CA Save Our Streams Council

August 20, 2020

Mr. Brian Lopez
U.S. Bureau of Reclamation
South-Central California Area Office
1243 N Street
Fresno, California 93721
Email: blopez@usbr.gov

Comments on the Draft Environmental Assessment (DEA) for Groundwater Pump-ins Enabled by the Bureau of Reclamation Warren Act Contract for Westlands Water District (EA-20-008, CGB-EA-2020-032)

Dear Mr. Lopez:

Thank you for the opportunity to comment. We have reviewed the subject Draft Environmental Assessment (DEA) and find that it is incomplete with regard to addressing environmental impacts in several areas, which we address in detail in comments below. Furthermore, the DEA lacks sufficient data to determine compliance with NEPA, provisions of State of California water quality laws under Porter Cologne and the federal Clean Water Act, the federal and State of California Endangered Species Acts (ESA and CESA), and the California Environmental Policy Act (CEQA). The groundwater pump-in project ("Project" or "Pump-In Project") is a substantial and complex project that clearly requires a comprehensive Environmental Impact Statement (EIS) to properly address potential impacts and alternatives to the proposed project.

The National Environmental Policy Act (NEPA) compels an informed process. NEPA requires that federal decision makers be informed of the environmental consequences of their decisions and undertake an assessment of the environmental effects of their proposed actions prior to making decisions.[1] An informed decision document under NEPA should include all relevant data, including past monitoring data along with analysis of that data, to help inform the public and decision makers as to impacts and guide future implementation of the project.

The Draft Environmental Assessment (DEA) is incomplete in several respects, which we will discuss. There are significant data gaps that hinder the public and decision makers' from making an informed decision regarding the potential environmental consequences of allowing these discharges of contaminated groundwater into the San Luis Canal/California Aqueduct. Also completely neglected are the impacts from discharging this contaminated water and substituting or exchanging it with water exported from the Delta Estuary or other exchanges that have the potential to impact the American River, Yuba River, Sacramento River and Shasta dam operations.

There is substantial evidence that previous similar Westlands Water District (Westlands) pump-in projects have caused and—if permitted again, will continue to cause—water pollution, land subsidence, increased water supply costs to others, and damage to the California Aqueduct, which serves millions of people. The DEA fails to provide a complete assessment of the impacts of this project, fails to include effects of these prior pump-ins on subsidence damages to the San Luis Canal (the federal/state portion of the California Aqueduct, SLC), and completely neglects to include any information and analysis of prior water quality data, quantity of groundwater pumped, percent of aqueduct flow comprised of Westlands' groundwater pump-ins, or contaminant mass balance in the SLC from previous groundwater pump-ins associated with this project. The DEA, as presented, does not support a "fair argument" that this project does not have significant environmental impacts. A full Environmental Impact Statement (EIS) is required so that the environmental impacts, as well as costs and damage to downstream beneficial uses, can be adequately analyzed and described to the public and decision makers. The DEA fails to identify and examine the potential impacts of the Project.

Further, the NEPA process must be completed <u>before</u> an agency makes a final decision on a proposed action. We note that the DEA states on page 3 that the window for the conveyance period for this project in 2020 would commence on August 1, 2020, twenty days prior to the end of the comment period on the DEA. The conveyance period for this project in 2020 should commence when the NEPA and the associated CEQA documentation for this project have been finalized, not before it. Allowing discharge of this contaminated groundwater prior to completion of the NEPA analysis and Record of Decision precludes public input and analysis. It predetermines the federal action, contrary to NEPA requirements to carefully weigh and consider public input.

[1] https://ceq.doe.gov/docs/get-involved/Citizens_Guide_Dec07.pdf

Westlands, a state agency with a singular focus of providing irrigation water to roughly 350 vertically integrated irrigation operations,[2] is not the appropriate state agency to lead such a complex project impacting a broad geographical area and numerous downstream beneficial uses. Our organizations have stated in previous comments that the Department of Water Resources (DWR) should be the lead state agency for such a geographically complex project that impacts multiple counties and jurisdictions. Also, as an owner of the California Aqueduct, DWR is better able to ensure enforcement measures and non-degradation of these beneficial uses of water.

Our organizations provide these comments on Reclamation's DEA for a proposed five-year Warren Act Contract[3] for the Westlands Groundwater Pumping and Conveyance Project. In accordance with NEPA, Reclamation, as the Federal lead agency, made the DEA available for a 30-day public comment period closing on August 20, 2020.[4] Our organizations have previously submitted comments on this project: 1) Scoping Comments for Westlands Water District Proposed Conveyance of Nonproject Groundwater from the Canal side project using the California Aqueduct dated March 2, 2010, and 2**)** Comments to the US Bureau of Reclamation (Reclamation) on the Draft Environmental Assessment Westlands Water District Groundwater Warren Act Contract EA-15-001 & FONSI-15-001, dated March 26, 2015, and 3) Comments on the Draft Initial Study/Negative Declaration for Westlands Water District Warren Act Contract for Groundwater Pump In Program, SCH # 2020050434, dated June 15, 2020. Our previous comments are incorporated here by reference.[5]

The following evaluation and comments supplement previous comments with more detail on key issues.[6] Comments are organized in two parts: (1) a summary of the project as described in the DEA as background for the our critique, and (2) a critique of the project, monitoring plans, and environmental impact analysis.

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[2] See https://www.latimes.com/environment/story/2020-02-28/westlands-water-district-gets-permanent-u-s-contract-for-massive-irrigation-deliveries

[3] The Warren Act (Act of February 21, 1911; Chapter 141, 36 Stat. 925) authorizes USBR to enter into contracts to impound, store, or convey non-CVP water in federal facilities, when excess capacity is available. Warren Act Contracts are issued by Reclamation to allow movement of non-federal water through federal facilities.

[4] See: https://www.usbr.gov/mp/nepa/nepa_project_details.php?Project_ID=46184

[5] http://calsport.org/news/wp-content/uploads/Conservation-Gr-04-19-2018-Cmt-Ltr-Delta-Mendota-CanalGroundwater-Pump-in-DEA-18-007-and-FON....pdf

http://calsport.org/news/wp-content/uploads/Conservation-Gr-Cmt-Ltr-3-26-15-WWD-30-K-GroundwaterDischarge-Warren-Act-Contract-EA-15-001-CMTS-Dra....pdf

http://calsport.org/news/wp-content/uploads/Conservation-Gr-FinalScopingCmts-03-02-2010-100K-Pump-in-CalAqueduct.pdf

[6] https://calsport.org/news/wp-content/uploads/Env-Advocate-Cmts-WWD-SLC-Pump-in-2020-IS_ND_6-10-2020-Cal-Aqueduct.pdf

SUMMARY OF PROJECT AS DESCRIBED BY RECLAMATION IN THE DEA

Proposed Pump-in Project Summary

Under the Pump-in Project, Reclamation would enter into a five-year Warren Act Contract (for the years 2020-2025) to allow Westlands to pump in up to 30,000 acre-feet per year (AF/y) (and up to 150,000 AF over the five-year life of the project) of potentially highly contaminated non-CVP groundwater into the California Aqueduct-San Luis Canal (SLC), in years in which Westlands Water District's CVP allocation is 20% or less. Reclamation has specified conditions outlined in Section 2.2.2 of the DEA and in the Water Quality Monitoring Plan in Appendix A. The period of introduction would be between April 1 and August 31 of a given year, except for 2020. Non-CVP water introduced into the SLC would either be directly delivered to agricultural users or wildlife refuges located downstream of the points of introduction or operationally exchanged with Reclamation for a like amount, less conveyance losses, of Westlands' available water supplies in San Luis Reservoir. The delivery of non-CVP water to wildlife refuges is a critical aspect of the Pump-in Project to evaluate because of the sensitivity of the refuges to contamination (discussed in detail below). Exchanged water would either be delivered to agricultural users located upstream of the points of introduction in Westlands or could be exchanged for water stored in San Luis Reservoir as non-CVP water for later delivery to Westlands via the San Luis Canal. The impacts of these exchanges, the quantities, timing, and location from where the water is taken, like the Delta Estuary for example, are not disclosed or defined.

In addition, Reclamation proposes to issue a combined 25-year authorization for 88 discharge points (identified in Table 1 of the DEA, pages 4-6) involved in the Westlands Pump-in Project. We discuss this further in the Comments and Recommendations section below.

Proposed Design Constraints and Operating Criteria

The Westlands Pump-in Project is supposed to be subject to water quality monitoring, groundwater monitoring, and reporting requirements as described in Reclamation's current San Luis Canal Non-Project Water Pump-in Program 2020 Water Quality Monitoring Plan dated May 2020 (WQMP) and provided in Appendix A of the DEA. There are numerous inconsistencies, as discussed in our detailed comments. Further enforcement actions are absent and instead are left to vague assurances between Westlands and Reclamation. These vague assurances do not mitigate impacts nor is it clear how they will be enforced.

Water Quality Monitoring Requirements

<u>Baseline sampling and routine sampling of individual wells</u>

The WQMP requires that all participating wells must have baseline sampling each year before pumping into the San Luis Canal begins for those constituents of concern used for screening-out non-compliant wells. Further, the WQMP requires that for all constituents in the Table 5 short list (except as specified in the footnotes), monitoring will continue to occur weekly for four consecutive weeks, and then monthly for the duration of pumping into the SLC.

In addition, each well is also required to be tested every three years for the full array of Title 22 constituents of concern. On page 7 of the DEA it states that, "*Reclamation will allow the introduction of water from two or more wells through one discharge point if the blended water meets the Title 22 standards. Special monitoring may be required for these situations*." As we discuss in detail below, the Title 22 Drinking Water standard for selenium is not protective of fish and wildlife resources that use water from the aqueduct and this is inconsistent with the short list of water quality standards for selenium set forth in Table 5 in the WQMP. This inconsistency needs to be corrected. Further, the impacts of any such inconsistency, including the failure to monitor and enforce protective fish and wildlife water quality standards for selenium, have not been disclosed.

Also included with the sampling of individual wells is one-time screening for the presence of perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS) and, if detected, Reclamation and the California Department of Water Resources (DWR) will work with Westlands on conducting additional sampling.

Table 5 from 2020 SLC WQMP

San Luis Canal
Non-Project Water Pump-in Program
Water Quality Monitoring Plan

Table 5. Water Quality Standards, Short List

Constituent	Units	Maximum Contaminant Level		Detection Limit for Reporting		CAS Registry Number	Recommended Analytical Method
Arsenic	mg/L	0.01	(1)	0.002	(2)	7440-38-2	EPA 200.8
Boron	mg/L	2.0	(13)			7440-42-8	EPA 200.7
Bromide	mg/L		(14)				
Chloride	mg/L	250	(7)			16887-00-6	EPA 300.1
Chromium, total	mg/L	0.05	(1)	0.01	(2)	7440-47-3	EPA 200.7
Hexavalent chromium	mg/L	0.010	(1)	0.001	(2)	18540-29-9	EPA 200.8
Manganese	mg/L	0.05	(7)			7439-96-5	EPA 200.7
Nitrate (as nitrogen)	mg/L	10	(1)	0.4	(2)	7727-37-9	EPA 300.1
Selenium	mg/L	0.002	(10)	0.001		7782-49-2	EPA 200.8
Sodium	mg/L	69	(12)			7440-23-5	EPA 200.7
Specific Conductance	µS/cm	1,600	(7)				SM 2510B
Sulfate	mg/L	500	(7)			14808-79-8	EPA 300.1
Total Dissolved Solids	mg/L	1,000	(7)				SM 2540C
Total Organic Carbon	mg/L		(14)				EPA 415.3
Gross alpha[4]	pCi/L	15	(3)	3	(3)		SM 7110C
1,2,3-Trichloropropane	mg/L	0.000005	(4)	0.000005	(5)	96-18-4	SRL 524M
One-Time Screening							
Perfluorooctanic acid (PFOA)[5]	ng/L	N/A		0.82	(15)		EPA 537.1
Perfluorooctanesulfonic acid (PFOS)[5]	ng/L	N/A		2.7	(15)		EPA 537.1

Short list to be measured before pumping occurs, then weekly for four consecutive weeks, and monthly for the duration of pumping into the San Luis Canal.
(4) Monthly testing only
(5) One-time screening conducted prior to pumping individual wells and from Lateral 7 at the Adams Avenue pump station. Although there are no MCLs developed yet, there are notification levels and response levels. The notification levels are 5.1 PPT (PFOA) and 6.5 PPT (PFOS). The response levels are 10 PPT (PFOA) and 40 PPT (PFOS) based on a running four quarter average. The lowest concentration minimum reporting levels (LCMRL) are 0.82 ng/L (PFOA) and 2.7 ng/L (PFOS).

<u>Lateral 7 water quality monitoring</u>

Non-project water is only allowed to enter Lateral 7 when water is being pumped into the SLC,

not when flow is entering the Mendota Pool. Westlands is required to take weekly field measures for conductivity and turbidity at locations near Lateral 7 during these periods.

In addition to non-project well sampling, Westlands must collect samples from Lateral 7 at the Adams Avenue pump station. Lateral 7 water must be tested for the full suite of Title 22 (Table 6) every year. Table 5 constituents will be sampled weekly for the first four weeks, then monthly for the duration of pumping.

There will be a one-time screening for the presence of Perfluorooctanoic acid (PFOA) and Perfluorooctanesulfonic acid (PFOS) from Lateral 7 at Adams Avenue pump station and if detected, Reclamation and DWR will work with Westlands on conducting additional sampling.

Water Quality Monitoring of the Aqueduct

Mean daily salinity and turbidity will be measured with the DWR sensors that report real-time data to the California Data Exchange Center (CDEC). Westlands is required to download daily average data for SLC Checks 13 and 21 to measure changes in the canal between these checks that may be attributable to the addition of the non-project water.

The WQMP includes maximum allowable changes in the SLC caused by the addition of Westlands' groundwater pump-ins. These commitments are summarized in Table 4 on page 12 of the WQMP and are included below. If the addition of the non-project water is increasing the salinity (measured as electrical conductivity, or EC) of water in the SLC more than 100 µS/cm between Check 13 and Check 21, Reclamation will work with Westlands and the well operators to turn off high salinity wells. These are vague directives that lack enforcement. Without an absolute requirement that these high salinity wells are turned off, the impacts of such delay or failure to act are not considered.

The addition of non-project water must not raise the salinity in the SLC at Check 21 above 700 µS/cm, equivalent to 450 mg/L Total Dissolved Solids.

If the salinity of water passing Check 13 is greater than 700 µS/cm, Reclamation and Westlands will coordinate with DWR to modify or restrict non-project pumping. Once again, these are vague directives that lack enforcement. Without an absolute requirement that these high salinity wells are turned off, such action cannot be ensured, but the potential impacts of such delay or failure to act are not disclosed.

Also, at Check 21 are requirements for TDS (NTE 450 mg/L) and selenium (NTE 2 µg/L).

Table 4. Maximum allowable changes in the San Luis Canal caused by the addition of non-project groundwater

Constituent	Monitoring Location	Maximum concentration in the San Luis Canal
Electrical conductivity	Between San Luis Canal Checks 13 and 21	Less than 100 uS/cm increase between the checks
Turbidity	Between the Lateral 7 upstream site and downstream site	Less than 10 NTU
Electrical conductivity	In the San Luis Canal at Check 21	Not to exceed 700 uS/cm
Total dissolved solids		Not to exceed 450 mg/L
Concentration of selenium		Not to exceed 2 ug/L
Concentration of any Title 22 constituent		Less than half of a Title 22 MCL

Depth to Groundwater Commitments

The WQMP also includes requirements to measure groundwater levels and a shutoff trigger to reduce subsidence impacts. The shutoff trigger included in the WQMP requires pumping to stop at 25% above the maximum drawdown experienced by any of the wells participating in the Program, i.e., 75% Max DTGW. The intent is to prevent further lowering of water levels beyond what has historically occurred in a given well, as illustrated in Figure 4 of the DEA.

Well owners are required to measure the initial depth to groundwater in each well before pumping into the SLC, and monthly from April through August and every other month outside of that range while the 2020 Pump-in Program is in effect. An individual well will be shutoff when its Depth to Groundwater reaches 75% of the difference between the Fall/Winter Median Groundwater Level and the Max DTGW using the following equation:

Shutoff Trigger= 0.75(Max DTGW-Fall/Winter Median) + Fall/Winter Median*

If an individual well is shutoff due to groundwater levels reaching the shutoff trigger, it will not be allowed to resume pumping until it reaches 70% of the difference between the Fall/Winter Median

Groundwater Level and the Max DTGW using the following equation:

Well Resumption= 0.70 (Max DTGW-Fall/Winter Median) + Fall/Winter Median*

Groundwater level measurements are supposed to follow a strict schedule. If a well is shutoff it will not be measured again until the next scheduled measurement date. The participants must notify Reclamation in writing when a well is shutoff or resuming.

As shown in Figure 4, Max DTGW (also referred to as Critical Head) is the greatest amount of drawdown (lowest depth to water) that has occurred within a particular well.

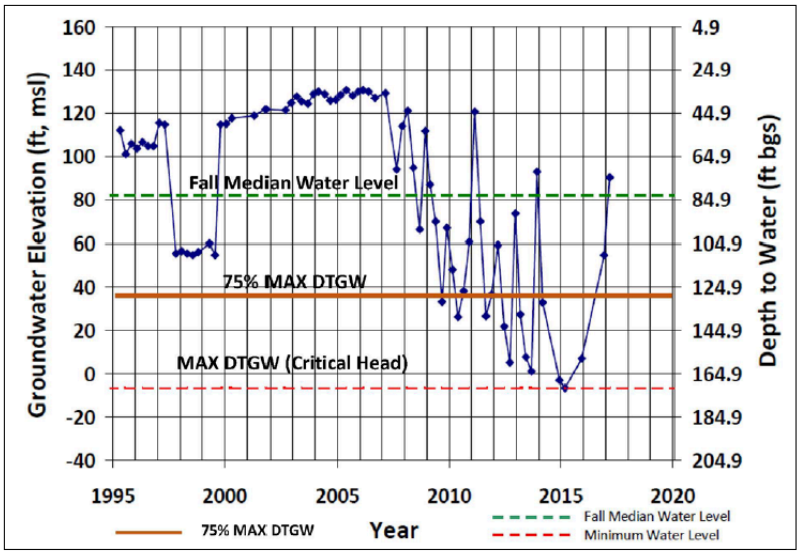


Figure 4. Example of Operation of the Shutoff Trigger

SPECIFIC COMMENTS AND RECOMMENDATIONS

Authorization of Discharge Points into the SLC should be for no more than 5 Years.

Reclamation proposes to issue a combined 25-year authorization for 88 discharge points (identified in Table 1 of the DEA, pages 4-6) involved in the Pump-in Project. The environmental impact of authorizing these discharges for 25 years has not been evaluated or disclosed. Further, sanctioning this groundwater discharge for a 25-year period for all discharge points in a document that covers only a 5-year Warren Act Contract for those discharges further fails to disclose the environmental impacts. As we will discuss below, 35 of the 88 discharge points identified in Table 1 of the DEA under Westlands' previous pump-in projects had at least one well that exceeded maximum contaminant levels (MCLs) identified for the constituents As, Se or TDS. This information is summarized in Appendix A to our comments. We note here that the use of the MCL terminology to the water quality standards applicable to this project leads to confusion because MCLs generally refer to federal drinking water standards, which these are not. Nevertheless, in our comments we will use Reclamation's definitions as defined in the DEA.

Inclusion of these discharge points for 25-years is arbitrary and capricious and not supported by any water quality data from previous groundwater pump-ins or long-term analysis of potential future impacts. Moreover, it is a violation of Article 14(f) of the current Warren Act Contract between Reclamation and Westlands that states, "*At all times during the term of this Contract, the Contractor shall be in compliance with the requirements of the then-current Quality Assurance Project Plan (Plan) prepared by the Contracting Officer to monitor Non-Project Water introduced into and conveyed through the Project Facilities*."[7] We therefore recommend that only those discharge points that do not exceed MCLs for constituents identified in Table 4 of the WQMP be authorized for 5 years, and that NO discharge points be authorized for a longer period.

Water Quality Monitoring at all Discharge Points

On page 8 of the DEA, in Table 2, Environmental Protection Measures and Commitments is the following, "*Reclamation requires monitoring of selenium levels in the San Luis Canal* <u>*and at all discharge points*</u> [emphasis added] *as described in the water quality monitoring plan (see Appendix A). Selenium levels in the San Luis Canal shall not exceed 2 parts per billion (ppb) during periods of introduction. If water quality in the San Luis Canal exceeds 2 ppb, Reclamation and/or its operating entity will require additional sampling at all discharge points to ensure that water being introduced does not exceed 2 ppb selenium*."

We note that the WQMP does not include water quality monitoring at all discharge points as a requirement of the program. It requires monitoring at the wellhead, Lateral 7, and in the SLC at Checks 13 and 21. The WQMP should be revised to be consistent with the DEA and include the more appropriate and stringent monitoring requirements described in the DEA. The environmental impacts that may result from the failure to comply with the monitoring of selenium levels in the San Luis Canal and all discharge points needs to be analyzed and disclosed.

[7] https://www.usbr.gov/mp/warren-act/docs/contract-westlands-multiyear-convey-nonproject-water.pdf

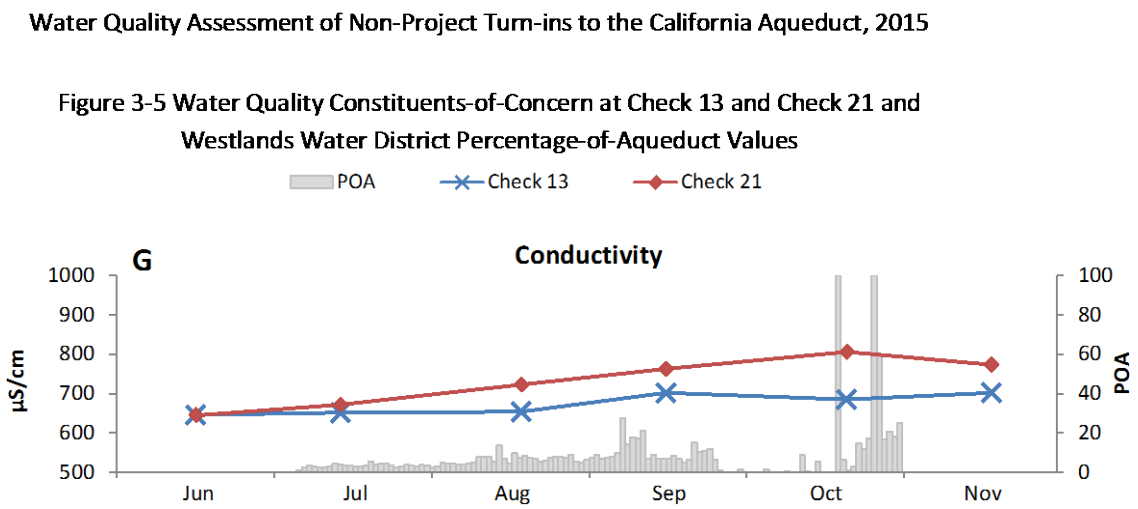
Changes in SLC water quality requirements in the 2020 WQMP must be Addressed and Environmental Impacts Analyzed and Disclosed.

We note that the 2015 WQMP[8] restricted salt contamination in the Aqueduct between Checks 13 and 21 compared with the 2020 WQMP as follows:

- A maximum allowable change caused by pumped GW at Check 21 (Kettleman) of not to exceed 600 µS/cm EC (the 2020 WQMP allows 700 µS/cm);
- Less than 50 µS/cm EC change between Check 13 and Check 21 (the 2020 WQMP allows no more than 100 µS/cm EC change);

There is no mention of these changes in EC requirements in the SLC in either the DEA or the 2020 WQMP, nor is there any analysis of the effects of this allowable EC increase or explanation as to why these EC control requirements have been weakened. We further note that compliance with the 2015 EC requirements in the SLC were exceeded routinely in 2015 as documented in DWR's report on non-project water pump-ins for 2015[9], as depicted in Figure 3-5 from that report:

CDEC continuous EC Data Checks 13 and 21 in 2015 From (DWR 2016)



[8] See Appendix C, starting at pdf pg 4: https://www.usbr.gov/mp/nepa/includes/documentShow.php?Doc_ID=21986

[9] See: https://calsport.org/news/wp-content/uploads/Water-Quality-Assessment-of-Non-Project-Turn-ins-to-the-California-Aqueduct-2015.pdf

Note that Article 14(f) of the current Warren Act Contract between Reclamation and Westlands states, "*At all times during the term of this Contract, the Contractor shall be in compliance with the requirements of the then-current Quality Assurance Project Plan (Plan) prepared by the Contracting Officer to monitor Non-Project Water introduced into and conveyed through the Project Facilities.*"[10] We see clear evidence from DWR reports of prior Westlands groundwater pump-ins that water quality requirements have been routinely exceeded both at the wellhead and at Check 21 in the SLC. This record of non-compliance argues for improved enforcement of water quality standards and the impact from these past discharges needs to be disclosed.

Pump-In Project Likely to Harm State Fish and Wildlife Designated Beneficial Uses Associated with the California Aqueduct.

The groundwater contributions from the Pump-in Project are conveyed south through the California Aqueduct and stored in four reservoirs (Pyramid Lake, Castaic Lake, Silverwood Lake, and Lake Perris). The aqueduct and these four reservoirs are regulated under four Regional Water Boards jurisdictions. Designated fish and wildlife beneficial uses of the Aqueduct and downstream reservoirs are listed in Table 1.

The Central Valley Regional Water Quality Control Board (CV Regional Board) does not include fish (WARM) as a beneficial use for the aqueduct. Yet the DWR has promoted fishing along the Aqueduct and identifies five locations within or near Westlands (Fairfax, Three Rocks, Huron, Avenal Cutoff, and Kettleman City sites) (DWR 2008)[11]. Further, the CV Regional Board includes WARM beneficial use designation for the Delta Mendota Canal,[12] so we can only surmise that the omission of a WARM beneficial use designation for the California Aqueduct is an oversight. Nonetheless, the Pump-in Project should be protective of downstream beneficial uses of the water from the California Aqueduct and these impacts need to be disclosed and addressed in a full EIS that would replace this deficient DEA. Existing data simply do not support the adoption of an EA/FONSI for environmental impacts of this action. Due to the high percentage of volumes in the Aqueduct and resulting high contaminant levels represented by the Westlands' pump-ins during certain time periods, especially drought conditions, humans who fish the California Aqueduct are likely to be periodically exposed to much higher contaminants than the long-term average. In addition, there will be higher contaminant levels in fish than monitored in canal water due to accumulations in fish tissue. This exposure, warnings, and existing monitoring data are not disclosed, especially to low income communities in the surrounding areas, and there is no mention of fish tissue monitoring. Monitoring does not include biological monitoring so that impacts can be assess and identified.

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[10] Ibid.

[11] See: https://calsport.org/news/wp-content/uploads/DWR_Fishing-Along-the-SWP.pdf

[12] See: https://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/sacsjr_201805.pdf

Table 1. Fish and Wildlife Beneficial Uses Associated with CA Aqueduct south of Pump-in Project

Waterbody Name	WARM	COLD	SPWN	WILD	RARE
California Aqueduct[13]				E	
Castaic Lake[14]	E	I	E	E	E
Pyramid Lake[5]	E	E		E	E
Silverwood Lake[15]	E		E	E	
Lake Perris[16]	E	E		E	E

E: Existing beneficial use.

I: Intermittent beneficial use.

WARM: Warm Freshwater Habitat - Uses of water that support warm water ecosystems including but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.

COLD: Cold Freshwater Habitat - Uses of water that support cold water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.

SPWN: Spawning, Reproduction, and/or Early Development - Uses of water that support high quality aquatic habitats suitable for reproduction and early development of fish.

WILD: Wildlife Habitat - Uses of water that support terrestrial ecosystems including, but not limited to, preservation and enhancement of terrestrial habitats, vegetation, wildlife (e.g., mammals, birds, reptiles, amphibians, invertebrates), or wildlife water and food sources.

RARE: Endangered Species - Uses of water that support habitats necessary, at least in part, for the survival and successful maintenance of plant or animal species established under state or federal law as rare, threatened, or endangered.

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[13] See: https://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/sacsjr_201805.pdf

[14] See Beneficial Use Designations of Inland Surface Waters, Los Angeles Regional Water Board: https://www.waterboards.ca.gov/losangeles/water_issues/programs/basin_plan/2020/Chapter_2/Chapter_2_Table_2-1/Chapter_2_-_Table_2-1.pdf

[15] See: https://www.waterboards.ca.gov/lahontan/water_issues/programs/basin_plan/docs/ch2_bu.pdf

[16] See: https://www.waterboards.ca.gov/santaana/water_issues/programs/basin_plan/docs/2019/New/Chapter_3_June_2019.pdf

Effects on Refuge Water Supplies – Percent of Aqueduct of Westlands Pump-ins

The DEA acknowledges on page 12 that groundwater from the Pump-in Project will comingle with refuge water supplies: "*Both Mendota Wildlife Area and Kern National Wildlife Refuge water supplies may mix with groundwater introduced as a result of the Proposed Action, and this would occur partly during times of the year when these refuges would receive water supplies. However, the selenium levels are expected to remain well below the threshold for an effect on wildlife, which is 2 ppb as measured in the water column*…" However, the DEA assumes the wellhead MCL of 2 µg/L selenium established in the 2020 WQMP will be adhered to, without providing any data on the water quality performance of prior Westlands pump-ins. We note that almost 40% of the discharge points Reclamation identified in Table 1 of the DEA had at least one well sample that exceeded MCLs identified in the DEA for the constituents As, Se or TDS. This information is summarized in Appendix A to our comments. Information on volumes from each well, and which wells were shut down was not provided in the DWR reports. Westlands also did not provide this information, as was requested under the California Public Records Act.[17] These elevated selenium concentrations at the wellheads occurred even though the 2015 WQMP[18] for this project listed an MCL for selenium of 2 µg/L, shown in Table 4 below. A lack of surveillance and enforcement has been a critical flaw of previous pump-in projects. The environmental impacts from this failure needs to be disclosed and analyzed.

San Luis Canal
Non-Project Ground Water Pump-in Program
2015 Water Quality Monitoring Plan

Table 4. Water Quality Standards, Initial Test

Constituent	Units	Maximum Contaminant Level		Detection Limit for Reporting		CAS Registry Number	Recommended Analytical Method
Arsenic	mg/L	0.010	[1]	0.002	(2)	7440-38-2	EPA 200.8
Boron	mg/L	2	[12]			7440-42-8	EPA 200.7
Bromide	mg/L		[16],[17]			24959-67-9	EPA 300.1
Chloride	mg/L	250	[7]			16887-00-6	EPA 300.1
Chromium, total	mg/L	0.05	[1],[17]	0.01	(2)	7440-47-3	EPA 200.7
Chromium, hexavalent	mg/L	0.01	[1],[17]			18540-29-9	EPA 218.6
Manganese	mg/L	0.05	[6]			7439-96-5	EPA 200.8
Mercury	mg/L	0.002	[1]	0.001	(2)	7439-97-6	EPA 245.1
Nitrate (as NO3)	mg/L	45	[1]	2	(2)	7727-37-9	EPA 300.1
Selenium	µg/L	2	[10]	0.4		7782-49-2	EPA 200.8
Sodium	mg/L	69	[12]			7440-23-5	EPA 200.7
Sulfate	mg/L	250 - 600	[7]			14808-79-8	EPA 300.1
Total Dissolved Solids	mg/L	500-1500	[17]				SM 2540 C
Total Organic Carbon	mg/L		[16],[17]			7440-44-0	EPA 415.1
Gross alpha	pCi/L	15	[3],[17]	3	(3)	12587-46-1	SM 7110C

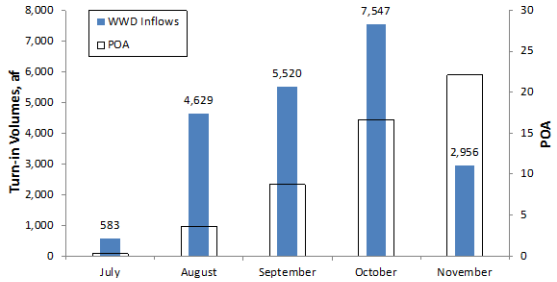
[17] https://calsport.org/news/wp-content/uploads/Canal-Integration-Program-Third-Response-Schifferle-071720.pdf

[18] See Appendix C, pdf pg 4: https://www.usbr.gov/mp/nepa/includes/documentShow.php?Doc_ID=21986

The DEA also fails to disclose any data on the percent of flow in the Aqueduct (POA) comprised of Westlands groundwater pump-ins. In 2014 and early 2015 there were days within the fall and winter months when the Dos Amigos Pumping Plant ceased pumping, resulting in Westlands pump-ins contributing 100% of the flow in the aqueduct on those days as depicted in the Figures 3-1 and 3-2 from DWR 2015[19] and Figure 3-1 from DWR 2016[20] reports below. Some of these time periods overlap with refuge water deliveries to Kern NWR. The impacts from deliveries of degraded water to the refuge needs to be monitored and disclosed.

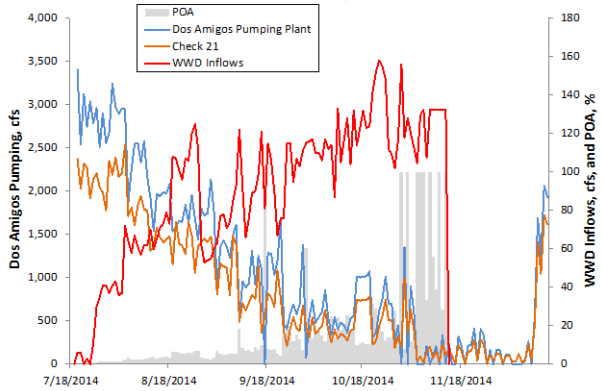
Water Quality Assessment of Non-Project Turn-ins to the California Aqueduct, 2014

Figure 3-1. Monthly Inflows to the Aqueduct from Westlands Water District and Calculated Percentage-of-Aqueduct Values



Notes: af = acre-feet, POA = percentage-of-Aqueduct, WWD = Westlands Water District

Figure 3-2. Daily Inflows to the Aqueduct from Westlands Water District, Pumping at Dos Amigos Pumping Plant, Check 21 Flows, and Calculated Percentage-of-Aqueduct Values



Notes: cfs = cubic feet per second, POA = percentage-of-Aqueduct, WWD = Westlands Water District

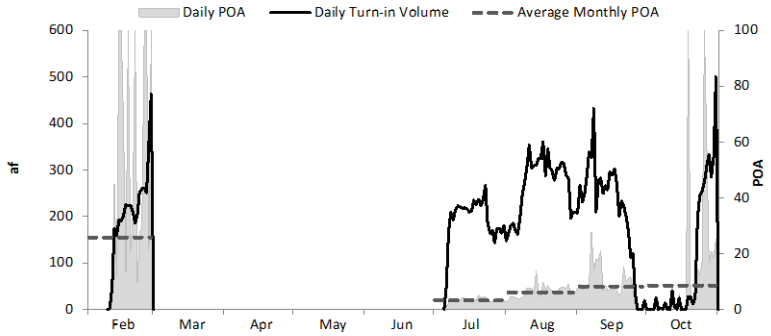
[19] (DWR) California Department of Water Resources. October 2015. Water Quality Assessment of Non-Project Turn-ins to the California Aqueduct, 2014. Technical Memorandum Report**,** Division of Operations and Maintenance State Water Project Operations Support Office Environmental Assessment Branch Sacramento, California, 140 pp. https://calsport.org/news/wp-content/uploads/Water-Quality-Assessment-of-Non-Project-Turn-ins-to-the-California-Aqueduct-2014.pdf

[20]

(DWR) California Department of Water Resources. December 2016. Water Quality Assessment of Non-Project Turn-ins to the California Aqueduct, 2015. Technical Memorandum Report**,** Division of Operations and Maintenance State Water Project Operations Support Office Environmental Assessment Branch Sacramento, California, 172 pp. https://calsport.org/news/wp-content/uploads/Water-Quality-Assessment-of-Non-Project-Turn-ins-to-the-California-Aqueduct-2015.pdf

Water Quality Assessment of Non-Project Turn-ins to the California Aqueduct, 2015

Figure 3-1 Daily Inflows to the Aqueduct from Westlands Water District and Calculated Percentage-of-Aqueduct Values



	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
DAPP Pumping	18,297	66,662	110,738	150,896	175,307	190,325	127,735	70,871	31,353
Total Turn-in Volume	4,297	-	-	-	-	5,014	8,251	6,341	2,932
Average Monthly POA	26[a]	-	-	-	-	3.3[a]	6.1	8.2	8.6

Notes:
af = acre-feet, DAPP = Dos Amigos Pumping Plant, POA = percentage-of-Aqueduct
POAs of 100 percent during February and October represent days when Dos Amigos PP was inactive.
[a]Calculations for monthly POAs begins on the first day of turn-in operations.

The California Department of Fish and Wildlife (CDFW) submitted comments on the Westlands' IS/ND for the Pump-in Project dated June 22, 2020.[21] CDFW wrote that, "*Mendota Wildlife Area (MWA) is located directly adjacent to Westlands, and several groundwater wells are located either directly adjacent to the MWA or in the nearby vicinity. Some of these wells pump groundwater into the Inlet Canal, which runs along the southern boundary of the MWA and connects to the WWD via Lateral Canals 6 and 7. Although not identified as a subsidence prone area in the ND, MWA has been significantly affected by groundwater overdrafting and subsidence*." The DEA fails to provide sufficient information regarding the thresholds for overdrafting and subsidence and enforcement to enable the public and decision makers to determine whether such thresholds would be sufficient to prevent subsidence, the associated environmental impacts, and costs to other beneficial users. The Project's potentially significant direct and cumulative contributions to land subsidence require a full EIS.

With respect to water quality requirements of pumped groundwater and associated refuge water quality impacts CDFW noted for Mendota Pool, "*The primary disqualifying factor would be high salinity levels, where any well with TDS exceeding 1,000 mg/L would be disqualified. This upper limit is 20% higher than the daily mean TDS water quality objective for the MWA of 800 mg/L or less (Reclamation Water Contract Number 14-OC-200 for Refuge Water Supplies to MWA). The addition of water with TDS higher than 800 mg/L would increase the salinity of the receiving waters in the MWA.*"

CDFW recommended "*…that an analysis with thresholds of significance for aquatic species be included in the IS/ND with measures proposed to reduce any potentially significant impacts*." Reclamation

[21] See: https://ceqanet.opr.ca.gov/2020050434/2/Attachment/5CSO8N

likewise needs to conduct a full EIS analysis for this project and disclose the impact of discharging these contaminants on Refuge Water Supplies and other uses

Water Quality Standards for Selenium in the DEA are not Protective of Downstream Fish and Wildlife Beneficial Uses.

On page 13 of the DEA, Reclamation concludes that the Pump-in Project would have no effect on proposed or listed species or critical habitat under the federal ESA of 1973, as amended (16 U.S.C. §1531 et seq.), and there would be no take of birds protected under the Migratory Bird Treaty Act (16 U.S.C. §703 et seq.). Reclamation concludes that no consultation with the U.S. Fish and Wildlife Service or National Marine Fisheries Service is required. As previously noted, the DEA assumes the wellhead MCL of 2 µg/L selenium established in the 2020 WQMP will be adhered to with only vague enforcement assurances. Past data on the water quality performance of prior Westlands pump-ins draws this assumption into question. No biological data or monitoring is provided in the DEA to support such a conclusion.

Moreover, on page 7 of the DEA, it is stated that "*Reclamation will allow the introduction of water from two or more wells through one discharge point if the blended water meets the Title 22 standards*." The Title 22 selenium objective of 50 µg /L and the 20 µg /L EPA drinking-water MCL for selenium, are not protective of fish and wildlife resources that use water from the Aqueduct, which require levels less than 2 µg /L, specifically 1.5 µg /L. The blending of water from two or more wells to meet "Title 22 water quality standards" clearly is not protective of endangered species, migratory birds using the Pacific Flyway and other fish and wildlife that rely upon waters from the San Luis Canal/California Aqueduct.

On July 13, 2016 the Environmental Protection Agency (EPA) released a Final Updated Clean Water Act (CWA) section 304(a) recommended national chronic aquatic life criterion for the pollutant selenium in fresh water.[22] The final criterion supersedes EPA's 1999 CWA section 304(a) recommended national acute and chronic aquatic life criteria for selenium. The 2016 criterion reflects the latest scientific information, which indicates that selenium toxicity to aquatic life is primarily based on organisms consuming selenium-contaminated food rather than direct exposure to selenium dissolved in water. The federal register notice identified revised chronic selenium criteria in water for lentic waters (e.g., meaning of, relating to, or living in still waters, such as lakes, ponds, or swamps) and lotic waters (e.g., rivers and streams). EPA's revised chronic selenium criterion for lentic waters of a monthly mean of 1.5 µg /L is the criterion that should be applied to water in the California Aqueduct to protect fish and wildlife beneficial uses.

As noted in the DEA, both Mendota Wildlife Area and Kern National Wildlife Refuge water supplies may mix with groundwater introduced as a result of the proposed Pump-in Project, as well as downstream State Water Project reservoirs. Rare species that could be impacted by selenium from Westlands' contaminated groundwater discharges from the Pump-in Project include the federally listed as endangered Buena Vista Lake shrew, federally listed as threatened giant garter snake, and federally protected bald eagle (USFWS 2017).

[22] See: https://www.federalregister.gov/documents/2016/07/13/2016-16585/recommended-aquatic-life-ambient-water-quality-criterion-for-selenium-in-freshwater

CDFW comments on the IS/ND for the Pump-in Project noted, *"Special-status species in the Project vicinity include the State and federally threatened giant garter snake, the State threatened and federally endangered San Joaquin kit fox (Vulpes macrotis mutica), the State and federally endangered Tipton kangaroo rat (Dipodomys nitratoides nitratoides), the State and federally endangered and State fully protected blunt-nosed leopard lizard (Gambelia sila), the State threatened Swainson's hawk (Buteo swainsoni), the State threatened Nelson's antelope squirrel (Ammospermophilus nelsoni), the State threatened tricolored blackbird (Agelaius tricolor), the federally endangered and California Rare Plant Rank (CRPR) 1B.2 San Joaquin woollythreads (Monolopia congdonii), the CRPR 1B.2 Munz's tidy-tips (Layia munzii), the State candidate for listing crotch bumble bee (Bombus crotchii), and the State species of special concern American badger (Taxidea taxus), Tulare grasshopper mouse (Onychomys torridus tularensis), San Joaquin coachwhip (Masticophis flagellum ruddocki), and burrowing owl (Athene cunicularia)."*

These complex issues related to impacts on fish and wildlife beneficial uses require a full analysis of the proposed project and potential project alternatives that could better minimize environmental risks. This should be done as part of a full EIS and consultation with the CDFW and the USFWS is essential.

Water Quality Data from Previous Pump-ins is not Provided in DEA

Data on groundwater quality from participating wells from previous pump-ins is not provided in the DEA. The only groundwater data from individual wells for a Westlands previous pump-in that was available on the web was collected by the DWR in 2008.[23] Some of the wells sampled in 2008 are included in Table 1 of the DEA for the current project. Further, we received DWR Technical Memoranda Reports on the Non-Project Turn-ins to the California Aqueduct for the years 2014 2015 and 2016[24] from a Public Records Request to Westlands in July 2020.[25] That data from 2008 and 2014-16 highlights the significant variability of selenium in well water from the Westlands pump-ins and many of the samples reported were well above the MCL for selenium in the WQMP (2 µg/L).

Reclamation's San Luis Canal Non-Project Water Pump-in Program Water Quality Monitoring Plan from 2015 required that:

[23] Select Project, then WWD 2008 Pump Ins at: https://wdl.water.ca.gov/waterdatalibrary/WaterQualityDataLib.aspx

[24] (DWR) California Department of Water Resources. November 2017. Water Quality Assessment of Non-Project Turn-ins to the California Aqueduct, 2016**.** Technical Memorandum Report**,** Division of Operations and Maintenance State Water Project Operations Support Office Environmental Assessment Branch Sacramento, California, 146 pp. https://calsport.org/news/wp-content/uploads/Water-Quality-Assessment-of-Non-Project-Turn-ins-to-the-California-Aqueduct-2016.pdf See also https://calsport.org/news/wp-content/uploads/Water-Quality-Assessment-of-Non-Project-Turn-ins-to-the-California-Aqueduct-2015.pdf https://calsport.org/news/wp-content/uploads/Water-Quality-Assessment-of-Non-Project-Turn-ins-to-the-California-Aqueduct-2014.pdf

[25] https://calsport.org/news/wp-content/uploads/Canal-Integration-Program-Third-Response-Schifferle-071720.pdf

"*Westlands will provide the following information to Reclamation prior to pumping groundwater into the canal:*

> *- the location of each well, pumping rate, and point of discharge into the San Luis Canal (Appendix B);*
>
> *- complete water quality analyses (Table 5) and Table 4 for new wells and each new year of pump-ins*
>
> *- the depth to groundwater in every well before pumping into the San Luis Canal commences…*

When the Project is operating, Westlands will provide DWR and Reclamation with periodic (daily and weekly, as necessary) schedules which identify the approved source wells flow rates, locations of pump-in by Aqueduct Mile Post, and deliveries by Reach.

Westlands shall provide weekly updates identifying the current and anticipated water quality changes within the SLC by using the daily model. The goal is to provide Reclamation and the State Water Project Facilitation Group with a day-to-day prediction of downstream water quality using real-time pump-ins, real-time upstream background flows, and current background water quality data."

Inexplicably, none of this data from previous pump-ins is presented in the DEA. The DEA fails to include any prior data from previous Westlands groundwater pump-ins on water quality, quantity of groundwater pumped by each well, depth to groundwater of each well prior to pumping, or contaminant mass balance in the SLC. Data on the previous performance of the Pump-in Project is essential information missing from the DEA. It is important to estimate mass balance contaminant loading in the California Aqueduct from these discharges to ensure that discharges do not harm downstream beneficial uses and to determine the impacts from continuing the Pump-in Program. These data are also important to inform decision makers and the public with regard to the cumulative impacts of the Pump-in Project.

As emphasized for other issues as well, the DEA should be withdrawn and replaced with an EIS that includes all of this critical information and related analysis for public comment review.

Monthly Monitoring of Aqueduct Water Quality at Check 21 near Kettleman City is Insufficient to Assess Environmental Impacts of Pump-in Project

The California Department of Water Resources (DWR) conducts monthly monitoring of the California Aqueduct and has documented occurrences of elevated levels of concern for selenium at Check 21 near Kettleman City (station number KA017226), especially during times when surface water flows have been restricted in the Aqueduct and groundwater from Westlands is being pumped into the Aqueduct.[26] As denoted in Figure 1 (on the following page), monthly water quality samples at Check 21 have exceeded the US EPA's July 2016 Final Updated CWA section 304(a) recommended national chronic aquatic life

[26] Water quality data for the California Aqueduct at Check 21 near Kettleman City is available here: http://wdl.water.ca.gov/waterdatalibrary/waterquality/index.cfm

criterion for the pollutant selenium in fresh water 12 times between January 2012 and January 2020. These proposed objectives include a lentic water quality objective of 1.5 µg/L[27], which would be the applicable selenium objective for Kern National Wildlife Refuge and other wetlands and reservoirs that are fed by water from the Aqueduct. Further, the once-a-month water quality sampling is insufficient to establish a monthly mean water quality calculation, to capture contaminant spikes that accumulate downstream, or to assess potential bioaccumulation in the food chain. Refuge water delivered to the Kern National Wildlife Refuge is diverted from the California Aqueduct in Kern County near Check 29, downstream of where groundwater from the Pump-in Project is pumped into the Aqueduct. Inexplicably, DWR stopped collecting water quality data from Check 29 after November 2016.[28]

Elevated selenium in the Aqueduct is typically associated with drier water years when a larger proportion of total volume in the Aqueduct is comprised of groundwater inputs. Groundwater inputs entering into the Aqueduct (from various sources including Westlands) were 46 percent of the total volume entering the aqueduct in 2014[29], 44 percent in 2015[30], and 8.3 percent in 2016.[31]

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[27] See; https://www.federalregister.gov/documents/2016/07/13/2016-16585/recommended-aquatic-life-ambient-water-quality-criterion-for-selenium-in-freshwater

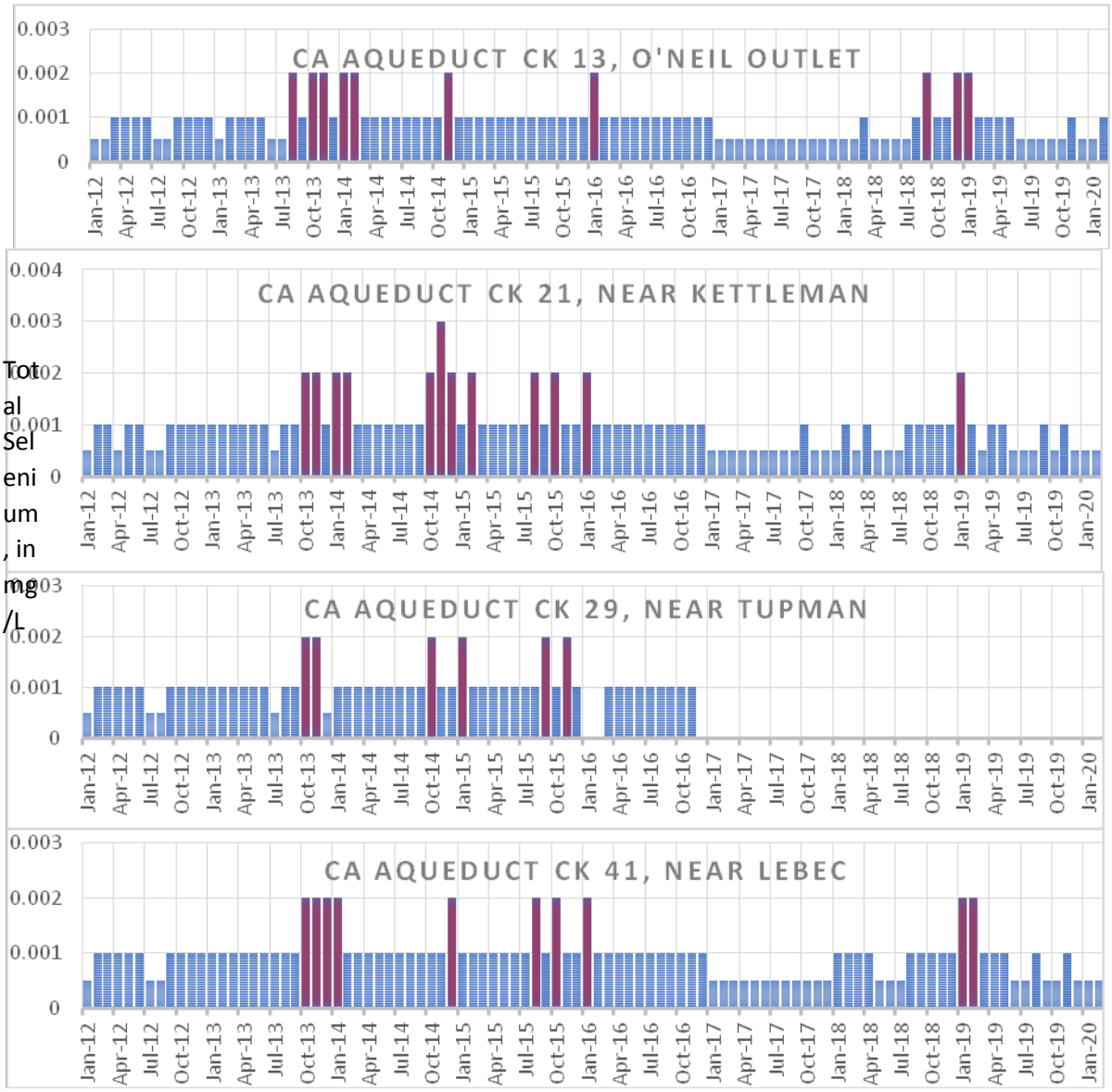
[28] Selenium & Arsenic concentrations in the California Aqueduct at Check 29, downstream of where groundwater has been pumped into the canal increased markedly in 2015 and in the case of Arsenic were approaching the Maximum Contaminant Level for drinking water of 0.010 mg/L.
See http://www.water.ca.gov/waterdatalibrary/waterquality/station_group/index.cfm

[29] See page 86 in: https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/State-Water-Project/Management/Bulletin-132/Bulletin-132/Files/Bulletin-132-15-r.pdf

[30] See page 84 in: : https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/State-Water-Project/Management/Bulletin-132/Bulletin-132/Files/Bulletin-132-16-r.pdf

[31] See page 94 in: https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/State-Water-Project/Management/Bulletin-132/Bulletin-132/Files/Bulletin-132-17-r.pdf

Figure 1. Total selenium concentrations in water samples from the California Aqueduct at Checks 13, 21, 29, and 41. Light-shaded bars at 0.0005 mg/L are non-detections, dark blue bars are detections at 0.001 mg/L, and red bars are samples that equaled or exceeded 0.002 mg/L, and exceeded the lentic water quality objective for selenium of 0.0015 mg/L (1.5 µg/L).



Warren Act Contract and Agreement Between DWR and Westlands allowing the Pump-in Project are not Included in the DEA.

The proposed Westlands 5-year Warren Act Contract (Contract) is not included with the DEA and has not been made available for public review, thus an informed decision and analysis is precluded. A copy of the current Contract is available on USBR's website and the term of this contract is through June 30, 2022.[32] Will there be changes to the contract after 2022? Further, Exhibit D to this contract, which identifies the minimum water quality standards for monitoring the quality of Non-Project Water introduced by Westlands into the SLC is not included with the Warren Act Contract. In order to accurately assess the impacts and cumulative impact of this Project, a copy of the Contract and all Exhibits for the time period being considered (2020-2025) should be disclosed and included in the environmental analysis for this Project.

Further, adding to the incomplete project description and definition of the project, apparently there exists an Agreement between DWR and Westlands for introduction and conveyance of local groundwater in the California Aqueduct that is likewise not provided for public review. We note that an Agreement between DWR and Westlands for the introduction and conveyance of groundwater into the Aqueduct was signed in 2008 (SWPAO #08052).[33] Without these documents, the public is prevented from seeing key information regarding the contractual requirements of this action. Omitting these key documents keeps the public in the dark regarding the project definition, baseline and potential contractual remedies available to downstream beneficial uses that are harmed by the degradation of water quality in the SLC/California Aqueduct.

Subsidence Impacts are not Disclosed & Monitoring Requirements are Insufficient.

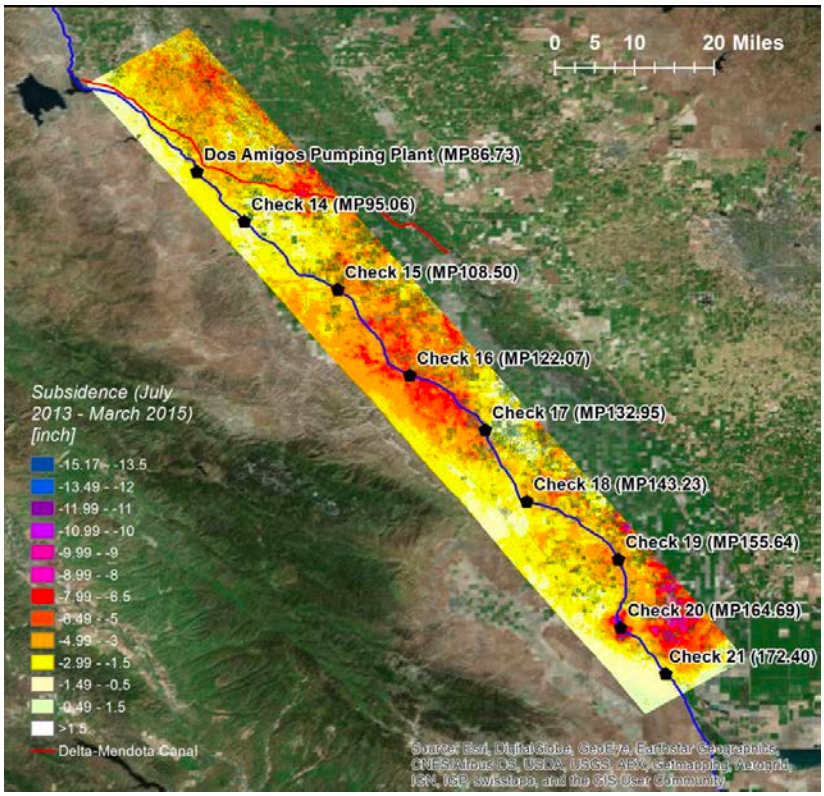
As denoted on page 16 of the DEA, "*A 2017 National Aeronautical and Space Administration (NASA) report prepared for DWR (Farr et al. 2017) documented that the two main subsidence bowls in the San Joaquin Valley (centered on Corcoran and El Nido) previously identified in 2015, had grown wider and deeper between March 2015 and September 2016 and that a third area, near Tranquillity in Fresno County also experienced intensified subsidence*."

Land subsidence is a major and growing consequence of groundwater pumping in the project area and threatens the California Aqueduct and other infrastructure. Increases in subsidence, impacts and costs to the California Aqueduct, and long-term cumulative impacts are significant. USGS recently reported, "*Extensive groundwater pumping from San Joaquin Valley aquifers is increasing the rate of land subsidence, or sinking. This large-scale and rapid subsidence has the potential to cause serious damage to the water delivery infrastructure that brings water from the north of the valley to the south where it*

[32] See: https://www.usbr.gov/mp/warren-act/docs/contract-westlands-multiyear-convey-nonproject-water.pdf

[33] The 2008 Agreement between DWR and Westlands for the introduction and conveyance of groundwater into the Aqueduct was included in Appendix A of the 2015 Final EA for the Pump-in Project. See pdf pg 19: https://www.usbr.gov/mp/nepa/includes/documentShow.php?Doc_ID=21984

helps feed thirsty cropland and cities. According to a new report by the U.S. Geological Survey the subsidence is occurring in such a way that there may be significant operational and structural challenges that need to be overcome to ensure reliable water delivery."[34] Further, DWR has been funding and working with NASA's Jet Propulsion Laboratory (JPL) to monitor subsidence in the Valley since July 2013. It uses interferometric synthetic aperture radar (InSAR) from satellites and aircraft to record the distance between the radar and the ground surface. This work has identified significant areas of subsidence in Westlands as shown in the figure below taken from DWR's 2017 California Aqueduct Subsidence Study Report.[35]



The Survey data in the DWR Subsidence Report show this section of the Aqueduct, the San Luis Canal (Los Banos to Kettleman City), has subsided the most over the years.[36] The DWR report identifies a number of significant operational impacts of subsidence to the Aqueduct including: reduction in conveyance capacity, increase in power cost, decrease in available freeboard (the difference in elevation

[34] See: http://www.usgs.gov/newsroom/article.asp?ID=3731#.VRRBAKMtHVQ

[35] See: https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Engineering-And-Construction/Files/Subsidence/Aqueduct_Subsidence_Study-Accessibility_Compatibility.pdf

[36] Ibid.

between the crest of the canal and the water level as fixed by design requirements). These effects are significant and costly to repair.

CDFW provided comments on the Westlands' IS/ND for this project on subsidence effects to MWA, "*MWA is located within the Delta-Mendota Subbasin and borders the Westside Subbasin. Both the Westside and Delta-Mendota Subbasins are designated as critically overdrafted by the California Department of Water Resources, and such overdrafting is a serious issue within the Mendota Pool area due to ongoing subsidence. Over the years, the Mendota Dam has experienced subsidence, and the California Department of Water Resources, Division of Safety of Dams has required the water level to be lowered due to the subsequent compromised integrity of the dam. The lowered water level at the dam has resulted in lower water levels to the gravity flow and lift pump inlets at the MWA. The northernmost gravity flow inlet receives no water, causing loss of trees and habitat along the northern edge of the wildlife area. The lift stations no longer pump efficiently because the inlets are not fully covered with water, allowing air to be pulled into the pumps and decreasing water flows. Decreased water flow results in MWA operating its pumps for longer periods, increases the electricity cost and personnel cost to monitor and maintain the pumps, and increases wear and tear on the pumps.*

Continued subsidence affects the ability of CDFW to operate the MWA according to its management objectives, and other areas where water is no longer delivered by gravity could increasingly lose associated wetland and riparian habitat features. Subsidence is irreversible and damage to surface water conveyance features caused by subsidence can only be mitigated by removal of damaged infrastructure and replacement, or re- engineering and reconstruction of infrastructure to allow surface water to flow at an acceptable level.[37]"

These impacts are not disclosed in the DEA. It is encouraging to see that the 2020 WQMP includes groundwater level monitoring and shutoff triggers. But neither the DEA nor the WQMP identify rates of pumping or quantities of water that could be safely pumped from the areas of high subsidence while staying within these generous thresholds. And while the DEA indicates that the subsidence rate will be monitored during the implementation of the Pump-in Project, it provides no clear plan for what happens when monitoring reveals excessive subsidence. The impacts of this action are complex, broad and far reaching, and need to be considered in a full EIS analysis. Consistent with recommendations from CDFW on the Project, a full EIS should evaluate all areas that would be affected by increased subsidence, including the MWA, and develop a plan to offset losses of wetland and riparian vegetation communities caused by changes in hydrology associated with subsidence caused by Project pumping. CDFW recommended that the plan address mitigation for impacted habitat value and function, to achieve a minimum no net loss of these habitats, consistent with California Fish and Game Commission policy on Wetlands Resources.

[37] See: https://ceqanet.opr.ca.gov/2020050434/2/Attachment/5CSO8N

Compliance with Clean Water Act is Absent.

As the USEPA (EPA) noted in scoping comments submitted for the Westlands groundwater pump-ins in 2010, the proposed discharge of contaminated groundwater from Westlands with potentially high salt, boron, chromium, arsenic, selenium and other metals would be subject to the National Pollution Discharged Elimination System (NPDES) permitting requirements pursuant to the federal Clean Water Act. Further EPA noted, "*Permits will need to be designed to ensure the discharges do not cause or contribute to exceedences of applicable State water quality standards or degradation of designated beneficial uses.*" [38]

The Clean Water Act prohibits the discharge of "pollutants" through a "point source" into a "water of the United States" unless they have an NPDES permit. Such a permit would contain limits on what can be discharged, monitoring and reporting requirements, and other provisions to ensure that the discharge does not harm water quality or human health. The term point source is also defined very broadly in the Clean Water Act. It means any discernible, confined and discrete conveyance, such as a pipe, ditch, channel, tunnel, conduit, discrete fissure, or container.[39]

No compliance with the federal Clean Water Act is provided in the DEA. Thus, the public is precluded from analyzing the permit and conditions to ensure protection and non-degradation of water supplies under the NPDES permit and potential mitigation measures. As we have noted above, groundwater from almost half of the wells included in Table 1 of the DEA have been reported in past monitoring reports to contain elevated concentrations of various metals and constituents such as selenium that can bioaccumulate in the food chain thus have amplifying the impacts on the environment (DWR 2016, 2017).[40]

Cumulative Impacts

Cumulative impacts from these discharges and potential exchanges are not disclosed or analyzed. We adopt by reference our comments from previous exchanges and transfers and previous scoping

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[38] See: http://calsport.org/news/wp-content/uploads/EPA-comments-Westlands-WD-EIR-NOP-3-4-10.pdf

[39] See: https://www.epa.gov/npdes/npdes-permit-basics

[40] DWR Groundwater Data from WWD 2008 Pump Ins at:
https://wdl.water.ca.gov/waterdatalibrary/WaterQualityDataLib.aspx
And the following DWR Groundwater Data from WWD Pump-ins:
https://calsport.org/news/wp-content/uploads/Water-Quality-Assessment-of-Non-Project-Turn-ins-to-the-California-Aqueduct-2016.pdf

https://calsport.org/news/wp-content/uploads/Water-Quality-Assessment-of-Non-Project-Turn-ins-to-the-California-Aqueduct-2014.pdf

https://calsport.org/news/wp-content/uploads/Water-Quality-Assessment-of-Non-Project-Turn-ins-to-the-California-Aqueduct-2015.pdf

comments.[41] In addition to the continued extraction of water from already over-drafted groundwater basins, the impacts from discharging this groundwater to the SLC for irrigation of Westlands's toxic soils and exacerbating an existing subsurface agricultural drainage problem on the west-side of the San Joaquin Valley are not disclosed nor mitigated. Selenium found in groundwater and drainage water in Westlands is known to create life threatening impacts to migratory birds, wildlife and fish, magnifying up the food chain as these pollutants accumulate. These impacts are merely brushed aside. No data from previous pump-ins is provided to support Reclamation's conclusions of no impact in the DEA. No alternatives are considered. Finally, there is insufficient analysis of the cumulative impact of discharging these contaminants into drinking water, wildlife refuge supplies, or downstream fish and wildlife beneficial uses.

Data from previous pump-ins is not provided in the DEA. The only groundwater data from individual wells for a previous Westlands groundwater pump-in that was available on the web was collected by the DWR in 2008.[42] Further, we received DWR Technical Memoranda Reports on the Non-Project Turn-ins to the California Aqueduct for the years 2014[43], 2015[44] and 2016[45] from a Public Records Request to

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[41] See comments provided http://www.usbr.gov/mp/nepa/documentShow.cfm?Doc_ID=14341
"Resnicks'Westside Mutual Water District member lands in Westlands Water District to the AEWSD service area and Westside Exchange Program are not disclosed nor analyzed. Nor are the impacts to Madera County from the potential groundwater transfers likely contemplated under the proposed action. The existing Exchange Program involves delivery of Arvin's supplies to Westside member lands as exchange water, based on a 1 for 1 or "bucket for bucket" basis, up to 50,000 acre-feet (AF)."

See 30,000 acre-feet of groundwater proposed to be transferred to Westlands et. al. from the Mendota Pool http://www.usbr.gov/newsroom/newsrelease/detail.cfm?RecordID=49107

See also North Valley Regional Recycled Water Program-- http://www.nvrrecycledwater.org/description.asp *The NVRRWP could produce and deliver up to 32,900 acre-feet per year of tertiary-treated recycled water to the drought-impacted west side. This water can be used to irrigate food crops, public and privately-owned landscaping, and for industrial uses. This basin transfer would alter San Joaquin River Flows and flows to refuges, and the South Delta Bay Estuary. The project would deliver up to 59,000 acre-feet per year (AFY) of recycled water produced by the cities of Modesto and Turlock via the Delta-Mendota Canal (DMC), a feature of the Central Valley Project owned by Reclamation. Instead of discharging fresh treated water into the San Joaquin River, recycled water would be conveyed from Modesto and Turlock through pipelines from their wastewater treatment facilities, crossing the San Joaquin River, ending at the DMC.*

[42] Select Project, then WWD 2008 Pump Ins at:
https://wdl.water.ca.gov/waterdatalibrary/WaterQualityDataLib.aspx

[43] (DWR) California Department of Water Resources. October 2015. Water Quality Assessment of Non-Project Turn-ins to the California Aqueduct, 2014. Technical Memorandum Report. Division of Operations and Maintenance State Water Project Operations Support Office Environmental Assessment Branch Sacramento, California, 140 pp.
https://calsport.org/news/wp-content/uploads/Water-Quality-Assessment-of-Non-Project-Turn-ins-to-the-California-Aqueduct-2014.pdf

[44] (DWR) California Department of Water Resources. December 2016. Water Quality Assessment of Non-Project Turn-ins to the California Aqueduct, 2015. Technical Memorandum Report. Division of Operations and Maintenance State Water Project Operations Support Office Environmental Assessment Branch Sacramento, California, 172 pp. https://calsport.org/news/wp-content/uploads/Water-Quality-Assessment-of-Non-Project-Turn-ins-to-the-California-Aqueduct-2015.pdf

Westlands in July 2020.[46] The DEA should include this prior data, and any other relevant data on wellhead water quality, flows from each well, percent of Aqueduct comprised of Westlands pump-ins, water quality summary of Checks 13 and 21 in the Aqueduct, and mass balance modelling to assess the influence of the pump-ins on SLC water quality and effects to downstream beneficial uses.

Previous ground water pump-ins by Westlands can provide critical insights to the operation and impacts of the proposed Project. The DWR first adopted specific operating criteria for access to the California Aqueduct in 1990. The program was renewed yearly through 1994. Pump-ins from Westlands water users into the SLC were approximately 9,600 acre-feet (AF) in 1990; 72,000 AF in 1991; 97,000 AF in 1992; 12,400 AF in 1993; and 84,500 AF in 1994. However, in 1995, the integration of groundwater into the SLC was suspended because of concerns by DWR and other agencies that groundwater could degrade the water quality in the SLC.[47] No biological monitoring has been required to assess the long-term impacts from these pump-in projects.

Additionally, we refer Reclamation to the CDFW recommendations on the IS/ND[48] for this project with respect to cumulative effects, "…*lowered water quality and increased salt loading could potentially impact sensitive aquatic species such as the giant garter snake, and affect habitats for sensitive status species, especially in the context of other existing and pending projects affecting water quality and ground subsidence of Mendota Pool, the MWA, and surrounding areas. CDFW recommends that the cumulative impacts analysis include the effects to special status species from this Project and other current and foreseeable projects*."

More Robust Monitoring Program & Enforcement Are Needed.

To protect downstream beneficial uses, we recommend the following be incorporated into a revised WQMP for the Pump-in Project:

- Well water should not be conveyed into the Aqueduct until it has been confirmed that the well water does not exceed the selenium wellhead standard of 2 µg/L (from Table 4 of the WQMP);
- Weekly monitoring of wells (while pumps are running) that have had at least one water quality sample above 2 µg/L selenium during the 2015 and 2016 pump-ins;

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[45] (DWR) California Department of Water Resources. November 2017. Water Quality Assessment of Non-Project Turn-ins to the California Aqueduct, 2016. Division of Operations and Maintenance State Water Project Operations Support Office Environmental Assessment Branch Sacramento, California, 146 pp. https://calsport.org/news/wp-content/uploads/Water-Quality-Assessment-of-Non-Project-Turn-ins-to-the-California-Aqueduct-2016.pdf

[46] https://calsport.org/news/wp-content/uploads/Canal-Integration-Program-Third-Response-Schifferle-071720.pdf

[47] From page 3 of IS/ND for Westlands Pump-in Project 2020: https://ceqanet.opr.ca.gov/2020050434/2/Attachment/764QUt

[48] See: https://ceqanet.opr.ca.gov/2020050434/2/Attachment/5CSO8N

- Weekly water quality sampling for selenium at Check 21 of the California Aqueduct while Westlands is pumping groundwater into the Aqueduct;
- The selenium objective for the California Aqueduct should be 1.5 µg/L to be protective of downstream beneficial uses associated with the Aqueduct and Mendota Pool;
- Well water pumped into the Mendota Pool should not exceed 800 mg/L TDS to protect Mendota Wildlife Area water quality;
- Weekly water monitoring of wells and the Aqueduct at Check 21 should require rapid turnaround so results are received within 7 days and can be responsive to current and changing conditions.
- Well water from Westlands should not be pumped into the Aqueduct if Dos Amigos Pumping Plant is not operating.
- There needs to be an established protocol dictating required actions and enforcement when water quality standards are exceeded at individual wells or in the aqueduct and related conveyance canals.

Conclusion

The DEA does not adequately assess the potentially significant environmental impacts from the Westlands Pump-in Project. In addition, there are reasonably available alternatives that have not been considered and should be analyzed in order to reduce the potentially significant environmental impacts. Absent from the document is any assessment of the cumulative impacts, including third party impacts and impacts to fish, wildlife and water quality. Required permits and compliance with the Clean Water Act to allow discharge of contaminants into the waters of the State and Nation have not been provided; nor have necessary consultations with federal and state wildlife agencies concerning potential endangered and threatened species impacts. The Warren Act Contract and associated Contract Exhibits and Agreement between Westlands and DWR governing the full discharge into the Aqueduct from 2020-2025 is absent and therefore could not be reviewed.

Prior to commencing with the proposed project, which has in the past and likely will continue to harm downstream uses, a complete EIS is required that includes, among other things, a revised Water Quality Monitoring Plan to ensure waters of the State and Nation are not degraded, compilation and analysis of prior groundwater water quality data, flow rates and quantities pumped from participating wells from previous pump-ins, a mass-balance model for selenium in the Aqueduct, the Warren Act Contract and Exhibits, the Agreement between DWR and Westlands, documentation of Clean Water Act permit compliance, and full analysis of alternatives and cumulative impacts. This information should be included in the EIS that replaces the EA. We object to the adoption of a FONSI for this project, and the proposed 25-year authorization for all the discharge points in Table 1 of the DEA because they are not supported by data from past groundwater pump-ins into the Aqueduct from Westlands. Lastly, the conveyance period for the Pump-in Project in 2020 should not commence prior to the completion of the appropriate NEPA and CEQA decision documents.

Thank you for the opportunity to comment. Please add our names to Reclamation's electronic notification lists for environmental documents regarding water supplies or contracts or conveyance.

Sincerely,

Jonas Minton
Senior Water Policy Advisor
Planning and Conservation League
jminton@pcl.org

John Buse
Senior Counsel, Legal Director
Center for Biological Diversity
mailto:jbuse@biologicaldiversity.org

Bill Jennings
Executive Director
California Sportfishing Protection Alliance
deltakeep@me.com

Kathryn Phillips
Director
Sierra Club California
kathryn.phillips@sierraclub.org

Lloyd G. Carter
President, Board of Directors
California Save Our Streams Council
lcarter0i@comcast.net

Barbara Vlamis
Executive Director
AquAlliance
barbarav@aqualliance.net

Carolee Krieger
Executive Director
California Water Impact Network
caroleekrieger7@gmail.com

Ron Stork
Senior Policy Advocate
Friends of the River
rstork@friendsoftheriver.org

Frank Egger
President
North Coast Rivers Alliance
fegger@pacbell.net

Mike Conroy
Executive Director
Pacific Coast Federation of Fishermen's Asso.
mike@ifrfish.org

Conner Everts
Executive Director
Environmental Water Caucus
Southern California Watershed Alliance
Environmental Water Caucus
connere@gmail.com

Tom Stokely
Director
Save California Salmon
tgstoked@gmail.com

Pietro Parravano
President
Institute for Fisheries Resources
pietro15@comcast.net

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(DWR) California Department of Water Resources. December 2016. Water Quality Assessment of Non-Project Turn-ins to the California Aqueduct, 2015. Technical Memorandum Report**,** Division of Operations and Maintenance State Water Project Operations Support Office Environmental Assessment Branch Sacramento, California, 172 pp.

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(DWR) California Department of Water Resources. 2008. Fishing Along the SWP. Brochure. DWR, Sacramento, 9 pp.

(USFWS) U.S. Fish and Wildlife Service. October 2017. Species at Risk from Selenium Exposure in California Inland Surface Waters, Enclosed Bays and Estuaries, Final Report to the U. S. Environmental Protection Agency Inter-Agency Agreement No. DW-14-95825001-0. USFWS, Sacramento, CA, 156 pp.

Appendix A. Proposed Discharge and Well Locations from the DEA that have exceeded MCLs for As, Se or TDS in previous years of pump-ins.

Table 1. Proposed Discharge and Well Locations from the DEA that have exceeded MCLs for As, Se or TDS.[49]

SLC Milepost Discharge Location	State Well ID(s)	# of samples exceeding MCL for As[50] and (range of As reported)	# of samples exceeding MCL for Se[51] and (range of Se reported)	# of samples exceeding MCL for TDS[52] and (range of TDS reported)
105.20L	141202R02	0	1 (4 µg/L)	1 (1290 mg/L)
115.43L, Lateral 7	151509R03,151509R04 151509R05,151503A02 151504A03,151503H01	2 (10.2-11.8 µg/L)	0	8 (1010-1390 mg/L)
117.52L	151419F01	0	12 (3.4-5.8 µg/L)	1 (1300 mg/L)
127.40L	161521N03[53]	0	2 (2.8-3.9 µg/L)	0
128.49R	171413A01[54]	0	6 (8.4-22 µg/L)	0
128.50L	161533J01[55]	0	12 (4.2-6 µg/L)	0
128.54L	161532A06	0	6 (3-6.5 µg/L)	1 (1400 mg/L)
130.81R	171510M01	0	3 (2.1-2.5 µg/L)	0
133.80L	171601N03	0	2 (2.1-2.2 µg/L)	0
137.31L	181606F01	0	1 (3 µg/L)	1 (1200 mg/L)
139.40L	181609R01	0	1 (3 µg/L)	0
140.55LA	181617R02	0	0	1 (1040 mg/L)
142.58R	181629N02	0	1 (12 µg/L)	1 (1230 mg/L)
143.00L	181627N01	0	1 (7 µg/L)	1 (1070 mg/L)
152.75L	191723R01	0	0	2 (1014-1100 mg/L)
155.15L	191831N01	0	1 (2.1 µg/L)	0
156.36R	201714K01 201712H01	0 0	8 (2.1-7.4 µg/L) 2 (2.5-2.9 µg/L)	1 (1200 mg/L) 0

[49] Data Sources: DWR 2008, 2016, 2017. Locations/wells identified in blue were marked as new facilities in DEA.
[50] MCL for As is 10 µg/L from page 13 of 2020 WQMP, Table 5 Water Quality Standards Short List.
[51] MCL for Se is 2 µg/L from page 13 of 2020 WQMP, Table 5 Water Quality Standards Short List.
[52] MCL for TDS is 1000 mg/L from page 13 of 2020 WQMP, Table 5 Water Quality Standards Short List.
[53] Samples from adjacent State Well ID 161521N02.
[54] Samples from adjacent State Well ID 171413A06.
[55] Samples from adjacent State Well ID 161533J02.

156.37LA	201806Q01[56]	3 (12-13 µg/L)	5 (2.8-4.7 µg/L)	0
157.98L	201817G01	0	9 (2.4-3.2 µg/L)	0
158.95L	201820E01	0	1 (2.6 µg/L)	0
159.98R	201831C01	0	5 (2.3-2.6 µg/L)	0
161.49L	**201831Q01**	0	8 (5.3-11 µg/L)	0
161.60L	211805C01 211809D02	0 0	6 (2.3-5.4 µg/L) 1 (7 µg/L)	0 0
162.08L	211805C01 211805M01	0 0	6 (2.3-5.4 µg/L) 8 (5.2-7.5 µg/L)	0 0
162.10R	211806G01	0	2 (17-18 µg/L)	0
162.64L	211809L01	0	1 (7 µg/L)	0
164.11R	211818G03	0	6 (14-19 µg/L)	0
164.55L-A	211817N03 211816N01	0 0	7 (10-12 µg/L) 7 (2.9-5.1 µg/L)	0 0
164.63R	211818G03	0	6 (14-19 µg/L)	0
164.95R	211833G01	0	8 (3-12 µg/L)	0
166.70R	**211828G06**	0	4 (3.9-4.6 µg/L)	1 (1200 mg/L)
166.90R	211827K02	0	6 (3.7-5.6 µg/L)	0
167.04L, Lateral 37	211823D06	0	1 (3 µg/L)	0
167.86R	211833N02 211833G01	2 (11 µg/L) 0	0 8 (3-12 µg/L)	0 0

Data Sources:

(DWR) California Department of Water Resources. November 2017. Water Quality Assessment of Non-Project Turn-ins to the California Aqueduct, 2016**.** Technical Memorandum Report**,** Division of

[56] Samples from adjacent State Well ID 201806Q02.

Operations and Maintenance State Water Project Operations Support Office Environmental Assessment Branch Sacramento, California, 146 pp.

(DWR) California Department of Water Resources. December 2016. Water Quality Assessment of Non-Project Turn-ins to the California Aqueduct, 2015. Division of Operations and Maintenance State Water Project Operations Support Office Environmental Assessment Branch Sacramento, California, 172 pp.

(DWR) California Department of Water Resources. 2008. DWR Groundwater Data from WWD 2008 Pump Ins project at: https://wdl.water.ca.gov/waterdatalibrary/WaterQualityDataLib.aspx