water Board to direct SCWD to hire a neutral third-party reviewer. The San Diego Water Board determined that requiring SCWD hire a neutral third-party to review the studies and models and make recommendations was unnecessary. While the San Diego Water Board did not require SCWD hire a neutral third-party reviewer, the San Diego Water Board, State Water Board, and California Coastal Commission solicited feedback on SCWD’s modeling for the Marine Life Mortality Report from Dr. Peter Raimondi, a well-known expert in Empirical Transport Model/Area of Production Forgone (ETM/APF) analyses. Based on Dr. Raimondi’s feedback, the San Diego Water Board required SCWD to revise their modeling to include a variation of larval durations, current flow rates, and cross-shelf distances.

In regard to requiring SCWD hire a neutral third-party reviewer for the slant well study, the slant well study was thoroughly reviewed during the CEQA process by interested stakeholders. Aside from the allegation of potential conflicts of interests, the San Diego Water Board is not aware of any issues with the slant well study that would render the study invalid or inaccurate.

3.23. Comment – Recreational Dislocation

Recreational Dislocation, Noise and Displacement/Disturbances To Sensitive Resident Species

CWN cannot find how SCWD intends to mitigate significant recreational dislocations: Both during installation and after construction (post-construction O&Ms). Nowhere can we find the construction staging and storage area locations, estimates, i.e., the large physical space that will be required.

Doheny State Beach is an intensely used, highly trafficked popular South OC site. The JPEG below reflects the degree to which said impacts will take place. If a well is declared inoperable, unworkable, then decommissioned, SCWD will need to remove infrastructure and drill another from scratch. Heavy, bulky construction equipment that will need a considerable operational/logistical radius per OSHA.

Response

Section 4.12 of the Draft EIR discusses recreational impacts due to the Doheny Desalination Project. The Draft EIR concluded that there will be no significant long-term recreational effects resulting from the operation of the Doheny Desalination Project, and that the Doheny Desalination Project will have less than significant short-term impacts on recreation resulting from construction of the Doheny Desalination Project with mitigation. Examples of mitigation measures discussed in the Draft EIR include siting the slant wells inland of the beaches, constructing during the off-season (between October 1 and May 1), reviewing detailed design plans with affected recreational agencies to refine facility layout, design, staging, construction, and operation details, and providing construction updates and detour information for bicyclists.

Additionally, the California Coastal Commission generally conditions their Coastal Development Permits to ensure impacts to coastal access and recreation are mitigated. SCWD will need a Coastal Development Permit from the California Coastal Commission for the Doheny Desalination Project.

3.24. Comment – Noise and Displacement/Disturbances to Sensitive Resident Species

CWN cannot find how SCWD intends to mitigate the impacts of noise, i.e., construction activities upon sensitive species in the vicinity as listed in the Chambers Group report. How noisy will the ongoing operation of well pumps be and won't that decibel level be 24/7/365?

Ditto for the years of physical disturbance of estuary habitat biota, the dynamics required to install the plumbing necessary to connect the wells to the desalination plant ½ mile upstream.

[The Commenter provided a photo of Doheny State Beach with an overlay of the proposed slant well locations. The Commenter also includes a screenshot of Chapter III.2.b.3 of the Ocean Plant which states: "Analyze the feasibility of placing intake, discharge, and other facility infrastructure in a location that avoids impacts to sensitive habitats and sensitive species."]

Response

As discussed in section 4.10 of the Draft EIR, all Doheny Desalination Project impacts related to noise will be less than significant with mitigation. Section 4.10.4 of the Draft EIR lists the mitigation measures for noise due to construction activities. Generally, construction activities that generate noise will not take place

outside the allowable hours specified by the City of Dana Point Municipal Code Chapter 11.10.014, with the exception of slant well drilling which will occur 24 hours a day. Noise impacts associated with slant well drilling will be less than significant with the implementation of mitigation measure NOI-2, which requires advanced notice to sensitive receptors, noise barriers, mufflers on equipment, a dedicated public liaison, and attempting to resolve all noise complaints as soon as possible. Nighttime noise must also comply with the City of Dana Point's noise standards. As stated in section 4.10.3, Project Design Features of the Draft EIR, Doheny Desalination Project facilities with higher noise levels (such as construction staging, reverse osmosis (RO) pumps, and parking) will be sited away from sensitive receptors. The RO pumps will be enclosed within the RO building, minimizing noise impacts to sensitive receptors. Submersible (below ground) pumps are used for the subsurface intake wells, reducing the need for pumps on the surface, thereby reducing operational noise of the intake wells. As stated in section 4.3 of the Draft EIR, no significant impacts are anticipated with respect to candidate, sensitive, or special status species in local or regional plans, policies, or regulations with implementation of project design features, relevant regulatory requirements, and mitigation measures. Section 4.3 of the Draft EIR includes mitigation measures for impacts to sensitive species, including conducting preconstruction nesting bird surveys, monitoring San Juan Creek Lagoon water levels, and avoidance of sensitive habitats.

3.25. Comment – Concluding Remarks

The SDRWQCB should set the requested CA0107417 NPDES 9.4 mgd additional discharge amendment aside, order the SOCWA to put it on hold (hit the pause button) until such a time as SCWD can provide more certitude, more assurance to not just regulatory agencies but the protectionist public and resource/trust entities.

Since the DWR hasn't concluded its oversight activities, these 2 elements of the Tentative Order should not be approved. As of today, SCWD hasn't responded to ROI 7806.

Once again, CWN wishes that both State agencies and SOCWA membership to know that we do support the SJCOO NPDES Permit renewal but without the DDP elements. We're not trying to hold the remainder of SOCWA members hostage over an issue specific to SCWD.

Response

Comment noted.

4. Comments from Capo Cares, dated February 3, 2022

4.1. Comment – Questions Regarding the Doheny Desalination Project

As an advocate for the community of Capistrano Beach through Capo Cares, a 501 (c) (4) civic organization, as well as a private citizen and ratepayer, "[Capo

Cares/Toni Nelson is] dismayed that the Doheny desalination project has reached this stage without a regulatory organization demanding answers to some of the following questions. [Capo Cares/Toni Nelson] submitted these questions to the South Coast Water District Board on 9/2/21 as a public comment on their report on the Doheny Desal Cost analysis. Despite the fact that the Board directed the General Manager to read and cursorily respond to my letter, line by line, I do not feel that any of these issues has been adequately addressed. I was allowed the standard 3 minutes to comment, which was woefully inadequate to fully vet these concerns.

Response

Comment noted.

4.2. Comment – Tied to Another Project

[Capo Cares/Toni Nelson does not] understand why the Doheny desalination project, which is a huge undertaking for both our tiny water district and our vulnerable, eroding coastline, has been tied to another project. Surely it is important enough to stand on its own.

Response

The San Diego Water Board assumes this comment is in reference to the San Diego Water Board's inclusion of the Doheny Desalination Project in the Tentative Order, rather than in an individual NPDES permit. The decision to include the Doheny Desalination Project in the Tentative Order has no bearing on the size or importance of the project.

The San Diego Water Board has included the Doheny Desalination Project in the Tentative Order for several reasons. First, the Doheny Desalination Project will discharge to the SJCOO. The SJCOO is owned and operated by SOCWA. SOCWA has agreements with its member agencies, including SCWD, regarding discharges to the SJCOO. Second, the brine waste from the Doheny Desalination Project will be commingled with effluent from six other facilities, including four wastewater treatment plants, that also discharge to the Pacific Ocean through the SJCOO. This is consistent with the Ocean Plan's preferred alternative for desalination facilities. The Tentative Order also includes a condition that sufficient wastewater from other facilities discharging through the SJCOO must be available to dilute the brine from the Doheny Desalination Project and produce a positively buoyant plume, thereby ensuring there are minimal to no salinity related impacts to the receiving water. If the volume of wastewater used to dilute the brine from the Doheny Desalination Project is decreased such that salinity of the commingled discharge is above natural background salinity (i.e., the commingled discharge produces a negatively buoyant plume) more than 5% of the time, SCWD is required to apply for a new Water Code section 13142.5(b) determination. Finally, SOCWA and its member agencies that discharge to the SJCOO (referred to collectively as Dischargers) share the same receiving water monitoring requirements. The Tentative Order

establishes a single, comprehensive receiving water monitoring program that considers all discharges from the SJCOO. For all of these reasons, the San Diego Water Board included the Doheny Desalination Project in the Tentative Order.

4.3. Comment – 2008 Slant Well Tests

[Capo Cares/Toni Nelson also does not] understand why we are still relying on slant well tests undertaken in 2008 when so much has changed on our coastline in the last 14 years.

Response

See Response to Comment No. 3.4 regarding slant well technology. The Commenter has not provided specific evidence to support the assertion that the 2008 slant well study is no longer valid.

4.4. Comment – Sand Depletion and Erosion

Starting in about 2010, sand depletion and serious erosion became ever more evident along our shoreline, no more so than in 2018 when our entire Boardwalk and a significant amount of Capistrano Beach park infrastructure collapsed into the surf. The community of Capistrano Beach is understandably extremely guarded about any new infrastructure on our fragile coastline

Response

The proposed subsurface slant wells are located at Doheny State Beach, not at Capistrano Beach Park. Also, as stated in the Draft EIR, section 4.8, “The Project proposes to locate coastal infrastructure, including slant wells and raw water conveyance pipelines, either outside identified coastal hazard zones or place infrastructure below the projected coastal hazard scour limits;” This project design feature is expected to avoid or reduce the project’s potential impacts concerning hydrology and water quality.

4.5. Comment – Cost to Ratepayers

The Doheny Desalination Project “will potentially cost ratepayers \$100 million or more,”

Response

Please see Response to Comment No. 3.5 regarding the projected increase in residential water bill rates for SCWD customers attributable to the Doheny Desalination Project.

4.6. Comment – Environmental Impact/Marine Life

The Doheny Desalination Project has a huge carbon footprint; and will dump hypersaline water (diluted with treated waste water that should surely be recycled) into an ecosystem that was recently and proudly named the “Whale Watching Capital of the World”.

Response

The Doheny Desalination Project will have a less than significant impact with mitigation on the generation of greenhouse gas emissions on the environment. (Draft EIR, section 4.6.4.) To mitigate its greenhouse gas emissions, SCWD will prepare an Energy Minimization and Greenhouse Gas Reduction Plan prior to the start of construction activities. (Draft EIR, section 4.6, Mitigation Measure GHG-1.)

Please see Response to Comment No. 3.14 regarding how subsurface intakes extract marine water from beneath the ground, reducing the need for pretreatment/chemicals before reverse osmosis treatment and thus reducing the environmental impact of the Doheny Desalination Project.

Please see Response to Comment No. 4.2 regarding Doheny Desalination Project's use of the Ocean Plan's preferred brine discharge method and requirements to prevent salinity related impacts in the receiving water.

Please see Response to Comment No. 3.14 regarding the dischargers' exclusive authority to decide whether to reuse or discharge wastewater produced by a POTW. However, SOCWA and its member agencies are working on increasing the amount of wastewater that is beneficially reused. According to the SCWD's website, SCWD produces 307 million gallons each year of recycled water and 15 percent of the total water demand in SCWD's service area is met by recycled water. According to the Santa Margarita Water District's website, 25% of Santa Margarita Water District's total water demand is met by recycled water and Santa Margarita Water District goal is to reach 30% recycled water by recycling 100% of its wastewater flows.

In order to protect the beneficial uses (including marine habitat), the Ocean Plan establishes water quality objectives and a program of implementation. Requirements of the Tentative Order implement the Ocean Plan.

4.7. Comment – Request to Pause Project

I am hoping you can firmly press “pause” on this project until these concerns can be adequately addressed.

Response

The comment concerns are adequately addressed in Responses to Comment Nos. 4.2 through 4.6.

4.8. Comment – Regional Problem/Solution

1. Why doesn't a regional problem seek a regional solution?

This project has been discussed for 20 years, first as a potential regional solution. Ten years ago, all original partners abandoned the project and SCWD continued alone. So far, none of the partners has been back. Why is that? We all know the realities of drought and South County's dependence on purchased water. This is a regional problem. Shouldn't we be seeking a regional solution?

Response

Please see Response to Comment No. 3.6 regarding the Phase I Local Project (current project) vs Regional Project (future project).

Additionally, the Doheny Desalination Project is providing an opportunity for regional water supply. SCWD will only utilize 2 MGD of the drinking water produced by the Doheny Desalination Project. The remaining 3 MGD will be available to other entities. Desalination may provide a reliable alternative source of water as a supplement to more traditional supplies to reduce uncertainty due to drought.

4.9. Comment – Regional Partners

2. Why aren't regional partners jumping on board?

If this project is a good idea, it makes sense to “go big” in order to realize potential economies of scale. That will only be possible with regional partners. In the interests of full public disclosure, I would like to see a survey of potential partners. Why have they been reluctant to join a regional partnership to build a large desal plant which will potentially solve a serious regional challenge?

Response

Please see Response to Comment No. 3.6 regarding the Phase I Local Project (current project) vs Regional Project (future project). Please see Response to Comment No. 4.8 regarding regional water supply available to other entities.

In terms of pursuing a larger drinking water production rate for the Doheny Desalination Project to realize economies to scale, SCWD did evaluate alternative drinking water production rates, a 2-MGD and a 5-MGD drinking water production rate facility in their 2021 Cost Analysis. SCWD determined that a 5-MGD drinking water production rate for the Doheny Desalination Project was most economically feasible at this time. A 5-MGD drinking water production rate facility would increase rate payers' water bills by \$2.38/month, while a 2-MGD drinking water production rate facility would increase rate payers' water bills by \$7.20/month. SCWD may also expand the Doheny Desalination Project from its current proposed drinking water production rate of 5 MGD to a drinking water production rate of 15 MGD in future project phases.

4.10. Comment – Heavy Debt

3. Can SCWD handle the heavy debt and cash flow strain? Where's a sensitivity analysis?

Bottom line, you are asking ratepayers from our tiny water district to take on enormous risk and a huge debt burden. The cost analysis shows debt grossing \$126 million at the 5 mgd level. Even after grants, ratepayers will be on the hook for \$112 million in debt, on top of the \$100 million that was just spent on the Laguna tunnel project. This debt includes capitalized interest of over \$5 million — interest that will be accruing in the names of your ratepayers before a single drop of desalinated water is produced. SCWD will have a very debt heavy balance

sheet. Did the cost study include a cash flow analysis? What happens to District cash flows if this unproven slant well technology doesn't work as well as planned? Has there been a sensitivity analysis to determine if we can weather an operational shutdown while debt service payments still have to be met?

Response

Please see Responses to Comment Nos. 3.5 and 4.9 regarding SCWD's projection that the Doheny Desalination Project will increase the residential water bill by approximately \$2.38/month for the 5-MGD Project.

4.11. Comment – Annual Debt Service Costs

4. Can SCWD meet the annual debt service costs?

Although favorable interest rates have been negotiated for desal financing, debt service costs will still require cash flows of \$4 to \$8 million per year starting in 2026. With the plant needing an anticipated 18 months to produce truly potable water, has the District done the cash flow forecasting necessary to ensure they won't have trouble servicing this huge debt in addition to liabilities already on the books?

Response

Please see Responses to Comment Nos. 3.5 and 4.9 regarding the Doheny Desalination Project's funding.

4.12. Comment – Ultimate Charges to Ratepayers

5. How realistic are the forecast effects on ratepayers?

The author of the Cost Analysis, Clean Energy Capital, also did similar studies for desal plants in Carlsbad, Huntington Beach and Montecito. Can they provide data comparing the anticipated capital costs and ultimate charges to ratepayers before construction commenced for these projects, compared to the actual costs after completion? No one can anticipate unforeseen issues, but it seems we have 3 projects that would allow ratepayers to assess the efficacy of these studies and the likely accuracy of projections based on how these projects fared.

Response

Please see Responses to Comment Nos. 3.5 and 4.9 regarding project costs and impacts to SCWD's ratepayers.

4.13. Comment – Emergency 60-day Water Supplies

6. Aren't emergency 60 day water supplies already met by WEROC?

The staff report asserts that the goal of the project is to ensure an emergency supply of 60 days' water supply. Don't we already have an emergency supply through the WEROC (Water Emergency Response of Orange County) system provided by MWDOC? Are we solving a problem locally that has already been addressed regionally? And, if MWDOC is worried about drought conditions and potential earthquakes and they've made these promises for emergency water

supplies, shouldn't they be advocating for agencies to come to the table in a regional desal project?

Response

The decision regarding appropriate sources for water supply lies with the water supply agencies. (See *City of Pasadena v. Charleville* (1932) 215 Cal. 384, 389.) Chapter III.M.2.b.(2) of the Ocean Plan requires the Regional Water Boards consider whether the identified need for desalinated water is consistent with an applicable adopted UWMP prepared in accordance with Water Code section 10631, or if no urban water management plan is available, other water planning documents such as a county general plan or integrated regional water management plan. In accordance with Chapter III.M.2.b.(2) of the Ocean Plan, the San Diego Water Board evaluated SCWD's 2020 UWMP and determined the need for the Doheny Desalination Project's product water is consistent with SCWD's 2020 UWMP. Additional support for the need of the Doheny Desalination Plant's product water is also included in the 2018 MWDOC Orange County Water Reliability Study.

4.14. Comment – Alternatives to Slant Wells

7. Have alternatives been adequately studied and objectively considered? There is reference in the staff report to a consideration of alternatives, but I don't see anything but slant wells being considered. Where is the analysis of costs and outcomes with direct well intake? What about reuse/reclamation alternatives? Have serious studies measured the possibility of these alternatives with far lower carbon footprints?

Response

The preferred intake technology in the Ocean Plan is subsurface intakes. For the purposes of the Water Code section 13142.5(b) determination, if subsurface intakes are deemed feasible, an evaluation of alternative intake technologies, such as surface intakes, is unnecessary.

Please see Responses to Comment Nos. 3.14 and 4.6 regarding recycled water in south Orange County.

4.15. Comment – Alternatives to Slant Wells

8. Have alternatives to experimental slant wells been adequately considered? Why are only slant wells being considered? Has there been any independent peer review from someone not also selling slant well technology? Am I the only one who feels a little nervous about a new technology that has yet to be tested in full production mode, even in Monterey? Doesn't CEQA require projects to consider alternatives including A. no build, B. build desal with slant wells, and C. something else (like direct well desal or reuse/reclamation?) My understanding is that brackish water pulled from an inland site has far less salinity than ocean water and will have significantly less waste. Has this alternative been seriously considered? I'm no expert, but doesn't it make sense to draw water from a

source closer to the plant where natural materials will be filtering the water and desalination should be far less costly?

Response

Please see Response to Comment No. 3.4 regarding subsurface intakes as the Ocean Plan’s preferred technology, subsurface intake use in other projects, and slant well testing. For the purposes of the Water Code section 13142.5(b) determination, if subsurface intakes, such as slant wells, are deemed feasible, an evaluation of alternative intake technologies, such as surface intakes, is unnecessary.

The Draft EIR, section 5.0, details the project alternatives SCWD considered including a “No Project” Alternative. The decision regarding appropriate sources for water supply lies with the water supply agencies. (See *City of Pasadena v. Charleville* (1932) 215 Cal. 384, 389.) Desalination is one water source that water supply agencies may consider as part of their water supply portfolio. Please see Response to Comment No. 4.13 regarding the Doheny Desalination Project’s consistency with SCWD’s 2020 UWMP.

Santa Margarita Water District and SCWD already have inland groundwater wells, and SOCWA, City of San Clemente, Santa Margarita Water District, and SCWD already reuse/reclaim water.

Where water supplies are severely limited, recycled water, desalinated water, and other water supply alternatives could all become part of the water management portfolio. Where desalination is selected, the product water could present a new source for water supply. The District’s water management portfolio is discussed in the Draft EIR, section 3.0, which states, “The District is committed to developing a balanced water supply portfolio that provides high quality and reliable water to its customers. Through decades of careful planning and stewardship, the District continues to strengthen its water supply portfolio, with significant investments made over the years in the areas of water conservation, recycled water, groundwater recovery, and water system loss control.” Also, the Final EIR, Response O5-1, states, “The Project will provide a local reliable water supply to complement the District’s existing water supply portfolio, including imported water, recycled water, conservation and groundwater.”

Please see Responses to Comment Nos. 3.14 and 4.6 regarding recycled water in south Orange County. Using all the available options to ensure reliability of the local water supply is also consistent with Chapter 6 of the San Diego Water Board’s Practical Vision, which states, “Support a sufficient, diverse, and sustainable local water supply for the San Diego Region that, combined with conservation and water reuse, minimizes dependence on imported water while maintaining and improving water quality.”

The proposed Doheny Desalination Project treatment plant will be located close to the proposed subsurface slant wells. The proposed Doheny Desalination

Project treatment plant will also be located near a suitable local potable distribution line.

4.16. Comment – Sea Level Rise and Coastal Erosion

9. What about impacts on an eroding coastline affected by sea level rise? Anyone who has visited Doheny Beach recently can attest to the severe impacts of sea level rise and coastal erosion. Is it a good idea to be tampering with an already fragile coastline when it may be possible to use direct wells closer to the plant?

Response

The Draft EIR, section 4.5 states, “Construction of the subsurface intake wells would not result in substantial disturbance of soils such that erosion or loss of topsoil would occur. The seawater intakes would be bored using [horizontal directional drilling] which would reduce the footprint of construction activities. While construction of the subsurface intakes would require some excavation for the below-ground vaults, all work would be done in accordance with applicable regulations to control storm water run-off and reduce erosion. Although a relatively small volume of beach sand would be excavated for the subsurface intake vaults and raw water conveyance lines, if this material is suitable it could be made available to the City of Dana Point, Orange County Parks, and/or State Parks for use in beach replenishment. ... The [Doheny Desalination] Project’s Coastal Development Permit will also require submittal of an Erosion Control Plan for Coastal Commission review and approval prior to construction (refer to Mitigation Measures HWQ-1 through HWQ-3). Implementation of mitigation measures and these permitting requirements would ensure that impacts related to soil erosion are less than significant.”

As stated in the response to Comment No. 4.15, the proposed Doheny Desalination Project treatment plant will be located close to the proposed subsurface slant wells and a suitable local potable distribution line.

4.17. Comment – Coastal Access to a Public Beach

10. What about coastal access to a public beach? Is it a good idea to be installing slant wells on a public beach at all? What happens when a well gets clogged and maintenance is required at the height of the summer season, impacting coastal access and enjoyment?

Response

See Response to Comment No. 3.23 regarding recreational impacts due to the Doheny Desalination Project.

It should also be noted that the standard provisions in Attachment D, section 1.5 of the Tentative Order provide that the Tentative Order does not convey any property rights of any sort or any exclusive privileges with respect to the Doheny Desalination Project. The Tentative Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of

federal, State, or local law or regulations with respect to coastal access to a public beach.

4.18. Comment – Environmental Impacts from Brine and Chemicals

11. What about environmental impacts from brine and chemicals? In terms of the briny waste produced by the desal plant, have sufficient studies been done to ensure the brine plus the chemicals used to neutralize acidity, will not in any way damage the prolific sea mammals and fish that populate our coastal waters? As they say, “dilution is still pollution.” This is another reason to carefully consider direct inland wells which will not only protect our coastline, but produce far less waste and have a lower carbon footprint.

Response

Please see Response to Comment No. 3.21 regarding the requirements in the Tentative Order to protect aquatic life from the effects of brine and chemicals.

The treatment system for the Doheny Desalination Project will likely include pretreatment consisting of flocculation, sedimentation, catalytic media filtration, RO membranes, and post treatment conditioning, which will include UV disinfection, calcite contactors, and a product water storage tank sized to provide necessary chlorine contact time. The proposed discharge from the Doheny Desalination Project will include RO brine concentrate and calcite contactor backwash flow.

4.19. Comment – Environmental Impacts from Brine and Chemicals

The results contained in the ratepayer survey as part of the cost analysis is not at all surprising. Most people understand we have a serious drought in California and are predisposed to any alternative that might alleviate this condition. Of course, most consumers don’t mind paying a little more if they think it will create water reliability. But do they completely understand the financial and environmental costs associated with this particular technology -- the costs that will be borne by our delicate ocean eco system, the large carbon footprint, the impact on our coastline and public beach, and the debt burden we’ll be leaving our kids and grandkids? Please don’t simply conduct public outreach to promote a forgone conclusion. The public needs transparent, clear information about the pros and cons of desalination, and the same for any viable alternatives. These are simple but serious questions. They deserve direct, unfiltered answers.

Response

The San Diego Water Board does not anticipate that the Doheny Desalination Project will result in significant impacts to the environment. The Doheny Desalination Project is using the Ocean Plan preferred intake and outfall technology, including subsurface intakes, diluting the brine with wastewater, and discharging commingled wastewater through the existing SJCOO. The subsurface intakes eliminate entrainment and impingement effects. Commingling the brine with wastewater will dilute the brine such that the salinity of the

discharge is typically below ambient receiving water salinity, virtually eliminating salinity related impacts.

Please see Response to Comment No. 3.5 regarding the cost of the Doheny Desalination Project. Please see Response to Comment No. 3.21 regarding the requirements in the Tentative Order to protect aquatic life from the effects of brine and chemicals. Please see Response to Comment No. 4.6 regarding the carbon footprint. Please see Response to Comment No. 4.16 regarding coastal erosion.

5. Comments from Penny Elia, dated February 3, 2022

5.1. Comment – Major Discharge

Thank you for the opportunity to comment on these orders that have both been deemed “Major” discharges to the receiving waters of the Pacific Ocean (Gulf of Catalina). I will cite “Major” as my first concern about approval of these orders.

Response

For the purposes of NPDES permitting, point sources are categorized based on the type and volume of discharge. There are three categories of discharges: Major, Minor, and General. A “Major” facility is a facility that treats sewage with a design volume greater than or equal to 1.0 MGD and industrial discharges requiring United States EPA review. The Tentative Order includes four sewage treatment facilities with a design volume greater than 1.0 MGD. Thus, the SJCOO discharge to the Pacific Ocean has been classified as Major.

5.2. Comment – Wasted Water

As a nearly 40-year resident of South Laguna, I ask the board to carefully consider what you are preparing to do, and make sure that you are taking advantage of this important opportunity that presents itself so very infrequently to actually reduce, or better yet, eliminate these discharges that we are forced to live with decade after decade.

It’s not just about these discharges, but all of the wastewater that flows down our gutters and into our storm drains on a minute-by-minute basis every hour of the day, every day of the year.

I have personally made complaints via the EPA Complaint form platform in an effort to reduce or eliminate all of the wasted water that our “water providers” allow to flow down our gutters and streets, collecting oil, gas, brake dust, grease, and much more before it reaches the waters of the Pacific. This doesn’t work – it just continues.

This isn’t just about the discharges you are addressing via these orders. No, it’s a bigger responsibility than just doing that. It’s about developing methods and standards by which all waste water is monitored.

Here is a photo of what I observe every day - - rain or shine and in wind conditions like we just experienced of up to 35 mph. [Elia provided a photo of a home with the overhead irrigation on.]

This potable water floods the entire area and eventually ends up in the gutter and runs down the street to the storm drain along with ALL the other runoff created from over irrigation by water customers. This is just one example of what the Laguna Beach Water Quality Department tells me is approximately one of at least 1000 incidents going on simultaneously throughout the City of Laguna Beach. This goes on in every city that is currently requesting that they be allowed to continue to discharge into the receiving waters of the Pacific.

Response

Please see Response to Comment No. 3.14 regarding the dischargers' exclusive authority to decide whether to reuse or discharge wastewater produced by a POTW. Please see Responses to Comment Nos. 3.14 and 4.6 regarding recycled water use in south Orange County. The San Diego Water Board does take advantage of opportunities to reduce wastewater discharges to the ocean, by supporting recycled water projects, including indirect potable reuse projects. (See also San Diego Water Board Practical Vision, Chapter 6.)

The term "over-irrigation" referenced by the Commenter generally refers in part to the application of water to outdoor landscapes in a manner that causes runoff such that water flows onto adjacent property, non-irrigated areas, private and public walkways, roadways, parking lots, or structures. The San Diego Water Board prohibits the discharge of excess over-irrigation water flows to municipal separate storm water systems (MS4s) in SOCWA's service area under the terms and conditions of Order No. 2013-0001, NPDES NO. CAS0109266, *National Pollutant Discharge Elimination System (NPDES) Permit and Waste Discharge Requirements for Discharges from the Municipal Separate Storm Water Systems (MS4s) Draining the Watersheds Within the San Diego Region*, as amended by Order Nos. R9-2015-0001 and R9-2015-0100 (Regional MS4 Permit). Municipal owners and operators of MS4s in south Orange County subject to the requirements of the Regional MS4 Permit include the Cities of Aliso Viejo, Dana Point, Laguna Beach, Laguna Hills, Laguna Niguel, Mission Viejo, Rancho Santa Margarita, San Clemente, San Jan Capistrano, and Laguna Woods; County of Orange; and the Orange County Flood Control District. Comments on over-irrigation water flow issues pertaining to the provisions and enforcement of the Regional MS4 Permit are outside the scope of the San Diego Water Board's March 9, 2021 hearing to consider the adoption of the Tentative Order.

It should be noted that many water districts, including SCWD and other water districts located in SOCWA's service area, have long-term water policies in place restricting certain outdoor water uses or restricting outdoor water use under

certain parameters. Urban water suppliers⁸ have been required to develop UWMPs since 1983. The Water Code requires UWMPs to include information about demand management measures including water waste prevention ordinances (Water Code, section 10631, subdivision (f)) and, as part of drought contingency planning for mandatory prohibitions against specific water use practices during water shortages, (Water Code section 10632). For example the SCWD's 2020 UWMP, cited in Finding 12 of Attachment H of the Tentative Order, describes in section 9 of the UWMP the various water conservation programs, including water waste prevention ordinances that SCWD has implemented, is currently implementing, and plans to implement in order to meet its urban water use reduction targets. SCWD reports in the 2020 UWMP that it has developed water conservation courtesy notice door hangers and bill inserts to inform homeowners of excessive runoff from leaks and using irrigation outside of designated days and times. SCWD also reports that it also has an extensive public education and outreach program to communicate the importance of water use efficiency and conservation of water. Finally, SCWD also reports that it has replaced all of its customers water meters with new Automatic Meter Reading Technology meters allowing SCWD identification of water leaks (water running continuously for 24 hours or more) and expedited notifications to homeowners to take remedial action.

5.3. Comment – Water Conservation

Once again looking at the big picture on all of this, I am attaching a 2018 letter addressing the DEIR for the South Coast Water District desalination project that is headed to the Coastal Commission for approval early this summer. Please consider all of these comments and the fact that South Coast Water does little to educate their customers on conservation - - it's just not profitable. I'm not singling out South Coast Water District because I see water waste throughout South Orange County. It's always amazing to me that I can see water running down gutters and streets everywhere I go, but when I call and report it to the water districts and/or water quality departments it has completely escaped them even though I see their service trucks literally splashing through the runoff. I am adamantly opposed to the proposed Doheny desal project given the water district's inability to CONSERVE the resources we have.

I realize you have a lot to consider and it is not my intention to over burden you with more details on how much water actually flows into our receiving waters, but please keep the big picture in mind as you once again consider approval of millions of gallons of wastewater entering the receiving waters of our precious Pacific Ocean. Please ask yourself: When do we stop doing this? When do we actually require sustainable solutions to eliminate this ongoing pollution from secondary sewage and urban runoff?

⁸ Urban water suppliers are defined as water districts providing over 3,000 acre-feet of water annually or serving more than 3,000 urban connections.

Response

The comments in the 2018 comment letter from South Laguna Civic Association for the Draft EIR were addressed in the Final EIR, section 2.2, Organization Comment Letter, Letter O5.

As stated in section 5.0 of the Draft EIR, the enhanced conservation alternative would not provide a new, diversified water supply portfolio, and would not provide a hydrologically independent water supply in the event of continued drought. The enhanced conservation alternative is not considered a permanent and sustainable method to close the existing minimum additional 3.9 MGD water supply gap while meeting the stated objective of providing an immediate and reliable emergency water source for SCWD's customers in the event of a catastrophic failure of water infrastructure or regional distribution facilities. The Doheny Desalination Project is consistent with SCWD's 2020 UWMP, which states "The Doheny Ocean Desalination Project has been determined as the best water supply option to meet reliability needs of the District and South Orange County".

Based on SCWD's website, SCWD awards the public for using drought-tolerate landscaping (SCWD December 2018/January 2019 newsletter) and children's art contests (SCWD October 2019 newsletter). See also Response to Comment No. 5.2.

Please see Response to Comment No. 4.15 regarding the District's efforts for a balanced water supply portfolio, including recycled water and water conservation, and SCWD's 2020 UWMP.

5.4. Comment – Bigger Picture

As a side note, this isn't just about how these dischargers take for granted that discharging into the Pacific Ocean is just fine—just the cost of doing business. Recently, SOCWA replaced a sludge line in the Aliso Wood Canyons Wilderness Park. Yes, you read that correctly – a sludge line in a wilderness park. While that is completely absurd and should have been remedied decades ago, here are just two photos as a sample of the destruction of ESHA that occurred during the project, not to mention the over reach of how large the project area actually was. We will be speaking to this destruction next week at the Coastal Commission hearing, but this is a reminder that we count on our regulatory agencies to hold these "applicants" responsible for their damage to the environment, and that includes millions of gallons of discharge to the receiving waters of the Pacific.

Response

Comment noted. For clarification purposes, it should be noted that the sludge line in the Aliso Wood Canyons Wilderness Park sends sludge from the Coastal Treatment Plant to the Regional Treatment Plant. These plants discharge to the Aliso Creek Ocean Outfall (Tentative Order No. R9-2022-0006), not the San Juan Creek Ocean Outfall (Tentative Order No. R9-2022-0005).

5.5. Comment – Closing

Thank you again for allowing me to comment and go a bit outside the box on discharges, but I am hoping you can appreciate my ask of you to look at the bigger picture on this situation that demands better solutions if we expect our Mother Ocean to survive and flourish.

Response

Comment noted.

6. Comments from Cynthia Love, dated February 3, 2022

6.1. Comment – Effluent Limitations

The effluent limitations on discharges from the proposed San Juan Creek Ocean Outfall of the Doheny Desalination project will contribute significantly to harming both marine life directly and the coastal marine habitat which supports marine life.

Response

The Tentative Order integrates all applicable technology-based requirements, water quality-based effluent limitations, and receiving water quality standards to protect water quality and beneficial uses in the Pacific Ocean, including marine habitat.

6.2. Comment – South Laguna Civic Association

Please see the attached letter outlining the concerns as prepared by the South Laguna Civic Association dated July 25, 2018, for the Doheny Ocean Desalination project’s DEIR.

Response

The comment in the 2018 comment letter from South Laguna Civic Association for the Draft EIR were addressed in the Final EIR, section 2.2, Organization Comment Letter, Letter O5.

6.3. Comment – Impacts on Ocean Water Quality and Marine Life

Comments that are especially relevant include: Comment #2, Impacts on Ocean Water Quality and Marine Life, pages 2-3 [of the South Laguna Civic Association letter dated July 25, 2018, for the Doheny Ocean Desalination project’s DEIR]– “The illusion of dilution creates contaminate bioaccumulation among sea life and chronic ocean pollution.”

[Comment No. 2 on the draft EIR]

Response

The comment in the 2018 comment letter from South Laguna Civic Association for the Draft EIR were addressed in the Final EIR, section 2.2, Organization Comment Letter, Letter O5.

6.4. Comment – No Project Option

Comments that are especially relevant include: ... Comment #6, page 4 [of the South Laguna Civic Association letter dated July 25, 2018, for the Doheny Ocean Desalination project's DEIR], on "No project" – Flows from the Doheny Desalination Project would be eliminated with a no-project alternative

Response

The comments in the 2018 comment letter from South Laguna Civic Association for the Draft EIR were addressed in the Final EIR, section 2.2, Organization Comment Letter, Letter O5. Additionally, the Draft EIR, section 5.0 details the alternatives that were considered, including a "No Project" Alternative.

6.5. Comment – Enhanced Conservation and Enhanced Recycled Water

Comments that are especially relevant include: ... Comment #9, page 5 [of the South Laguna Civic Association letter dated July 25, 2018, for the Doheny Ocean Desalination project's DEIR], on "Reduced Capacity" – "...combining enhanced conservation and enhanced recycled water could allow for a reduction in the gap between water supplies available and water needs."

Response

This comment was addressed on pages 525 (Response O5-7) and 526 of the Final EIR.

Please see Response to Comment No. 4.15 regarding the District's efforts for a balanced water supply portfolio, including recycled water and water conservation, and SCWD's 2020 UWMP.

6.6. Comment – New Water Management Alternatives

Comments that are especially relevant include: ... Conclusion, page 8 [of the South Laguna Civic Association letter dated July 25, 2018, for the Doheny Ocean Desalination project's DEIR], – consideration of new water management alternatives while improving and protecting environmental resources

Response

Please see Response to Comment No. 4.15 regarding the District's efforts for a balanced water supply portfolio, including recycled water and water conservation, and SCWD's 2020 UWMP.

7. Comments from Orange County Coastkeeper (OCC), dated February 3, 2022

7.1. Comment – Need for the Water

The draft permit uses only the South Coast Water District 2020 Urban Water Management Plan (UWMP) to document the need for water from the project. The use of this single document is insufficient. The UWMP only mentions the project in the context of a potential future project and does not include the project in

calculations of future supplies (Doheny Seawater Desalination Project's projected water supplies are not included in the supply projections due to its current status within the criteria established by State guidelines (DWR, 2020c). Also, UWMPs are notoriously inaccurate in predicting future water use. The correct document to reference is the 2018 MWDOC Orange County Water Reliability Study (Reliability Study). This well researched study does go into the details of the potential future need for water in south Orange County and the role the Doheny Desalination project would play in filling that gap and ensuring system reliability. Most importantly both the UWMP and the MWDOC document the role that the desalination plant would play in an emergency. Unlike in north and central Orange County where the water supply is widely distributed over a huge aquifer, we recognize that south Orange County relies on imported water for 85% to 100% of its supply and has only sixteen days of water storage capacity. With that in mind, we support the proposed 5 MGD plant as a means to provide emergency backup water supplies. It is important that the board consider the most accurate and detailed documents, and the context of need, instead of just a UWMP while permitting desalination plants.

Response

Please see Response to Comment No. 4.13 regarding the Doheny Desalination Project's consistency with SCWD's 2020 UWMP. The San Diego Water Board agrees that the Reliability Study provides a well-documented and researched need for desalinated water from the Doheny Desalination Project.

The following language has been added to the Tentative Order, Attachment H, page H-14, Finding 12:

The identified need for desalinated water is also consistent with the 2018 Municipal Water District of Orange County (MWDOC) Orange County Water Reliability Study (Reliability Study)⁹. The Reliability Study states, "The Study analysis indicates that the San Juan Watershed Project and the Doheny Project both provide cost-effective annual supplies and emergency supplies."

7.2. Comment - Intake Analysis Subsurface

We appreciate the Regional Boards' decision to assume that subsurface intakes are feasible at all potential locations. This is the preference in the Ocean Plan and needs to be fully documented. The South Coast Water District, and other project proponents, conducted a proper subsurface feasibility analysis as required by the California Ocean Plan. In 2003/04, project proponents undertook preliminary studies to assess intake options including a conventional open intake, a subsurface infiltration gallery, and various types of beach wells. To investigate the feasibility of a subsurface slant well intake, a phased hydrogeology and subsurface well technology investigation was undertaken. In 2004/05, four

⁹ The Reliability Study is available at: <https://www.mwdoc.com/wp-content/uploads/2019/01/OC-Water-Reliability-Study-2018-Briefing-December-12-Revision.pdf> (as of February 7, 2022)

exploratory boreholes were drilled along the beach to a depth of 188 feet below the ground surface. In 2005/06, after a thorough review of several technologies, it was determined that the most cost-effective approach for this location was the use of slant beach wells constructed with a dual rotary drill rig from the beach out under the ocean.

The Doheny Project demonstrates that conventional pretreatment is not necessary for subsurface intakes. From the four exploratory boreholes, it was discovered that "... [t]he produced water showed a very low silt density index (average around 0.5 units) and turbidity (averaged around 0.1 NTU), indicating excellent filtration by the aquifer which eliminates the need for conventional pretreatment filtration and saves costs." Furthermore, "...the produced water showed no presence of bacterial indicator organisms which were found to be present in high concentrations in the ocean and seasonal lagoon," and that "[b]iofilm growths by the end of the test were found to be less than 10 μ in thickness, a level of no concern for biofouling." Pumped well water was run directly to the test RO units continuously for over four months. No fouling or performance deterioration was observed during the test or in the post-membrane autopsy as all the dissolved iron and manganese was easily removed as anoxic conditions were maintained throughout the test period.

The Doheny study concluded that subsurface intakes do not need full conventional pretreatment –the natural filtration by the aquifer eliminates the need for conventional pretreatment filtration. The Doheny study further demonstrated that the use of subsurface intakes –and the avoidance of full pretreatment –resulted in significant cost savings, including \$56 million in capital costs and \$1 million annually in O&M costs. And finally, the Doheny study determined that the Doheny project using subsurface intakes would produce water for \$600 per AF cheaper than that of the Poseidon-Huntington Beach open ocean intake proposal. The Doheny project proponents should be commended for properly analyzing subsurface intake options. They conducted physical test wells, which resulted in feasible subsurface intakes and reduced capital and operation costs—not to mention less impact on the environment.

Importantly, subsurface intakes help maintain the connectivity of the statewide Marine Protected Area Network. The Doheny Desalination plant is located at the south end of a series of seven Marine Protected Areas in Orange County that are connected to a similar set of Marine Protected Areas in San Diego County through larval transport. Using subsurface intakes avoids disrupting this larval transport, unlike screened surface intakes that provide no entrainment protection for 99% of ocean life.

Response

Comment noted.

7.3. Comment – Outfall Analysis

We agree with the Regional Board that the use of the existing outfall is the best choice for the project. This is the preference in the Ocean Plan as it eliminates construction impacts and results in a worst case brine mixing zone of 1 meter vs 100 meters approved for the Poseidon Huntington Beach project. However, we feel that the allowance of 5% non buoyant discharges over 6 months is too lenient. As stated in the staff report there has been only one day since 2016 that the discharge from the outfall was less than what would be required to create a buoyant plume. A 1% allowance for a non-buoyant plume annually should be sufficient.

Response

The San Diego Water Board disagrees with the suggestion to modify the Tentative Order to further restrict the allowance for non-buoyant discharges. While on rare occasions the discharge may be non-buoyant, the salinity of the discharge is expected to be only slightly above ambient salinity, will be confined within one meter from the SJCOO, and is not expected to result in significant impacts to water quality or biological communities. Most importantly, the San Diego Water Board does not want to discourage water recycling.

7.4. Comment – Mitigation

Mitigation is a critical component of any project and must be done with the goal of maximizing benefits to the local environment. We appreciate the Regional Board's decision to require before and after monitoring to document conditions and create the necessary data for an APF Re-Evaluation Study. We also support a specific larval study to determine the impact of the project on this very large and important component of the marine ecosystem. We do have concerns with the proposed mitigation project at the south Los Cerritos wetlands. The amount of mitigation required should be located within the Regional Boards service area. There are currently plans for a restoration of the Aliso Creek estuary, and the South Coast Water District owns property and has existing easements in the area. This seems like a much better idea for mitigation. Also, any mitigation approved should be permitted and constructed before the plant begins operation so that it is offsetting the impacts of the plant from the beginning of operations. Without this, the impacts of the plant will not be offset while it operates without functioning mitigation.

Response

Comments regarding the Before/After Control/Impact Study, Larval Study, and Mitigation APF Re-Evaluation Study are noted.

While the San Diego Water Board understands the concern that the proposed mitigation project in the South Los Cerritos Wetlands is outside of the San Diego Water Board's jurisdiction, the Ocean Plan does not require that the mitigation project be within the geographical boundaries of the San Diego Water Board's jurisdiction. SCWD evaluated seven potential mitigation projects, including

restoration of the Aliso Creek estuary. Please see Response to Comment No. 3.18 regarding the evaluation and selection of the mitigation project.

The San Diego Water Board does not agree that the mitigation project must be permitted and constructed prior to the commencement of the Doheny Desalination Project discharge. SCWD's mitigation project within the South Los Cerritos Wetlands is a small component of a much broader restoration project and SCWD will have only limited control over the implementation of the broader restoration project. However, SCWD will need to maintain the South Los Cerritos Wetlands restoration project for the operational lifetime of the Doheny Desalination Project, including the period extending from the commencement of discharge until the mitigation project meets performance standards. (Ocean Plan, Ch. III, section M.2.e.)

San Diego Water Board has modified the requirements for the Final Marine Life Mitigation Plan in section 6.3.2.5.1 of the Tentative Order to include the following:

6.3.2.5.1.4. A demonstration that the Final Marine Life Mitigation Plan provides for full mitigation for the operational lifetime of the Doheny Desalination Project. If the Doheny Desalination Project discharge commences prior to the mitigation project meeting performance standards, the Final Marine Life Mitigation Plan must account for the temporal loss of marine life and habitat productivity during the period extending from the commencement of Doheny Desalination Project discharge until the mitigation project meets performance standards.

7.5. Comment – Climate Change Action Plan

The draft permit gives SCWD three years to develop a climate action plan for the plant. This requirement should be left to the California Coastal Commission (CCC). The CCC has far more experience and expertise in climate change related issues including sea level rise, greenhouse gas emissions, and more than the Regional Board does. The requirement from the Regional Board for a Climate Action Plan may inadvertently restrict the CCC in its potential actions on this issue.

Response

Attachment E, section 6.1, of the Tentative Order requires the Dischargers submit a Climate Change Action Plan. The San Diego Water Board also has experience and expertise in evaluating climate change issues. Impacts to sea level rise, weather patterns (e.g., flooding, increased influent flows during wet weather, wildfires, and heat waves), ocean chemistry, and water temperatures will affect the facilities' infrastructure, operations, and permit compliance. The Climate Change Action Plan will in no way restrict the California Coastal Commission from developing their own climate change requirements. The Climate Change Action Plan requirement in the Tentative Order is focused on the impacts of climate change on the Dischargers' infrastructure, operations, and

permit compliance, and directs the Dischargers to identify steps being taken or planned to address these impacts. These issues are also within the San Diego Water Board's purview.

7.6. Comment – Public Access

Public access is an important concern when considering any projects involving a public beach. The project map shows the location of a subsurface well pump station located in the camping area of Doheny State Beach. This is one of the most popular camping sites in California and there should be no reduction in the number of camping sites due to the project. Any camping sites displaced by the project need to be replaced onsite.

Response

Please see Responses to Comment Nos. 3.23 and 4.17. The San Diego Water Board does not have the authority to require SCWD provide replacement for campsites that were displaced due to the construction of the Doheny Desalination Project. The California Coastal Commission generally conditions their Coastal Development Permit to ensure impacts to coastal access and recreation, such as loss of campsites, are mitigated.

8. Comments from Miller Marine Science & Consulting, Inc. (MMS), dated February 3, 2022

8.1. Comment – Support for Doheny Desalination Project

Thank you for the opportunity to comment on Tentative Order No. R9-2022-0005 (TO) for the San Juan Creek Ocean Outfall. I applaud your staff for their diligent work developing the TO and its inclusion of South Coast Water District's Doheny Desalination Project. As you are aware, most of the western United States is in the grip of a significant drought that appears to be more of the norm than the exception as the world learns to adjust to climate change. Seawater desalination is a vital tool for California to increase its water supply without any reliance on precipitation. While water conservation, water recycling, and stormwater capture are also vital tools that must be maximized to their fullest extent, all require precipitation at one stage or another to keep the water supply stable and reliable. Seawater desalination is the only tool available to us that creates potable water supplies without the need for precipitation at any point in its production cycle. Unlike fresh water in the western United States, all experts agree that climate change will be increasing the seawater volume along our coasts.

Response

Comment noted.

8.2. Comment – Larval Study

I have reviewed the TO and will focus my comments on an area of personal expertise. Section 6.3.2.4 of the TO references the Larval Study that would provide the necessary information to support the Mitigation Area of Production

Forgone (APF) Re-Evaluation Study detailed under TO Section 6.3.2.3. Most of the sampling and laboratory analysis requirements for the Larval Study are consistent with both the Water Quality Control Plan for Ocean Waters of California (California Ocean Plan) and precedent for this type of study. The last sentence in the TO under Section 6.3.2.4., however, places an unnecessary requirement that is inconsistent with the intent and purpose of the APF. Specifically, I am referring to the provision “For the purpose of the Larval Study, all marine species shall be identified and counted, including vertebrate and invertebrate species”. This requirement is unprecedented in recent regulatory history and is inconsistent with the intent of the APF. The administrative record (Expert Review Panel II on Intake Impacts and Mitigation. Submitted to Mr. Dominic Gregorio, March 14, 2012.) regarding the assessment of impacts caused by desalination plants consistently notes the APF as the preferred assessment method and metric. Furthermore, the record notes that the APF accounts for impacts to measured and unmeasured resources (e.g., to invertebrate larvae). This notion is restated under Section 8.5.4.1 of the Final Staff Report prepared in support of the 2015 Desalination Amendment to the California Ocean Plan where it states: “A key assumption in the [Empirical Transport Model/Area of Production Forgone] ETM/APF approach is that the APF estimates for specific species are representative of all species present at that location, even those that were not directly measured.”

Entrainment studies conducted with the approval of California’s regulatory agencies since the 2000’s have consistently used larval fish, crabs, California market squid, and California spiny lobster as the species representative of the local marine community subject to entrainment either by a seawater intake or, more recently, multiport diffuser shearing forces. This group was selected as it includes taxa that are readily identifiable, have substantial life history information such as growth rates needed for the Empirical Transport Model, and represent higher trophic levels that are dependent on the smaller holoplankton that are not directly assessed. Specifically, the APF’s value lies in its ability to represent impacts to the assessed and unassessed taxa as noted in ERPII1: “This is because its [APF] calculation assumes that those species assessed are representative of those not assessed.”

Mr. Gibson, I would urge you and your staff to remove the last sentence from TO Section 6.3.2.4 that states “For the purpose of the Larval Study, all marine species shall be identified and counted, including vertebrate and invertebrate species”. The Larval Study Work Plan requirements listed in TO Section 6.3.2.4.1. provide clear guidance that remains consistent with both precedent and the intent of the APF. This is specifically achieved through the requirement for the Larval Study Work Plan to outline: “Identification procedures and types of marine organisms that will be identified”.

Response

Please see Response to Comment No. 2.6. The San Diego Water Board has

modified the requirements of the Larval Study (section 6.3.2.4 of the Tentative Order) as requested by SCWD. Additionally, please note that the APF was based on a volumetric approach and not an ETM approach. The San Diego Water Board also does not agree with limiting the Larval Study to just those invertebrate species that are important for commercial and recreational fisheries, but acknowledges that species must have sufficient life history information to be used in the modeling. The species/taxa to be identified will be determined in the Larval Study Work Plan required in section 6.3.2.4.1 of the Tentative Order.

9. Comments from South Laguna Civic Association, dated February 2, 2022

9.1 Comment –Tentative Order No. R9-2022-0005 NPDES Permit No. CA0107417

The Aliso Creek Ocean Outfall 5 year Permit Renewal presents an important opportunity to reduce or eliminate discharges of secondary sewage threatening ocean water quality with acidification and bioaccumulation of anthropogenic contaminants. Without modification to the permit our coastal waters will remain a disposal site for our wastewater.

South Laguna, as the southern area of the City of Laguna Beach, is the primary community impacted by wastewater in the Aliso Watershed with a population of over 177,000 residents. The City of Laguna Beach average daily wastewater flow is over 1.5 million gallons per day (mgd). In addition, the community of Emerald Bay and portions of Dana Point send wastewater to South Laguna as well as an estimated 6,000,000 annual visitors to Laguna Beach. In total, the Aliso Creek Ocean Outfall (ACOO) discharges an average of 10 million gallons each day of secondary sewage from the combined Aliso Watershed and Irvine Desalter Project in the Santa Ana Watershed through a diffuser pipe commencing 1.2 miles offshore.

On behalf of the residents of our community, which is the receiving area for all discharges from the 32 square mile Aliso Watershed Effluent Transmission Main (ETM) and Aliso Creek Ocean Outfall, the South Laguna Civic Association recommends revising the reissuance of the Aliso Creek Ocean Outfall Tentative Order No. R9-2022-0005, NPDES Permit No. CA0107417

The South Laguna Civic Association (SLCA), est. 1946, is an organization of South Laguna residents, which strives to preserve and enhance the quality of life in our community. This effort includes working for improved water quality in Aliso Creek and State Marine Protected Areas within the Gulf of Santa Catalina. Consequently, the SLCA recommends a number of revisions to the NPDES permit which are reasonable, feasible and environmentally superior alternatives.

The National Pollutant Discharge Elimination System (NPDES) Permit renewal process provides a rare opportunity to advance sustainable solutions to creek and ocean pollution in a time sensitive manner. It is, therefore, incumbent to

utilize all regulatory tools, technologies, and strategies in taking collaborative, meaningful actions to eliminate ocean pollution from secondary sewage and urban runoff discharges.

The San Diego Regional Water Quality Control Board (SDRWQCB) is the principal regulatory agency capable of reducing and eventually eliminating ocean water pollution in Laguna Beach and surrounding State Marine Protected Areas (MPAs). The public and protected marine life rely on the Board and staff to establish, advance, and enforce the most protective measures to improve ocean water quality in the Gulf of Santa Catalina – a semi-enclosed embayment created by the Channel Island network along the Pacific Ocean. The Channel Islands are an eight-island archipelago located within the Southern California Bight off the coast of California.

Over the new proposed Five Year NPDES Permit, the ACOO will cumulatively discharge another 17,250,000,000 gallons to the Zone of Initial Dilution (ZID) Plume. Unfortunately, the proposed Permit does not provide goals, incentives, or metrics to measurably reduce secondary sewage discharges to waters within the Gulf of Santa Catalina.

The reissuance of the Aliso Creek Ocean Outfall NPDES Permit No. CA0107417 requires revisions due to aging infrastructure deficiencies of the South Orange County Wastewater Authority (SOCWA) Effluent Transmission Main (ETM) sewer pipeline and Coastal Treatment Plant. A study by the Army Corp of Engineers proposed a \$100 million SUPER Project to repair and restore the [Effluent Transmission Main] ETM. The SUPER Project was never funded, and concerns remain about the maintenance of the [Effluent Transmission Main] ETM against seasonal stormwater erosion.

In addition, the Irvine Desalter Project discharges from the Santa Ana Region to the Aliso Ocean Outfall in the San Diego Region continues despite recommendations to retain the facility's wastewater on-site for beneficial reuse.

To adequately comply with relevant water quality, CEQA and related rules and regulations the proposed NPDES Permit Renewal application must take into account:

- a deteriorated Effluent Transmission Main
- inadequate recycled water system
- an aging and inefficient Coastal Treatment Plant
- exposed sewage pipes
- creek and coastal impaired water bodies
- beach public health and safety
- protected tidepool, shellfish and kelp forest habitat

- offshore marine life migration and foraging areas

The South Laguna Civic Association and all responsible citizens and elected officials in the Aliso Watershed are committed to a safe and healthy watershed and coastal receiving waters.

Technological advances in telecommunications, transportation and other key sectors have not been accompanied by significant improvements in wastewater management. Numerous federal studies identify serious deterioration of the Aliso Effluent Transmission Main. Compounding operational threats is the poor location of the Coastal Treatment Plant (CTP) isolated in a steep canyon with poor emergency access in a CalFire mapped Very High Wildfire Severity Area.

As noted by City of Laguna Beach Mayor Bob Whalen “The CTP would never be built there today”.

1) Retire aging infrastructure.

a) Abandon the deteriorating Effluent Transmission Main through Aliso Canyon and retain all inland wastewater at local facilities and the Regional Treatment Plant (RTP) to save over \$100 million in [Effluent Transmission Main] repairs identified by the Army Corp of Engineers 2005 SUPER Project.

b) Eliminate the 4-mile-long energy intensive Sludge Line from the Coastal Treatment Plant (CTP) to the RTP.

c) Condemn the [Effluent Transmission Main] and encourage inland publicly owned treatment works (POTWs) to seek recycle water and remediation grants. Retain and reuse all flows from the Irvine Desalter Project on site or within the assigned Santa Ana Watershed Region.

2) Modernize the Coastal Treatment Plant to achieve Zero Liquid Discharges (ZLD).

a) Protect valuable coastal water habitats, regional fisheries, and recreational areas.

b) Collaborate with private sector industry leaders to modernize the Coastal Treatment Plant in a public/private partnership to implement wastewater innovations and expand recycled water.

c) Increase production at the Coastal Treatment Plant of high quality 500tds recycled water for fire and emergency use throughout Laguna Beach, Laguna Canyon, Laguna Greenbelt and Aliso Wood’s Canyon Wilderness Park.

d) Consider a collaborative design competition with the American Society of Civil Engineers, universities and ZID industry leaders.

e) As a preferred alternative, follow the industry standard locating wastewater infrastructure along streets for access and maintenance by re-routing all CTP effluent to the RTP via Coast Highway and Crown Valley Parkway.

3) Enact the following mitigation measures.

- a) Require restoration of the Aliso Estuary as a water quality improvement measure and enhanced protection of public health and safety at Aliso Beach.
- b) Partner with academic and aquaculture leaders to pilot test ocean water quality enhancements such as converted aquapods to support deep water kelp growth near the ACOO similar in function to land based constructed wetlands.

Background and Outfall Location

The ocean determines the climate. Climate change is settled science and, by many indications, is presently accelerating.

Rising sea surface temperatures in recent years indicate climate changes are likely occurring in the Gulf of Santa Catalina from anthropogenic discharges and bioaccumulation of legacy contaminants within daily secondary sewage discharges to State regulated coastal receiving waters.

Monitoring Stations along South Laguna, Laguna Beach and Dana Point suggest the Aliso Creek Ocean Outfall Plume may migrate to nearshore waters to impact kelp forests and threaten the marine life food chain as well as public health. Annual migration of California Gray Whales over many months and resident foraging dolphins, sea lions, harbor seals and other protected sea mammals must navigate the Aliso Plume Zone of Initial Dilution (ZID) of 10 million gallons per day (mgd).

Harmful agents and impacts

Figure 3 - Young migrating Blue Whale near ACOO Outfall

Harmful agents and impacts

- a) Studies have found secondary sewage transports partially treated wastewater with Contaminates of Emerging Concern (CECs) including kitchen solvents, cosmetic plastic microbeads, laundry synthetic microfibers, pharmaceuticals (endocrine hormone disruptors, drugs, medical diagnostic waste, etc.).

The occurrence and concentrations of contaminants of emerging concern (CECs) were investigated in municipal effluents and in marine receiving water. For 56 CECs, several CECs were detected in effluents; naproxen, gemfibrozil, atenolol, and tris(1-chloro-2-propyl)phosphate were the compounds most frequently found and with the highest concentrations (>1 mg/L).

Gemfibrozil and naproxen had the highest seawater concentrations (0.0009 and 0.0007 mg/L) and were among the most frequently detected compounds. The evaluation of potential chronic effects for CECs is uncertain because aquatic life toxicity thresholds have been developed for only a few CECs, and the effluent and seawater samples had compounds, such as nonylphenol, known to bioaccumulate in local fish.

b) A 2005 Army Corp of Engineers report determined deteriorated conditions and a projected life span of as little as ten years for the SOCWA Effluent Transmission Main sewer pipeline through Aliso Canyon. As recently as 2019, failures of the SOCWA infrastructure resulted in 1 million gallons of raw sewage discharged to Laguna's Marine Protected Areas (MPAs) and Essential Fish Habitats (EFHs) at Aliso Beach.

c) The use of the Aliso Effluent Transmission Main to convey Irvine Desalter Project brine water, possibly with latent military aviation toxins, contributes a significant increase in wastewater flows to Laguna Beach's protected coastal receiving waters and Marine Protected Areas. Discharges of brinewater from the City of Irvine and Santa Ana Watershed amounts to 10% of the size and distribution of the ACOO ZID Plume. In terms of climate change impacts, the conveyance of brinewater from the Irvine water filtration facility through a 4.5-mile pipeline against the natural gradient will consume excess energy over the 20-to-50-year Irvine Desalter Project timeframe. Without justification, the Irvine facility will distribute pollution and brinewater from the Santa Ana Watershed, with low value coastal receiving waters, to the Aliso Creek Watershed and regionally valuable Marine Protected Areas (MPAs).

A 2016 Report by SOCWA found no protective thermocline at the ACOO. The discharge plume was determined to be transported by currents parallel to the shore from the Northwest to Southeast before flowing Northwest due to the Southern California Eddy Current. Transported by ocean upwelling and the Southern California Eddy Current, the daily discharges likely expose the public and marine life to more legacy pollutants in higher discharge volumes.

d) Increased discharges and local water quality degradation from Irvine's discharges to continue to expand the present plume by over 10% will contribute to the incidence and magnitude of harmful algal blooms threatening public health and marine life recovery. Unnecessary incremental increases in total allowable discharges will contribute to expanded coastal degradation. The ACOO plume only 1.2 miles offshore likely comingles with the Aliso Creek Urban Runoff Plume throughout the year. Given a discharge location at 33° 29' 53" N 117° 46' 16" W, the ACCO plume is adjacent to MPAs at 33° 30' 50" N 117° 46' 00" W. In 2012, SOCWA was notified of violations of Order No. R9-2006-0055 at the Aliso Creek Ocean Outfall.

e) The Southern California Bight (SCB) is a region south of Point Conception where the California Coast takes a sharp eastward turn that complicates atmospheric and oceanic flows (Gelpi & Norris, 2008; Hickey, 1979; Winant et al., 2003). The SCB encapsulates an area in which the California current departs from its shore-bound southward flow to the north of Point Conception and extends off the coastline as it flows toward the south. The current typically curls back toward the coastline in the vicinity of Punta Colonet in Baja California, especially in the summer months (Dailey et al., 1993).

This departure from and intersection with the coastline defines the northern and southern ends of the SCB, while the western edge is defined variably as the edge of the California current or as the continental slope.

Data indicates that sea surface temperature anomalies were largest near the surface and extended to at least 100-meter depth, indicating that surface temperature maps of the upper ocean are reflective of anomalies over the upper several tens of meters of depth. This highlights the relationship between two interwoven processes: a long-term increase in temperatures driven by anthropogenic climate change and large amplitude fluctuations that are enhanced because of that increase.

Warm wastewater must naturally form a plume but, according to wastewater engineers, does not reach the surface due to a colder, denser upper seawater thermocline. Eventually the plume spreads along the seafloor to be sent up and down the coast with warm Baja currents, Southern swells, and the Southern California Countercurrent. Studies by SOCWA, however, found no thermocline to sequester the ACOO ZID and relied instead upon salinity to determine plume boundaries. Plume migration was plotted from Northwest to Southeast parallel to shoreline before turning seasonally to the Northwest as a function of the Southern California Eddy Current.

4) Upcycle wasted wastewater

Treated wastewater for non-potable uses is crucial in a semi-arid area such as California, where public policy emphasizes water recycling. California law provides that the State's interest in conservation of water resources requires the maximum reuse of treated wastewater (Water Reuse Law, Water Code Sections 461-465). It also provides that the State should encourage Californians to develop water recycling projects to meet the State's water needs and augment surface and groundwater supplies (Water Reclamation Law, Water Code Sections 13500-13556).

In 1972, Congress passed the Clean Water Act (CWA), which limits pollution of the nation's waters. Then, in 1991, the California Water Recycling Act (California Water Code 13577) set recycling goals of 700,000 acre-feet of water annually by year 2000 and 1 million acre-feet annually by 2010. All these laws help prompt more regulations, policies, and public support to control treated wastewater.

Advanced water reuse technology used in Australia can now recover Hydrogen for fuel cells from wastewater to power sewage treatment facilities like the 50-year-old Coastal Treatment Plant – located in a CalFire mapped Extremely High Wildfire Severity Area.

Public requests for increasing water reclamation for wildfire prevention and routine irrigation of public areas to serve Laguna Beach were not considered by SDRWQCB as mitigation requirements to measurably reduce ocean discharges (Water Code Section 13500).

Response

Tentative Order No. R9-2022-0005, NPDES Permit No. CA0107417 is the Tentative Order for San Juan Creek Ocean Outfall, not Aliso Creek Ocean Outfall. This comment appears to only discuss Aliso Creek Ocean Outfall. Please refer to Item No. 9, Supporting Document No. 4 for the responses regarding the Aliso Creek Ocean Outfall. However, the San Diego Water Board identified one comment regarding brine waste that could be applicable to the Doheny Desalination Project (see Response to Comment No. 9.2)

9.2 Comment – Waste Brine Discharges

At present, the California Ocean Plan provides general requirements for the management of waste discharge to the ocean, including: “Waste management systems that discharge to the ocean must be designed and operated in a manner that will maintain the indigenous marine life and a healthy and diverse marine community.”

Currently, there are no Ocean Plan Water Quality Objectives that apply specifically to brine waste discharges from desalination plants or groundwater desalting facilities. Untreated brine waste discharged into the ocean “behaves” differently than either wastewater treatment plant freshwater effluent or the brine waste-freshwater mixture. The “brine waste” plume is denser than the receiving ocean water due to a much higher salinity and tends to settle on the ocean bottom. As a result, a brine waste plume can have an adverse effect on the bottom-dwelling marine organisms - a key foundation of the marine life food chain.

Response

The water quality objectives in the Ocean Plan are applicable, as appropriate, to all point source discharges to the ocean, including discharges from desalination facilities. The Ocean Plan also includes a receiving water limitation for salinity specifically for desalination plants that intake seawater. The San Diego Water Board agrees that brine waste from desalination plants behaves differently in the ocean than the freshwater effluent from wastewater treatment plants or a commingled brine and wastewater effluent. However, the SJCOO does not receive 100% brine waste and the wastewater plume from the SJCOO is expected to be positively buoyant most of the time. The Tentative Order also includes a requirement to conduct a Plume Tracking Study to evaluate the fate of the wastewater plume discharged through the SJCOO.

9.3 Comment – Tentative Order No. R9-2022-0005 NPDES Permit No. CA0107417

Changes to the Water Code in 1972 required the State Water Board to redraft its proposed Policy as a Water Quality Control Plan. At that time, it was the intent of the State Water Board to “...determine the need for revising the [Ocean] Plan to assure that it reflects current knowledge...” (SWRCB 1972). Current knowledge recognizes the impacts of ocean upwelling, harmful algal blooms, ocean

acidification and rising sea temperature from anthropogenic ocean discharges but is not incorporated in recent actions by the SDRWQCB.

The revised NPDES Permit is our chance to make measurable improvements to ocean water quality and continue our community's leadership in protecting State Marine Protected Areas.

On behalf of the residents of South Laguna, the South Laguna Civic Association recommends revising the reissuance of the Aliso Creek Ocean Outfall NPDES Permit No. CA0107417.

Thank you for incorporation of our Public Comments and Recommended Actions to improve water quality at the Aliso Creek Ocean Outfall.

Response

Tentative Order No. R9-2022-0005, NPDES Permit No. CA0107417 is the Tentative Order for San Juan Creek Ocean Outfall, not Aliso Creek Ocean Outfall. This comment appears to only discuss Aliso Creek Ocean Outfall. Please refer to Item No. 9, Supporting Document No. 4 for the responses regarding the Aliso Creek Ocean Outfall.

10. Comments from Los Angeles/Orange Counties Building and Construction Trades Council– dated February 3, 2022

Comment – Support for Doheny Desalination Project

On behalf of the Los Angeles/Orange Counties Building & Construction Trades Council, we urge you to support Tentative Orders No. R9-2022-0005 and R9-2022-0006 to advance the Doheny Desalination Project through the Regional Water Quality Control Board's permitting process and towards construction of this essential water resilience project. The Building Trades Council represent 48 affiliate organizations with 140,000 hardworking members within the Construction industry.

California is facing a historic drought and the building trades are ready to answer the call and build drought resilient infrastructure that will safeguard the state's future. Desalination provides reliable, drought-proof, and accessible source of water for the residents of California. The Doheny Desalination project will provide true local labor through a Community Workforce Agreement. At the trades, we pride ourselves in building careers that provide a pathway to the middle class with a good wage, pension, and healthcare.

This agreement will provide you with a Skilled and Trained workforce. We build it efficiently and in the safest manner - Do it right the first time and with minimum or no liabilities. This desalination project has the potential to be a regional asset in the face of any future water crisis. We strongly urge you to support the Doheny Desalination Project.

Response

Comment noted.

11. Comments from CalDesal, dated January 31, 2022

Comment – Support for the Doheny Desalination Project

On behalf of CalDesal, I strongly urge your support for approval of Tentative Order No. R9-2022-0005 and Tentative Order No. R9-2022-0006 to advance the Doheny Desalination Project through the Regional Water Quality Control Board's permitting process and towards construction of this essential water resilience project.

CalDesal is a statewide association comprised of nearly 60 organizations, representing public and private sector entities as well as non-profit organizations, integrating the use of desalination to ensure a sustainable water future for communities throughout California. CalDesal is dedicated to helping California advance improved statewide water resilience which has been impacted by a changing climate, water supply challenges, and continued population growth.

As you all know well, California is experiencing increasingly extreme weather conditions, with less predictable precipitation patterns, followed by longer and more frequent dry and hot periods. Climate change is reducing the reliability of our precipitation and snowpack. As a result, California is entering a new era of water management, and the state's water managers must change the way they plan for a water resilient future that is very different from the past. Implementation of focused water conservation and water use efficiency programs has been the priority for water managers, and those efforts are increasingly being coupled with development of alternative water supplies, such as water recycling and desalination.

Produced locally, desalinated water provides new, high-quality water, and is resilient to both climate change and drought. Desalination can transform inland brackish water as well as coastal seawater into a drinkable supply. Desalination's ability to generate new water supplies in the face of an unrelenting drought is a valuable attribute that should be a strong component in our state's efforts to improve drought resiliency and water sustainability.

Your consideration of action on the Tentative Orders related to waste discharge requirements on March 9, 2022 is critical to protecting the quality of life and economy within the Orange County region that will benefit from the Doheny Desalination Project. Not only will the project provide up to 5 MGD of reliable, locally-controlled water supplies for the region, it will do so using technology that is environmentally protective of ocean resources and marine life. The Doheny Desalination Project will use advanced slant wells that protect marine life by using subsurface water intake technology. Not only will this project advance environmentally protective technologies, there is also an energy recovery process being considered for plant operations, which would result in up to 55 percent less energy usage than facilities without that feature.

Governor Gavin Newsom and his Administration have provided clear signals-through the Water Resilience Portfolio and in many other venues -that diversifying the state's water portfolio through an "All of the Above" approach to water supply

sustainability includes desalination as an important water resilience strategy. While water conservation and water use efficiency remain important priorities for a water resilient future, the state has acknowledged that it must embrace the ongoing development of new water supplies, such as stormwater and water recycling along with desalination, where feasible.

While the stark reality is that the drought conditions that California is experiencing may be the "New Normal," the good news is that you have it in your hands as Members of the San Diego Regional Water Quality Control Board to make decisions - through approval of these Tentative Orders and the assurance that there are not unreasonable conditions imposed on the implementation of those Orders- to help one region of the state move forward in the pursuit of a water resilient future that helps sustain the quality of life and regional economy.

Again, CalDesal strongly urges your support - without unreasonable conditions - for Tentative Order No. R9- 2022-0005 and Tentative Order No. R9-2022-0006 at your March 9, 2022 hearing.

Response

Comment noted.

12. Comments from Dana Point Chamber of Commerce, dated January 28, 2022

Comment – Support for Doheny Desalination Project

I understand that the San Diego Regional Water Quality Control Board (RWQCB) has released for public review and comment, Tentative Order No. R9-2022-0005 (NPDES Permit No. CA0107417), *Waste Discharge Requirements for the South Orange County Wastewater Authority Discharge to the Pacific Ocean Through the San Juan Creek Ocean Outfall* and Tentative Order No. R9-2022-0006 (NPDES Permit No. CA0107611), *Waste Discharge Requirements for the South Orange County Wastewater Authority Discharge to the Pacific Ocean Through the Aliso Creek Ocean Outfall* (Tentative Orders).

A public hearing before your Board will be held on Wednesday, March 9, at the City of Mission Viejo's Council Chambers to consider adopting these Tentative Orders, which are a critical and essential component of South Coast Water District's proposed Doheny Ocean Desalination Project.

Desalination would provide a new, reliable, drought-proof, locally controlled, and safe source of water for the South Coast Water District and the entire region. If implemented, the Doheny Ocean Desalination Project would provide high quality, locally controlled and drought-proof water supply while protecting the environment as one of the first projects to meet all requirements of the California Ocean Plan. The Doheny Desalination project would provide cost-effective annual and emergency water supplies. This project is a critical first step of an investment to maintain reliability of an essential resource.

As the voice of business in Dana Point, representing more than 375 member businesses, the Dana Point Chamber of Commerce believes it is vital that the Doheny Desalination Plant be approved. Our community draws more than two million visitors each year, and our economy and quality of life are dependent on a local, reliable, and safe drinking water supply. The Doheny Desalination Project is a central component to our region's diversified water portfolio. A local, reliable, safe, and drought-proof water supply is critical to the health and economic success of our community. I urge you to approve these Tentative Orders.

Response

Comment noted.

13. Comments from Karl W. Seckel, P.E., Director, Municipal Water District of Orange County (MWDOC), dated February 3, 2022

Comment - Support for Doheny Desalination Project

I am currently an elected director for Municipal Water District of Orange County (MWDOC) and prior to that I was a staff member at MWDOC for 37 years. Between about 2002 and 2014 I worked on the technical aspects of the Doheny Desalination Project on behalf of MWDOC to investigate the use of a subsurface slant well intake system including the construction and operation of a test slant well and treatment of the water. I have continued to follow the work completed by South Coast Water District (SCWD) on the technical evaluations and permitting of the project. I would strongly urge your support for approval of Tentative Order No. R9-2022-0005 and Tentative Order No. R9-2022-0006 to advance the Doheny Desalination Project through the Regional Water Quality Control Board's permitting process and towards construction of this essential water reliability project for SCWD and South Orange County.

Water resources supplying Southern California are continuing to experience increasingly extreme weather conditions, with less predictable precipitation and runoff patterns, followed by longer and more frequent dry and hot periods. Climate change is reducing the reliability of our supplies. The Doheny Project will produce locally available, high-quality water which is resilient to both climate change and drought. Possibly the most important aspect is the "locally available" characteristic as South Orange County has few local water resources but is subject to imported water that is treated adjacent to a fault and travels over 40 miles in pipelines crossing another four faults before reaching South Orange County. Having a new supply that can provide local reliability when the import system has outages is of great importance.

Your consideration of action on the Tentative Orders related to waste discharge requirements on March 9, 2022, is critical to protecting the quality of life and economy within the South Orange County region that will benefit from the Doheny Desalination Project. Not only will the project provide up to 5 MGD of reliable, locally- controlled water supplies, it will do so using technology that is

environmentally protective of ocean resources and marine life through the use of slant wells to draw the water in from beneath the ocean. You have it within your ability as Members of the San Diego Regional Water Quality Control Board to approve these Tentative Orders to assure that unreasonable conditions are not imposed on the implementation of those Orders.

Again, I strongly urge your support - without unreasonable conditions - for Tentative Order No. R9-2022-0005 and Tentative Order No. R9-2022-0006 at your March 9, 2022 hearing.

Response

Comment noted.

14. Comments from Robert J. Hunter, General Manager, MWDOC, dated February 3, 2022

Comment – Support for Doheny Desalination Project

On behalf of the Municipal Water District of Orange County (MWDOC), we strongly urge your support for approval of Tentative Order No. R9-2022-0005 and Tentative Order No. R9-2022-0006 to advance the Doheny Desalination Project through the Regional Water Quality Control Board's permitting process and towards construction of this essential water resilience project. As a wholesale water supplier and resource planning agency, MWDOC's efforts focus on sound planning and appropriate investments in water supply development, water use efficiency, and emergency preparedness.

Your consideration of action on the Tentative Orders related the advancement of the Doheny Desalination Project on March 9, 2022 is critical to protecting the quality of life and economy within the Orange County region that will benefit from this Project's high-quality water that is resilient to both climate change and drought.

The Doheny Desalination Project is sized to help meet Southern Orange County's water needs with up to 5 MGD of reliable, locally-controlled water supplies. This is a region wholly dependent on imported water, and with serious reliability and emergency supply constraints brought on by climate change impacts. This Project emphasizes our region's strong commitment to California's efforts to improve drought resiliency and water sustainability.

Moreover, this Project is also an example of "Desal done right" with its environmentally protective technology. The proposed slant wells will protect marine life by using subsurface water intake technology. In addition, the Project's commitment to green energy will yield up to 55 percent less energy usage through a recovery process within the plant operations.

You have it within your ability, as Members of the San Diego Regional Water Quality Control Board, to help this region of the state have a more resilience supply of water by using the right technology and size to meet its needs in an appropriate manner. Therefore, we strongly urge your support –without unreasonable conditions –for

Tentative Order No. R9-2022-0005 and Tentative Order No. R9-2022-0006 at your March 9, 2022 hearing.

Response

Comment noted.

15. Comments from Susan Hinman, dated January 28, 2022

Comment – Support for Doheny Desalination Project

I understand that the San Diego Regional Water Quality Control Board (RWQCB) has released for public review and comment, Tentative Order No. R9-2022-2005 (NPDES Permit No. CA0107417), Waste Discharge Requirements for the South Orange County Waste water Authority Discharge to the Pacific Ocean Through the San Juan Creek Ocean Outfall and Tentative Order No. R9-2022-0006 (NPDES Permit No. CA0107611), Waster Discharge Requirements for the South Orange County Wastewater Authority Discharge to the Pacific Ocean Through the Aliso Creek Ocean Outfall (Tentative Orders).

At your Wednesday, March 9, public hearing you will be considering whether to adopt these Tentative Orders which are critical and essential components of the South Coast Water District's proposed Doheny Ocean Desalination Project. I urge you to adopt these two orders.

Over twenty-six years I served on elected water boards representing South Orange County (ten years on the South Coast Water District (1990-2000) and sixteen years on the Municipal Water District of Orange County, Div. 7 (2000-2016). One of my major concerns in those many years of service was the critical need for additional sources of reliable, long-term, high-quality water for South Orange County. Years of extensive, comprehensive research has been implemented to identify the Doheny Ocean Desalination Project as a critical, valid and necessary project to keep South Orange County safe and the water supply reliable. I whole heartedly support your approval on these two important orders to move forward.

As a Long-time resident of Dana Point, I believe the Doheny Desalination Plant must be approved. Currently we import 90 to 100 percent of our water from the Sierra Nevada or the Colorado River. In an emergency such as a major earthquake, we could be left with no drinking water supply for up to six months or more. We are at the "end of the pipeline". Unlike north and central Orange County who enjoy a large aquafer as a local source of supply, Dana Point and neighboring areas need a local resilient water supply that is not affected by climate change.

Again, I urge you to approve these two Tentative Orders on your March 9 agenda.

Response

Comment noted.

16. Comments from Mesa Water District, dated February 2, 2022

Comment – Support for Doheny Desalination Project

On behalf of Mesa Water District (Mesa Water®), we strongly urge your support for approving Tentative Orders No. R9-2022-0005 and R9-2022-0006 to advance the Doheny Desalination Project through the Regional Water Quality Control Board's permitting process and towards construction of this essential water resilience project.

Mesa Water is an independent special district that serves safe, affordable, and 100 percent local reliable water to businesses and 110,000 residents in an 18-square-mile service area of Orange County that includes most of Costa Mesa, a portion of Newport Beach, and John Wayne Airport. Mesa Water supports the development of cost-effective and environmentally-sensitive sources of water, including recycling, groundwater clean-up, conservation, and desalination, which includes support for the Doheny Desalination Project as it can possibly provide a new, reliable, quality water supply that is appropriately priced.

California is experiencing increasingly extreme weather conditions, with less predictable precipitation patterns, followed by longer and more frequent dry and hot periods. Climate change is reducing the reliability of our precipitation and snowpack. Produced locally, desalinated water provides new, high-quality water, and is resilient to both climate change and drought. Desalination can transform inland brackish water as well as coastal seawater into a drinkable supply. Desalination's ability to generate new water supplies in the face of an unrelenting drought is a valuable attribute that should be a strong component in our state's efforts to improve drought resiliency and water sustainability.

Your March 9, 2022 consideration of action on the Tentative Orders related to waste discharge requirements is critical to protecting the quality of life and economy within the Orange County region that will benefit from the Doheny Desalination Project. The project would provide up to 5 MGD of reliable, locally-controlled water supplies for the region, and it will do so using technology that is environmentally protective of ocean resources and marine life. The Doheny Desalination Project will use advanced slant wells that protect marine life by using subsurface water intake technology. Not only will this project advance environmentally protective technologies, there is also an energy recovery process being considered for plant operations, which would result in up to 55 percent less energy usage than facilities without that feature.

California's ongoing and persistent drought conditions may be a new way of life for our state. By approving these Tentative Orders without unreasonable conditions imposed on the implementation of those Orders, you have the ability to allow one region of the state move forward in the pursuit of a water-resilient future that helps sustain the region's quality of life and economy.

Again, Mesa Water strongly urges your support -- without unreasonable conditions -- for Tentative Orders No. R9-2022-0005 and R9-2022=0006 at your March 9, 2022 hearing.

Response

Comment noted.

17. Comments from Local Union 652, dated February 2, 2022

Comment – Support for Doheny Desalination Project

On behalf of Laborers Local 652, we strongly urge your support for approval of Tentative Order No. R9-2022-0005 and Tentative Order No. R9-2022-0006 to advance the Doheny Desalination Project through the Regional Water Quality Control Board's permitting process and towards construction of this essential water resilience project.

Laborers Local 652

California is experiencing increasingly extreme weather conditions, with less predictable precipitation patterns, followed by longer and more frequent dry and hot periods. Climate change is reducing the reliability of our precipitation and snowpack. Produced locally, desalinated water provides new, high-quality water, and is resilient to both climate change and drought. Desalination can transform inland brackish water as well as coastal seawater into a drinkable supply. Desalination's ability to generate new water supplies in the face of an unrelenting drought is a valuable attribute that should be a strong component in our state's efforts to improve drought resiliency and water sustainability.

Your consideration of action on the Tentative Orders related to waste discharge requirements on March 9, 2022 is critical to protecting the quality of life and economy within the Orange County region that will benefit from the Doheny Desalination Project. Not only will the project provide up to 5 MGD of reliable, locally-controlled water supplies for the region, it will do so using technology that is environmentally protective of ocean resources and marine life.

The Doheny Desalination Project will use advanced slant wells that protect marine life by using subsurface water intake technology. Not only will this project advance environmentally protective technologies, there is also an energy recovery process being considered for plant operations, which would result in up to 55 percent less energy usage than facilities without that feature.

While the reality is that California's ongoing and persistent drought conditions may be a new way of life for our state. You have it within your ability as Members of the San Diego Regional Water Quality Control Board to make decisions -through approval of these Tentative Orders and the assurance that there are not unreasonable conditions imposed on the implementation of those Orders - to help one region of the state move forward in the pursuit of a water resilient future that helps sustain the quality of life and regional economy.

Again, Laborers Local 652 strongly urges your support - without unreasonable conditions -for Tentative Order No. R9-2022-0005 and Tentative Order No. R9-2022=0006 at your March 9, 2022 hearing.

Response

Comment noted.

18. Comments from Laguna Bluebelt Coalition, dated February 3, 2022

Comment –Tentative Order No. R9-2022-0005 NPDES Permit No. CA0107417

The Laguna Bluebelt Coalition is a community based organization of dedicated individuals, groups and organizations engaged in the design, implementation and long term sustainability of Laguna’s Marine Protected Areas. Central goals include: Education, Protection & Enforcement, Water Quality, Restoration and Networking.

We appreciate the San Diego Regional Water Quality Control Board's important role in advancing water quality improvements in regulated coastal receiving waters off of Laguna Beach adjacent to State designated Marine Protected Areas (MPAs) and remain concerned the renewal of the proposed Tentative Order No. R9-2022-0005 NPDES Permit No. CA0107417 without modifications will:

Continue daily discharge of wastewater with Constituents of Emerging Concern (CECs) to protected marine life areas

- Fail to advance viable alternatives
- Overlook the central role of ocean water quality and climate change

Our comments are intended to achieve multiple benefits to protected marine mammals, regional fisheries and public health to reduce and, eventually, eliminate secondary sewage discharges at the Aliso Creek Ocean Outfall.

Daily Discharges to MPAs

These discharges may or threaten to harm protected marine life.

The Ocean Protection Council recognizes “Beachgoers and wildlife need the same thing – clean ocean water. A relaxing day enjoying California’s waters can easily be undone by beach closures or **widespread harmful algal blooms**. With California’s coastal and ocean waters extending from the top of the watersheds to the deep waters off the coast, the Ocean Protection Council has made **improving water quality a top priority**.”

“The ocean is usually the end point of land-based pollutants that flow from coastal watersheds. Nearshore impairment of water quality can result from **municipal sewage discharges**, industrial waste discharges, dredge spoils, and agricultural and urban runoff. When water quality is poor, the ability of coastal ecosystems to support healthy fisheries, aquaculture, recreational opportunities, and other beneficial uses is undermined.”

Statewide Microplastics Strategy developed recently by the Ocean Protection Council seeks more understanding in addressing Impacts to Protect Coastal and Ocean Health.

“Wastewater is a known pathway of microplastic and microfiber pollution into the

aquatic environment directly through wastewater effluent. Numerous studies demonstrate that wastewater treatment plants with only primary **and secondary treatment levels release higher concentrations of microplastics** than wastewater treatment plants with tertiary or advanced levels of treatment, which release negligible levels of microplastics. Tertiary and advanced treatment have demonstrated efficacy in preventing microplastic pollution from entering receiving waters.”

In reference to previous studies regarding microplastic removal efficacy in wastewater treatment plants, we recommend further recycling of tertiary-treated wastewater that would otherwise be discharged to the ocean at the ACOO. In addition, based on the results of previous studies and the completion of the ongoing SCCWRP study on wastewater treatment plant efficacy, we encourage the SDRWQCB to further develop microplastics reduction strategies and monitoring recommendations based on each level of treatment, including primary, secondary, tertiary, and advanced treatment.

Viable Alternatives

Rather than developing large scale projects that often fail to be implemented due to cost, we support pilot demonstration projects that incrementally reduce discharges to the ocean.

Multiple pathway interventions can promote inland SOCWA facilities utilizing all wastewater as recycled water, industrial water, steam energy production, hydrogen fuel feedstock and similar emerging technologies will retain our reputation as environmental leaders.

The Proposed NPDES Permit Renewal is the appropriate time to implement measurable, scheduled reductions of discharges from SOCWA Publically Owned Treatment Works (POTWs) to the ACOO in collaboration with water agencies, universities, city & county agencies and NGOs, including the Laguna Bluebelt Coalition.

Ocean and Climate Change

Multiple regulatory policies and procedures are available through the California Porter Cologne Act, Ocean Protection Council, California Coastal Act, California Fish & Wildlife Commission and Regional Boards to utilize sound science to advance the best available strategies to improve precious ocean resources and California’s special climate.

Our knowledge of the key role the ocean plays in mitigating the rise of climate

change impacts encourages a greater understanding of the impacts of wastewater discharges to MPAs and surrounding ecology. The 2022 version of the Porter Cologne Act, established in 1967, provides the regulatory framework to advance measures aimed at reducing daily wastewater discharges averaging between 10 and 12 million gallons per day at the Aliso Creek Ocean Outfall (ACOO).

Specifically, Section § 13142.5. [Coastal marine environment] the policies of the state with respect to water quality as it relates to the coastal marine environment are that:

(a) Wastewater discharges shall be treated to protect present and future beneficial uses, and, where feasible, to restore past beneficial uses of the receiving waters. Highest priority shall be given to improving or eliminating discharges that adversely affect any of the following:

- (1) Wetlands, estuaries, and other biologically sensitive sites (e.g.,MPAs).
- (2) Areas important for water contact sports.
- (3) Areas that produce shellfish for human consumption (reefs & kelp forests).
- (4) Ocean areas subject to massive waste discharge.

Ocean chemistry and mixing processes, marine life conditions, other present or proposed outfalls in the vicinity, and relevant aspects of area wide waste treatment management plans and programs, **but not of convenience to the discharger**, shall for the purposes of this section, be considered in determining the effects of such discharges. Toxic and hard-to-treat substances

should be pretreated at the source if such substances would be incompatible with effective and economical treatment in municipal treatment plants.

(c) Where otherwise permitted, new warmed or cooled water discharges into coastal wetlands or into areas of special biological importance, **including marine reserves and kelp beds**, shall not significantly alter the overall ecological balance of the receiving area.

We invite continued cooperation and collaboration to advance timely measures to reduce coastal pollution from wastewater discharges. Thank you for your dedicated efforts throughout the years to protect and improve California's most, arguably, precious resource – the ocean.

Response

Tentative Order No. R9-2022-0005, NPDES Permit No. CA0107417 is the Tentative Order for San Juan Creek Ocean Outfall, not Aliso Creek Ocean Outfall. This comment letter appears to only discuss Aliso Creek Ocean Outfall. Please refer to Item No. 9, Supporting Document No. 4 for the responses regarding the Aliso Creek Ocean Outfall.