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BEFORE THE STATE WATER RESOURCES CONTROL BOARD

*In the Matter of Review of Waste Discharge
Requirements General Order No. R5-2012-0116
For Growers Within the Eastern San Joaquin
River Watershed That Are Members of the Third-
Party Group*

SWRCB/OCC File Nos. A-2239(a)-(c)

EAST SAN JOAQUIN WATER
QUALITY COALITION'S RESPONSE
TO STATE WATER RESOURCES
CONTROL BOARD'S SECOND DRAFT
ORDER

On October 10, 2017, the State Water Resources Control Board (State Board) released a second staff-proposed order (Second Draft Order) in the matter of *Own Motion Review of Waste Discharge Requirements General Order No. R5-2012-0116¹ for Growers within the Eastern San Joaquin River Watershed that are Members of the Third-Party Group, Central Valley Regional Water Quality Control Board*. The Second Draft Order and Draft Appendix A were developed in response to (1) petitions (Asociación de Gente unida por el Agua (AGUA), Fairmead Community and Friends, and Planada en Accion Petition for Review (Petition)) filed by various parties including Asociación de Gente unida por el Agua, the California Sportfishing Protection Alliance

¹ General Order No. R5-2012-0116 as adopted by the Central Valley Water Board will be referred to hereafter as the "ESJ General Order." The State Board's Second Draft Order consists of two parts: (1) the draft order, which consists of the State Board's proposed written order; and, (2) Appendix A: Modified Eastern San Joaquin Agricultural General WDRs [Second Staff-Proposed Draft Order Released October 10, 2017], which consists of proposed changes to the ESJ General Order as adopted by the Central Valley Water Board. For the sake of clarity, we will refer to the second staff-proposed order as the "Second Draft Order" and staff-proposed changes to the ESJ General Order as "Draft Appendix A." All citations to the Second Draft Order are to the redline version.

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1 (CSPA), and a joint petition filed by the San Joaquin County Resource Conservation District,
2 California Farm Bureau Federation and Southern San Joaquin Water Quality Coalition
3 (collectively "Agricultural Petitioners"), and (2) the State Board's action to take the matter up on
4 Own Motion Review.²

5 The East San Joaquin Water Quality Coalition (ESJ Coalition) is the third party approved
6 by the Central Valley Regional Water Quality Control Board (Central Valley Water Board) to
7 assist in administering the requirements set forth in the General Order, and as such, is the real
8 party in interest on behalf of its more than 3,400 members. The ESJ Coalition was formed in
9 2003 to assist in administering the surface water program, and was approved to be the third-party
10 under the General Order on January 11, 2013. The ESJ Coalition boundaries extend from the
11 crest of the Sierra Nevada mountain range to the east, the Stanislaus River Watershed to the
12 north, the San Joaquin River to the west, and the San Joaquin River Basin boundary to the south.
13 Just over 700,000 acres of irrigated farmland located in Madera, Merced, Stanislaus, Tuolumne
14 and Mariposa counties are covered under the General Order, and 3,416 landowner/operators
15 receive assistance from the ESJ Coalition to meet the requirements contained therein.

16 On behalf of its 3,416 members, the ESJ Coalition submits the attached response to the
17 Second Draft Order and Draft Appendix A. Also attached is a word version of the Second Draft
18 Order with comments and recommended changes provided in track change mode.

20 SOMACH SIMMONS & DUNN
21 A Professional Corporation

22
23 DATED: December 22, 2017

24 By: 
25 Theresa A. Dunham
26 Attorneys for Real Party in Interest East San
27 Joaquin Water Quality Coalition

28 ² See Wat. Code, § 13320(a) and title 23, section 2050.5(c).

1 **I. INTRODUCTION**

2 Over the last 14 years, the East San Joaquin Water Quality Coalition (ESJ Coalition) has
3 worked tirelessly to assist its irrigated agricultural landowner/operators with 705,490 acres –
4 currently 3,416 members – to comply with water quality requirements adopted by the Central
5 Valley Regional Water Quality Control Board (Central Valley Water Board). For the first 9 to 10
6 years, the ESJ Coalition focused on working with its members to improve surface water quality
7 within the coalition boundary areas, and to comply with what was then referred to as the
8 Conditional Waiver for Irrigated Agriculture. These intensive surface water-related efforts,
9 which included monitoring, coalition-wide outreach and individual grower contact to assess
10 management practices, have resulted in significant water quality improvements in area surface
11 waters.

12 Beginning in early 2013, after adoption of the Waste Discharge Requirements General
13 Order for Growers within the Eastern San Joaquin River Watershed that are Members of the
14 Third Party Group (Order R5-2012-0116) (referred to hereafter as “ESJ General Order”)³, the ESJ
15 Coalition greatly expanded its efforts to address member impacts to groundwaters within the
16 coalition’s boundaries. For example, in compliance with the ESJ General Order, the ESJ
17 Coalition has prepared a comprehensive Groundwater Assessment Report and Groundwater
18 Quality Management Plan, and has conducted extensive outreach to its members on issues related
19 to groundwater quality in the region. The ESJ Coalition has also, in cooperation with other third
20 parties approved by the Central Valley Water Board (referred to hereinafter as “third parties” or
21 “coalitions”), developed a Farm Evaluation template, Sediment and Erosion Control Plan
22 template, nitrogen management plan and nitrogen summary reporting templates, and recently
23 submitted a Management Practices Evaluation Program Workplan. The ESJ Coalition has also
24 collected and aggregated over three years of Farm Evaluation data and information, and prepared
25 and submitted two annual Nitrogen Summary Reports.

26
27 ³ Order No. R5-2012-0116 has been amended several times since its original adoption on December 7, 2012. The
28 term “ESJ General Order” as used here refers to the original order and all of its subsequent amendments. All
references and citations to the ESJ General Order are to Order R5-2012-0116-R3, which is the final amended version.

1 Although challenging, the ESJ Coalition has worked tirelessly to implement the General
2 Order as adopted, and has worked closely with the Central Valley Water Board and others to
3 adjust the program as determined appropriate based on lessons learned over the past 13 years.
4 Further, the ESJ Coalition is an active participant in the Central Valley Salinity Alternatives
5 Long-Term Sustainability (CV-SALTS) initiative. Through CV-SALTS, the ESJ Coalition has
6 worked cooperatively with the Central Valley Water Board, representatives from the
7 Environmental Justice community, municipalities, others in agriculture, and many other
8 stakeholders to develop a valley-wide Salt and Nitrate Management Plan (SNMP). The Central
9 Valley SNMP was submitted to the Central Valley Water Board in January of 2017, and
10 amendments to incorporate portions of the SNMP into the Central Valley's Water Quality Control
11 Plans are in progress.

12 Further, since June of 2016, representatives for the ESJ Coalition have participated in
13 extensive discussions with representatives from the Environment Justice community. Based on
14 these ongoing discussions, consensus was reached among those participating in the discussions on
15 several key issues, including field level reporting, protection of grower identification,
16 vulnerability designations, and groundwater protection targets. A summary of these agreements,
17 and how such agreements impact the Second Draft Order are discussed in Section II.

18 Overall, the ESJ Coalition appreciates the changes made between the first staff-proposed
19 order and the Second Draft Order. However, not all of the consensus agreement points have been
20 captured accurately in the Second Draft Order. To address those concerns, ESJ Coalition
21 provides comments and makes suggested revisions to the Second Draft Order. (See ESJ
22 Revisions to the Second Draft Order attached hereto as Attachment 1.) The ESJ Coalition also
23 joins the San Joaquin County and Delta Coalition in its proposed changes to Draft Appendix A.
24 Further, some portions of the Second Draft Order need additional clarification, and ESJ Coalition
25 provides suggested edits to certain portions of the Second Draft Order for this purpose.

26 For the ESJ Coalition, the most significant remaining concerns pertain to characterization
27 of the Surface Water Monitoring program and timelines for implementation. The ESJ Coalition
28 disagrees with statements in the Second Draft Order that suggest that the surface water

1 monitoring program is not sufficient. Contrary to such statements, there is significant and
2 substantial evidence in the record to support the efficacy of the surface water monitoring
3 program. Conversely, the Second Draft Order fails to support its findings by citing to no
4 evidence in the record that would otherwise show that the surface water monitoring program does
5 not meet its intended purposes. With respect to timelines for implementation, this can easily be
6 resolved without unduly delaying implementation of key new provisions of the Second Draft
7 Order.

8 **II. SUMMARY OF CONSENSUS POINTS BETWEEN ENVIRONMENTAL** 9 **JUSTICE AND AGRICULTURAL COALITION REPRESENTATIVES**

10 As conveyed during the course of several meetings with State Board member D'Adamo,
11 State Board staff, and representatives from the Environmental Justice community and certain
12 agricultural coalition representatives, draft points of agreement (referred to hereafter as "Points of
13 Agreement") were reached on several key issues that pertain directly to the State Board's review
14 of the ESJ General Order.⁴ Most importantly, the Points of Agreement came to the State Board as
15 a package. In other words, e.g., the ESJ Coalition is willing to agree to field-level and location-
16 specific reporting as long as grower names and farm locations remain anonymous. Should the
17 State Board remove the anonymous protections, the ESJ Coalition would not support field-level
18 reporting to the Central Valley Water Board. Many of these Points of Agreement have been
19 incorporated into the Second Draft Order. However, a few of the points of agreement were either
20 not captured, or not captured accurately. Thus, to maintain the integrity of the agreement reached
21 amongst the participants to these discussions, additional revisions to the Second Draft Order and
22 Draft Appendix A are necessary. These additional revisions are summarized here.

23
24 ⁴ As noted on the Draft Points of Agreement that was submitted and noticed with the May 2, 2017 Ex Parte
25 notification filing, the representatives involved in these discussions did not presume to speak for other Environmental
26 Justice or agricultural entities that were *not* part of the discussions. (See, Draft Points of Agreement, footnote 1,
27 ["The items identified were reached through joint discussions with multiple irrigated agricultural coalitions as well as
28 Environmental Justice representatives. The items represented are not intended to imply that all agricultural coalitions
and/or agricultural entities support the agreements in whole or part contained in this table, nor does it mean that all
environmental justice organizations support the agreements in whole or part. Moreover, the discussions represented
here are not meant to apply to the General Order for Rice Growers in the Sacramento Valley as the Rice General
Order is unique in its applicability to its members."].)

1 reviewed the surface water monitoring framework. (Second Draft Order, p. 58.) However, actual
2 review of data and information regarding evolution of ESJ's surface water program over time
3 shows exactly how and why ESJ's surface water monitoring program is robust and consistent
4 with state policy, including the State's Nonpoint Source Policy.

5 In light of the Second Draft Order's criticisms and findings, the ESJ Coalition engaged a
6 national expert in surface water field and modeling studies to review the efficacy of the ESJ
7 surface water monitoring with regard to temporal and spatial sampling density, ability to capture
8 exceedances of water quality trigger limits, and ability to provide data to evaluate the
9 effectiveness of the management actions and implementation measures. (See ESJ Coalition's
10 Request for Supplemental Evidence, Exhibit 1, submitted December 22, 2017 (Exhibit 1).) This
11 expert, Dr. Susan Paulsen with E^xponent, along with her colleague Melanie Edwards, an
12 accredited statistician, reviewed the ESJ's existing surface water monitoring program and data
13 gathered by the Coalition since 2004. In summary, their review finds as follows:

- 14 • Core and represented monitoring sites within the six zones delineated by the
15 Coalition provide sufficient spatial coverage.
- 16 • The monitoring program has produced data that identify changes in water quality
17 over time. These data confirm that management practices on irrigated lands have
18 improved water quality.
- 19 • Naturally occurring constituents and those constituents with multiple sources show
20 higher variability than constituents that originate primarily from agricultural
21 sources. Data gathered by the monitoring program indicate that non-agricultural
22 sources are likely important causes of water quality exceedances.
- 23 • The Coalition's monitoring program uses a structured framework to incorporate
24 data on chemical use, relative risk, exposure, and chemical behavior in the
25 environment in order to tailor monitoring and implementation measures and to
26 maximize the likelihood that water quality problems will be identified.'

27 (See, Exhibit 1, p. xi.)
28

1 Further, the ESJ monitoring program clearly meets the mandates of the state's Nonpoint
2 Source Policy. As noted in the Second Draft Order, "[t]he Nonpoint Source Policy does not
3 require any particular framework and does not necessarily even require comprehensive ambient
4 monitoring. But the nonpoint source implementation program must 'include sufficient feedback
5 mechanisms so that the [regional water board], dischargers, and the public can determine whether
6 the program is achieving its stated purposes(s), or whether additional or different [management
7 practices] or other actions are required.'" (Second Draft Order, p. 58.) Contrary to the statement
8 in the Second Draft Order that "[t]he representative monitoring of the General WDRs does not
9 appear to meet that mandate[]", the ESJ surface water monitoring program is clearly designed and
10 implemented in a manner that meets the mandate. Specifically, the monitoring program is
11 designed to answer six questions that are included in the ESJ General Order:

12 1. Are receiving waters to which irrigated lands discharge meeting applicable water
13 quality objectives and Basin Plan provisions?

14 2. Are irrigated agricultural operations causing or contributing to identified water
15 quality problems?⁵ If so, what are the specific factors or practices causing or contributing to the
16 identified problems?

17 3. Are water quality conditions changing over time (e.g., degrading or improving as
18 new management practices are implemented)?

19 4. Are irrigated agricultural operations of Members in compliance with the
20 provisions of the Order?

21 5. Are implemented management practices effective in meeting applicable receiving
22 water limitations?

23 6. Are the applicable surface water quality management plans effective in addressing
24 identified water quality problems?

25 (See Draft Appendix A, Attachment A, p. 11.) A monitoring program that answers these
26 questions meets the intents and purposes of the Nonpoint Source Policy and by definition

27 _____
28 ⁵ Defined in Attachment E to the ESJ General Order as: "Exceedance of an applicable water quality objective or a trend of degradation that may threaten applicable Basin Plan beneficial uses."

1 includes sufficient feedback mechanisms. The ESJ surface water monitoring program does
2 answer these questions. (See, e.g., Exhibit 1, pp. 23-67.) Moreover, each year in its Annual
3 Monitoring Report (AMR), the ESJ Coalition addresses these questions in detail. Notably, to
4 date the Central Valley Water Board has approved the ESJ Coalition's AMRs every year without
5 comment on these questions – meaning that the surface water monitoring design is appropriate to
6 provide sufficient feedback to the Central Valley Water Board to determine if the program is
7 achieving its stated purpose(s), or if other actions are required.

8 **A. Summary of ESJ Surface Water Monitoring Program.**

9 **1. Establishment of Six Zones.**

10 The ESJ Coalition area is divided into six zones to focus monitoring efforts. Zones were
11 delineated using a statistical procedure (hierarchical cluster analysis) using several variables
12 including soils, climate, and cropping. The agricultural land within zones has very homogeneous
13 cropping leading to very similar grower behavior, similar pest outbreaks, and similar applications.

14 **2. Monitoring Site Selection.**

15 With respect to monitoring site selection, each zone contains two core sites⁶ and several
16 represented sites. To select core and represented sites, all waterbodies within the zone were
17 identified as candidates for monitoring. No surface waters were eliminated from consideration
18 including irrigation district conveyance canals. These canals only rarely contain discharge from
19 fields, but could receive spray drift from adjacent fields, and as a result, all conveyance canals
20 were considered as candidates for monitoring. All sites were evaluated based on the following
21 factors:

- 22
- 23 • Driving access – all sites must be reachable by passable road because monitoring involves
24 the use of a significant amount of equipment and significant weight in sample bottles that
25 must be carried to and from the vehicle to the water.
 - 26 • Safety – the accessible sites must allow safe parking and be safe for samplers with respect
27 to access and exposure during sample collection, and interference from other individuals.

28 ⁶ With the exception of Zone 1 and Zone 6 which have so few available surface waters that they contain only a single core site.

- 1 • Monitoring of only or mostly agricultural discharge – need to minimize the potential for
- 2 monitoring the discharge of urban use pesticides and urban-generated toxicity.
- 3 • Reliable flow – many streams that appear on maps no longer exist, or contain flow so
- 4 rarely that they are essentially dry washes.

5 The monitoring site evaluation process also included review of GIS shapefiles to delineate

6 the upstream watershed, and all potential sites were scouted in-person to determine if/where

7 access was available and if the sites were safe to monitor. All potential monitoring site locations

8 that met the criteria were then included originally in the monitoring program. Throughout the

9 history of the program, however, some sites originally selected for inclusion in the monitoring

10 program were abandoned later due to one or more of the following reasons: personal safety

11 issues, lack of discharge (agricultural drainage was re-routed and does not discharge to receiving

12 water), or lack of agricultural discharge (agricultural land converted to urban).

13 Based on this evaluation, as well as practical knowledge gained from monitoring

14 throughout the ESJ Coalition area for many years, the ESJ Coalition, working with the Central

15 Valley Water Board, established the “core” and “represented” monitoring program, which was

16 adopted by the Central Valley Water Board in the ESJ General Order’s companion Monitoring

17 and Reporting Program Order (ESJ MRP Order). (See Draft Appendix A, Attachment B, pp. 4-

18 12.) Table 1 of the ESJ MRP Order contains the list of sites that effectively evaluate the impact

19 of agricultural discharges on receiving waters in addition to being able to determine changes in

20 water quality conditions over time. (Draft Appendix A, pp. 5-7.) Further, the list of Represented

21 Sites is not exhaustive and the Executive Officer may require additional monitoring if it is seen as

22 necessary to meet the requirements of the Order. This flexibility allows the monitoring design to

23 be adaptive based on water quality data and information.

24 3. Monitoring Scheme.

25 Monitoring occurs at a core site for two years, and all required constituents are monitored

26 every month. All other monitoring sites within that zone are designated as represented sites.

27 With the advent of the Pesticide Evaluation Protocol process for the 2018 Water Year,

28 pesticide use in the upstream watershed from each site is evaluated to determine the pesticides

1 that will be sampled. Pesticides with the greatest use and the greatest potential to cause toxicity
2 to aquatic organisms are selected for monitoring. After two years of monitoring, sampling is
3 changed to the secondary core monitoring site in the zone. All remaining monitoring locations
4 become represented sites.

5 If water quality is good, no monitoring occurs at represented sites. If an exceedance
6 occurs at a core site, all represented sites within the zone are monitored the following year for the
7 constituents causing the exceedance. Also, monitoring for that constituent (or constituents) for
8 which there was an exceedance continues at the core site for two more years, meaning that even
9 after changing to a new core location, monitoring at the first core location continues for a total of
10 three years. If an exceedance occurs at a core site during the two years of monitoring, outreach
11 starts immediately after the growing season in which the exceedance occurred. Generally, the
12 outreach involves presentations at the three sets of annual meetings that are held during the year.
13 Site-specific monitoring results are also listed in the member Annual Report which is distributed
14 by mail to each member and/or provided at member annual meetings in the year following the
15 sampling event. If the exceedance triggers a Management Plan, then monitoring continues as
16 prescribed in the ESJ's approved Surface Water Quality Management Plan until improved water
17 quality is demonstrated. Monitoring continues during months when the exceedance is likely to
18 occur again (e.g. month of the previous exceedance and months when the specific pesticide found
19 as an exceedance is applied to crops in the watershed). Further, under the Surface Water Quality
20 Management Plan, the outreach changes to focus on individual growers located in the watershed
21 where the exceedance was located and includes other represented areas where water samples
22 cannot be collected. Outreach to individual growers entails one-on-one meetings with the
23 growers to review management practices, recommend new practices, and track management
24 practice implementation.

25 **B. Response to Findings in the Second Draft Order.**

26 Overall, the Second Draft Order criticizes and finds that the ESJ surface water monitoring
27 program needs to be expanded because of the following:

- 28
 - Insufficient spatial density (e.g., enough monitoring locations are sampled);

- 1 • Insufficient temporal density (e.g., monthly sampling does not capture a sufficiently large
- 2 sample of potential discharges); and,
- 3 • Core sites are not representative of represented sites because monitoring results indicate
- 4 that there are “mismatches” between core and represented sites.

5 The accompanying text in the Second Draft Order states that the current Core-Represented

6 Site monitoring program “may be effective in monitoring for a narrower set of purposes, such as

7 determining the effectiveness of a certain set of management practices, but does not appear to be

8 comprehensive enough to identify problem areas throughout the watershed. We recognize that

9 water quality monitoring at core and represented sites is supplemented by additional, potentially

10 upstream, monitoring under an SQMP, when triggered. But the problem is that an SQMP may

11 not be triggered until an exceedance is detected at a core or represented site, and water quality

12 exceedances upstream or in adjacent portion of the watershed to that of the core and represented

13 sites may go undetected in the interim.” (Second Draft Order, p. 59.)

14 State Board staff developed these conclusions through a review of ESJ monitoring results

15 in CEDEN and a review of Annual Monitoring Reports, and also based on statements made by

16 the State Board’s Agricultural Expert Panel in its September 2014 Final Report. Notably, no

17 member of the Agricultural Expert Panel had any expertise in surface water monitoring design or

18 implementation. In short, the Second Draft Order’s conclusions imply that the surface water

19 monitoring program is not sufficient to detect water quality problems. In response, the question

20 then becomes “What is considered sufficient monitoring to detect problems?”

21 Monitoring is a continuum that ranges from a single site monitored annually to continual

22 monitoring at dozens of sites. The question regarding what is sufficient monitoring was

23 addressed in the Monitoring Design Guidance for the Central Valley Irrigated Lands Regulatory

24 Program (November 2007). Using technical expertise from across the State, guidance for the

25 irrigated lands program was developed to help define what a sufficient monitoring program

26 should look like. In short, the 2007 Guidance suggests that sufficient monitoring effort is

27 sampling that allows the six questions identified above to be adequately addressed. As stated

28 above, the ESJ surface water monitoring program adequately and appropriately addresses these

1 questions. We respond here to specific findings and recommendations made in the Second Draft
2 Order.

3 **I. An Expert Panel to Inform Irrigated Lands Programs Statewide Is**
4 **Unnecessary.**

5 Rather than making specific recommendations for improving the monitoring program to
6 address the perceived shortcomings discussed in the Second Draft Order, State Board staff
7 recommend convening another Expert Panel to “make recommendations on a framework for
8 surface receiving water monitoring to inform irrigated lands programs statewide.” An Expert
9 Panel for this purpose is unnecessary. First, there are no shortcomings with the existing surface
10 water monitoring program. Second, the Central Valley Water Board, technical experts and the
11 irrigated lands coalitions have already spent significant time and resources developing the 2007
12 Monitoring Design Guidance document, which evaluated possible monitoring designs that could
13 be implemented to meet the requirements of the program. The process that was used to develop
14 the 2007 Guidance (which assures compliance with the Nonpoint Source Policy) focused on
15 answering the programmatic questions identified above. From these questions, the 2007
16 Guidance recommends specific elements be included in an irrigated lands surface water
17 monitoring program. The recommended elements, and how the ESJ surface water monitoring
18 program meets these elements, are summarized here.

- 19 • Element 1 – Monitor at fixed intervals while factoring in major discharge events (i.e.,
20 assessment monitoring). *ESJ Coalition conducts monitoring once a month, plus monitors*
21 *during storm events.*
- 22 • Element 2 – Representativeness must be defined (i.e., magnitude and extent monitoring).
23 *The ESJ Coalition conducted a statistical analysis to determine zones based on crops, use,*
24 *climate, and geography. Therefore, monitoring at the Core site works as a surrogate to*
25 *determine if additional monitoring should occur at the Represented sites.*
- 26 • Element 3 – Identify if agriculture is the source (i.e., source identification monitoring).
27 *The Coalition has selected locations that will primarily consist of water or drainage from*
28 *areas that are predominantly agriculture upstream of the monitoring location, and that*

1 *are accessible and safe to access. Potential sources of pesticide contamination are*
2 *identified using Pesticide Use Reports and by evaluating management practices*
3 *implemented by members. In past years (2005-2009), the ESJ Coalition employed*
4 *upstream monitoring to assist with source identification, however the ESJ Coalition found*
5 *that the current strategy is more effective and can be implemented sooner with greater*
6 *impact on water quality.*

- 7 • Element 4 – Conduct outreach, evaluate existing management practices, and track
8 implementation of newly implemented practices to improve water quality (i.e.,
9 management practices monitoring). *The ESJ Coalition has developed effective Surface*
10 *Water Quality Management Plans, which focus on these steps and result in improved*
11 *water quality, the implementation of additional practices and the removal of site-specific*
12 *management plans.*
- 13 • Element 5 - Track whether water quality conditions are improving or worsening (i.e.,
14 trend monitoring). *The ESJ Coalition is able to assess trends on a zone level based on*
15 *both Core and Represented site monitoring data. Core site data is the most consistent and*
16 *provides for a long-term data set. The Represented sites give additional information*
17 *regarding water quality at other locations within the Zone relative to the Core site data*
18 *and allow for a comparison of pesticide use and grower practices.*

19 Further, the 2007 Guidance document recommends that:

- 20 • Monitoring should be focused on decision making;
- 21 • Monitoring efforts should reflect the potential for water quality impact with more
22 monitoring allocation to situations where the potential impact is higher; and
- 23 • Monitoring should be adaptive where mid-course corrections occur based on monitoring
24 results.

25 The ESJ Coalition’s monitoring program meets these recommendations, and in
26 combination with outreach efforts and an effective management plan approach, has resulted in
27 significantly improved water quality. The combination of monitoring and outreach has been very
28

1 successful in cleaning up water quality problems. Of the 74 management plans involving
2 pesticides or toxicity, 42 of those plans have been successfully implemented.

3 **2. The ESJ Surface Water Program Has Evolved Because it Is an**
4 **Adaptive and an Iterative Program – Not Because of Costs.**

5 Next, the Second Draft Order implies that the reason for the current monitoring design
6 was a result of a compromise to reduce monitoring costs in order to increase funds for
7 management practice implementation. Although it is true that reducing the cost of monitoring
8 allows the ESJ Coalition to apply those resources to conducting grower outreach and education, it
9 is an oversimplification of the history of the irrigated lands program and the ESJ Coalition's
10 monitoring design to say that cost was the primary reason for the change in the monitoring
11 design. In fact, the ESJ Coalition and Central Valley Water Board have implemented an iterative,
12 adaptive program that includes immediate notification of the Central Valley Water Board of any
13 exceedances (within five business days of receiving results), quarterly data reporting for all water
14 quality results, quarterly meetings to review progress toward meeting performance measures and
15 goals of the management plans, and an annual assessment of water quality results and
16 management plan progress. The monitoring design has been refined over the years based on the
17 history of monitoring results and an assessment of how to best answer the program questions in
18 accordance with the 2007 Guidance. If the monitoring design was not adequately addressing the
19 program questions, this would have been identified by Central Valley Water Board staff in
20 comments to the Annual Monitoring Reports, and additional monitoring would have been
21 required.

22 Further, from these allegations regarding the sufficiency of the ESJ Coalition surface
23 water monitoring program, State Board staff propose seven questions for an Expert Panel to
24 address the perceived deficiencies. Of the seven questions, only two actually address the design
25 of a surface water monitoring program, and a third question is tangential to the design of the
26 monitoring program. The two relevant questions have already been answered and are an integral
27 part of the ESJ Coalition's surface water monitoring program. (See section III.A.) For the
28

1 remaining questions, there is no direct or indirect connection between the questions posed and the
2 allegations regarding sufficiency of the ESJ's surface water monitoring program.

3 In summary, the questions posed for an Expert Panel have either already been
4 incorporated directly into the monitoring program design, or are unrelated to the petition before
5 the State Board, which deals directly with the ESJ General Order and petitions thereon.

6 **3. The ESJ Surface Water Program Has Sufficient Spatial Density to**
7 **Identify Areas of Possible Pollution and an Upstream/Downstream**
8 **Approach Is Not Practical or Scientifically Defensible.**

9 The Second Draft Order, borrowing from the Agricultural Expert Panel, appears to
10 suggest that monitoring should move upstream and occur in one or more locations. (Second Draft
11 Order, pp. 57-58.) The rationale behind this recommendation is that upstream monitoring both
12 increases the spatial coverage of monitoring and can be used to identify sources of discharges
13 once exceedances occur. By referencing this approach, State Board staff and the Agricultural
14 Expert Panel must be assuming that the upstream-downstream monitoring approach can be used
15 to identify the location(s) where a pesticide is discharged into the waterbody. However, to use
16 this approach successfully, a great deal of information needs to be known about the watershed.
17 For example, to correctly identify sources, one needs to assume that all inflows and outflows of
18 water or pesticides are known and quantifiable. A second assumption is that the velocity of water
19 in the creek is known such that the same mass unit of water can be monitored as that mass moves
20 from upstream to downstream. If the same mass of water is not monitored from the top of the
21 watershed as it moves downstream, there is no way to determine the location of sources of
22 discharges. In other words, there are two measurements of concentration that can be made, the
23 concentration of a constituent at the downstream Point A and upstream Point B. Unless the same
24 mass of water is sampled at Point B, and again downstream at Point A, the source(s) of the
25 chemical in the water cannot be identified. Potential sources can be identified only if every input
26 of chemical and water is known and quantifiable and the same mass of water is sampled as it
27 moves from upstream to downstream. This type of monitoring, same mass of water from
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1 upstream to downstream, is a Lagrangian monitoring design. This design is not possible for the
2 small streams and waterbodies in the Coalition region for three reasons.

3 1. Many waterbodies do not have an additional monitoring site(s) available upstream.

4 2. There are some watersheds where multiple monitoring sites are available for
5 monitoring. However, the flow rate between the locations is not possible to measure and can vary
6 substantially from upstream to downstream, even within a single day. Irrigation schedules result
7 in water entering and leaving the system throughout the day and week, and those are not possible
8 to track. To obtain a sufficient quantity of water for irrigation, growers may construct temporary
9 barriers to flow, only to remove them within a few hours. In addition, for some of the natural
10 streams, there are gaining and losing reaches making it impossible to determine where a mass of
11 water is at any point in time.

12 3. Surface water moving into and out of the waterbody is difficult to identify and
13 nearly impossible to quantify. Without being able to mass balance the water in the creek, it is not
14 possible to determine where pesticides enter the system.

15 If water moving into or out of a creek cannot be quantified as is common with nonpoint
16 source discharges, the most likely outcome is that downstream discharges are not detected. For
17 example, a chemical detected in the water at an upstream monitoring location must come from
18 upstream of that site. If the same mass of water is sampled at a downstream monitoring location
19 and the chemical is detected at the same concentration at that site, the conclusion could be that
20 there are no discharges of pesticide to the stream. However, there is no way to conclude that the
21 only discharge is above the upstream monitoring site. Water entering the creek between the
22 upstream and downstream monitoring sites could have the same concentration as the water in the
23 creek resulting in no change to the concentration of the chemical in the creek. If water entering
24 the creek below the upstream monitoring location has a lower concentration of the chemical, the
25 concentration at the downstream monitoring location will be lower than the concentration at the
26 upstream monitoring site, leading to the erroneous conclusion that only water entered the creek
27 between the two sites resulting in dilution of the upstream signal.

1 Finally, a chemical may be present at the upstream monitoring site but at a concentration
2 too small to measure. A small amount of the chemical may enter the creek between the upstream
3 and downstream monitoring locations resulting in sufficient mass to be measurable. The
4 erroneous conclusion here is that there are no discharges upstream and the only discharges are
5 between the two monitoring sites. In conclusion, unless every input of water and chemical is
6 identified and measured, it is not possible to determine the actual source of pollutants using
7 upstream and downstream monitoring.

8 Notably, the ESJ Coalition attempted to use an upstream/downstream design in the past by
9 establishing upstream monitoring sites on eight waterbodies in an attempt to identify sources of
10 chemicals causing exceedances. The number of upstream sites varied from one to three. All
11 upstream sites within a watershed were monitored on the same day for the same constituents.
12 Monitoring at upstream locations was restricted to months of the year when exceedances occurred
13 in the downstream location, i.e., monitoring at upstream locations did not occur every month for
14 all constituents. Given the difficulty isolating a single mass unit of water and quantifying all
15 inputs and outflows, the Coalition's upstream and downstream monitoring results were of no use
16 in identifying potential sources of discharges.

17 For example, in 2008 there were 62 sampling events involving both upstream and
18 downstream monitoring for metals, nutrients, pesticides, and toxicity. Thirteen upstream-
19 downstream results were different; 6 metals, 2 nutrients, 3 pesticides, and 2 toxicities. Of the five
20 exceedances likely caused by growers (pesticides and toxicity), three were upstream but not
21 downstream. Therefore, upstream monitoring resulted in discovering water quality problems that
22 potentially did not exist downstream in less than 5% of the events.⁷ In addition, it was not
23 possible to identify or quantify all inputs and outputs of water and chemical, placing in doubt
24 even this conclusion. As a result of the difficulties in interpreting the results of the upstream-
25 downstream monitoring, and the inability to reconcile the locations of pesticide applications with
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27 _____
28 ⁷ 62 results were evaluated from monitoring at downstream and upstream locations in 2008; only 3 of those results
had detections at the upstream location and not the downstream location.

1 the concentration of chemical in the creeks, the Coalition discontinued upstream-downstream
2 monitoring.

3 In summary, and contrary to statements in the Second Draft Order, upstream/downstream
4 monitoring is not an appropriate monitoring design for a complex, irrigated lands program.

5 **4. Considering Probabilities of Detection, the ESJ Surface Water**
6 **Monitoring Program has Sufficient Temporal Density.**

7 The Second Draft Order includes a conclusory statement that “we cannot find that it is, in
8 fact, ‘of sufficient density (spatially and temporally) to identify general locations of possible
9 pollution.’” (Second Draft Order, p. 59.) No additional information is offered to explain why
10 State Board staff believe that temporal density is insufficient. Leaving aside the Second Draft
11 Order’s lack of evidence to support its findings, the existing ESJ surface water monitoring design
12 includes sufficient monitoring events to detect water quality problems from agricultural
13 discharges, should such problems occur.

14 To demonstrate the temporal sufficiency of the ESJ surface water monitoring program,
15 one can calculate the probability of detection of discharge using three assumptions:

- 16 1. All applications have the same potential to create a detectable discharge.
17 2. On average, all discharged chemicals remain in the system for the same amount of
18 time, although the time is unknown.
19 3. Applications can be made on any day during the 30-day period between sampling.
20 If only one application occurs during a 30-day period, there is a 1/30 probability of that
21 application being made on any day.

22 With these assumptions, the probability of detection was calculated for a combination
23 factors assuming a single sampling event per month: time the chemical remains in the system
24 could be 1 to 10 days, number of applications in the watershed varied between 1 and 30, and the
25 sampling interval is 30 days. Given these variables, the Probability of Detection (PD) is:

26
$$PD = \frac{\text{Number of applications} * \text{Number of days the discharge remains in the system}}{\text{Number of days between samples}}$$

27

28

1 For example, if a single discharge remains in the creek for 30 days and sampling occurs
2 once every 30 days, that one sample event is guaranteed to detect the discharge (100% Probability
3 of Detection). If a single discharge remains in the system for 10 days and sampling occurs every
4 30 days, there is a 33% Probability of Detection because the discharge could have occurred
5 during the 10 days immediately prior to sampling, or during the 10 – 30-day period prior to
6 sampling, which is outside the window of detection.

7 Using the assumptions above, the Probability of Detection ranges from 3% to 100%
8 (*Table 1*). When there is only a single application during a 30-day period, the Probability of
9 Detection ranges from 3% to 30% depending on whether the chemical remains in the creek for 1
10 day or 10 days, respectively. If there are 5 applications per month, the probability of detection
11 ranges from 16.67% to 100% depending on the time the chemical remains in the creek. Once the
12 chemical remains in the creek for at least 5 days, the probability of detection reaches 100%.
13 When there are 10 applications, if the chemical remains in the creek for 3 or more days, the
14 probability of detection is 100%. When there are 20 applications, if the chemical remains for 2 or
15 more days, the probability of detection is 100%. For 30 applications or more, the probability of
16 detection is 100% even if the chemical flushes from the creek in a single day.

17 The Pesticide Evaluation Protocol process has identified the pesticides that will be
18 monitored by the ESJ Coalition during the 2018 Water Year. For each of those targeted
19 chemicals, the ESJ Coalition has information about the number of applications at each monitoring
20 location each month during the previous three years (2014 – 2017). The number of applications
21 of individual targeted chemicals range from 1 to over 400 in a 30-day period. The average
22 number of applications for chemicals targeted for monitoring is 66, and 54%, or over half of all
23 pesticides sampled, have more than 30 applications. Further, if a chemical is in the system for at
24 least two or three days, the probability of detection for most chemicals approaches 50% - even if
25 the number of applications is around five. If a chemical remains in the water for a week, which is
26 common in the summer, you are guaranteed that the probability of detection is 100% for five
27 applications.
28

Table 1. Probability of Detection of applications (discharges) based on 1 sample collected every 30 days; evaluated for 1, 5, 10, 20 and 30 applications in a 30-day period.

Days in system	Number of applications between samples	Probability of detection (%)
1	1	3.33
2	1	6.67
3	1	10.00
4	1	13.33
5	1	16.67
6	1	20.00
7	1	23.33
8	1	26.67
9	1	30.00
10	1	33.33
1	5	16.67
2	5	33.33
3	5	50.00
4	5	66.67
5	5	83.33
6	5	100.00
7	5	100.00
8	5	100.00
9	5	100.00
10	5	100.00
1	10	33.33
2	10	66.67
3	10	100.00

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Days in system	Number of applications between samples	Probability of detection (%)
4	10	100.00
5	10	100.00
6	10	100.00
7	10	100.00
8	10	100.00
9	10	100.00
10	10	100.00
1	20	66.67
2	20	100.00
3	20	100.00
4	20	100.00
5	20	100.00
6	20	100.00
7	20	100.00
8	20	100.00
9	20	100.00
10	20	100.00
1	30	100.00
2	30	100.00
3	30	100.00
4	30	100.00
5	30	100.00
6	30	100.00
7	30	100.00
8	30	100.00

Days in system	Number of applications between samples	Probability of detection (%)
9	30	100.00
10	30	100.00

Thus, based on the Probability of Detections evaluation, the ESJ monthly monitoring program has a high likelihood of detecting chemical constituent discharges in surface water. This clearly illustrates the temporal sufficiency of the ESJ surface water monitoring program.

5. Mismatched Data Between Core and Representative Sites Is Not Evidence That the ESJ Coalition Monitoring Program Is Insufficient.

The Second Draft Order claims that monitoring data indicates that exceedances observed at core sites do not occur at represented sites and vice versa (i.e., there is a mismatch in the monitoring results between the two types of sites). (Second Draft Order, p. 59.) While it is true that there are mismatched results, State Board staff reaches an erroneous conclusion that the core sites are not representative of the represented sites, and the zones do not represent a true homogeneous monitoring unit. This wrong conclusion is most likely a result of not fully understanding the ESJ's monitoring program.

The ESJ Coalition reviewed its monitoring data and from 2013 to 2017, and there are several instances of mismatched results (Table 3). From 2013 to 2015, mismatches could have occurred between the primary core site in each zone and the represented sites in that zone. From 2015 - 2017, mismatches could have occurred between the secondary core site and the represented sites in each zone. Of the 251 results available during this time period, there were 39 instances where there was an exceedance at the primary core site but no exceedance at the represented site. Conversely, in 13 instances there was an exceedance at the represented site but no exceedance at the core site. From 2015 - 2017, there were 158 results available for comparison. There were exceedances at the secondary core site but no exceedance at the represented site in 11 instances, and in 7 instances there were exceedances at the represented site and no exceedance at the core site.

Table 3. Mismatches between core and represented site results for 2013 – 2017.

Primary Core Site Summary	# of Differences (10/1/13-9/30/15)
Core Exceedance/Represented No	39
Represented Exceedance/ Core No	13
Same Results	199

Second Core Site Summary	# of Differences (10/1/15-7/1/17)
Core Exceedance/Represented No	11
Represented Exceedance/ Core No	7
Same	142

In the primary core-represented site comparison, whenever there was an exceedance at the core site with no accompanying exceedance at the represented site (39 instances), the core site was Prairie Flower Drain in Zone 2. Of the 13 instances of exceedances at the represented site but no exceedance at the core site, in 11 of those instances the comparison involved Prairie Flower Drain. In other words, of the 52 mismatches between core and represented sites between 2013 and 2015, 50 of them involved Prairie Flower Drain in Zone 2.

Of the 18 instances of mismatched results from 2015 to 2017, 17 involved comparisons between the secondary core site in Zone 2, Lateral 5 ½ @ South Blaker Rd. Five of the 17 mismatches involved Prairie Flower Drain serving as a represented site. Sixteen of the 18 mismatches involved toxicity to Selenastrum, one was for diuron and one for chlorpyrifos.

For all years combined, there were 70 instances of mismatched results. In 67 of those mismatches, the sites involved were in Zone 2, primarily Prairie Flower Drain as the core site or the represented site after rotating out of core site status. Mismatches are essentially non-existent in all zones except Zone 2, indicating that core sites are representative of represented sites within each zone. With respect to Zone 2, there are several logical reasons for the number of

1 mismatched monitoring results. Most significantly, in zone 2 there is a large percentage of non-
2 members. In addition, the analysis examined the presence of exceedances and non-exceedances
3 and did not consider concentration. For example, a chemical could be detected at both the core
4 and represented monitoring sites, but if the concentration of the chemical did not reach the level
5 of an exceedance at one of those sites, the results were considered a mismatch. All of these
6 factors clearly indicate that the State Board's conclusion that core sites are not representative is
7 erroneous and arises from a cursory review of the data.

8 In summary, the Second Draft Order's criticisms are easily explained and none actually
9 show that the ESJ surface water monitoring program is insufficient. Conversely, a national
10 leading expert has reviewed the program and found it to clearly meet all intents and purposes.

11 **IV. TIMELINES WITHIN ESJ GENERAL ORDER SHOULD BE ADJUSTED TO**
12 **COINCIDE WITH TIMELINES THAT WILL APPLY TO OTHER COALITIONS**

13 The Second Draft Order requires members of the ESJ Coalition to submit their Irrigation
14 and Nitrogen Management Plan Summary Report (Nitrogen Summary Report) and Farm
15 Evaluation by March 1, 2019 (members in low vulnerability areas have until March 1, 2021). In
16 order for growers to submit a Nitrogen Summary Report by March 1, 2019, they are required to
17 have a certified Irrigation and Nitrogen Management Plan by March 1, 2018. Even if the State
18 Board adopts an Order on January 23, 2018, there will be insufficient time to develop a new
19 Irrigation and Nitrogen Management Plan template, circulate the template for public review, and
20 have it approved by the Central Valley Water Board's Executive Officer in time for the ESJ
21 Coalition to notify and educate its members of the changes to the template. In addition, the
22 curriculum and trainers of the self-certification classes have not been updated to incorporate the
23 requirements of the newly proposed irrigation and nitrogen management plan.

24 Currently, the ESJ Coalition sends out nitrogen management plan worksheets (the current
25 equivalent of the proposed new irrigation and nitrogen management plan) to its members in
26 November for the upcoming calendar year. For example, for the 2018 crop year, ESJ Coalition
27 members received their worksheets in November of 2017. In order for growers to replace this
28 with a new irrigation and nitrogen management plan worksheet that can be utilized for the 2018

1 crop year, the Coalition would need to have develop a template as soon as possible, and *prior* to
2 the adoption of the Second Draft Order so that a new template can be submitted for approval
3 immediately after the approval of the Order. The Central Valley Water Board's Executive
4 Officer would then need to approve the template by early February in order for the ESJ Coalition
5 to mail the new worksheets to members so that they can have them completed by March 1, 2018.
6 Considering the short turn-around timeframes, it is unrealistic to expect the templates to be ready
7 for dissemination and completion by March 1, 2018.

8 Moreover, it would be nearly impossible for the new irrigation and nitrogen management
9 plans to be certified in 2018 since there has not yet been a certification or training program for
10 Certified Crop Advisors (CCAs) that covers the newly proposed requirements. Even without
11 certification, outreach needs to occur to educate growers regarding the revised requirements.
12 Growers have spent the last two years working with the existing nitrogen management plan
13 template and it will take time and effort to educate growers with respect to the changes and to
14 assist members with filling out a new irrigation and nitrogen management plan worksheet. In
15 reality, this must first be done a full year in advance of a grower completing a Nitrogen Summary
16 Report in 2019 for the 2018 crop year. In order to meet the timelines in the Second Draft Order,
17 outreach would need to occur from January through March 2018, and the certification course
18 would need to be revised by mid-summer. Frankly, there is insufficient time for all of these
19 activities to occur to meet the proposed timelines in the Second Draft Order.

20 Further, the ESJ Coalition maintains a database that stores information from both the
21 Farm Evaluation surveys and the Nitrogen Management Plan Summary Reports. These databases
22 will need to be updated to be able to store information from the new templates. There are also
23 online portals that need to be updated prior to receiving completed, and updated, Nitrogen
24 Summary Reports and updated Farm Evaluation surveys. In order to meet the proposed timelines
25 in the Second Draft Order, ESJ Coalition's database and portal updates would need to occur
26 within a 3-month period, which is also unrealistic.

27 The ESJ Coalition appreciates that the State Board is looking to have the newly proposed
28 revisions implemented as soon as possible. Unfortunately, as noted above, there are serious

1 practical constraints associated with meeting the proposed timelines. To effectively implement
2 the proposed changes, the ESJ Coalition recommends that the following due dates be adjusted as
3 follows: (1) new irrigation and nitrogen management plan worksheet be completed and be
4 available on farm by March 1, 2019; and, (2) revised Nitrogen Summary Report that reflects new
5 irrigation and nitrogen management plan be due on March 1, 2020. In the meantime, ESJ
6 Coalition members will complete their existing nitrogen management plan worksheets (which
7 they received in November 2017 for the 2018 crop year), and use that information to complete the
8 existing Nitrogen Summary Report by March 1, 2019. During 2018, the ESJ Coalition will
9 conduct extensive outreach regarding the new requirements and update its databases as necessary.
10 With these proposed timelines, ESJ Coalition members would receive updated templates in their
11 member packets mailed at the end of 2018.

12 In summary, the requested changes in timelines are limited to those that practically cannot
13 be implemented in the timelines proposed. The ESJ Coalition does not propose changes to other
14 altered due dates. Further, our proposed revisions are reflected on the attached mark-up of the
15 Second Draft Order.

16 **V. LEGAL ARGUMENTS MADE BY OTHERS ARE NOT SUPPORTED BY STATE**
17 **LAW, POLICY, OR THE ADMINISTRATIVE RECORD.**

18 On February 8, 2016, the State Board issued its first proposed order in its review of the
19 ESJ General Order. Public comments in response to the First Draft Order were submitted by
20 various parties on or before June 1, 2016. These responses have been posted on the State Board's
21 website at

22 https://www.waterboards.ca.gov/public_notices/comments/a2239ac/laurel_firestone.pdf.

23 On December 6, 2017, the State Board held a full-day public workshop on the Second
24 Draft Order. At the workshop, there were 12 panel presentations from various stakeholders with
25 different interests and perspectives. The State Board has posted PowerPoint presentations from
26 these panels on its website at

27 [https://www.waterboards.ca.gov/public_notices/petitions/water_quality/docs/a2239/workshops/20](https://www.waterboards.ca.gov/public_notices/petitions/water_quality/docs/a2239/workshops/20171206_wrksp/agenda_dec6_esjworkshop.pdf)
28 [171206_wrksp/agenda_dec6_esjworkshop.pdf](https://www.waterboards.ca.gov/public_notices/petitions/water_quality/docs/a2239/workshops/20171206_wrksp/agenda_dec6_esjworkshop.pdf).

1 The responses presented here respond in part to some of the legal arguments put forward
2 by petitioners AGUA and others, including but not limited to the Environmental Law Foundation
3 (ELF). In general, the legal arguments presented by AGUA and ELF are not supported by statute
4 or evidence in the record.

5 **A. State Board Has a Legal Right and Duty to Protect the Privacy of ESJ**
6 **Coalition Members.**

7 Striking an appropriate balance between the issues of maintaining the confidentiality of
8 grower specific information, while also allowing for reporting of field-level data, has been a
9 publicly vetted topic, including the presentation of extensive testimony before the State Board.
10 As a result, the Second Draft Order sets forth the balance achieved as a result of this public
11 process, which permits the direct reporting of field-level data to the Central Valley Water Board,
12 while maintaining the confidentiality of grower names and locations.

13 As set forth in Section II, the ESJ Coalition acknowledges the addition of anonymous
14 reporting without linking field-level data to specific names and locations. ESJ Coalition does
15 offer revisions to the Second Draft Order herein, explained at Section V.A.3., to clarify the
16 importance of protecting grower specific information, but generally does not challenge the
17 anonymity provisions for field-level data. Nonetheless, it is clear to ESJ Coalition that others will
18 challenge this limitation and instead continue to argue in favor of full disclosure of grower names
19 and locations in response to the Second Draft Order, and despite the extensive public process that
20 resulted in the compromise of certain parties' respective positions representing a balancing of the
21 competing interests. To that end, ESJ Coalition preemptively responds to those forthcoming
22 arguments herein.

23 **1. Confidentiality of Grower Information Is Protected by the Right to**
24 **Privacy, and Supported by State and Federal Conduct in Similar**
25 **Circumstances.**

26 Opponents to ensuring the protection of privacy interests have historically argued that
27 grower names and property locations should be publicly accessible, and continue to assert that the
28 anonymity limitation in the Second Draft Order should be excluded, claiming that both state and

1 federal law supports public disclosure of water quality data. (See California Coastkeeper
2 Alliance et al. 6/1/16 Comment Letter, p. 4.) However, it is initially critical to distinguish a
3 grower's private information, such as name and address, from information reflecting water
4 quality data. There is no relationship between the public release of growers names and evaluation
5 of water quality. It is very difficult, if not impossible, to associate groundwater quality at any
6 point in the aquifer with practices employed at any point on the surface. Therefore, field specific
7 reporting practices and nitrogen use information, without the identification of grower names and
8 locations, is sufficient to track the implementation of practices that will lead to improved
9 groundwater quality.

10 Further, the groundwater trend monitoring network will provide a comprehensive
11 evaluation of groundwater quality across the coalition region and the Management Practices
12 Evaluation Program will assist the ESJ Coalition in understanding the effectiveness of
13 management practices implemented across the ESJ Coalition boundaries in different soil types
14 and with different crops. The combination of regional monitoring of groundwater quality and the
15 reporting of management practices and nitrogen application ratios will allow the Central Valley
16 Water Board to understand whether agricultural management practices are protective of
17 groundwater quality or will likely protect groundwater quality over time. However, the additional
18 disclosure of names and property locations as related to specific growers serves no public purpose
19 whatsoever, let alone any identifiable interest that would outweigh a grower's privacy interests.

20 The proposed public disclosure of the private information of landowners and growers has
21 been a critical concern of the ESJ Coalition and its members since the inception of the irrigated
22 lands program in 2003. The irrigated lands program has been developed in a way that looks to
23 balance privacy against the public's right to information. Indeed, one of the central tenants of the
24 ESJ Coalition program includes not providing individual member information that specifically
25 identifies individual growers, companies, or landowners in a manner that would then be public.
26 This component is critical, because the data and information being requested is arguably
27 proprietary business, or at the very least, traceable to private economic information.

28 For example, the data sets proposed in the Second Draft Order require reporting of post-

1 production crop yields from the grower to the ESJ Coalition. (Draft Appendix A, p. 28.). This
2 means that without little effort, members of the public could calculate individual grower
3 economic information. This runs directly counter to other statutes that protect individual crop
4 yield data from public disclosure.⁸ Further, public disclosure of management practices as well as
5 amounts of nitrogen applied is proprietary business information that needs to be protected. The
6 combination of such information is akin to a mechanical process and/or secret recipe that is
7 protected for other industries. Agriculture should be afforded the same protections and such
8 information should be shielded from public disclosure.

9 Additionally, unlike many industries, agricultural operations are often co-located with a
10 farmer's home, or homes rented or made available to agricultural workers. Thus, field-specific
11 information could be directly related to an individual residence—not a traditional place of
12 business. This is important due to the potential that individuals residing in homes will be targeted
13 or harassed by members of the public based on disclosure of names and property locations, in lieu
14 of the anonymity limitation proposed in the Second Draft Order.

15 Requiring the ESJ Coalition to turn over grower names and property locations along with
16 the field-specific data in lieu of the anonymity limitation proposed by the Second Draft Order is
17 improper for a number of different reasons, including, most importantly, that it eliminates a key
18 value that the ESJ Coalition provides to its members, which is privacy protection of sensitive
19 grower information from mass public exposure. Elimination of this key value will seriously
20 undermine the functionality of the ESJ Coalition, and threaten its very existence, as confirmed by
21 extensive testimony before the State Board, and as recognized in the Second Draft Order.

22 (Second Draft Order, p. 51.) Without the ESJ Coalition, and the other third-party groups which
23 collectively represent more than 20,000 landowners/operators throughout the Central Valley, the
24 Central Valley Water Board and the State Board will have an administrative nightmare in trying
25 to implement any irrigated lands program across the Central Valley, let alone across the state, as
26 is envisioned by the Second Draft Order. This alone should cause State Board members to reject

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28 ⁸ See, e.g., Food & Agr. Code, section 58781.

1 any further request to mandate reporting of grower names and property locations, in lieu of the
2 anonymity limitation currently proposed in the Second Draft Order.

3 For the last thirteen years, the third-party/coalition process has worked well in the Central
4 Valley. It has allowed third parties (i.e., the ESJ Coalition and others) to work directly with their
5 members to provide education and outreach, conduct monitoring, prepare and implement
6 watershed management plans, and prepare comprehensive watershed based annual reports.
7 Coalition activities are funded by members through per acre assessments, and members must
8 remain in good standing to be part of the coalition. In exchange for participating in coalition and
9 remaining as a member in good standing, growers do not have to report individual farming
10 information directly to the Central Valley Water Board in a manner that provides for specific
11 location and land ownership information. This avoids grower information from then being
12 publically available through a simple Public Records Act (PRA) request, or from being displayed
13 on a publically accessible website.

14 Significantly, federal and state law recognizes the importance of grower confidentiality
15 and takes extra steps to protect it. Like California's Public Records Act (PRA), the federal
16 Freedom of Information Act (FOIA) generally promotes disclosure of public records with
17 limitations built in to protect personal information. FOIA includes a statutory exemption for
18 "geological or geophysical information and data, including maps, concerning wells[.]" so that
19 public agencies complying with FOIA are not required to disclose such information. (5 U.S.C. §
20 552(b)(9).) Courts consistently interpret this exemption to allow agencies to withhold
21 information about a water well's location and depth. (*AquAlliance v. United States Bureau of*
22 *Reclamation* (D.D.C. 2015) 139 F.Supp.3d 203, 209-211 (*AquAlliance*); *Nat'l Res. Def. Council*
23 *v. United States DOD* (C.D.Cal. 2005) 388 F.Supp.2d 1086, 1107-1108 (*NRDC*.) When
24 challenged, agencies have been allowed to withhold maps showing the location of wells and
25 construction reports detailing characteristics such as well depth. (*AquAlliance, supra*, 139
26 F.Supp.3d at p. 209; *NRDC, supra*, 388 F.Supp.2d at p. 1108.)

27 Additionally, federal law prohibits the U.S. Department of Agriculture (USDA) from
28 disclosing farm information about "the agricultural operation, farming or conservation practices,

1 or the land itself” or geospatial information provided to participate in USDA programs or
2 geospatial information for these farms. (7 U.S.C. (s) 8791(b)(2); *Ctr. for Biological Diversity v.*
3 *USDA* (9th Cir. 2010) 626 F.3d 1113, 1115-1116 [allowing USDA to withhold GPS coordinates
4 of locations where wolf depredation occurred to protect ranchers’ personal privacy].) This
5 statute alone justifies withholding farm information, but the justification for withholding is
6 further strengthened by a FOIA exemption that makes FOIA inapplicable to matters that are
7 exempt from disclosure under another statute. (5 U.S.C. § 522(b)(3); *Cent. Platte Natural Res.*
8 *Dist. v. USDA* (8th Cir. 2011) 643 F.3d 1142, 1148 [holding USDA was not required to disclose
9 GIS data that identified individual farmers, operators, and other agricultural producers]; *Zanoni*
10 *v. USDA* (D.D.C. 2009) 605 F.Supp.2d 230, 237 [holding that even disclosure of just names is
11 prohibited].)

12 Further consideration should be afforded to state-level marketing orders which likewise
13 strongly protect grower identities and a broad range of important grower information. For
14 example, the marketing order for California raisins requires that all proprietary information
15 including names and addresses, production quantities, prices paid, and trade secrets remain
16 confidential. (State of California Department of Food and Agriculture Marketing Branch,
17 Marketing Order for California Raisins, p. 15.; see also, e.g., Food & Ag Code, section 58781.)
18 The marketing order states that these confidentiality requirements are enforced notwithstanding
19 any other provision of law. (*Id.*)

20 Confidentiality of grower information is clearly valued and supported at the federal and
21 state level, and under general concerns regarding privacy. The State Board has made significant
22 strides in striking a balance between making relevant water quality information available to the
23 public and protecting private grower information. These values must continue to be supported in
24 the Second Draft Order.

25 **2. The Zamora Case has no Precedential Impact on the State Board’s**
26 **Consideration of the Second Draft Order and is Factually**
27 **Inapplicable.**

28 To the extent that the Environmental Law Foundation and/or other groups argue or claim

1 that the superior court decision in *Zamora v. Central Coast Regional Water Quality Control*
2 *Board*, Case No. 15CV-0247 (*Zamora*), is controlling on the State Board’s decision with respect
3 to protection of individual grower information, ESJ Coalition disagrees.

4 First, the *Zamora* decision is a superior court decision that has no precedential value on
5 other proceedings. (*Santa Ana Hospital Medical Center v. Belshé* (1997) 56 Cal.App.4th 819,
6 830-831.) Thus, the State Board should reject any argument crafted around the *Zamora* decision
7 on that basis alone.

8 Second, the information at issue in the *Zamora* case pertained specifically to landowner
9 and/or grower names and addresses that had a responsibility to notify domestic well users if a
10 domestic well exceeded a drinking water standard. To that end, the superior court considered
11 whether notification and compliance letters between a third party coalition, growers and domestic
12 well users, which included names and addresses of the growers and well users, had to be made
13 publicly available. Notably, the letters were only triggered to be sent by and between the
14 coalition, growers and domestic well users, when testing revealed that water in a domestic well
15 exceeded a drinking water standard. Thus, in addition to balancing privacy interests versus the
16 public disclosure of water quality data, there was a public health and safety component due to an
17 identified exceedance at issue before the superior court, which acted to shift the balancing in
18 favor of public disclosure. That is not the information that the State Board seeks to protect in the
19 Second Draft Order. Here, unlike the facts before the superior court in *Zamora*, the State Board
20 is protecting grower names and specific location information for field information relevant to the
21 application and use of nitrogen fertilizers – not an identified exceedance of a state mandated
22 drinking water standard. Indeed, domestic well data and information is not proposed for any
23 protection whatsoever in the Second Draft Order.

24 Third, even if the State Board noted similarities in the type of information addressed by
25 the superior court in *Zamora*, it is critical to note that the limited scope of disclosure approved in
26 *Zamora* is simply not at issue herein. There, the superior court decision turned on whether there
27 was a finding that the information in question was “used” by the Central Coast Water Board
28 during its audits of the coalition’s documents. Thus, the superior court determined that if the

1 Central Coast Water Board reviewed the records during an audit process, then they “used” the
2 records and the records became subject to production under the Public Records Act. Any
3 notification and compliance letter that was not reviewed was not subject to public disclosure and
4 privacy was maintained. Under the Second Draft Order, while the Executive Officer has the
5 discretion to review records, until such records are actually “used” in the same manner as the
6 Central Coast Water Board used the records in *Zamora*, the *Zamora* case findings are not
7 applicable. Thus, *Zamora* is not instructive and, in any case, is not binding precedent on this
8 agency or any court.

9 **3. ESJ Coalition’s Proposed Revisions to the Second Draft Order to**
10 **Clarify the Importance of Protecting Grower-Specific Information.**

11 As discussed *supra* at V.A., determining an appropriate and effective balance between the
12 protection of growers’ privacy interests and public interest in access to water quality data has
13 been a topic of extensive discussion and testimony over the course of many years. As such, the
14 balance between these interests that is set forth in the Second Draft Order, which permits the
15 public release of field-level data while maintaining a grower’s anonymity of name and property
16 location information, represents a significant compromise and achievement given the advocacy of
17 the various parties on behalf of their respective positions over the years. In light of the ongoing
18 concerns of various groups regarding the protection of any privacy interests, ESJ Coalition
19 proposes that the State Board add additional findings to the Second Draft Order to bolster its
20 conclusion to permit grower anonymity regarding names and property locations, while providing
21 full access to other field-level data. The inclusion of additional specific findings will serve to
22 further support the State Board’s order in this regard and ensure that its specific findings upon
23 which the decision is based are memorialized.

24 **B. ESJ General Order as Adopted by the Central Valley Water Board Is**
25 **Consistent With State’s Antidegradation Policy.**

26 Contrary to arguments put forward by AGUA and other environmental interests, the ESJ
27 General Order, and the Central Valley Water Board’s adoption thereof, is consistent and complies
28 with the state’s antidegradation policy, which is applied to the ESJ General Order is embodied in

1 State Board Resolution 68-16 (Statement of Policy with Respect to Maintaining High Quality
2 Waters of California, Resolution 68-16.). Notably, Resolution 68 16 was adopted prior to Porter-
3 Cologne, the Federal Clean Water Act, and the Basin Plans to which it has now been
4 incorporated. Its adoption was encouraged by the United States Department of the Interior as the
5 United States Environmental Protection Agency was not yet in existence. According to
6 Resolution 68-16, the State Board's intent and purpose in its adoption was "that such higher
7 quality [waters] shall be maintained to the maximum extent possible consistent with the
8 declaration of the Legislature." Further, the Legislature's action in question was aimed towards
9 surface water, as evidenced by the policy's additional statement that, "[w]hereas the California
10 Legislature has declared that it is the policy of the State that the granting of permits and licenses
11 for unappropriated water and the disposal of waste into the waters of the State shall be so
12 regulated as to achieve highest water quality consistent with maximum benefit to the people of
13 the State and shall be controlled so as to promote the peace, health, safety and welfare of the
14 people of the State" The State Board has recognized this application to surface water in
15 previously adopted orders.

16 Nonetheless, the State Board applies Resolution 68 16 to groundwater, and has issued
17 significant orders that up until the Second Draft Order have controlled how Resolution 68 16 is
18 applied to discharges to groundwater. Generally, the State Board has made clear that the
19 antidegradation policy is not a "zero-discharge" policy. But beyond that, and as the Second
20 Draft Order appropriately acknowledges, the State Board has provided little guidance or direction
21 regarding application of Resolution 68-16 to nonpoint sources. (Second Draft Order, p. 82.) We
22 agree with statements in the Second Draft Order that it is inappropriate to apply the discrete point
23 source approach in the context of this General Order, and to other discharges similar to those
24 addressed in this Second Draft Order. Accordingly, we support the direction provided in the
25 Second Draft Order with respect to antidegradation considerations in the context of nonpoint
26 source pollution. In addition, in Attachment 1 to this submittal, we propose clarifying text to
27 section B of the Second Draft Order.
28

1 Next, additional revisions to the Second Draft Order incorporate Groundwater Quality
2 Protection Targets that will further address environmental interest criticisms claiming that the ESJ
3 General Order does not comply with Resolution 68-16. These revisions will be forthcoming as
4 soon as possible. In summary, Groundwater Quality Protection Targets will help to evaluate
5 potential nitrogen impacts to groundwater. The formula that will be developed to calculate
6 protection targets will need to account for total applied nitrogen, total removed nitrogen,
7 precipitation and recharge conditions, and other relevant and scientifically justified factors. Once
8 established, this formula would then be used to establish target values for nitrogen for townships.
9 The township target values will then need to be computed to be protective of groundwater quality
10 – consistent with Resolution 68-16.

11 **C. ESJ General Order as Adopted by the Central Valley Water Board Is**
12 **Consistent With the State’s Nonpoint Source Policy.**

13 A fundamental issue in the environmental petitions as well as the Second Draft Order is
14 application of the Nonpoint Source Policy, and its direction that management practices need to
15 have a “high likelihood of leading to attainment of water quality requirements and direction to
16 incorporate sufficient feedback mechanisms to determine if, in fact, the program is meeting its
17 stated purposes.” (Second Draft Order, p. 11.) The Second Draft Order concludes, that with the
18 changes proposed, the ESJ General Order is consistent with the Water Code and with the
19 Nonpoint Source Policy. As a preliminary matter, we disagree that the proposed revisions are
20 necessary for the ESJ General Order to meet and comply with the Water Code and the Nonpoint
21 Source Policy. The ESJ General Order in its current configuration satisfies the Water Code and
22 the Nonpoint Source Policy, and revisions are unnecessary. However, to the extent that the ESJ
23 Coalition has agreed to increase certain types of field level reporting - as long as individual
24 grower names and farm locations remain confidential – we do not oppose certain revisions.

25 Overall, the ESJ General Order meets all intents and purposes with respect to the
26 Nonpoint Source Policy. As discussed at length in the Second Draft Order, the ESJ General Order
27 includes multiple provisions that are designed to ensure compliance with the Nonpoint Source
28 Policy’s key elements and there is no need to repeat that here. (Second Draft Order, pp. 11-21.)

1 **D. Central Valley Water Board and State Board do not Have Legal Authority to**
2 **Use ESJ General Order to Require Replacement Water.**

3 In its June 1, 2016 letter, the AGUA petitioners state that the ESJ General Order needs to
4 be revised to require the provision of replacement water. Not only should the ESJ General Order
5 not be revised accordingly, but it would be improper for the ESJ General Order to include
6 replacement water orders under current law and policy.

7 A waste discharge requirements (WDR) order, like the ESJ General Order, is not the
8 proper vehicle for requiring growers to provide replacement water. WDR orders are issued
9 pursuant to Water Code section 13263. This section provides that WDR orders must “prescribe
10 requirements as to the nature of any proposed discharge, existing discharge, or material change in
11 an existing discharge, except discharges into a community sewer system, with relation to the
12 conditions existing in the disposal area or receiving waters upon, or into which, the discharge is
13 made or proposed.” (Wat. Code, § 13263(a).) These requirements must also implement any
14 relevant water quality control plan, generally referred to as a basin plan, and consider water
15 quality objectives, beneficial uses, and other factors. (*Ibid.*) Absent from the provisions in Water
16 Code section 13263 is any authority for the State Board or a regional water quality control board
17 to require that the discharger pay for or provide replacement water supplies, or take other
18 remedial actions.

19 Water Code section 13304, on the other hand, authorizes the State Board to issue cleanup
20 and abatement orders (CAOs) to dischargers whose discharges have violated WDRs, or who
21 discharge or threaten a discharge that creates or threatens to create a condition of pollution or
22 nuisance. (Wat. Code, § 13304(a); see also *In the Matter of the Petition of BKK Corporation*,
23 State Water Resources Control Board Order No. WQ 86-13, p. 10.) A CAO may require “the
24 provision of, or payment for, uninterrupted replacement water service, which may include
25 wellhead treatment, to each affected public water supplier or private well owner.” (*Ibid.*)

26 Accordingly, a CAO under Water Code section 13304 is the only legal mechanism at this
27 time available to the State Board to require the provision of replacement water – not a WDR
28 order. Because the Second Draft Order is a WDR order issued pursuant to Water Code section

1 13263, it is improper for the Second Draft Order to revise the ESJ General Order to include a
2 requirement for growers to provide, or pay for the provision of, replacement water.

3 Additionally, pending amendments to the Water Quality Control Plans for the Sacramento
4 River and San Joaquin River Basins and Tule Lake Basin (Basin Plans), formulated by the
5 comprehensive stakeholder effort CV-SALTs, will address replacement water needs as part of
6 alternative compliance pathways. However, until such time that the Basin Plans are amended, the
7 State Board has no authority to require replacement as a direct provision in the ESJ General
8 Order.

9 Pending legislation, if passed, could also address replacement water needs, therefore
10 obviating any need to include replacement water requirements in the Second Draft Order.

11 **E. ESJ General Order Properly Includes Time Schedules, as Allowed Under**
12 **Applicable Statute.**

13 Next, both AGUA and ELF make improper legal arguments claiming that ten-year
14 compliance schedules are unlawful. The time schedule provisions included in the ESJ General
15 Order are a proper statutory tool for allowing sufficient time for nonpoint source dischargers to
16 comply with water quality standards. Water Code section 13263, subdivision (c) provides that
17 waste discharge requirements “may contain a time schedule, subject to revision in the discretion
18 of the [water] board.” The Central Valley Water Board is clearly vested with the discretion to
19 include time schedules in WDRs, and has open discretion to determine the necessary duration of
20 that time schedule. Further, time schedules should include schedules when it appears that the
21 discharger cannot meet the requirements immediately. (See, e.g., Cal. Code Regs., tit. 23, §
22 2231.) Therefore, the Central Valley Water Board has the discretion and authority to include a
23 ten-year time schedule in the ESJ General Order.

24 Contrary to assertions by AGUA, ELF, and others, a ten-year (or longer) time schedule is
25 not unreasonable, and comports with applicable state law. First, Basin Plan provisions referenced
26 by AGUA apply only to time schedules that are included in National Pollutant Discharge
27 Elimination System (NPDES) permits; i.e., permits that are issued by the Central Valley Water
28 Board under the federal Clean Water Act, 33 U.S.C., § 1342(a). (Basin Plan (July 2016 rev.), at

1 p. IV-16.03.) The Second Draft Order is not an NPDES permit, but waste discharge requirements
2 (WDRs) issued pursuant to the California Porter-Cologne Water Quality Act, Water Code
3 sections 13000 et seq. (Porter-Cologne). Therefore, the ten-year maximum limitation does not
4 apply to the ESJ General Order. The Basin Plan itself notes that “[t]ime schedules in waste
5 discharge requirements are established consistent with Water Code Section 13263.” (Basin Plan
6 (July 2016 rev.), at p. IV-16.03.)

7 Additionally, the Policy for Implementation and Enforcement of the Nonpoint Source
8 Pollution Control Program (Nonpoint Source Policy) in Key Element 3 does not establish a
9 maximum duration for implementation time schedules, instead providing that a time schedule
10 “may not be longer than that which is reasonably necessary to achieve . . . water quality
11 objectives.” (Nonpoint Source Policy (2004), at p. 13.) This reflects the discretion given to the
12 regional boards in Water Code section 13263, subdivision (c) to create time schedules as they
13 deem appropriate. Accordingly, the ten-year time schedules allowed in the ESJ General Order
14 comply with Porter-Cologne.

15 **F. The ESJ General Order Does Not Have Disparate, Negative Impacts on**
16 **Protected Classes.**

17 The AGUA Petitioners assert that the ESJ General Order disproportionately impacts
18 communities with residents of color and lower income, which purportedly rises to the level of
19 violating various state antidiscrimination statutes generally, as well as in the fair housing and land
20 use and planning contexts. (See Petition, *supra*, p. 26 - 27.) The AGUA Petitioners do not
21 provide a scintilla of legal or factual analysis in support of their positions. Nevertheless, for the
22 reasons set forth below, the ESJ General Order does not violate any of the aforementioned
23 provisions.

24 California’s discrimination prohibition under Government Code Section 11135 mirrors the
25 language of the federal anti-discrimination statute. (Gov. Code, § 11135, subd. (a); cf. 42 U.S.C.
26 § 2000d.) Accordingly, examples of discrimination claims brought under the federal statute are
27 illustrative in evaluating what programs or activities do, and do not, result in a disparate impact
28 under the state statute and are, therefore, unlawful. (*Darensburg v. Metro. Transp. Comm’n* (9th

1 Cir. 2011) 636 F.3d 511) (plaintiffs' allegation that the transportation commission engaged in
2 funding decisions that adversely affected minority riders on the bus system, in violation of
3 Government Code Section 11135, failed because disparate impact was not proven.) A disparate
4 impact claim requires more than a bare assertion of disproportionate effect; instead, the claim
5 necessitates comparison between those persons affected, and those unaffected, by the policy or
6 decision. (*Id.* at p. 519-520, citation omitted.) Such a comparison requires use of an appropriate
7 measure against which to evaluate the disparate impact, if any. Statistics alone, unless found to
8 be reasonably reliable measures of impact, are insufficient to support a finding of disparate
9 impact. (*Id.* at p. 519.)

10 Here, the AGUA Petitioners reference generally a non-peer reviewed whitepaper and
11 research report, respectively, in support of their disproportionate effect allegation. (See Petition,
12 *supra*, at p. 26.) The AGUA Petitioners, however, provide neither evidence, firm statistics, nor
13 even a comparison of the impact that the ESJ General Order would have against any other group,
14 hypothetically or actual, in furtherance of this assertion. Instead, they rely on bare assertions
15 purportedly bolstered by reports that are not in the administrative record.

16 Further, the ESJ General Order does not solely affect certain groups within the Eastern
17 San Joaquin River Watershed area and not others. The ESJ General Order is applicable to the
18 entire populous of the Eastern San Joaquin River Watershed area, with no differentiation made
19 between the community groups and populations therein.⁹ Therefore, the impact, if any, of the
20 ESJ General Order does not disproportionately affect Latinos and low-income groups over
21 another group (the essence of a disparate impact claim); instead, it affects the populous of the
22 entire Eastern San Joaquin River Watershed area – as a whole. Accordingly, the AGUA
23 Petitioners' assertion that the ESJ General Order disproportionately effects low-income and
24 Latino groups within the Eastern San Joaquin River Watershed area is without merit.

25 California's Fair Employment and Housing Act (FEHA) classifies the ability to seek,
26 obtain, and hold housing without discrimination based upon race, national origin, and source of
27

28 ⁹ Please see ESJ Coalition's proposed revisions on this issue. (ESJ revisions to the Second Draft Order at p. 55.)

1 income, among others, as civil rights. (Gov. Code, § 12921, subd. (b).) The AGUA Petitioners
2 simply assert, without explanation, that the ESJ General Order somehow infringes upon these
3 rights. (See Petition, *supra*, at p. 27.) The AGUA Petitioners do not provide a basis for how, or
4 the manner in which, the ESJ General Order discriminates, either intentionally or effectively,
5 against the aforementioned classes with respect to housing accommodations. (See Gov. Code, §
6 12955.8) (proof of intentional violation or proof of discriminatory effect required to prove
7 unlawful practices under FEHA.). Instead, the AGUA Petitioners merely cite to studies
8 documenting some of the water quality issues in the San Joaquin Valley. (See Petition, *supra*, at
9 p. 26.) The AGUA Petitioners also fail to recognize that the unlawful practices outlined in
10 California's FEHA generally apply only to owners and sellers of housing accommodations,
11 financial institutions that provide financing for housing accommodations, and persons/entities
12 whose business involves real estate-related transactions. (See Gov. Code § 12955.) The State
13 and regional water boards are no such institutions. Thus, the assertion that the ESJ General Order
14 violates and civil right related to fair housing pursuant to California's FEHA is simply wrong.

15 Finally, the AGUA Petitioners assert that the ESJ General Order will fail to protect
16 drinking water to such a degree that it will be tantamount to an invalid discriminatory act,
17 pursuant to Government Code Section 65008. (See Petition, *supra*, at p. 27.) However, the
18 reliance thereon is misapplied. Section 65008 applies to land use and planning decisions that
19 deny persons enjoyment of residence, land ownership, or tenancy, because of protected class
20 characteristics, as well as a source of financing for, or intended occupancy of, a residential
21 development. (Gov. Code, § 65008, subd. (a)(1)-(3))(such actions are rendered null and
22 void.) Indeed, this provision is part of the Conservation and Planning Act. (See Gov. Code, §
23 65006.) Any concomitant impact of the ESJ General Order would not be the result of actions by
24 the Regional Water Board because of the San Joaquin Valley residents' race, national origin,
25 color, or income level. Rather, the Central Valley Water Board's actions in the ESJ General
26 Order are based upon the extensive scientific monitoring data deemed appropriate to set discharge
27 standards that protect surface water and groundwater in the Central Valley. The AGUA
28 Petitioners assume too much and, at this point, their bare assertion is purely speculative.

1 **G. The AGUA Petitioners Failed to Exhaust their Administrative Remedies**
2 **Regarding Issues of Violating State Discrimination Statutes.**

3 The AGUA Petitioners failed to exhaust their administrative remedies with respect to all
4 of the discrimination allegations made in the Petition. Thus, such issues are not properly before
5 the State Board. The exhaustion of administrative remedies doctrine includes the issue
6 exhaustion rule, which mandates that a party raise all issues in all stages of the administrative
7 process at which the agency may consider such issues. (*Edgren v. Regents of University of*
8 *California* (1984) 158 Cal.App.3d 515, 520, citations omitted.) In this context, when regional
9 boards take administrative actions, aggrieved parties may appeal a regional board's decision to
10 the State Board within 30 days. Water Code section 13320(a) states in relevant part: "Within 30
11 days of any action or failure to act by a regional board . . . an aggrieved person may petition the
12 state board to review that action or failure to act." General statements before the regional board
13 are insufficient to meet the issue exhaustion requirement. Instead, a petitioner must raise issues
14 with enough specificity to alert the agency of the issues, so the agency may then have an
15 opportunity to respond. (*North Coast Rivers Alliance v. Marin Municipal Water Dist. Bd. of*
16 *Directors* (2013) 216 Cal.App.4th 614, 631 (comment letters submitted to the District regarding
17 inconsistencies with policies of the County Plan, even when afforded generous interpretation,
18 failed to give the District an opportunity to evaluate and respond to an alleged CEQA violation).)

19 The AGUA Petitioners assert that the ESJ General Order violates FEHA. (See Petition,
20 *supra*, at p. 27.) At no time was the issue, or even topic, of a potential FEHA violation
21 introduced before the Central Valley Water Board. As such, the claim that the ESJ General Order
22 constitutes an unlawful violation of FEHA must fail for failure to exhaust administrative
23 remedies.

24 Similarly, the AGUA Petitioners assert that the ESJ General Order's purported
25 disproportionate impact on lower income and Latino communities rises to the level of violating
26 other state discrimination statutes, specifically Government Code Sections 65008 and
27 11135. (See Petition, *supra*, at p. 27.) Again, the idea that the ESJ General Order violates
28 specifically enumerated discrimination statutes was never raised before the Central Valley Water

1 Board. It is true that in a March 21, 2011 comment letter the AGUA Petitioners generally
2 discussed the disproportionate impact issue. However, they never alleged or discussed such an
3 impact rising to the level of a violation of a specifically enumerated anti-discrimination statute
4 and certainly did not identify which statute or statutes that were purported to be violated. (See
5 RB AR, at pp. 3949 - 3956.) These issues were not properly raised below, which abrogated the
6 Central Valley Water Board's opportunity to respond thereto. Thus, any argument that the
7 AGUA Petitioners met the burden to exhaust their administrative remedies as to Government
8 Code Sections 65008 and 11135 before the Central Valley Water Board is tenuous, at best.

9 **VI. CONCLUSION**

10 Based on the foregoing reasons, the ESJ Coalition recommends changes consistent with
11 our comments above and those on the ESJ Revisions to the Second Draft Order.

12
13
14 SOMACH SIMMONS & DUNN
A Professional Corporation

15
16
17 DATED: December 22, 2017

18 By: 
Theresa A. Dunham
Attorneys for Real Party in Interest East San
Joaquin Water Quality Coalition

This version of the October 10, 2017, Second Staff-Proposed Order has been provided to commenters in Microsoft Word, with all revisions accepted, upon their request for purposes of preparation of written comments.

SECOND DRAFT

10/10/17

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

ORDER WQ 2018-

In the Matter of Review of
Waste Discharge Requirements General Order No. R5-2012-0116
for Growers Within the Eastern San Joaquin River Watershed
that are Members of the Third-Party Group

Issued by the
California Regional Water Quality Control Board,
Central Valley Region

SWRCB/OCC FILES A-2239(a)-(c)

BY THE BOARD:

In this order, the State Water Resources Control Board (State Water Board or Board) reviews on its own motion Waste Discharge Requirements (WDRs) General Order No. R5-2012-0116 issued by the Central Valley Regional Water Quality Control Board (Central Valley Water Board) for Growers within the Eastern San Joaquin River Watershed that are Members of a Third-Party Group (hereinafter "Eastern San Joaquin Agricultural General WDRs" or "General WDRs"). The Eastern San Joaquin Agricultural General WDRs authorize discharges from irrigated lands¹ operations to waters of the state within the Eastern San Joaquin River Watershed and set forth a number of requirements for monitoring and planning, for implementation and evaluation of management practices, and for participation in various education and outreach events. For the reasons discussed herein, the State Water Board generally upholds the structure and requirements of the Eastern San Joaquin Agricultural General WDRs, but directs a number of revisions, primarily to add greater specificity and transparency in reporting of management practice implementation, to require reporting of certain nitrogen application-related data needed for management of excess nitrogen use, and to expand the surface water and groundwater quality monitoring programs of the General WDRs. Many of the revisions to the Eastern San Joaquin Agricultural General WDRs implement the conclusions of an agricultural expert panel that made

¹ Irrigated lands are lands irrigated to produce crops or pasture for commercial purposes, nurseries, and privately and publicly managed wetlands. (Eastern San Joaquin Agricultural General WDRs, Attach. E, Definitions, p.3.)

SECOND D R A F T

10/10/17

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I. BACKGROUND

California's agricultural industry produces more than 400 commodities at over 75,000 farms and ranches and is a significant part of the state's economy, providing a large percentage of fruits and vegetables for the nation. Agriculture is especially significant within the Central Valley, where it represents over seven million acres of irrigated lands, approximately one million of which are in the Eastern San Joaquin Watershed. The California grower community has a rich knowledge base of management and business practices, developed over several generations of farming. Because the vast majority of growers plan for the long term, they are naturally motivated to protect natural resources, through stewardship of the land. Over the last few decades, as the impacts of agricultural discharges on water quality have been further studied and understood, growers have collaborated with the regional water quality control boards and the State Water Board (collectively, "water boards"), most commonly through the mechanism of grower coalitions, to find shared solutions to address existing and potential water quality issues. At the same time, the water boards have acknowledged that growers have a legitimate interest in protecting confidential business practices and recognized the need to preserve the tradition of agriculture in California and the ongoing viability of agriculture as an essential driver of the state's economy.

Water quality impacts associated with agriculture are complex and addressing them requires pooling and focusing the knowledge, expertise, and resources of all concerned parties, including growers and their representatives, the regulatory agencies, and the environmental and environmental justice communities. The issues are especially complicated because the same activities that are essential to producing a crucial, reliable food supply – e.g. pesticide use to control pests, nitrogen to fertilize crops, irrigation to water crops – also underlie many of the critical impacts. Pesticide toxicity in surface water threatens the viability of the water bodies to support aquatic and other species. High levels of nitrates found in drinking water supply wells impact public health. Concentrated levels of salt resulting from long-term irrigation adversely

² Conclusions of the Agricultural Expert Panel, Recommendations to the State Water Resources Control Board pertaining to the Irrigated Lands Regulatory Program (Sept. 9, 2014), available at <http://www.swrcb.ca.gov/water_issues/programs/agriculture/docs/ILRP_expert_panel_final_report.pdf> (as of Oct. 6, 2017) (Agricultural Expert Panel Report). We take official notice of the Agricultural Expert Panel Report. (Cal. Code Reg., tit. 23, § 648.2.)

SECOND D R A F T

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affect the quality of groundwater for irrigation, municipal, and other uses. Collectively, we have a responsibility to acknowledge these impacts and address them, but in a manner that preserves the economic viability of agriculture. In some cases, historic agricultural practices have resulted in the impacts we see today. Current practices are also, in some cases, causing impacts and although agricultural practices have generally improved over time, we have an obligation to continue to develop appropriate solutions. This is an ongoing process that requires a thorough understanding of the complex relationship between agricultural practices and water quality impacts gained through collecting and analyzing real-world data and responding to that data with innovations in practices. This data-driven analysis of the issues forms the foundation for fair, even-handed, and reasonable regulation of irrigated lands.

The Central Valley Water Board began engaging the grower community when it adopted its first regulatory program for irrigated lands in 1982. This initial regulatory program, structured as a waiver of waste discharge requirements under Water Code section 13269, conditionally waived the requirement for submittal of a report of waste discharge for irrigation return flow as long as the discharge did not cause toxicity or excess sediment discharges that would violate turbidity objectives. In 2003, in response to revisions to Water Code section 13269,³ the Central Valley Water Board re-examined its original 1982 waiver and significantly changed its regulatory strategy for irrigated lands (2003 Central Valley Agricultural General Waiver).⁴ The 2003 Central Valley Agricultural General Waiver required surface receiving water monitoring of numerous parameters to begin identifying where irrigated lands might be contributing to water quality problems. To take advantage of local knowledge and resources, leverage limited regulatory resources, and minimize costs, the Central Valley Water Board allowed growers to form discharger coalitions, with a third-party representative responsible for grower outreach and education and for implementation of a number of the requirements of the regulatory program, including representative monitoring. In 2006, the Central Valley Water Board modified the 2003 Central Valley Agricultural General Waiver, retaining the third-party structure, but now also requiring submission of management plans when water quality problems were

³ There were two relevant amendments to Water Code section 13269. The first amendment required the regional water boards to terminate or extend all existing waivers of WDRs on or before January 1, 2003. Thereafter, waivers of WDRs were not allowed to exceed five years in duration. (See Stats. 1999, ch. 686, § 2.) The second amendment required waivers of WDRs to contain monitoring provisions unless the regional water board determined that the discharge did not pose a significant threat to water quality. (See Stats. 2003, ch. 801, § 1.)

⁴ Central Valley Water Board Resolution R5-2003-0105, Administrative Record (AR) 00001-00012. In addition to the 2003 Central Valley Agricultural General Waiver, Resolution R5-2003-0105 adopted a second conditional waiver for individual dischargers that chose not to join a coalition.

SECOND D R A F T

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identified (2006 Central Valley Agricultural General Waiver).⁵ The 2006 Central Valley Agricultural General Waiver was renewed for an additional two years in 2011.

When the Central Valley Water Board issued the 2006 Central Valley Agricultural General Waiver, the Board committed to preparing an environmental impact report (EIR) pursuant to the California Environmental Quality Act (CEQA) that would comprehensively address discharges of waste from irrigated lands to all waters of the state, both surface water and ground water. The Draft Programmatic EIR was released in July 2010 and the Final Programmatic EIR was certified by the Central Valley Water Board on April 7, 2011.⁶ The Programmatic EIR was challenged by numerous parties, including two of the petitioners in this proceeding. On May 21, 2013, the Sacramento County Superior Court issued a final ruling that rejected the challenges to the Programmatic EIR.⁷ The final ruling was not appealed.

After certification of the Final Programmatic EIR, the Central Valley Water Board began working with a stakeholder advisory workgroup and a groundwater monitoring advisory workgroup to further develop its long-term irrigated lands regulatory program (ILRP). The Central Valley Water Board set out to issue watershed-specific or commodity-specific WDRs instead of one region-wide waiver of WDRs like the 2006 Central Valley Agricultural General Waiver. In April 2012, the Central Valley Water Board issued the first set of draft WDRs for the Eastern San Joaquin River Watershed, conducted several public workshops and multiple meetings with stakeholders and interested parties, and held a hearing in November 2012.

On December 7, 2012, the Central Valley Water Board adopted the Eastern San Joaquin Agricultural General WDRs.⁸ The Eastern San Joaquin Agricultural General WDRs

⁵ Central Valley Water Board Order No. R5-2006-0053, AR 01037-01069. As in 2003, the Central Valley Water Board also adopted a separate conditional waiver for individual dischargers not joining a coalition. (Central Valley Water Board Order No. R5-2003-0054.)

⁶ Central Valley Water Board Resolution No. R5-2011-0017, AR 03720-03721.

⁷ *San Joaquin County Resource Conservation Dist., et al. v. Cal. Regional Water Quality Control Bd., Central Valley Region, et al.* (Super. Ct. Sacramento County, 2013, No. 34-2012-80001186). We take official notice of the final ruling. (Cal. Code Reg., tit. 23, § 648.2.)

⁸ The Central Valley Water Board has since amended the Eastern San Joaquin Agricultural General WDRs five times. We take official notice of the amended versions of the Eastern San Joaquin Agricultural General WDRs. (*Ibid.*) The Central Valley Water Board adopted amendments to the General WDRs on October 3, 2013, on March 27, 2014, on April 17, 2015, on October 2, 2015, and on February 19, 2016. Our references and citations to the Eastern San Joaquin Agricultural General WDRs is to the version effective on October 2, 2015. The amendments on February 19, 2016, are not reflected in this order or its attachments, but those amendments relate only to managed wetlands and irrigated pasture with no external nitrogen inputs and are therefore not affected by our order. The October 2, 2015 version was not submitted as part of the administrative record prepared by the Central Valley Water Board, but is available at http://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2012-0116-r3.pdf (as of Oct. 6, 2017). We also note that the October 3, 2013, amendment clarified that any reports approved by or determinations made by the Executive Officer of the Central Valley Water Board in accordance with the terms of the General WDRs are reviewable by the Board itself upon request. (Eastern San Joaquin Agricultural

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regulate discharges to groundwater from irrigated lands as well as surface water discharges. The Eastern San Joaquin Agricultural General WDRs carry forward many of the program elements from the 2006 Central Valley Agricultural General Waiver. These elements include allowance of a third party to represent the growers, outreach and education requirements, representative monitoring of receiving waters (as opposed to farm discharge monitoring), annual reporting, requirements to implement and evaluate management practices, and receiving water limitations. The Eastern San Joaquin Agricultural General WDRs add programs for groundwater monitoring and groundwater protection, including implementation of groundwater management plans.

The requirements of the Eastern San Joaquin Agricultural General WDRs are discussed in greater detail in the sections that follow. In brief summary, the General WDRs assign certain requirements to the individual growers (Members) and certain requirements to the coalition (Third Party).⁹ Each Member must meet receiving water limitations (except where the Third Party is implementing a management plan to address known exceedances caused by agricultural discharges), which prohibit the Member from causing or contributing to exceedances of applicable water quality objectives in surface water and groundwater. Each Member must also implement management practices that minimize waste discharge to surface water and groundwater and protect wellheads from surface water intrusion. Each Member is responsible for conducting farm evaluations, which must document the Member's management practices. Each Member is required to prepare and implement a nitrogen management plan that meets the Eastern San Joaquin Agricultural General WDRs' requirement to minimize nutrient application relative to crop need. Members in areas susceptible to erosion must prepare and implement sediment and erosion control plans.

The Third Party, in turn, must conduct education and outreach activities, collect data from Members regarding management practice implementation and nitrogen application and analyze and report aggregated information on such implementation to the Central Valley Water Board. The Third Party is also responsible for maintaining the collected data and submitting the data to the Regional Board upon request. The Third Party must conduct surface water and groundwater quality monitoring. In response to certain triggers, including exceedances of water quality objectives in surface water or groundwater, the Third Party must prepare and submit to the Central Valley Water Board management plans to address water quality issues in a given area

General WDRs, Attach. A, Information Sheet, p.27.) As a result, we do not take up the argument made by Environmental Petitioners regarding improper delegation of certain review and approvals to the Executive Officer.

⁹ Throughout this order, references to the "Third Party" are to the third-party group referenced in the Eastern San Joaquin Agricultural General WDRs; references to a "third party," "third-party group," or "third-party approach/structure" are to agricultural coalitions generally.

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and implement those plans in accordance with a specific schedule for implementation of improved or additional management practices and other tasks by Members. The Third Party that has taken on this responsibility under the Eastern San Joaquin Agricultural General WDRs is the East San Joaquin Water Quality Coalition.

The Eastern San Joaquin Agricultural General WDRs assign some of the above requirements based on threat to water quality: regulatory requirements are heightened in higher threat geographic areas (called "high vulnerability areas"), whereas lower threat geographic areas have fewer requirements (called "low vulnerability areas").

In response to the Central Valley Water Board's adoption of the Eastern San Joaquin Agricultural General WDRs, three timely petitions for review were filed with the State Water Board by Asociación de Gente Unida por el Agua, et al. (AGUA), by the California Sportfishing Alliance and California Water Impact Network (CSPA), and by San Joaquin County Resource Conservation District, et al. (SJCRCD) (collectively "Petitioners"). After deeming the petitions complete, consolidating them for review, receiving a response to the petitions and the administrative record from the Central Valley Water Board, and responses to the petitions from interested persons, we adopted Order WQ 2014-0135 on August 5, 2014, taking this matter up on our own motion. We granted own motion review in order to have sufficient time to adequately review the submissions and to allow for completion of a report by the Agricultural Expert Panel (Agricultural Expert Panel Report) prior to making decisions on related issues raised in the petitions.

The Agricultural Expert Panel Report grew out of a legislative effort to address nitrate in groundwater. In 2008, the Legislature added section 83002.5¹⁰ to the Water Code requiring the State Water Board to develop pilot projects focusing on nitrate in groundwater in the Tulare Lake Basin and the Salinas Valley, and to submit a report to the Legislature. In its report, the State Water Board made fifteen recommendations including Recommendation #11, calling for a task force to identify intended outcomes and expected benefits of a nitrogen mass balance tracking system, and Recommendation #14, calling for a panel of experts to assess existing agricultural nitrate control programs and develop recommendations to ensure that ongoing efforts are protective of groundwater quality.

The task force (Nitrogen Tracking Task Force) was convened by the California Department of Food and Agriculture (CDFA), in coordination with the water boards and with participation by stakeholders and experts from agricultural organizations, academia, and the

¹⁰ Added by Stats. 2007-2008, 2nd Ex.Sess., ch. 1 (S.B.1), § 6, eff. March 1, 2009.

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environmental advocacy community. The Nitrogen Tracking Task Force issued its final report in December of 2013. The report made recommendations on the appropriate components of an effective nitrogen tracking and reporting system, including data elements that should be tracked and reported.¹¹ We consider those recommendations in this order.

The panel of experts (Agricultural Expert Panel) was convened by the State Water Board, in coordination with CDFA, and considered all existing studies, programs, and efforts for agricultural nitrate control, including the recommendations of the Nitrogen Tracking Task Force.

On September 24, 2013, concurrent with the proceedings of the Nitrogen Tracking Task Force, but prior to convening the Agricultural Expert Panel, the State Water Board adopted Order WQ 2013-0101, reviewing the Central Coast Regional Water Board's (Central Coast Water Board) waiver of WDRs for irrigated lands (Central Coast Agricultural Order). We stated in that order that many of our conclusions represented an interim approach to regulation of agriculture, pending further consideration by the Agricultural Expert Panel. As we laid out in Order WQ 2013-0101, we referred a number of additional questions regarding the development of an appropriate agricultural regulatory program to the Agricultural Expert Panel for consideration, primarily questions specific to agricultural nitrate control programs, but also questions regarding appropriate risk or vulnerability determinations for purposes of tiering requirements and regarding effective surface water monitoring.¹² Many of these questions are relevant to the current proceedings.

¹¹ The Nitrogen Tracking Task Force's final report is available at <https://www.cdfa.ca.gov/environmentalstewardship/PDFs/NTRSTFFinalReport122013.pdf> (as of Oct. 6, 2017) (Nitrogen Tracking and Reporting Task Force, Final Report (Dec. 2013)) (Nitrogen Tracking Task Force Report). We take official notice of the Nitrogen Tracking Task Force Report. (Cal. Code Reg., tit. 23, § 648.2.)

¹² The following questions were posed to the Agricultural Expert Panel: "1. How can risk to or vulnerability of groundwater best be determined in the context of a regulatory program such as the Irrigated Lands Regulatory Program (ILRP)? 2. Evaluate and develop recommendations for the current approaches taken to assessing risk to or vulnerability of groundwater. 3. How can risk to or vulnerability of surface water best be determined in the context of a regulatory program such as the ILRP? 4. Evaluate and develop recommendations for the current approaches taken to assessing risk to or vulnerability of surface water. 5. What management practices are expected to be implemented and under what circumstances for the control of nitrogen? 6. What management practices are recommended for consideration by growers when they are selecting practices to put in place for the control of nitrogen? 7. Evaluate and make recommendations regarding the usage of various nitrogen management and accounting practices. 8. Evaluate and make recommendations regarding the most effective methods for ensuring growers have the knowledge required for effectively implementing recommended management practices. 9. What measurements can be used to verify that the implementations of management practices for nitrogen are as effective as possible? 10. Evaluate and make recommendations regarding the usage of various verification measurements of nitrogen control. 11. Evaluate the relative merits, and make recommendations regarding the usage of, surface water measurement systems derived from either receiving water or a discharge monitoring approach to identify problem discharges. 12. Evaluate and make recommendations on how best to integrate the results of the Nitrogen Tracking and Reporting System Task Force with any above recommendation regarding management practices and verification measures. 13. Evaluate and make recommendations on the reporting requirements to report budgeting and recording of nitrogen application on a management block basis versus reporting aggregated numbers on a nitrate loading risk unit level."

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The Agricultural Expert Panel held multiple public meetings over a six-month period in Tulare, San Luis Obispo, and Sacramento, to consider the questions posed by the State Water Board. The Agricultural Expert Panel consisted of eight members with various areas of specialization including: an irrigation specialist/agricultural engineer, a soil scientist, a hydrogeologist, an agronomist, a certified crop advisor, a University of California Cooperative Extension farm advisor, a Central Coast grower, and a Central Valley grower. The Agricultural Expert Panel released a draft report in July 2014 considering and answering the questions posed, took written public comment on the draft report, and issued the Agricultural Expert Panel Report on September 9, 2014. The Agricultural Expert Panel Report was presented to us on September 23, 2014, and made a number of recommendations for the regulation of irrigated lands.¹³ In this order, we consider and incorporate a number of those recommendations.

Many of the findings and directions of this order are appropriate not only for the Eastern San Joaquin Agricultural General WDRs, but also for the next generation of regional water quality control board (regional water board) agricultural regulatory programs statewide. In the sections that follow, we indicate which of our conclusions are precedential and guide irrigated lands programs statewide.¹⁴ Our conclusions are intended to guide irrigated lands programs that directly regulate growers without a third-party intermediary, in addition to third-party based programs, except where specifically noted.

The specific recommendations made by the Agricultural Expert Panel and endorsed by us in this order are discussed under the appropriate topics in the next section.¹⁵

(Agricultural Expert Panel Report, p. i.) Upon request from the Agricultural Expert Panel, the State Water Board provided additional clarification on several of the questions. (See Agricultural Expert Panel Report, Appen. C.)

¹³ The Agricultural Expert Panel proceedings are detailed at http://www.swrcb.ca.gov/water_issues/programs/agriculture/ (as of Oct. 6, 2017). In addition to the Agricultural Expert Panel Report, we take official notice of the proceedings of the Agricultural Expert Panel. (Cal. Code Reg., tit. 23, § 648.2.)

¹⁴ Generally, State Water Board petition orders are precedential unless otherwise designated. (State Board Order WR 96-1 (Lagunitas Creek), at fn. 11.) Here, because of the significant variation in agricultural practices statewide, automatic application of all requirements endorsed in this Order to all of the agricultural discharge programs statewide is inappropriate.

¹⁵ In reviewing the Eastern San Joaquin Agricultural General WDRs, we also take into account some of our precedential determinations in State Water Board Order WQ 2013-0101. While the Central Coast Water Board's approach to regulating irrigated lands has significant differences when compared to the Central Valley Water Board's approach, there are a number of overlapping issues raised by both sets of petitions for review. However, State Water Board Order WQ 2013-0101 is the subject of current litigation. On September 30, 2015, the County of Sacramento Superior Court issued a judgment and peremptory writ of mandate compelling the State Water Board to set aside Order WQ 2013-0101 and reconsider the Central Coast Agricultural Order. The judgment and writ issued in accordance with a Ruling on Submitted Matter, dated August 10, 2015 (*Monterey Coastkeeper et al. v. State Water Resources Control Bd.* (Super Ct. Sacramento County, 2015, No. 34-2012-80001324) (Sacramento Superior Court Ruling) in which the court considered a number of the issues decided in Order WQ-2013-0101. Our appeal of the judgment and writ is currently pending. (*Monterey Coastkeeper et al. v. State Water Resources Control Bd.*, app. pending.) Accordingly, we reference our findings and conclusions in Order WQ-2013-0101 in this order only where

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II. ISSUES AND FINDINGS

The three petitions raise a number of issues concerning the Central Valley Water Board's adoption of the Eastern San Joaquin Agricultural General WDRs. To the extent petitioners raise issues that are not discussed in this order, either in whole or in part, such issues are dismissed as not raising substantial issues appropriate for our review.¹⁶

In particular, although we have carefully reviewed the petition filed by SJCRCD, we have not taken up the issues raised in that petition, primarily because the issues have already been resolved through a court ruling and through our precedential order WQ 2013-0101 issued since SJCRCD filed its petition. The majority of SJCRCD's arguments relate to the CEQA documents supporting the General WDRs and some of those arguments were resolved by the Superior Court's May 21, 2013, ruling upholding the Programmatic EIR.¹⁷ SJCRCD noted in its petition that its CEQA challenges related to the EIR were already properly pending in the litigation challenging the Programmatic EIR and were only being repeated in the petition in the event that any party or a court disagreed.¹⁸ We agree with SJCRCD that it properly raised those issues in the litigation, and we do not address them again here. SJCRCD also argues that the Central Valley Water Board was required under Water Code 13141 to incorporate an economic analysis on the costs to agriculture of the General WDRs into the relevant water quality control plans. We resolved that question in Order WQ-2013-0101 by finding that section 13141 only applies to an agricultural water quality control program that is adopted within a water quality control plan, not through a permitting action, like the Eastern San Joaquin Agricultural General WDRs.¹⁹ Nevertheless, it is important for the regional water boards to consider costs when adopting irrigated lands regulatory programs.²⁰ In this case, the Central Valley Water Board incorporated an

those findings and conclusions have not been specifically called into question by the Sacramento Superior Court Ruling. We also discuss and reference conclusions of the Sacramento Superior Court Ruling where relevant.

¹⁶ *People v. Barry* (1987) 194 Cal.App.3d 158, 175-177; *Johnson v. State Water Resources Control Bd.* (2004) 123 Cal.App.4th 1107, 1114; Cal. Code Regs., tit. 23, § 2052, subd. (a)(1).

¹⁷ *San Joaquin County Resource Conservation Dist., supra* (Super. Ct. Sacramento County, 2013, No. 34-2012-80001186).

¹⁸ SJCRCD Petition, page 2.

¹⁹ State Water Board Order WQ 2013-0101, p. 16.

²⁰ Under Water Code 13263 and 13241, "economic considerations" is one of the factors a regional water board must take into account in issuing waste discharge requirements. Additionally, section 13267 requires the regional water board to ensure that "the burden, including costs, of [monitoring] reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports."

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analysis of costs in the information sheet.²¹ We also note that the Central Valley Water Board's Water Quality Control Plan for the Sacramento and San Joaquin River Basins includes an estimate of potential costs and sources of financing for the Central Valley Water Board's long-term irrigated lands program at pages IV.38-IV.39.²²

We have taken up some of the issues raised by AGUA and CSPA. Because the issues raised by AGUA and CSPA are generally related and appropriate for consideration together, we refer hereinafter to arguments raised by AGUA and CSPA jointly as raised by the "Environmental Petitioners."

We have organized our discussion in this order to correspond to the different categories of requirements set up in the Eastern San Joaquin Agricultural General WDRs. We address the Environmental Petitioners' arguments as well as related recommendations of the Agricultural Expert Panel Report (and, where applicable, the Nitrogen Tracking Task Force Report) under each category.

The Eastern San Joaquin Agricultural General WDRs were issued under authority of the Porter-Cologne Water Quality Control Act (Porter-Cologne Act), specifically Water Code sections 13263 and 13267. Among other mandates, section 13263 requires the Central Valley Water Board to set waste discharge requirements that implement relevant water quality control plans.²³ The Eastern San Joaquin Agricultural General WDRs must primarily implement the Water Quality Control Plan for the Sacramento and San Joaquin River Basins (Basin Plan)²⁴ which sets the beneficial uses of the surface water bodies and groundwater in the region and sets water quality objectives to be achieved in those waters. The Eastern San Joaquin Agricultural General WDRs must also conform to State Water Board policies.²⁵ Of relevance here are our Policy for the Implementation and Enforcement of the Nonpoint Source Pollution Control

²¹ Eastern San Joaquin Agricultural General WDRs, Attach. A, pp. 44-48. The analysis is based on an economic study conducted for the Central Valley Water Board in support of its long-term irrigated lands program for the region. (AR 31796- 32232.)

²² See Eastern San Joaquin Agricultural General WDRs, finding 37, pp. 10-11. SJCRCD also argues that the General WDRs improperly treat crop irrigation water as a discharge of waste. To the contrary, the General WDRs specifically state that "irrigation water, the act of irrigating cropland, and the discharge of irrigation water unto itself is not 'waste' as defined by the Water Code, but . . . irrigation water may contain constituents that are considered to be 'waste' as defined by Water Code section 13050(d)." (*Id.*, p. 1, fn. 1.)

²³ Wat. Code, §13263, subd. (a).

²⁴ Available at <http://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/sacsjr.pdf> (as of Oct. 6, 2017), AR 33039-33339. In addition, the Eastern San Joaquin Agricultural General WDRs must implement applicable statewide water quality control plans.

²⁵ Wat. Code, §13146.

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Program²⁶ (Nonpoint Source Policy) and our Statement of Policy with Respect to Maintaining High Quality Waters, State Water Board Resolution No. 68-16²⁷ (Antidegradation Policy). Water Code section 13267 grants the Central Valley Water Board authority to require monitoring and reporting as a component of the Eastern San Joaquin Agricultural General WDRs. The Nonpoint Source Policy additionally directs that any nonpoint source program incorporate monitoring and reporting requirements.

We begin our review of the petitions in Section A with consideration of the Eastern San Joaquin Agricultural General WDRs' consistency with the Water Code in light of the direction provided in the Nonpoint Source Policy as to how to effectuate Water Code requirements in the context of control of nonpoint source discharges. We focus in particular on the Nonpoint Source Policy's direction to require management practices with a high likelihood of leading to attainment of water quality requirements and direction to incorporate sufficient feedback mechanisms to determine if, in fact, the program is meeting its stated purposes. Some of the arguments raised by Environmental Petitioners under the umbrella of compliance with the Antidegradation Policy concern the mandates under that policy for discharges not to unreasonably affect beneficial uses, not to result in water quality less than the quality specified by water quality objectives, and not cause a pollution or nuisance; these arguments are more appropriately considered under compliance with the Water Code and Nonpoint Source Policy and are addressed in Section A. In Section B, we separately consider the Eastern San Joaquin Agricultural General WDRs' compliance with the Antidegradation Policy's mandate to maintain high quality waters except as allowed under the Policy.

A. Compliance with the Water Code and the Nonpoint Source Policy

Agricultural discharges, including both irrigation water and storm water running off of agricultural fields into surface waters or percolating to groundwater, may carry constituents considered to be waste as defined under Water Code section 13050(d).²⁸ Water Code section 13260 requires persons "discharging waste, or proposing to discharge waste . . . that could affect the quality of the waters of the state" to file a report of waste discharge. Water Code section

²⁶ Available at <http://www.waterboards.ca.gov/water_issues/programs/nps/docs/plans_policies/nps_iepolicy.pdf> (as of Oct. 6, 2017), AR 36138-36157.

²⁷ Available at <http://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/1968/rs68_016.pdf> (as of Oct. 6, 2017), AR 35945-35946.

²⁸ "Waste" includes sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes, of disposal." (Wat. Code, §13050, subd. (b).)

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13263 in turn directs a regional water board to prescribe requirements for the discharge that “implement any relevant water quality control plans that have been adopted, and that . . . take into consideration beneficial uses to be protected, the water quality objectives reasonably required for that purpose, other waste discharges, and the need to prevent nuisance,” as well as certain additional factors, including economic considerations.²⁹ A regional water board may prescribe general waste discharge requirements to a category of discharges, such as agricultural discharges, rather than issue individual waste discharge requirements to separate operations.³⁰

While waste discharge requirements require compliance with the water quality objectives specified in the water quality control plans, such compliance need not be achieved immediately. A time schedule for compliance with water quality requirements is explicitly permitted by Water Code section 13263, which states that WDRs “may contain a time schedule subject to revision in the discretion of the [regional water] board.”³¹ Further, consistent with Water Code section 13263’s requirement to consider the water quality objectives “reasonably required” to protect beneficial uses, a regional water board has some discretion to determine where and how compliance with a water quality objective must be demonstrated. It is not always necessary for the reasonable protection of beneficial uses that each water quality objective be met at each discrete point in time and space. For example, in determining compliance with water quality objectives in groundwater to protect drinking water beneficial uses, the regional water board may take into consideration the fact that many groundwater wells are screened so that they extract groundwater from multiple aquifer levels. Because the different aquifer levels are recharged from different areas over different time intervals, different aquifer levels will have different concentrations of pollutants. Thus, many groundwater wells necessarily induce some mixing of the groundwater they extract. Similarly, the regional water board may determine appropriate

²⁹ In issuing waste discharge requirements, the Water Code requires the Central Valley Water Board to take the factors listed in Water Code section 13241 into consideration, including, but not limited to, “(a) past, present, and probable future beneficial uses of water; (b) Environmental characteristics of the hydrographic unit under consideration, including the quality of water available thereto; (c) Water quality conditions that could reasonably be achieved through the coordinated control of all factors which affect water quality in the area; (d) Economic considerations; (e) The need for developing housing within the region; (f) The need to develop and use recycled water.” See *City of Burbank v. State Water Resources Control Bd.* (2005) 35 Cal.4th 613. As we have already discussed above, the Central Valley Water Board included a thorough discussion of economic considerations in an economic study conducted in support of its long-term irrigated lands program for the region (AR 31796- 32232) and at pages 44 through 48 of Attachment A to the Eastern San Joaquin Agricultural General WDRs. While petitioners complained generally about the breadth of the economic analysis, the record does not establish that the costs of complying with the requirements contained in the Eastern San Joaquin Agricultural General WDRs, including the additional costs to comply with the requirements added by this order, warrant relaxation of those requirements.

³⁰ Wat. Code, §13263, subd. (i).

³¹ Wat. Code, §13263, subd. (c).

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averaging periods for surface waters, or rely on monitoring for general surface water quality compliance at a point downstream of multiple discharge points, rather than at each and every discharge point.³²

The Nonpoint Source Policy further guides our interpretation and implementation of Water Code requirements, including Water Code sections 13263 and 13267, in the context of nonpoint source discharges. Nonpoint source discharges, such as irrigated lands discharges, pose unique challenges that are not easily addressed by strategies designed to address point source pollution. The Nonpoint Source Policy explains that nonpoint source discharges typically occur as a result of contact between pollutants and land runoff, precipitation, atmospheric deposition, drainage, seepage, or hydrologic modification.³³ Nonpoint sources are thus diffuse and are most effectively addressed by control of the sources of pollution, typically with implementation of management practices, rather than by attempts to treat the discharge at the multiple, and often indeterminate, number of discharge points. The Nonpoint Source Policy further recognizes that, “given the extent and diversity” of nonpoint source discharges, the regional water boards must be creative and efficient in addressing nonpoint source pollution and may rely on third-party programs that are effective in reaching a large number of dischargers.³⁴

The Nonpoint Source Policy requires that any nonpoint source pollution control implementation program, including one primarily administered by a third-party group, incorporate several key elements.³⁵ Key Element 1 states as follows:³⁶

³² It is important for us to note that the Eastern San Joaquin Agricultural General WDRs regulate current discharges that may be causing or contributing to exceedances of the limitations imposed under the Water Code. Where water bodies already have pollutant levels detrimental to beneficial uses due to historic discharges, the regional water board may rely on other authority, including but not limited to the authority to require cleanup and abatement under Water Code 13304, to address the issue. The Central Valley Salinity Alternatives for Long Term Sustainability (CV-SALTS) initiative, a collaborative, stakeholder process initiated by the Central Valley Water Board, is currently studying and developing alternatives to address existing groundwater salinity problems in the Central Valley. We cautiously endorse this approach, with the expectation that it will eventually bear fruit. We will, of course, be paying close attention to these efforts and other efforts to manage existing groundwater quality and quantity problems, including the substantial work required under the Sustainable Groundwater Management Act of 2014. (Wat. Code., § 10720, et seq.). In the meantime, we will continue to work diligently with communities, especially disadvantaged communities that are disproportionately impacted by poor drinking water supplies, to find appropriate solutions. We have focused many of our grant and loan programs to provide them with needed assistance while longer term approaches continue to evolve.

³³ Nonpoint Source Policy, p. 7, AR 36146.

³⁴ *Id.*, p. 9, AR 36148.

³⁵ The Nonpoint Source Policy uses several acronyms that we have spelled out in this order. These include “NPS” for “nonpoint source,” “MP” for “management practice,” “SWRCB” for “State Water Board,” and “RWQCB” for “regional water board.”

³⁶ The Nonpoint Source Policy establishes five key elements. Four are discussed here. The fifth key element (“Each regional water board shall make clear, in advance, the potential consequences for failure to achieve a nonpoint source

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1. A nonpoint source control implementation program's ultimate purpose shall be explicitly stated. Implementation programs must, at a minimum, address nonpoint source pollution in a manner that achieves and maintains water quality objectives and beneficial uses, including any applicable antidegradation requirements.³⁷

In compliance with Water Code section 13263 and with Key Element 1, the Eastern San Joaquin Agricultural General WDRs set out their ultimate purpose by establishing water quality requirements in Section III. Receiving Water Limitations:

- A. Surface Water Limitations
 1. Wastes discharged from Member operations shall not cause or contribute to an exceedance of applicable water quality objectives in surface water, unreasonably affect applicable beneficial uses, or cause or contribute to a condition of pollution or nuisance.
- B. Groundwater Limitations
 1. Wastes discharged from Member operations shall not cause or contribute to an exceedance of applicable water quality objectives in the underlying groundwater, unreasonably affect applicable beneficial uses, or cause or contribute to a condition of pollution or nuisance.

The General WDRs state that these receiving water limitations are effective immediately except where Members are implementing an approved Surface Water Quality Management Plan (SQMP) or Groundwater Quality Management Plan (GQMP), with an approved timeline, as authorized by the General WDRs.³⁸ The SQMP and GQMP requirements are discussed in greater detail below; a primary purpose of the SQMP and GQMP provisions is to address water quality problems in areas where exceedances of water quality objectives have been detected. The Order allows Members that are part of the SQMP or GQMP plan area up to ten years for compliance with the Receiving Water Limitations.³⁹ This allowance does not run counter to the Water Code or the Nonpoint Source Policy. As we already stated, a time schedule for compliance with water quality requirements is explicitly permitted by the Water Code. Further, Key Element 3 of the Nonpoint Source Policy states that, where a regional water board finds that it is necessary to allow time for achievement of water quality requirements, an order implementing a nonpoint source program shall specify a time schedule and quantifiable milestones designed to measure progress toward

control implementation program's stated purposes" (Nonpoint Source Policy, pp. 14-15, AR 36153-36154)) is not addressed because no party has raised it as an issue in the proceedings.

³⁷ *Id.*, pp. 11-12, AR 36150-36151. Key Element 1 is inclusive of antidegradation requirements. As previously stated, we discuss the Eastern San Joaquin Agricultural General WDRs' compliance with antidegradation requirements separately in section II.B.

³⁸ Eastern San Joaquin Agricultural General WDRs, § III, fns. 15-16, p. 17.

³⁹ *Id.*, § XII, p. 37.

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achieving the water quality requirements.⁴⁰ Although a time schedule allowed in WDRs must not be any longer than necessary,⁴¹ the Eastern San Joaquin Agricultural General WDRs comply with the Nonpoint Source Policy by setting ten years as the maximum time permitted for a time schedule and requiring the Third Party to propose a schedule that is “as short as practicable” and is supported by technical or economic justification as to why it is as short as practicable.⁴² The General WDRs require the SQMP or GQMP to incorporate a specific schedule and milestones for the implementation of management practices and tasks and measurable performance goals.⁴³ Thus the General WDRs’ receiving water limitations are consistent with the Water Code and the Nonpoint Source Policy.⁴⁴

The receiving water limitations – to not cause or contribute to exceedances of water quality objectives, unreasonably affect beneficial uses, or cause or contribute to a condition of pollution or nuisance – establish clear water quality based requirements for the Eastern San Joaquin Agricultural General WDRs.⁴⁵ But Key Element 1 also requires nonpoint source

⁴⁰ Nonpoint Source Policy, p.13, AR 36152.

⁴¹ Cal. Code of Regs, tit. 23, §2231.

⁴² Eastern San Joaquin Agricultural General WDRs, § XII, p. 37. The provisions allow the Central Valley Water Board to modify approved schedules where evidence is presented that the compliance date is technically or economically infeasible or where evidence shows that an earlier compliance date is feasible. (*Ibid.*)

⁴³ *Id.*, Attach. B., MRP, Appen. MRP-1, §§ I.C.d-e, p. 5.

⁴⁴ Even where the maximum permitted time frame of ten years may be allowed by the Central Valley Water Board, the time schedule is not necessarily unreasonable. This order sets out a number of new metrics and approaches to measuring and reporting on management practices, particularly with regard to nitrogen application, and also requires revisions to both the surface water and groundwater monitoring provisions of the General WDRs. Our direction is intended to strengthen the link between management practice implementation and water quality outcomes so that we have the information needed to guide the program more quickly toward compliance. But development and implementation of the revised monitoring and reporting requires investment of time. And research to determine appropriate nitrogen application metrics is needed, along with correlation of practices with the data received through the monitoring and the reporting of the nitrogen application data. As a result, we cannot say that ten years is per se an unreasonable time frame for compliance with the receiving water limitations.

⁴⁵ In Order WQ 2013-0101, we added a provision to the Central Coast Agricultural Order to clarify that, in order to comply with the receiving water limitations, “Dischargers must (1) implement management practices that prevent or reduce discharges of waste that are causing or contributing to exceedances of water quality standards; and (2) to the extent practice effectiveness evaluation or reporting, monitoring data, or inspections indicate that the implemented management practices have not been effective in preventing the discharges from causing or contributing to exceedances of water quality standards, the Discharger must implement improved management practices.” (State Water Board Order WQ 2013-0101, p. 26.). The Sacramento Superior Court Ruling questioned whether the requirement to implement “improved” management practices, in the absence of additional standards and verification of what constitutes an improved management practice, would in fact ensure effective reduction of pollution. (Sacramento Superior Court Ruling, pp. 33-35.) The Sacramento Superior Court Ruling appears to read the revision as requiring only nominal improvements without a clear mandate to achieve the receiving water limitations over some defined timeframe. Although we disagree that the revision should be read in that manner, to the extent the Superior Court’s interpretation is affirmed on appeal, we note that the Eastern San Joaquin Agricultural General WDRs are clearer in mandating that discharges may not cause or contribute to exceedances of water quality objectives except where a clearly articulated program of management practice implementation with a finite time schedule is established.

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programs to address nonpoint source pollution “in a manner that achieves and maintains water quality objectives and beneficial uses (emphasis added).” A regional water board’s obligation under the Water Code and the Nonpoint Source Policy does not terminate with establishing the appropriate water quality objectives; the regional water board must determine “that there is a high likelihood the implementation program will attain [the regional water board’s] stated water quality objectives.”⁴⁶

Yet a broad scale nonpoint source regulatory program does not necessarily generate the type of data that facilitates easy determination and enforcement of compliance with receiving water limitations. In a permit for a traditional point-source facility, the water boards set a water quality-based effluent limitation to be met at the discharge point and require monitoring of the discharge to verify that the limitation is being met. As we will discuss in greater detail in the section on surface water and groundwater quality monitoring, in a landscape-based, nonpoint source program such as the irrigated lands program, monitoring the numerous and sometimes indeterminate set of farm discharge points is an impractical, prohibitively costly, and often ineffective method for compliance determination and the Nonpoint Source Policy accordingly does not mandate such monitoring. As a result, a nonpoint source regulatory program does not necessarily yield data establishing whether individual growers are in fact causing or contributing to exceedances. Recognizing this challenge, the Nonpoint Source Policy provides that, although management practice implementation is not a substitute for actual compliance with water quality requirements, a schedule of management practice implementation, assessment, and adaptive management may act as a proxy for assessing regulatory program progress.⁴⁷ This direction is captured in Key Elements 2 and 4:

- 2. A nonpoint source control implementation program shall include a description of the management practices and other program elements that are expected to be implemented to ensure attainment of the implementation program’s stated purpose(s), the process to be used to select or develop management practices, and the process to be used to ensure and verify proper management practice implementation.⁴⁸

...

- 4. A nonpoint source control implementation program shall include sufficient feedback mechanisms so that the regional water board, dischargers, and the public can determine

⁴⁶ Nonpoint Source Policy, p.11, AR 36150. See also *Asociacion de Gente Unida por el Agua v. Central Valley Water Board* (2012) 210 Cal.App.4th 1255,1260-61 (stating that “[t]he wish is not father to the action” and finding that a prohibition against water quality impacts is insufficient, in and of itself, to meet water quality requirements, in the absence of additional permit measures to implement and verify achievement of the prohibition).

⁴⁷ Nonpoint Source Policy, p.12, AR 36151.

⁴⁸ *Ibid.*

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whether the program is achieving its stated purpose(s), or whether additional or different management practices or other actions are required.⁴⁹

Accordingly, the management practice implementation requirements form the backbone of any nonpoint source regulatory framework.

The Eastern San Joaquin Agricultural General WDRs state that Members “shall implement management practices, as necessary, to protect water quality and to achieve compliance with applicable water quality objectives.”⁵⁰ Members are further required to implement management practices that 1) minimize waste discharge offsite in surface water; 2) minimize percolation of waste to groundwater; and 3) protect wellheads from surface water intrusion.⁵¹ Members prepare Farm Evaluations to document implemented management practices.⁵² Members also propose and implement management practices to minimize excess nutrient application relative to crop need as specified in a Nitrogen Management Plan.⁵³ Members with potential to cause erosion and discharge sediment that may degrade surface waters propose and implement sediment discharge and erosion prevention practices to minimize or eliminate the discharge of sediment above background levels consistent with a Sediment and Erosion Control Plan.⁵⁴ Where the Third Party is required to prepare a SQMP or GQMP, specifying additional or improved management practices to address detected exceedances in a given area, Members also implement management practices in accordance with that plan.⁵⁵

Of course, a management practice-based nonpoint source regulatory program will succeed in its ultimate purpose of “achiev[ing] and maintain[ing] water quality objectives and beneficial uses” only to the extent it facilitates implementation of *effective* management practices. Instituting effective management practices requires sufficient monitoring and reporting to determine if existing management practices are leading to compliance with water quality requirements and implementation of improved water quality practices where they are not. This feedback mechanism – that a nonpoint source discharge control program link its implementation

⁴⁹ *Id.*, pp. 13-14, AR 36152-36153.

⁵⁰ Eastern San Joaquin Agricultural General WDRs, § IV.A.3, p.18.

⁵¹ *Id.*, § IV.B.20, p.20. Under Water Code section 13360, the Central Valley Water Board generally may not specify “the design, location, type of construction, or particular manner in which compliance may be had with” waste discharge requirements. For structural management practices, the Eastern San Joaquin Agricultural General WDRs must therefore strike a balance between setting standards that must be achieved and leaving Members flexibility as to the type of design and construction that may be used to meet those standards.

⁵² Eastern San Joaquin Agricultural General WDRs, § VII.B, pp. 24-25.

⁵³ *Id.*, § IV.B.8, p.19.

⁵⁴ *Id.*, § IV.B.7, p.19.

⁵⁵ *Id.*, § IV.B.6, pp.18-19.

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requirements, with some level of confidence, to expected water quality outcomes, and incorporate monitoring and reporting sufficient to verify that link – is a fundamental tenet of the Nonpoint Source Policy, captured in Key Elements 1, 2, and 4. But the Nonpoint Source Policy does not specify a particular level of granularity in monitoring and reporting and therefore leaves significant discretion to the water boards to determine the appropriate level of data gathering and reporting for different programs and different program components. The water boards must strike a balance that, on the one hand, requires sufficient data collection and reporting to allow for meaningful feedback on the program, but, on the other hand, avoids extensive data requirements that demand excessive and unwarranted time and cost to produce and analyze by the growers, the third party, and water board staff. In striking that balance, the water boards also take into consideration grower concerns with disclosure of trade secrets, [private economic](#) and proprietary business information, [and general concerns regarding rights to privacy](#).

The particular balance struck on this issue in the Eastern San Joaquin Agricultural Order requires significant reliance on the Third Party. The Third Party fulfills the role of collecting data on the management practices that are implemented by the Members. The Farm Evaluation and a Nitrogen Management Plan Summary Report are submitted by the Members to the Third Party.⁵⁶ The Third Party in turn reports the information in these plans to the Central Valley Water Board with the data identified or aggregated at a township level, without Member identification or location information.⁵⁷ The Third Party must submit a Management Plan Progress Report to the Central Valley Water Board each year reporting on the degree of implementation of management practices and evaluation of the effectiveness of the management practices with the data in aggregated form.⁵⁸ The Third Party also fulfills the role of monitoring surface water and groundwater quality. Such monitoring is regional in scale and all data is reported to the Central Valley Water Board.⁵⁹

We continue to support third-party approaches to regulating agricultural discharges, as permitted by the Nonpoint Source Policy. We stated our reasons for supporting third-party approaches in Order WQ 2013-0101, in which we encouraged the Central Coast Water Board to consider the third-party structure in future iterations of the Central Coast Agricultural Order:

⁵⁶ *Id.*, §§ VII.B, p. 24-25, VII.D, pp. 26-27.

⁵⁷ *Id.*, Attach. B, MRP, § V.C., Report Components (17)&(18), pp.23-24.

⁵⁸ *Id.*, Attach. B, MRP, Appen. MRP-1, § I.F, p. 6.

⁵⁹ *Id.*, Attach. B, MRP, §§ III & IV, pp. 3-20.

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From a resource perspective, third parties allow a regional water board to leverage limited regulatory staff by acting as intermediaries between the regional water board staff and the growers, freeing regional water board resources to focus on problem areas or actors. Third parties also may have the expertise to provide technical assistance and training to growers at a scale that cannot be matched by regional water board staff resources, and, in many cases, third parties already have relationships in place with the dischargers.⁶⁰

Because third parties build on relationships already in place with growers, third parties can engender a high level of trust and more effectively reach out to growers to increase understanding of the permit provisions and to facilitate management practice development and deployment, especially in cases where improved management practices are required of particular growers. In addition, there are a number of cost benefits to the growers enrolled in a third-party program. These include centralization of fee collection and the resulting reduction in the growers' annual water board fee, potentially reduced costs in management practice implementation facilitated by access to management practice effectiveness information, significantly reduced monitoring costs due to allowance for regional and trend water quality monitoring by the third party in lieu of individual farm monitoring under an individual permit, and reduced reporting costs when the third party shoulders responsibility for data entry into systems such as CEDEN and GeoTracker.⁶¹ The Agricultural Expert Panel also endorsed the third-party based approach of the Central Valley Water Board irrigated lands program and recommended that other regional water boards follow a similar approach.⁶² We take our support for third parties one step further in this Order. We believe that a carefully-crafted third party-based approach should be an available option for all of the significant agricultural discharge programs in the state. Therefore, we direct all of the regional water boards to issue general waste discharge requirements or general waivers of waste discharge requirements based on a third-party approach consistent with our description of the roles and responsibilities of a third party in this Order within the next five years. The regional water boards should also continue to issue general waste discharge requirements or general waivers of waste discharge requirements for individual growers that choose not to form a third party or to join an existing third party. Those individual growers would have the same management and reporting obligations that are identified as precedential in this Order, but would not, of course, receive the benefits associated with being a member of a third party.

⁶⁰ State Water Board Order WQ 2013-0101, pp. 13-14.

⁶¹ CEDEN is the State Water Board's data system for surface water quality in California. GeoTracker is a statewide database and geographic information system that provides online access to environmental data. The Eastern San Joaquin Agricultural General WDRs require entry of surface water quality data collected under the General WDRs into CEDEN and groundwater quality data collected into GeoTracker.

⁶² Agricultural Expert Panel Report, p. 27.

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Nevertheless, we acknowledge that there are challenges associated with a third-party based approach to nonpoint source regulation. One such challenge is to ensure sufficient granularity to the data collected and reported to provide meaningful information on the performance of the program and on required improvements. Where a third party ~~acts as an intermediary between the growers and the regional water board~~ assists its growers, the program's success depends not only on whether the third party is collecting appropriate and relevant data, but also on whether the third party is reporting that data to the regional water board with sufficient detail to allow appropriate regulatory oversight as well as transparency in implementation of the program and water quality results. In particular, concerns with privacy and protection of proprietary information may create strong incentives in support of a framework where the third party retains most information on farm-level management practice and water quality performance rather than submitting that information to the regional water board and, by extension, making it available to the public.

The Environmental Petitioners argue that the Eastern San Joaquin Agricultural General WDRs require monitoring and reporting at a level of granularity too general to achieve the feedback mechanism the Nonpoint Source Policy requires: the adopted regulatory program cannot establish that the required management practices have a high likelihood of achieving the receiving water limitations because there is insufficient monitoring and reporting to verify that link or to require appropriate adaptive management to achieve progress. The Environmental Petitioners assert that the weaknesses of the Eastern San Joaquin Agricultural General WDRs are two-fold: First, there is insufficient disclosure and transparency with regard to the management practices being implemented on the ground by the Members because only limited, aggregated data must be reported regarding such practices. Second, the representative and regional monitoring program does not produce specific enough data to determine if any of the implemented management practices are in fact leading to meeting water quality requirements. The Environmental Petitioners advocate for farm-level reporting of data, which, the Environmental Petitioners imply, would provide the necessary detail and accountability to tie management practices implemented by Members with their direct impact on water quality.

In the sections that follow, we review the core requirements of the Eastern San Joaquin Agricultural General WDRs to determine whether the required implementation of management practices have a high likelihood of leading to achievement of the water quality requirements of the General WDRs and, more specifically, whether the monitoring and reporting requirements constitute a sufficient feedback mechanism to verify that appropriate management practices are being proposed and implemented in pursuit of the water quality requirements. We

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find that the data required to be reported by the Members to the Third Party is generally appropriate, but direct several revisions, primarily with regard to nitrogen application reporting. With regard to reporting of the data from the Third Party to the Central Valley Water Board, we revise the General WDRs to require reporting of some of the data at a field level. We also revise elements of the water quality monitoring provisions. ~~With regard to surface water monitoring, we direct State Water Board staff to convene a panel of experts for further consideration of an appropriate monitoring framework.~~

Our revisions are based on recommendations of the Nitrogen Tracking Task Force Report, the Agricultural Expert Panel Report, and on our own review of the General WDRs. We also relied substantially on a compromise proposal regarding data submission that a group of agricultural coalition representatives and environmental justice organization representatives jointly presented to Board members during the pendency of our own motion review. The directed revisions are designed to strengthen the correlation between the management practices implemented, the monitoring and reporting required, and the water quality requirements of the General WDRs. In particular, the automatic reporting of certain data to the Central Valley Water Board at the field level, rather than only in summary form, is expected to lead to more effective oversight and management of the program by the Central Valley Water Board, as well as provide more transparency for granularity of data available to the public.⁶³ We conclude that the Order is consistent with the Water Code and with the Nonpoint Source Policy with the revisions that we direct.

Appendix A is a copy of the Eastern San Joaquin Agricultural General WDRs with revisions directed by us shown in red in underline/strikeout format. We reference Appendix A throughout our discussion below and hereinafter refer to it as the “Modified Eastern San Joaquin Agricultural General WDRs.” In addition to the revisions referenced specifically in this order, Appendix A contains a number of conforming revisions to make other sections of the Modified Eastern San Joaquin Agricultural General WDRs consistent with the directed revisions (such as revisions to Attachment E, Definitions), as well as additional substantive and non-substantive minor revisions throughout.⁶⁴

⁶³ As will be discussed in detail in the sections that follow, we have not required the initial reporting of field-level data with name or location identifiers. For the reasons discussed below, we find that the effective management of a nonpoint source program for agricultural discharges is not necessarily dependent on tying each data point to a discharger identified by name, or to a specific location. However, we ~~find it is essential to continue to allow~~ the Central Valley Water Board retains its discretion to require submittal of specific names or locations, or names or locations generally, should the Central Valley Water Board make a determination that it is necessary.

⁶⁴ We note that this order provides the rationale for the significant revisions to the Eastern San Joaquin Agricultural General WDRs. We have not updated all findings of the General WDRs and supporting documents, including in

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1. Vulnerability Determinations

Before we proceed with our step-by-step review of the core requirements of the Eastern San Joaquin Agricultural General WDRs, we take up an issue that informs a number of the requirements. One premise of the Eastern San Joaquin Agricultural General WDRs is that regulatory requirements, and limited resources for regulatory oversight, should be concentrated on those activities or conditions that constitute the highest risk to water quality. Throughout, the General WDRs impose requirements in part based on whether an operation is in an area that has high or low vulnerability for water quality impacts. The term “high vulnerability” is defined for surface water and groundwater (see discussion that follows);⁶⁵ the Third Party is tasked with designation of the areas, with review by the Executive Officer.⁶⁶

The vulnerability approach of the Eastern San Joaquin Agricultural General WDRs is similar to the risk-based tier designations of the Central Coast Agricultural Order that we reviewed in Order WQ-2013-0101. The Central Coast Agricultural Order assigns dischargers to one of the three tiers based on a number of criteria intended to capture the risk posed by the operation to water quality and imposes increasingly more stringent requirements from Tier 1 to Tier 2 to Tier 3. The Central Coast Agricultural Order also requires determination of a nitrate loading risk level and uses that determination to further focus requirements. In Order WQ 2013-0101, we acknowledged that neither the tier determinations nor the nitrate loading risk level determinations were exact proxies for actual risk to water quality, but we found them to be reasonable and declined to substitute another imperfect but reasonable set of criteria for those chosen by the Central Coast Water Board. We tasked the Agricultural Expert Panel with evaluating methodologies for determining risk in the context of an agricultural regulatory program.⁶⁷

In considering the appropriateness of risk-based tiering in agricultural regulatory programs, the Agricultural Expert Panel focused on the Eastern San Joaquin Agricultural General WDRs’ high vulnerability definition for groundwater. A high vulnerability groundwater area is an area identified by the Third Party “where known groundwater quality impacts exist for which

particular the Information Sheet, related to the revisions. Nor have we updated the findings of the General WDRs and supporting documents to reflect all new and changed information since the issuance of the General WDRs.

⁶⁵ Eastern San Joaquin Agricultural General WDRs, Attach. E, Definitions, §§13-14, pp. 2-3.

⁶⁶ *Id.*, finding 22, p. 6; see also *id.*, Att. B, MRP, §IV, pp. 12-13.

⁶⁷ State Water Board Order WQ 2013-0101, pp. 20, 43. In reviewing Order WQ 2013-0101, the Sacramento Superior Court Ruling stated that the fact that only a small number of growers are subject to Tier 3 was “a fundamental problem with the Waiver” (at 35); however, the court did not find issue generally with a risk-based tiering structure.

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irrigated agricultural operations are a potential contributor or where conditions make groundwater more vulnerable to impacts from irrigated agricultural activities.” Additionally, areas are considered high vulnerability areas for groundwater if “(1) there is a confirmed exceedance (considering applicable averaging periods) of a water quality objective or applicable water quality trigger limit . . . in a groundwater well and irrigated agriculture may cause or contribute to the exceedance; (2) the Basin Plan requires development of a groundwater quality management plan for a constituent or constituents discharged by irrigated agriculture; or (3) the Executive Officer determines that irrigated agriculture may be causing or contributing to a trend of degradation of groundwater that may threaten applicable Basin Plan beneficial uses.”⁶⁸

The Agricultural Expert Panel found that this definition of high vulnerability in the General WDRs was vague, ambiguous, circular, and not supported by a sound technical rationale. In particular, the Agricultural Expert Panel pointed to the difficulty of directly linking water supply well nitrate concentrations to above-ground practices. In many cases groundwater nitrate concentrations reflect a mixture of waters with wide-ranging spatial and temporal origins. Therefore, groundwater wells exhibiting exceedances of water quality standards may not provide the information needed to directly link groundwater conditions to land uses in the immediate area.⁶⁹

More significantly, the Agricultural Expert Panel further found that good nitrogen management is essential in all areas, not just high vulnerability areas, and recommended against differential requirements for nitrogen management based on risk. The Agricultural Expert Panel Report stated:

Because deep percolation of nitrates is universal within irrigated agriculture, a good regulatory program must encompass all irrigated areas, not only lands directly above high nitrate aquifers, those previously identified to be in a high vulnerability area, or those with a certain farm or field size.⁷⁰

The Agricultural Expert Panel thus effectively rejected risk categorization for groundwater requirements, recommending that uniform requirements apply to all dischargers.

We generally agree with the Agricultural Expert Panel's conclusion that distinguishing between high vulnerability and low vulnerability areas for groundwater is at best an inexact science and that groundwater protection requirements (inclusive, in our opinion, of

⁶⁸ Eastern San Joaquin Agricultural General WDRs, Attach. E, Definitions, §13, pp. 2-3. Water quality trigger limits are limits developed by the Central Valley Water Board staff to implement narrative Basin Plan objectives. (*Id.*, Attach. B, MRP, § VIII, pp. 26-27.)

⁶⁹ Agricultural Expert Panel Report, p. 18.

⁷⁰ *Id.*, p. 26.

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reporting requirements designed to inform protection and track effectiveness and progress) should instead apply uniformly to all areas. In most instances, groundwater is vulnerable to agricultural nitrate impacts, regardless of the time it takes for those impacts to appear in groundwater due to soil conditions, geologic conditions, and/or depth to groundwater. We will direct revisions to the Eastern San Joaquin Agricultural General WDRs throughout this order to impose most of the requirements currently imposed only on Members in high vulnerability groundwater areas on all Members, with some limited exceptions. These revisions are discussed under the headings for each set of core requirements.

The Agricultural Expert Panel did not consider whether the terms high vulnerability and low vulnerability should continue to be used in the context of surface water requirements. The Eastern San Joaquin Agricultural General WDRs' determination of high vulnerability areas for surface water is based on exceedances of water quality objectives or water quality triggers twice in a three year period in the area, any Basin Plan requirements for development of a water quality management plan for an irrigated lands related constituent in the area, or an Executive Officer determination that discharges from irrigated lands may be causing or contributing to a trend of degradation of surface water in the area.⁷¹ Determining whether an area is a high vulnerability area for surface water does not necessarily suffer from the same level of technical uncertainty as the determination of high vulnerability areas for groundwater. Nevertheless, we will not rely on that distinction in the Eastern San Joaquin Agricultural General WDRs because, in light of our revisions to impose many of the same requirements in high and low vulnerability areas for groundwater, the categories for surface water are left with little utility in the General WDRs.⁷² We note these revisions under the appropriate discussion.

Commented [A1]: This sentence is unclear as to its intent and purpose.

The Agricultural Expert Panel Report left open the possibility that the concept of high vulnerability or similar risk-based category may be used for prioritization where requirements need to be phased in for sets of dischargers over time.⁷³ We are cognizant that much of the work to designate high and low vulnerability areas in the Eastern San Joaquin River Watershed has already been completed. We are also cognizant that the expanded reporting obligations will result in increased costs to the growers in low vulnerability areas and to the Third Party, which must now

⁷¹ Eastern San Joaquin Agricultural General WDRs, Attach. E., Definitions, §14, p.3.

⁷² There are only two provisions where the distinction between high and low vulnerability areas for surface water are called out in the Eastern San Joaquin Agricultural General WDRs – the requirement to participate annually in outreach events applies only to Members in high surface water or groundwater vulnerability areas (*id.*, § IV.B.4, p.18) and only Members in high surface water or groundwater vulnerability areas must update the Farm Evaluation annually (*id.*, § VII.B, pp.24-25.).

⁷³ Agricultural Expert Panel Report, pp. 16-17.

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work with a larger set of growers to assist in form submission and must now collect and analyze a larger set of grower data. Accordingly, we will provide for additional time, as specified under each relevant section below, for requirements currently imposed only in high vulnerability areas to also apply to low vulnerability areas. Additionally, under our revisions, the high/low vulnerability designations may continue to be used for [determining certification requirements and for](#) prioritization in the context of some of the groundwater monitoring requirements, as we will discuss in section II.A.8 of this order.⁷⁴ Further, the criteria forming the definition of high vulnerability will continue to inform the requirement to prepare a water quality management plan for both surface water and groundwater.

The uniform application of requirements for groundwater protection shall be precedential for irrigated lands programs statewide. But we leave open the possibility that risk-based designations continue to be used for differentiating surface water protection requirements and for phasing in groundwater protection requirements. We also decline to direct a uniform set of criteria for risk designation and leave the regional water boards with considerable discretion to design reasonable frameworks for differentiation and prioritization. In addition to the high/low vulnerability approach of the Eastern San Joaquin Agricultural General WDRs, such criteria may, for example, include the risk-based tier designations in the Central Coast irrigated lands programs or possibly categories based on farm-size.⁷⁵

Finally, we acknowledge, as further discussed in Section II.A.5.b below, that there may be uniquely-situated categories of growers for whom the requirement for nitrogen reporting is inappropriate. Our order revisions allow a category of growers to be exempted from the nitrogen applied and removed reporting requirements subject to a demonstration that applied nitrogen is not expected to seep below the root zone in amounts that would, even over multiple decades, reach groundwater, and is further not expected to discharge to surface water.

2. Requirement to Participate in Outreach Events

Under the Eastern San Joaquin Agricultural General WDRs, members in high vulnerability areas are required to participate in outreach events and review outreach materials to become informed of any known water quality problems and the management practices that are

⁷⁴ The groundwater monitoring requirements of the Eastern San Joaquin Agricultural General WDRs, discussed in section II.A.8, are carried out by the Third Party and implemented and phased in in part based on determinations of high and low vulnerability. Because of the time and resources that have already been invested by the Third Party and Central Valley Water Board in setting up the vulnerability-based framework for the groundwater monitoring programs, we continue to allow phasing based on vulnerability for those requirements.

⁷⁵ Phasing by farm size leads to initial compliance by a large number of acres represented by a small number of growers.

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available to address those problems.⁷⁶ We extend the requirement to participate in outreach events to all Members. This is consistent with the direction of the Agricultural Expert Panel for the development of a “very strong, comprehensive, and sustained educational and outreach program.”⁷⁷ However, we recognize the additional burden on some Members and on the Third Party created by applying the outreach participation requirement uniformly. Because all Members must now participate in third-party outreach events, at least annually, we revise the provision to allow for the possibility of participation to occur without in-person attendance. We also phase in the requirement to participate in outreach events in low vulnerability areas by requiring participation beginning only in 2020. This delay will provide the Third Party an opportunity to increase staffing and funding for outreach events. As appropriate depending on the anticipated grower audience, we expect that the outreach events and outreach materials will be provided in multiple languages.

The requirement for uniform participation in outreach events shall be precedential for irrigated lands programs statewide.

The directed revisions are indicated at Appendix A, Modified Eastern San Joaquin Agricultural Order, section IV.B.4, page 19.

3. Farm Evaluation

The Eastern San Joaquin Agricultural General WDRs require that all Members complete a Farm Evaluation describing management practices implemented to protect surface water and groundwater quality. The Farm Evaluations also include information such as the location of the farm, surface water discharge points, and the location of wells. Farm Evaluations are required of all Members, but only Members in high vulnerability areas must update the Farm Evaluation annually. The Farm Evaluation must be prepared by the Member and submitted to the Third Party. The Member must keep a copy and must produce it upon request by the Central Valley Water Board staff.⁷⁸ The Third Party aggregates and summarizes information collected from Farm Evaluations in the annual Monitoring Report submitted to the Central Valley Water Board.⁷⁹ We make several revisions to the Farm Evaluation provisions as laid out below.

a. *Farm Evaluation Update Frequency*

The Farm Evaluations are the mechanism for identification of the on-farm management practices implemented to achieve the General WDRs’ management practice

⁷⁶ Eastern San Joaquin Agricultural General WDRs., § IV.B.4, p.18.

⁷⁷ Agricultural Expert Panel Report, p.27.

⁷⁸ Eastern San Joaquin Agricultural General WDRs., § VII.B, pp. 24-25.

⁷⁹ *Id.*, Attach. B, MRP, § V.C, Report Component (18), pp.23-24.

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performance standards. As such, they constitute an essential component of the General WDRs. However, we find that annual submission of the Farm Evaluations is necessary only when water quality problems indicate the need for iterative updating of implemented management practices. Based on the experience of the East San Joaquin Water Quality Coalition to date, most implemented management practices otherwise remain fairly stable from year to year.

For this reason, we require submission of the Farm Evaluations only every five years for Members in both high vulnerability areas and low vulnerability areas, except where the Executive Officer determines that more frequent reporting is warranted.⁸⁰ In turn, we strengthen the requirements for management practice implementation data reporting for fields covered by an SQMP or GQMP. As will be discussed under section 9 below (Surface Water and Groundwater Quality Management Plans), we require submission of a separate Management Practice Implementation Report (MPIR) for Members in areas for which the third party is implementing a SQMP or GQMP. The Central Valley Water Board, with input from the Third Party, will have discretion to determine appropriate reporting frequency for the MPIR based on the life cycle of the management practices being implemented, but we expect that the reporting will be annual or more frequent. We also move the reporting of irrigation practices and nitrogen application practices to the Irrigation and Nitrogen Management Summary Report so that these practices continue to be reported on an annual basis.

The requirement for submission by all growers of management practice implementation information shall be precedential for irrigated lands programs statewide, however, the regional water boards shall continue to have discretion as to the frequency of such submissions.

The directed revisions are indicated at Appendix A, Modified Eastern San Joaquin Agricultural General WDRs, section VII.B, pages 25-26, section VII.G, p. 31, Attachment B, MRP, section VI.B, INMP Components (4) and (5) .

b. Content of Farm Evaluation Template

In terms of the content of the Farm Evaluation, we direct changes to the information fields of the template. The Central Valley Water Board has approved a template for the Farm Evaluation. The Farm Evaluation template lists management practices appropriate for pesticide application, irrigation, nitrogen management, and sediment and erosion management and directs Members to identify those management practices employed at their operations. We expand the list of management practices a Member should consider with the purpose of making

⁸⁰ The Executive Officer may, for example, require more frequent update and submission of the Farm Evaluation where a Member is an outlier for nitrogen application.

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The Third Party and the Central Valley Water Board retain the flexibility to propose and approve any Farm Evaluation template that meets the minimum requirements specified in the General WDRs. The content specified for the Farm Evaluation template in this Order is not intended to be precedential for irrigated lands programs statewide.

The directed revisions are indicated at Appendix A, Modified Eastern San Joaquin Agricultural General WDRs, section VIII.C.1, pages 32-33, section VII.G, p. 31, Attachment B, MRP, section VI.A, page 31, section VI.B, INMP Components (4) and (5), p.33, and Attachment B, MRP-1, section F, page 7.

c. Submission of Farm Evaluations to the Central Valley Water Board

As we have previously stated, the Eastern San Joaquin Agricultural General WDRs require Members to implement management practices that minimize waste discharge offsite in surface water, minimize percolation of waste to groundwater, and protect wellheads from surface water intrusion.⁸¹ The General WDRs require the Members to submit Farm Evaluations, which include implemented management practices, to the Third Party.

The Third Party summarizes and aggregates the data, conducts a quality assessment of the information, and submits the summary to the Central Valley Water Board. . The Central Valley Water Board may, however, ~~at any time~~ request the underlying data for a particular Member or area.⁸² We generally affirm this framework for reporting of the Farm Evaluation data to the Central Valley Water Board, but require that individual data records also be submitted to the Central Valley Water Board associated with unique anonymous Member identifiers. The Third Party is directed to permanently associate each Member with a unique, anonymous identifier (Anonymous Member ID).⁸³ The Third Party is directed to submit the management practice implementation data from the Farm Evaluation to the Central Valley Water

⁸¹ Eastern San Joaquin Agricultural General WDRs, § IV.B.20, p.20.

⁸² *Id.*, § X, p. 36. The Central Valley Water Board has the discretion to request underlying data for a specific area with or without the identification of the Members, depending on the purpose of the request.

⁸³ In Section 5.e, we require nitrogen application data to be reported with an anonymous APN-based location identifier in addition to separately reporting nitrogen application data with an Anonymous Member ID, for the reasons discussed in that section. At this time, we are only requiring the management practice implementation data to be reported by an Anonymous Member ID. ~~We may consider adding an APN-based location identifier to the reporting requirements in the future if we determine that it is important for practices to be pinpointed to a location.~~

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Board for each field, linked with the Anonymous Member ID. An example of a data set for management practice implementation is attached as sample data Table 1,⁸⁴ solely for illustrative purposes.

As discussed in the introduction to this section, waste discharge requirements must implement the relevant water quality control plans and consider the beneficial uses and water quality objectives specified in those plans. The Nonpoint Source Policy allows reliance on management practice implementation to control sources of pollution, but specifies that a nonpoint source program relying on management practice implementation must incorporate a feedback mechanism whereby a nonpoint source discharge control program links its implementation requirements, with a high level of confidence, to expected water quality outcomes, and adaptively manages the program to institute improved management practices where additional measures are needed to meet the water quality requirements. That feedback mechanism relies on the availability of information on the management practices currently being implemented.

The aggregation and summary provided by the Third Party is a useful analysis for characterizing the trends in management practice implementation in the Eastern San Joaquin River Watershed and we acknowledge the key role of the Third Party in facilitating and compiling the analysis. Availability of the underlying individual field-level data to the Central Valley Water Board [upon request](#) is important for verification of the data and the analyses prepared by the Third Party as well as ensuring that the Third Party is following up appropriately with the Members that warrant additional assistance. The individual field-level data will also support Central Valley Water Board analyses to identify effective and ineffective management practices.

The requirement to submit Member-specific field-level management practice implementation data to the regional water board shall be precedential statewide. For third-party programs only, the data shall be submitted with Anonymous Member IDs ~~unless the regional water board finds that there is a compelling grower specific or location specific reason why the data should be submitted with name or location identifiers~~. [As indicated previously, the regional water board retains its discretion to require submittal of individual grower-specific or location specific information if there is a compelling reason with respect to the grower or location in question.](#)

⁸⁴ Table 1 additionally illustrates the data sets to be obtained from the reporting of management practices associated with irrigation and nitrogen management, which are now reported with the Irrigation and Nitrogen Management Plan Summary Report as discussed above and from management practice implementation through SQMPs and GQMPs as will be discussed in section II.A.9 below.

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The directed revisions are indicated at Appendix A, Modified Eastern San Joaquin Agricultural General WDRs, section VIII.D, page 34, Attachment B, MRP, section V.C, pages 23-24, and section V.E, Report Component (18), page 30.

4. Sediment and Erosion Control Plan

Under the Eastern San Joaquin Agricultural General WDRs, Members with potential to cause erosion and discharge sediment that may degrade surface waters must propose and implement sediment discharge and erosion prevention practices to minimize or eliminate the discharge of sediment above background levels, consistent with a Sediment and Erosion Control Plan.⁸⁵ The Sediment and Erosion Control Plan must be prepared by the Member and must either conform to a site-specific recommendation from the Natural Resources Conservation Service or be certified. The Plan must be kept on site to be produced upon request by the Central Valley Water Board staff.⁸⁶

Members with potential to cause erosion and discharge sediment must already report management practices implemented to minimize or eliminate sediment and erosion on the Farm Evaluation. We find that the Sediment and Erosion Control Plan requirements of General WDRs are appropriate as written and do not direct any revisions to the provisions.

The requirement for implementation of sediment and erosion control practices by Members with the potential to cause erosion and discharge sediment that may degrade surface waters shall be precedential for irrigated lands programs statewide; however, the regional water boards shall continue to have discretion as to how these practices are documented and reported.

5. Nitrogen Management Plans

The Eastern San Joaquin Agricultural General WDRs require Members to “implement practices that minimize excess nutrient application relative to crop need.”⁸⁷ This requirement is implemented in part by preparation of a Nitrogen Management Plan. All Members must prepare a Nitrogen Management Plan and all Members must keep the Nitrogen Management Plan on site and make it available to Central Valley Water Board staff upon request. Members in high vulnerability groundwater areas have additional requirements for certification of the Nitrogen Management Plan and submittal to the Third Party of a Summary Report of the past year’s implementation of the Plan.⁸⁸ The Third Party in turn must report aggregated data to the Central Valley Water Board summarizing the range of nitrogen consumption ratios (i.e. nitrogen

⁸⁵ *Id.*, § IV.B.7, p.19.

⁸⁶ *Id.*, § VII.C, p.25.

⁸⁷ Eastern San Joaquin Agricultural General WDRs, § IV.B.8, p.19.

⁸⁸ *Id.*, § VII.D, pp. 26-28.

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available for crop uptake divided by the estimated crop consumption of nitrogen) by crop types and soil conditions reported by the Members on the Summary Report. The data is aggregated at the township level and need not identify the Member and associated parcel for a particular nitrogen consumption ratio.⁸⁹ The Central Valley Water Board may, however, at any time request the underlying data for a particular Member or area.⁹⁰

The nitrogen management provisions of the Eastern San Joaquin Agricultural General WDRs are of particular significance because nitrate pollution in groundwater is a significant public health threat in [parts of](#) the Central Valley.⁹¹ Nitrates consumed at a concentration above the maximum contaminant level (MCL) of 10 milligrams per liter (mg/L) of nitrate+nitrite as N⁹² pose serious risks to pregnant women and infants. Nitrate contamination in groundwater in the Central Valley was extensively documented in the 2012 Report "Addressing Nitrate in California's Drinking Water" (UCD Nitrate Report)⁹³ prepared for the Legislature. The Nitrogen Tracking Task Force and the Agricultural Expert Panel were proposed as recommendations in the State Water Board's Report to the Legislature accompanying the UCD Nitrate Report. As discussed, the Nitrogen Tracking Task Force made recommendations for a nitrogen mass balance tracking system and the Agricultural Expert Panel addressed multiple questions posed to it regarding nitrogen management. We make revisions to the nitrogen planning and reporting requirements of the Eastern San Joaquin Agricultural General WDRs as detailed below, primarily to address recommendations by the Agricultural Expert Panel. We have also carefully considered the recommendations of the Nitrogen Tracking Task Force, in particular to ensure consistency generally with the recommended data tracking and reporting approach, although, as discussed below, we require more dis-aggregated data reporting than contemplated by the Nitrogen Tracking Task Force.

a. Consideration of Irrigation Practices

⁸⁹ *Id.*, Attach. B, MRP, § V.C, Report Component (17), p.23.

⁹⁰ *Id.*, § X, p. 36.

⁹¹ Fertilizers may contain nitrogen in multiple forms (i.e. ammonia, nitrate, etc.), but the form of nitrogen that moves through the soil to groundwater is nitrate. (Nitrite may also be present but typically in very small quantities and is often discounted in general discussions.)

⁹² The MCL is also expressed as 45 mg/L of nitrate as NO₃. The authority to set the MCL for nitrate previously resided with the California Department of Public Health (CDPH) (and the Department of Health Services prior to the establishment of CDPH), but the authority to set the MCL for nitrate is now within the purview of the State Water Board.

⁹³ Harter, T. et al. *Addressing Nitrate in California's Drinking Water*. (UC Davis Groundwater Nitrate Project, March 2012) (Harter Report). The Harter Report is included in the administrative record of the proceedings to adopt the Eastern San Joaquin Agricultural General WDRs, submitted to the State Water Board by the Central Valley Water Board. (AR 34141-35717.)

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We first add several required planning elements to facilitate crop irrigation management planning, including consideration of irrigation method, crop evapotranspiration, and anticipated crop irrigation. The Agricultural Expert Panel emphasized that nitrogen management must be done hand-in-hand with irrigation management, pointing out that water movement through the soil is the mechanism for nitrate transport.⁹⁴ We will hereinafter refer to the plan as revised in the Modified Eastern San Joaquin Agricultural General WDRs as the Irrigation and Nitrogen Management Plan or "INMP," and to the summary submitted to the Third Party as the "INMP Summary Report." As stated under section 3 (Farm Evaluation), we also move reporting sections related to irrigation management and nitrogen management from the Farm Evaluation to the INMP Summary Report. Finally, we add a question inquiring whether the Member has been identified in the past year as an outlier for nitrogen application, a concept we discuss in greater detail below. The addition of this question assists in verifying that the Third Party and the Members are communicating effectively and alerts the Central Valley Water Board that the Member may have been required to update or improve management practices related to irrigation and nitrogen management.

The requirement for incorporation of irrigation management elements into nitrogen management planning shall be precedential for irrigated lands programs statewide.

The directed revisions are indicated at Appendix A, Modified Eastern San Joaquin Agricultural General WDRs, Attachment B, MPR, section VI.B, pages 32-37.

b. ~~Extension of Certification and Summary Reporting Requirements to All Members~~

We next make revisions to the nitrogen management provisions of the Eastern San Joaquin Agricultural General WDRs to remove ~~some of~~ the distinction in requirements ~~for~~ ~~between~~ high and low vulnerability groundwater areas. This revision means that all Members must now ~~have a certified INMP and must~~ submit an INMP Summary Report to the Third Party. We have also specified certification language for the INMP that states that the preparer used sound irrigation and nitrogen management planning practices to develop irrigation and nitrogen application recommendations and that the recommendations are informed by applicable training for meeting the crop's agronomic needs while minimizing nitrogen loss to surface water and groundwater.⁹⁵ However, we allow Members in low vulnerability areas until ~~March 1, 2020, to~~

Commented [A2]: Although the ESJ Coalition makes no suggested changes here with respect to the proposed new elements in the INMP, the ESJ Coalition is concerned that some of the information being requested will be difficult for growers to estimate (e.g., crop evapotranspiration).

⁹⁴ Agricultural Expert Panel Report, p.ii.

⁹⁵ ~~In expanding the certification requirement, we are also~~ We are sensitive to the concerns expressed by professionals certifying the INMP regarding potential liability for groundwater nitrate impacts, as well as the scope of their professional insurance coverage. With regard to liability under the Water Code, we note that consultants to

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~~complete a certified INMP, and until March 1, 2021, to submit the INMP Summary Report. The phasing allows limited certification resources to continue to focus on the higher priority acreage while available training develops to match the demand for certification. The training needs to continue to evolve to better incorporate the concepts related to irrigation and nitrogen management planning expressed in this Order and recognized by the Expert Panel.⁹⁶~~ The phasing ~~also~~ allows the Third Party additional time to expand its staffing and funding to accommodate outreach and processing for nitrogen application submissions.

The requirement for all Members to ~~prepare certified irrigation and nitrogen management plans and to~~ submit summary data from the plans to the ~~third~~ party shall be precedential statewide. ~~The certification language shall also be precedential statewide.~~

However, we recognize that there may be uniquely-situated categories of growers for whom the requirement for nitrogen management is inappropriate because applied nitrogen is not expected to seep below the root zone in amounts that would, even over multiple decades, reach groundwater, and is further not expected to discharge to surface water. We will not distinguish these categories based on high and low vulnerability as the Eastern San Joaquin Agricultural General Order currently does. Instead, any category of Members (such as growers of a particular crop or growers in a particular area) seeking to be exempted from irrigation and nitrogen planning and reporting requirements shall make a demonstration, for approval by the relevant regional water board, that nitrogen applied to the fields does not percolate below the root zone in any significant amount and does not migrate to surface water through discharges, including drainage, runoff, or sediment erosion.⁹⁷ The criteria for determining categories of growers that may be exempted from the irrigation and nitrogen planning and reporting requirements shall also be precedential statewide.

c. *New Metric for Nitrogen Application Management*

dischargers are generally not considered to be dischargers of waste and therefore not liable for violations of the dischargers' waste discharge requirements. With regard to third-party liability, we direct the Central Valley Water Board and the Third Party to include specific language in the certification aimed to limit such liability. (See App. A, Modified Eastern San Joaquin Agricultural General WDRs, Attach. B, MRP, § VI.B, INMP Component (26), page 35-36, Attach. E, Def., 7 & fn. 2, p.2.) The certification language additionally states that the certification does not create liability for environmental violations.

⁹⁶ ~~Agricultural Expert Panel Report, pp. 29-30.~~

⁹⁷ Based on written and verbal comments received on a February 8, 2016, draft of this order, we have been made aware that rice growers in the Central Valley region may have already made the required demonstration, but that will be a determination for the Central Valley Water Board to make in the first instance. Similarly, members in the San Joaquin County and Delta Water Quality Coalition may have demonstrated that nitrogen applied to the fields does not percolate below the root zone, but must, at a minimum, additionally demonstrate that the applied nitrogen does not migrate to the surface water before the Central Valley Water Board could exempt them from the irrigation and nitrogen planning and reporting requirements.

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We make additional revisions to the nitrogen management provisions of the Eastern San Joaquin Agricultural General WDRs in response to recommendations made by the Agricultural Expert Panel regarding methodologies for measuring appropriate nitrogen application and assessing nitrogen over-application. The purpose of the nitrogen management planning requirements in the Eastern San Joaquin Agricultural General WDRs is two-fold. First, the INMP aids Members in projecting the total nitrogen a given crop will require for a single growing season. This is done by considering the nitrogen already available in soil and irrigation water, which allows a grower to plan for the appropriate amount of fertilizer to be applied to meet crop requirements. Such planning helps avoid over-application of nitrogen fertilizer that may lead to excess loss of nitrogen to groundwater. Second, the data made available to the Third Party and the Central Valley Water Board through the INMP Summary Report enables those entities to consider the range of nitrogen application values reported for similar crops and allows the Third Party to identify outliers for follow-up actions with the goal of reducing over-application.

We considered nitrogen application planning and reporting in the Central Coast Agricultural Order in Order WQ 2013-0101. In that case, we struck a requirement for Central Coast dischargers to “make progress toward” a target ratio of nitrogen application to nitrogen uptake in favor of requiring all Tier 2 and Tier 3 dischargers to report total nitrogen applied by fields or management blocks. We stated that the directed revisions “reflect[ed] our best judgment as to temporary measures required to keep work on this important public health and environmental issue moving forward” but that we would look to the Agricultural Expert Panel to “propose a comprehensive, consistent approach that will inform agricultural regulatory programs statewide.”⁹⁸ In reviewing the Eastern San Joaquin Agricultural General WDRs, we now have the benefit of the Agricultural Expert Panel Report, and make revisions to the General WDRs consistent with the Panel’s recommendations on nitrogen management.

The Agricultural Expert Panel reviewed the crop uptake ratio we rejected in Order WQ 2013-0101 and the nitrogen consumption ratio in the Eastern San Joaquin Agricultural General WDRs, and considered the difficulties associated with determining field level nitrogen balances.⁹⁹ The Agricultural Expert Panel additionally considered the recommendations of the Nitrogen Tracking Task Force, including the recommendation that growers track values for total

⁹⁸ State Water Board Order WQ 2013-0101, p. 42. The Sacramento Superior Court Ruling stated that the court “is not persuaded that an adequate Waiver necessarily must include nitrogen balancing ratios,” but questioned the State Water Board’s rationale in removing them as reportable milestones. (Sacramento Superior Court Ruling at 36.) As we discuss in this order, the Agricultural Expert Panel, building on work by the Nitrogen Tracking Task Force, proposed a metric for nitrogen balancing which we now direct all irrigated lands programs to adopt.

⁹⁹ Agricultural Expert Panel Report, pp. 21-22.

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nitrogen applied to the field, actual yield, and nitrogen removed from the field through primary and secondary harvest yields.¹⁰⁰ The Agricultural Expert Panel proposed a refinement on the nitrogen applied and nitrogen removed calculations as the simplest metric of good management – the multi-year ratio of nitrogen applied to the field (A) to nitrogen removed from the field (R), or the A/R ratio. The nitrogen applied includes nitrogen from any source (i.e. organic amendments, synthetic fertilizer, and/or nitrogen in irrigation water). The nitrogen removed includes the nitrogen present in all harvested materials removed from the field (including any prunings, removed vegetation, etc.) plus, in the case of perennial crops, the nitrogen sequestered in the permanent wood.¹⁰¹ Nitrogen removed is based on a measurable value of yield. Crop yield is multiplied by a coefficient determined via direct testing of the harvested materials. The nitrogen removed coefficient expresses the amount of nitrogen for a given crop per unit of crop yield.

The multi-year A/R ratio, as proposed by the Agricultural Expert Panel and implemented in this order, is distinguished from previous ratios in two ways. First, it utilizes removed nitrogen instead of nitrogen uptake/consumption. This is an important simplification as it is based on a measurement instead of an estimate. The basis of any good performance metric is that it relies on quantitative measurements that can be performed simply and repeatedly with relative accuracy and that it is easy to understand. The uptake/consumption of nitrogen by a crop as it was employed by the previous orders was based on estimation, not a measurement. Often the published guidance regarding plant uptake/consumption has wide ranges of values from which to select, with variation from low to high values ranging as much as 40 percent. Because of these inherent complexities and inaccuracies, using uptake/consumption as part of a performance metric is problematic. Second, utilizing the measurements of applied and removed nitrogen over several years allows for variations that happen from year to year to cancel out and the carryover of nitrogen in soil to become insignificant for purposes of tracking and reporting. A multi-year approach to a performance metric related to nitrogen management serves to simplify some of the inherent complexity of trying to perform a nitrogen balance on an annual basis and justly account for nitrogen present in its many varied states within a field and crop system.

When evaluated over multiple years, the A/R ratio provides a reliable measurement of the nitrogen left in the field. In each consecutive year, the nitrogen left in the field from the prior year, as approximated by the A/R ratio, will either be utilized by the next crop or move further down in the soil column with potential to be leached to groundwater. If, over several years, the

¹⁰⁰ Nitrogen Tracking Task Force Report, p. 17.

¹⁰¹ *Id.*, p. 28.

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ratio of nitrogen applied and nitrogen removed from the field remains high, a significant portion of the nitrogen applied to the field is remaining in the field and potentially reaching groundwater over time through percolation.¹⁰² A high multi-year A/R ratio thus alerts the Member, the third-party group, and the regional water board to the need to address over-application at the field level. As recommended by the Agricultural Expert Panel, a multi-year A/R ratio may also provide the basis for acceptable multi-year A/R ratio target values, with reduction in the multi-year A/R ratio toward the target ratio for an area over time acting as a proxy for reduction in nitrate discharge to groundwater.¹⁰³ The Agricultural Expert Panel Report identified a shift to using the A/R ratio in nitrogen management as critical in reducing nitrogen leaching to groundwater because the multi-year A/R ratio will provide a fairly accurate picture of the efficiency of the nitrogen application on the field and the potential over-application of nitrogen over several years. Similarly, the trend in the multi-year A/R ratio over time will inform whether practices are working to reduce the amount of nitrogen being left on the field and the corresponding potential for discharge to groundwater.

Although not considered by the Agricultural Expert Panel, we find that the multi-year A/R ratio will be rendered more informative if additionally paired with an A-R difference value (pounds of nitrogen applied minus pounds of nitrogen removed) to further tease out the magnitude of any potential nitrogen over-application, especially in cases where use of only the multi-year A/R ratio may mask significant quantities of nitrogen left in the field.¹⁰⁴ Further, the A-R difference, whether considered at the scale of a field, a township, or an alternative geographic unit, provides useful information on the magnitude of the amount of nitrogen left in the soil with potential to reach groundwater. This data in turn allow the Third Party and regional water board to better focus follow-up and management practice implementation as well as research and modeling on groundwater loading.

We find that the INMP should include recording, and the INMP Summary Report should include reporting, of the data supporting the calculation of the multi-year A/R ratio and A-R difference.¹⁰⁵ We revise the Eastern San Joaquin Agricultural Order to eliminate reporting on the nitrogen consumption ratio and to instead require recording and reporting of the AR data. We will

¹⁰² *Ibid.*

¹⁰³ *Id.*, pp. iii, 24, 38.

¹⁰⁴ For example, a grower applying 75 pounds of nitrogen and removing 50 has the same A/R ratio of 1.5 as a grower applying 450 pounds of nitrogen and removing 300. But the nitrogen left in the field by the second grower is six times the magnitude of the nitrogen left in the field by the first grower.

¹⁰⁵ We refer herein to "AR data" to encompass the multi-year A/R ratio and all data required to be reported in support of that ratio, including the A-R difference.

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require Members to determine and report nitrogen applied and crop yield.¹⁰⁶ Based on this data, we will require the Third Party to calculate annual A/R ratio and A-R difference values as well as a three-year running average, where feasible,¹⁰⁷ for these values for each Member for each field. The Third Party shall communicate the calculated values back to the Members.

We specify the minimum requirements for the templates for the INMP and the INMP Summary Report as revisions to the General WDRs. Templates may be proposed by the Third Party and used with approval from the Central Valley Water Board.

The requirement for calculation of annual and multi-year A/R ratio and A-R difference parameters for each Member by field shall be precedential for irrigated lands programs statewide; the regional water boards shall retain discretion as to the division of responsibilities among the growers, third parties, and regional water boards for determination of the values, provided that the values are known to both the growers and the third parties.

The directed revisions are indicated at Appendix A, Modified Eastern San Joaquin Agricultural General WDRs, section VII.D, pages 27-29; Attachment B, MRP, section VI.B, pages 32-37.

d. Requirement for Third Party to Determine Nitrogen Removed Coefficients

One short-term challenge to using the multi-year A/R ratio and A-R difference is that certain information and data gaps need to be filled. There is insufficient information currently available to calculate the R value for most crops. This data needs to be gathered over time. At this time, it is not a common practice for a grower to track the amount of nitrogen removed during harvest. Terminology currently used for nitrogen application recommendations focuses on crop nitrogen uptake or crop nitrogen need with the goal of maximizing crop yield. Use of the multi-year A/R ratio and A-R difference thus requires a change in nitrogen application recommendations and terminology.¹⁰⁸

Research is required to determine crop removal values. The Agricultural Expert Panel recommended research by third-party groups, commodity groups, and institutions to develop the data.¹⁰⁹ Such research would determine values for how many pounds of nitrogen are

¹⁰⁶ At this early stage in adoption of the AR data reporting, we find it is appropriate to ask Members to report only measured values and not values that require calculation. However, we will require the Third Party to report individual A/R ratio and A-R difference values back to the Members so that the Members have the benefit of the information these values provide.

¹⁰⁷ We recognize that fields are not always planted with the same crop for three consecutive years and further that the boundaries of a fields may change from year to year.

¹⁰⁸ Agricultural Expert Panel Report, pp. 27-28.

¹⁰⁹ *Id.*, p.40.

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contained in a unit of crop yield (e.g. lbs-N/ton of almonds). This can be expressed as a coefficient, that, when multiplied with a crop harvest, will estimate the nitrogen removed. The research will ultimately need to be completed for all harvested crop materials, including secondary, or complementary, harvests (i.e. prunings, removed vegetation, etc.).

We task the Third Party with [working with University of California Cooperative Extension, California Department of Food and Agriculture, commodity organizations and others conducting the appropriate testing or research](#)¹¹⁰ to determine the relevant coefficients for calculating nitrogen removed by crop. We direct the Third Party to [publish-identify](#) nitrogen removed coefficients for crops that cover 95% of acreage within the General WDRs' boundaries in time for use with the INMP Summary Reports due 1 March 2021 and 99% of the acreage in time for use with those due 1 March 2023 (with estimated coefficients based on similar crops being acceptable for crops covering the remaining 1%). The coefficients shall be [approved-deemed appropriate for use in the INMP Summary Reports](#) by the Central Valley Water Board Executive Officer, in consultation with State Water Board staff, following an opportunity for public review and comment. Once [deemed appropriate](#)~~approved~~, the Third Party must use those values to retroactively calculate the A/R ratio and A-R difference, both past annual reported values, and the three-year running average for the A/R ratio based on the three prior years.

The requirement for use of coefficients for conversion of yield to nitrogen removed values shall be precedential statewide. In determining the appropriate coefficients, the regional water boards must [approve-deem appropriate](#) the values, but may rely on their own research or on the research of ~~the third party~~ [others](#), including a review of the scientific literature, and further may consider [for approval-as appropriate](#) coefficients evaluated by other regional water boards.

The directed revisions are indicated at Appendix A, Modified Eastern San Joaquin Agricultural General WDRs, Attachment B, MRP, Section V.D, page 25.

e. Expansion of Reporting Requirements

i. Rationale for Field-Level Nitrogen Application Data Reporting to the Central Valley Water Board

The Eastern San Joaquin Agricultural General WDRs require Members to report nitrogen application data in the INMP Summary Report that is submitted to the Third Party; the Third Party in turn aggregates that data and reports it to the Central Valley Water Board in a manner that characterizes the input, uptake, and loss of the nitrogen application by specific crops,

¹¹⁰ Published values for many crop coefficients are already available in the scientific literature.

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but summarizes the data at the township level, rather than by Member or field.¹¹¹ Because the multi-year A/R ratio will provide a concrete, measurable, and reliable benchmark by which progress in reducing groundwater nitrate impacts can be determined, we find that the data should be reported to the Central Valley Water Board by field (although, as we discuss in more detail later, we allow for the field-level data to be reported with anonymous identifiers, rather than Member name or location).

Similar to the aggregated data reporting for management practices, the aggregated reporting of nitrogen application data required in the Eastern San Joaquin Agricultural General WDRs allows the Central Valley Water Board to analyze trends in nitrogen application and may indicate whether an area as a whole is making progress toward reducing the potential for nitrates to reach the groundwater.¹¹² The aggregation and analysis by the Third Party is thus an important task that leads to valuable information. There are nevertheless compelling reasons for the non-aggregated nitrogen application data to also be reported to the Central Valley Water Board at a field level.

Most significantly, access to the full field-level data set will allow the Central Valley Water Board to ~~develop~~-identify the multi-year A/R ratio target values that were recommended by the Agricultural Expert Panel. As multi-year A/R ratio data becomes available over the next few years, we direct the Central Valley Water Board to determine acceptable ranges for multi-year A/R ratio target values by crop. (We lay out our specific direction to the Central Valley Water Board in the sections that follow.) In describing the assumptions underlying its recommendations, the Agricultural Expert Panel stated that, while there is currently insufficient information to assign target values to the multi-year A/R ratio, “[i]t will be a regulatory goal to learn what the ranges of these multi-year ratios are for multiple crops and situations, in order to define acceptable target values” and that “[i]t will be a regulatory goal to reduce the average value of this A/R metric in regions.”¹¹³ Development of acceptable multi-year A/R ratio target values is warranted because the multi-year A/R ratio is the most reliable measure of the potential for nitrogen to reach groundwater that is currently available to us. The AR data captures a particular set of management practices that require implementation at the individual operation and field level.

¹¹¹ Eastern San Joaquin Agricultural General WDRs, Attach. B, MRP, § V.C, Report Component (17), p.23.

¹¹² Aggregated data reporting may, however, under some circumstances obscure the on-the-ground reality of how much aggregate nitrogen is being left in the fields because of the averaging effect of reporting fields with over-application along with fields with under-application of nitrogen. For example, the averaging may suggest a net effect of zero, whereas in reality significant nitrogen is left in the field in the first instance, and likely crop failure in the second instance does not act to mitigate the impacts from the nitrogen left in the first field.

¹¹³ Agricultural Expert Panel Report, p. 24.

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However, the multi-year A/R ratio, analyzed in concert with the data for the A-R difference, additionally provides information on the amount of nitrogen in the soil that could potentially reach the groundwater. In the absence of an extensive – and expensive – shallow groundwater monitoring network, the multi-year AR data is currently the most promising method for determining whether implemented management practices are leading to a meaningful reduction in ~~the~~ available nitrogen that has the potential to reach groundwater. Given this dual purpose served by the AR data, and given the magnitude of the problems due to nitrate impacts in groundwater, multi-year A/R ratio target values are expected to provide a valuable tool in irrigated lands programs for fair and even-handed consideration of nitrogen application practices. We find that this consideration should be employed to inform Members' practices on a field basis, in addition to a township or broader basis.¹¹⁴

An additional reason we direct the Third Party to submit field-level data to the Central Valley Water Board is that it allows for appropriate oversight by the Board. Access to the full field level data set enables the Central Valley Water Board to verify the accuracy and completeness of the Third Party's calculations and analyses. It also allows the Board to exercise reasonable oversight to confirm that the appropriate Members have been identified as outliers for follow up by the Third Party and, if warranted, the Central Valley Water Board.

Finally, the data set will have uses beyond the short-term needs of the water boards; for example, researchers may use the data to conduct studies advancing the science supporting future developments in the regulatory program, environmental justice groups may use the township-level data to assist in planning for areas that may need drinking water assistance in the future, and local agencies may use the data in groundwater quality management efforts.

We recognize that the Nitrogen Tracking Task Force recommended that data related to nitrogen application be aggregated prior to being reported to the regional water board.¹¹⁵ However, the Nitrogen Tracking Task Force issued its recommendation before the Agricultural Expert Panel was established, so the Nitrogen Tracking Task Force could not have anticipated that the Agricultural Expert Panel Report would recommend that nitrogen application data be used to develop acceptable multi-year A/R ratio target values. As explained above, in

¹¹⁴ As the agency with primary oversight over water quality in the Eastern San Joaquin River Watershed, the Central Valley Water Board is the appropriate party to develop the acceptable target values; furthermore, in developing the target values, we expect the Central Valley Water Board to analyze data gathered through irrigated lands regulatory programs throughout the region, not just data gathered through the Eastern San Joaquin Agricultural General WDRs, and to collaborate with other regional water boards to share and compare data with support from the State Water Board. Field studies are not a substitute for access to a complete data set of field-level A/R ratio data. A field study may result in determination of an acceptable A/R ratio target value for a specific set of conditions, but cannot anticipate the variability in conditions throughout a region.

¹¹⁵ Nitrogen Tracking Task Force Report, pp. 15-16.

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order to develop the target values, the Central Valley Water Board needs access to the field-level data. The Nitrogen Tracking Task Force was working with a different metric, a nitrogen mass balance, which is reported annually rather than on a multi-year basis, is complicated by uncertainty associated with how much nitrogen residual in the soil has the potential to percolate to groundwater, and is therefore not suitable as a performance measure. Because the Nitrogen Tracking Task Force's proposed nitrogen mass balance approach would not have been used to develop a performance measure, it would not have been necessary for the regional water boards to receive field-level data related to the nitrogen mass balance. Even so, the Nitrogen Tracking Task Force acknowledged that, "if access to more fine-grained data is needed for quality control or problem-solving purposes, the Water Boards can reach down to access growers' original raw data at field scale"¹¹⁶ and further that the regional water boards are "responsible for ensuring the accuracy of the data they receive and may consider developing an audit mechanism."¹¹⁷ The Agricultural Expert Panel found that the AR data needed to be tracked at a field level to be meaningful,¹¹⁸ but the Panel did not specifically speak to whether the field-level data should be reported to a third-party group or to the regional water board. As we discussed in the previous section, the multi-year A/R ratio does not suffer from the uncertainties of previously proposed metrics; and, since the multi-year A/R ratio is less susceptible to misinterpretation or misrepresentation, the argument in favor of providing only aggregated data is less compelling. In any case, anonymous reporting of field-level nitrogen application data, as discussed in the next section, ameliorates some of the concerns expressed by the Nitrogen Tracking Task Force that led to the recommendation of aggregated data reporting to the Regional Board, including the imprecise nature of the reported data and Member confidence in the reporting process.¹¹⁹

~~We also note here that we are not persuaded that the INMP Summary Report data constitutes proprietary business information. In Order WQ-2013-0101 we similarly rejected the argument made by some petitioners that total nitrogen applied is sensitive proprietary information not appropriate for reporting and deferred to the protections for sensitive business information created by the Legislature in the Water Code and the Public Records Act, rather than carve out~~

¹¹⁶ *Id.*, p. 19.

¹¹⁷ *Id.*, p. 21.

¹¹⁸ Agricultural Expert Panel Report, pp. 37-38.

¹¹⁹ We note that our direction maintains the majority of the recommendations of the Nitrogen Tracking Task Force. The Agricultural Expert Panel only modified two reporting items as recommended by the Nitrogen Tracking Task Force. The Panel eliminated reporting of residual soil nitrogen credits and added reporting of irrigation method. In addition to these two items, our direction departs from the Nitrogen Tracking Task Force's recommendations primarily in the requirement to submit field-level, in addition to aggregated, data to the regional water board.

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~~additional exceptions within the permit.¹²⁰—In that case, we required each discharger to report total nitrogen applied directly to the Central Coast Water Board and noted that the timing and frequency of nitrogen applications, rather than data regarding the total amount, was more likely to implicate competitive business practices. The additional information required to be reported here, i.e. the nitrogen removed from the field, does not significantly alter the balance that we must strike between the need for transparency and measurable benchmarks on the one hand, and the need for the agricultural community to protect trade secrets and other sensitive information on the other hand.¹²¹ We note that the INMP Summary Report contains only specific, limited data that is necessary for use by the Central Valley Water Board for the purposes described above. We are not requiring that the entire INMP be submitted, nor are we requiring that other planning and management documents that Members may develop and use for operational purposes be submitted.~~ Our purpose in requiring submission of field-level AR data to the Central Valley Water Board is to address, in an even-handed, data-driven manner, a crucial water quality and public health issue – nitrates in groundwater – by minimizing over-application of nitrogen to the fields, while at the same time preserving Members' need to manage their operations in accordance with confidential business practices and determinations.

In sum, we find that field-level data should be submitted to the Central Valley Water Board for the reasons we have articulated: to support development of acceptable multi-year A/R ratio target values for crops grown in the Eastern San Joaquin River Watershed, to inform whether implemented nitrogen management practices are reducing the nitrogen that may potentially reach groundwater, and to allow for appropriate oversight over the Third Party's response to the data.

ii. *Data Sets Required to be Reported from the Third Party to the Central Valley Water Board*

While we direct reporting of field-level data, rather than aggregated data, to the Central Valley Water Board, ~~at this early stage in the development of the multi-year AR data~~

¹²⁰ State Water Board Order WQ 2013-0101, p. 45, fn. 103; see also *id.*, p. 28. The relevant code provisions are Water Code, section 13267, subdivision (b)(2), Government Code section 6254, subdivision (k), and Evidence Code section 1060. Our conclusions as to how to address proprietary information in the context of an agricultural regulatory program were not questioned by the Sacramento Superior Court Ruling. We also note that section IX.4 (p. 36) of the Eastern San Joaquin Agricultural General WDRs establishes a process by which a Member may assert that all or a portion of a report is exempt from public disclosure.

¹²¹ Under Order WQ 2013-0101, we limited nitrogen reporting to total nitrogen applied because we found that the ratio otherwise required to be reported in the Central Coast Agricultural Order relied on speculative values for crop nitrogen uptake (p. 49). As we have discussed above, the A/R ratio does not suffer from the same deficiency; while development of the appropriate coefficients for calculation for nitrogen removed from the field will require further data gathering and research, once the values are available, the multi-year A/R ratio is expected to be a reasonably accurate representation of nitrogen remaining on the field.

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~~framework,~~ we will not require the individual field data to be routinely identified by name or location. We are satisfied that the goals of the program can be carried out effectively if field-level data is linked to anonymous identifiers, with the Third Party withholding name and location data, ~~at least in the early stages of the program.~~ We heard extensive testimony in these proceedings from third parties and growers stressing that the continuation of a third-party framework in irrigated lands programs depends in part on an expectation of privacy and confidentiality for growers who prefer to interface with a third party rather than the regulatory agency. As we described in Section II.A., we believe and emphasize that third parties serve an extensive set of functions for growers ~~beyond the maintenance of confidentiality, and we are not persuaded that the maintenance of confidentiality, in and of itself, is a legitimate goal of a regulatory program that must have transparency and accountability to the public.~~

In the interest of general privacy concerns as well as concerns related to sharing information that can be traced to private economic information, ~~we will, however, proceed cautiously~~ at this time ~~and~~ not require more information than we find is necessary to effectively manage the irrigated lands regulatory program and provide the public with the essential assurance that we are doing so. We will periodically evaluate whether the framework we set out here is, in fact, sufficient to enable the oversight and transparency necessary to ensure measurable progress toward achieving water quality requirements while balancing privacy concerns and may require disclosure of name and location data in the future if we find it is not. (See requirement in Section II.A.11 for periodic Central Valley Water Board reporting to the State Water Board on this question.) For now, ~~however, we expect that~~ the value of a fully-functioning third party and the need to provide privacy protections for farm related information will more than offset the additional burdens that are associated with receiving data that is largely anonymous.

The Modified Eastern San Joaquin Agricultural General WDRs will require submission by the Third Party of three data sets to the Central Valley Water Board. Examples of the three data sets are attached to this order as sample data Tables 2, 3, and 4, solely for illustrative purposes.

The first data set associates each field with a Member-specific anonymous identifier, the Anonymous Member ID discussed in the section on the Farm Evaluation, and displays the crop grown, the annual A/R ratio, the annual A-R difference, and the three-year A/R ratio, as well as some of the underlying data, on a per acre basis. This data set facilitates comparison of the reported A/R ratio and A-R difference for Members growing the same crop. The data set allows the Central Valley Water Board to verify the Third Party's calculations and analyses with regard to Member performance, and specifically to verify that the Third Party is

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identifying and following up with Members that are applying nitrogen at substantially higher levels than other Members growing the same crop. Over several years, the data set additionally provides trend data to ensure that Members are adjusting nitrogen application in response to follow up and training efforts.

The second data set associates each field with a location by assigning one or more anonymous location-identifiers tied to the APN for the parcel(s) that the field partially or completely overlays (Anonymous APN ID). Since APNs are not coextensive with fields, each field may be associated with more than one Anonymous APN ID and each Anonymous APN ID may be associated with more than one field. This data set also displays the crop grown, the annual A/R ratio, the annual A-R difference, the three-year A/R ratio, as well as some of the underlying data for those numbers as above, on a per acre basis. The purpose of this data set is to track nitrogen application data and its potential impacts with regard to a physical location, where Member data obscures such impacts because Members may be changing the fields they operate from year to year. This data set allows the Central Valley Water Board and stakeholders to flag situations where the A/R ratio and/or A-R difference may be significantly higher than other locations in the short term and higher than acceptable ranges of multi-year A/R ratio values in the long term, providing an indicator of potential nitrate impacts to underlying groundwater. The Central Valley Water Board can then ensure that the Third Party is responding appropriately and that the values associated with the location show a trend toward acceptable nitrogen application values.

The third data set does not utilize anonymous identifiers, but aggregates the data at a township level, similar to the current reporting under the Eastern San Joaquin Agricultural General WDRs. This data set sets out A-R difference data by crop aggregated at the township level, average A/R ratio data by crop at the township level, and some of the underlying data by crop again aggregated at the township level. The purpose of this data set is to provide researchers and other interested persons township-level data to facilitate trend analysis and nitrogen loading modeling.

Taken together, the data reporting set forth above enhances efficacy and accountability, while preserving many benefits of data collection and assimilation by the Third Party. The State Water Board finds that use of the anonymous identifiers and aggregated data as outlined here and set out in the Modified Eastern San Joaquin Agricultural General WDRs retains the privacy protections of the existing order, [and is consistent with other laws that protect farm information](#). At the same time, the revisions provide a more detailed set of field-specific data

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available to the Central Valley Water Board for oversight of the program and provide more transparency and assurance of progress for interested persons outside of the regulatory agency.

In particular, we anticipate that the anonymous field-level data is sufficient for the Central Valley Water Board to verify that implemented management practices are making progress toward achievement of the water quality goals of the program. Where the Central Valley Water Board finds its oversight function requires a more proactive effort, we note that the Central Valley Water Board may at any time request the names and locations corresponding to the anonymous identifiers.¹²² This option allows the Board to effectively follow up with individual Members where the data indicates that insufficient progress is being made by the Third Party's follow-up efforts with a Member.

In section II.A.11 of this order, we set out our direction to the Central Valley Water Board on how the submitted data shall be utilized.

In addition to submitting the underlying data, we direct the Third Party to evaluate the data, providing comparisons of the A/R ratio and A-R difference by crop type, and within crop type, by irrigation method, soil condition, and farming operation size and other appropriate evaluations as directed by the Executive Officer.

The Third Party is directed to report the data sets set out above in accordance with the schedule set out in Appendix A, Modified Eastern San Joaquin Agricultural General WDRs.

The requirement for field-level AR data submission to the regional water board consistent with the data sets and analysis of those data sets described in this Order shall be precedential for irrigated lands programs statewide. For third-party programs only, the data shall be submitted with anonymous identifiers unless the regional water board finds that there is a compelling grower-specific or location-specific reason why the data should be submitted with name or location identifiers. With regard to the aggregated dataset, the regional water board is not limited to aggregating the data at the township level, but may choose a smaller or larger area unit based on region-specific and program-specific considerations.

The directed revisions are indicated at Appendix A, Modified Eastern San Joaquin Agricultural General WDRs, section VIII.D, p. 34, Attachment B, MRP, section V.D, pages 24-27, section V.E, Report Component (17), pages 29-30.

¹²² Eastern San Joaquin Agricultural General WDRs, § X, p. 36.

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f. Required Follow-Up

We further revise the Eastern San Joaquin Agricultural General WDRs to require specific actions of the Third Party and of the Member when a Member is determined to be an outlier based on reported AR data.

Outliers will be identified by the Third Party annually based on the INMP Summary Report data submitted for that particular year. Eventually, it is our expectation that outliers will be determined with reference to the ranges for the multi-year A/R ratio and A-R difference target values developed by the Third Party and the Central Valley Water Board. At this early stage, we recognize that the limited data available, as well as the variation in conditions from field to field and from year to year, mean that any definition of outliers is imperfect. We will not specifically define the term in Appendix A, Modified Eastern San Joaquin Agricultural General WDRs, but will direct the Third Party to propose and the Central Valley Water Board to approve a set of Members with whom the Third Party will follow up. The Third Party may choose to set a standard, approved by the Central Valley Water Board, that it applies annually for a period of years to determine outliers or may propose and seek approval of a specific set each year. A Member will not be identified as an outlier based on high AR data solely due to application of nitrogen in irrigation water.

The Third Party must inform such outlier Members that they are potentially over-applying nitrogen to their fields. Following receipt of notification, these Members must either attend additional INMP self-certification training in person or work with an irrigation and nitrogen management plan specialist for certification of the next INMP prepared following notification. These Members must also report on the next annual INMP Summary Report that they were notified as outliers for reported AR data. The INMP Summary Report will then be expected to reflect additional or improved management practices implemented to address potential over-application of nitrogen.

We continue to believe that the Third Party is best suited (both in terms of expertise and in terms of developed relationships) for the role and responsibility of follow up with Members to address any potential over-application. The Third Party is the lead in outreach and education and as part of that responsibility will be expected to follow up with Members who are outliers for reported AR data. If Third Party follow up does not yield sufficient progress in ~~water quality in the coming years addressing outliers~~, we will reevaluate this approach and consider adding to the program a trigger, such as three consecutive years of high A/R ratios, that will require non-anonymous reporting of that Member to the Central Valley Water Board.

Commented [A3]: In many instances, it may take decades for there to be a quantifiable change in groundwater quality concentrations for nitrate even if agricultural was to cease operations on the land surface. Specifically, there are legacy loads of nitrate in the vadose zone. Thus, while this program may make great strides in reducing available nitrogen that may discharge to groundwater, we may not actually see water quality improvements for decades.

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The requirement for follow up and appropriate training for AR data outliers and for identification of repeated outliers as set out above shall be precedential in irrigated lands programs statewide, except that the regional boards will be responsible for the follow up and training for irrigated lands programs that directly regulate growers without a third-party intermediary.

The directed revisions are indicated at Appendix A, Modified Eastern San Joaquin Agricultural General WDRs, section IV.C.8.c, page 22, section VII.D, page 29; Attachment B, MRP, section V.D, page 24, section VI.B, INMP Component (3), page 33.

6. Recordkeeping Requirements

The Eastern San Joaquin Agricultural General WDRs require that the Third Party shall maintain any reports and records required for a period of five years. We revise the General WDRs to require maintenance of the reports and records for ten years and to require the Third Party to back up the field-specific data submitted on the Farm Evaluations, the INMP Summary Reports, and the MPIRs in a secure offsite location managed by an independent entity. This requirement is needed because it is critical that the Central Valley Water Board have the ability to access outlier Members' names and locations if warranted at a future date.

This recordkeeping requirement shall be precedential statewide for all third-party irrigated lands programs.

The directed revisions are indicated at Appendix A, Modified Eastern San Joaquin Agricultural General WDRs, section X, page 40.

7. Surface Receiving Water Monitoring

The Eastern San Joaquin Agricultural General WDRs do not require water quality monitoring of discharges coming off the farms, but require monitoring in the receiving waters. The watershed is divided into six zones. Two "core" sites and several "represented" sites are designated in each zone. In theory, the represented sites are sites with characteristics similar to the core sites such that a water quality issue detected at the core site may be an indication of a similar issue at a represented site. The two core sites are continuously monitored on an alternating basis. An exceedance at a core site triggers the requirement to monitor at the represented sites within the same zone.¹²³

The Environmental Petitioners argue that the surface water quality monitoring is ineffective as a feedback mechanism that can tie management practice implementation with the water quality goals of the Eastern San Joaquin Agricultural General WDRs. We took up the

¹²³ *Id.*, Attach. B, MRP, § III.A, pp. 3-6. The Third Party or the Executive Officer may additionally designated "Special Project Sites" to be monitored as part of a SQMP or to address a TMDL. (*Ibid.*)

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question of the appropriate approach to surface water quality monitoring in State Water Board Order WQ 2013-0101. The Central Coast Agricultural Order incorporates both regional receiving water monitoring and, for Tier III dischargers, edge-of-farm discharge monitoring. In Order WQ 2013-0101, we declined to revise the surface water discharge monitoring requirements but we also expressed our concerns with the approach:

We are skeptical that the Central Coast Water Board has adopted the monitoring program best suited to meet the purpose of identifying and following up on high-risk discharges. The variability in the composition of end-of-field discharges makes it difficult to characterize such discharges through sampling at a limited number of locations and in a limited number of sampling events. Further, even though the surface water discharge monitoring requirements are targeted to the highest risk dischargers, problem discharges and areas are likely to be found outside of the influence of farms operated by Tier 3 dischargers. The better approach may be to rely on receiving water monitoring data and to require the third party monitoring groups administering receiving water monitoring to pursue exceedances with increasingly focused monitoring in upstream channels designed to narrow down and identify the sources of the exceedances.¹²⁴

We presented the question of the appropriate surface water monitoring framework to the Agricultural Expert Panel. The Agricultural Expert Panel agreed that monitoring of surface water discharges from individual fields or farms is costly and complicated, as well as subject to serious challenges in identifying the appropriate timing for periodic sampling and coordinating with shifting field crew operations, pesticide applications, and sediment runoff events, and with schedules for lab operations. Notably, however, the Agricultural Expert Panel did not consist of surface water experts, and most of their time was spent on addressing nitrogen application issues and impacts to groundwater. The Agricultural Expert Panel Report stated:

~~For surface water issues, the Panel recommends water quality monitoring of receiving water and a clear understanding of the watershed hydrology. Sufficient samples should be taken in the watershed streams to detect if problems do indeed exist. The sampling should be of sufficient density (spatially and temporally) to identify general locations of possible pollution. This is recommended rather than sampling at each discharge point. For example, a single~~

¹²⁴ State Water Board Order 2013-0101, pp. 37-38. The Sacramento Superior Court Ruling stated with regard to surface water monitoring: "Petitioners have failed to persuade the court that surface discharge monitoring of all discharges is required –or even possible given that there are approximately 435,000 acres of irrigated land and approximately 3000 agricultural operations generating discharges of waste." (Sacramento Superior Court Ruling at 41.) Although the Ruling held that the State Water Board had struck an appropriate balance in requiring individual surface discharge monitoring for Tier 3 dischargers only, the court did not hold that discharge monitoring for high risk discharges is a required element of a surface water monitoring program. To the contrary, the court held that "both the Water Code and the NPS policy expressly allow the use of cooperative or watershed-based monitoring. . . While individual monitoring might provide more information, it would be complicated, costly, and would threaten to overwhelm Regional Board staff." (*Ibid.*)

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We continue to believe that receiving water monitoring is generally preferable to field-specific surface water discharge monitoring in irrigated lands regulatory programs for the reasons articulated by us in Order WQ-2013-0101 and by the Agricultural Expert Panel. Receiving water monitoring, if done correctly, is a reliable and effective methodology for identifying water quality issues without resorting to more costly end-of-field measurements.

~~This notwithstanding, h~~Having now carefully reviewed the particular surface water monitoring framework established in the Eastern San Joaquin Agricultural General WDRs, we ~~cannot~~ find that it is, in fact, “of sufficient density (spatially and temporally) to identify general locations of possible pollution.” ~~The General WDRs rely not on regional or watershed-based sampling, but on “representative monitoring.” The Third Party monitors only a few “core” sites, asserted to be representative of “represented” sites elsewhere in the watershed. The Third Party proceeds to monitor the represented sites only if a core site has an exceedance.~~

~~There are two problems with this approach: First, in theory, because the core site and the represented sites have similar hydrology, crop type, land use, soil type, and rainfall, and are assumed to be managed similarly, an exceedance at a core site would be indicative of an exceedance at a represented site. But the data does not bear this out. As an example, an examination of the reported monitoring data shows that monitoring at a represented site reveals exceedances for a different set of pollutants than the monitoring at the core site that triggered the requirement for sampling the represented site in the first place. Even where the physical characteristics of a core site and a represented site are similar, this monitoring program is meant to also capture human behavior in management practices, beyond just physical site characteristics, and the data suggests that there is enough variability in field-by-field practices to yield significantly varied monitoring results from core sites to represented sites. We have reviewed the monitoring design guidance prepared in 2007 to support the Central Valley irrigated lands regulatory program and believe that, in its current form, the surface water monitoring program strays from the recommended approach.~~⁴²⁶

⁴²⁵ Agricultural Expert Panel Report, p. 41.

⁴²⁶ Monitoring Design Guidance for the Central Valley Irrigated Lands Regulatory Program, October 2007, available at http://www.waterboards.ca.gov/nwqcb5/water_issues/irrigated_lands/water_quality/monitoring_design_guidance_20nov07.pdf.

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~~Second, it is not clear that, even collectively, the core and represented monitoring sites have sufficient spatial density or distribution to be able to reasonably identify exceedances throughout the watershed.~~

~~The approach taken by the Eastern San Joaquin Agricultural General WDRs may be effective in monitoring for a narrower set of purposes, such as determining the effectiveness of a certain set of management practices, but it does not appear to be comprehensive enough to identify problem areas throughout the watershed. We recognize that water quality monitoring at core and represented sites is supplemented by additional, potentially upstream, monitoring under an SQMP, when triggered. But the problem is that a SQMP may not be triggered until an exceedance is detected at a core or represented site, and water quality exceedances upstream or in an adjacent portion of the watershed to that of the core and represented sites may go undetected in the interim.¹²⁷~~

The Nonpoint Source Policy does not require any particular framework for monitoring and does not necessarily even require comprehensive ambient monitoring. But the nonpoint source implementation program must "include sufficient feedback mechanisms so that the [regional water board], dischargers, and the public can determine whether the program is achieving its stated purpose(s), or whether additional or different [management practices] or other actions are required."¹²⁸ ~~We find that t~~The representative monitoring of the General WDRs ~~does not appear to meet~~s that mandate. ~~Especially given that monitoring to date has indicated that discharges from irrigated lands are leading to some exceedances of receiving water limitations, we find that the monitoring results of the Eastern San Joaquin Agricultural General WDRs indicate that a more comprehensive ambient monitoring program is necessary.~~

~~In coming to this conclusion, we are cognizant of the argument, advanced by the Central Valley Water Board and the East San Joaquin Water Quality Coalition, that the current surface water monitoring provisions of the General WDRs reflect a studied decision by the Central Valley Water Board to reduce the Third Party's monitoring costs in favor of increasing funds for management practice implementation. At least in one respect, we support this compromise. In Order WQ-2013-0101, as quoted above, we stated that an effective receiving water monitoring program must pursue exceedances in upstream channels and narrow down the source of the exceedances. The General WDRs eschew this framework in favor of requiring management practice improvements of all Members in the affected watershed. We find that this approach is~~

¹²⁷ Eastern San Joaquin Agricultural General WDRs, § VIII.H.1, p. 33.

¹²⁸ Nonpoint Source Policy, p. 13.

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~~reasonable in the first couple of iterations of attempts to correct exceedances, although identification of individual sources should be required if improvements are not sufficient.⁴²⁹ In other respects, we are not confident that the balance between monitoring on the one hand and increased funding for management practice implementation on the other hand has been appropriately struck. The General WDRs must ensure that existing and developing water quality problems are in fact detected and subsequently corrected and must provide for sufficient density of monitoring to achieve that purpose.~~

~~Unlike with all other provisions of the Eastern San Joaquin Agricultural General WDRs, we will not make the specific revisions to the Surface Water Monitoring provisions of the General WDRs in this Order. We will instead convene a panel of experts to make recommendations on a framework for surface receiving water monitoring to inform irrigated lands programs statewide. We expect the panel to be charged with answering the following questions, which may evolve as the State Water Board, through its Office of Information Management and Analysis, develops the project proposal for the expert panel:~~

- ~~• What are the management decisions that need to be answered by monitoring and data assessment in the irrigated lands program?~~
- ~~• How should a monitoring program be designed to provide defensible data for the relevant management decisions, yet recognize the need to control the costs of monitoring and assessment? Topics should cover temporal and spatial monitoring design, analyte selection, analytical methods, data analysis, and synthesis.~~
- ~~• What processes for evaluating monitoring program effectiveness could be implemented for continuous improvement?~~
- ~~• What new monitoring and assessment tools and technologies are relevant to the irrigated lands program and how can the water boards acquire the tools and knowledge to use them?~~
- ~~• What skills and knowledge do water board staff need to manage the irrigated lands monitoring and assessment program?~~
- ~~• How can data submittal consistency and accessibility be improved?~~
- ~~• How do the conclusions and recommendations of the expert panel inform other regulatory programs with a landscape scale requirement for monitoring and assessment such as programs for forestry and grazing? Do they have applicability to other Water Board programs such as the Stream Pollution and Trends program?~~

~~We expect the panel to be composed of members having knowledge, skills, and abilities to address the following topics of needed expertise, which may evolve as the State Water Board,~~

⁴²⁹ We note that the Agricultural Expert Panel also set an expectation that monitoring would move upstream to identify sources as needed. (Agricultural Expert Panel Report, p. 41.)

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- Landscape-based water quality modeling: Expertise in predictive modeling of potential contamination using pesticide use reports, soil, weather, and crop information to help determine chemical, temporal, and spatial potential for contamination and effect
- Agronomy: Expertise on cultural practices, pest management, BMPs, soil, plant, and nutrient information
- Data science and statistics: Expertise to ensure that the monitoring design is a targeted design and to enable analysis of existing data from the program to determine variability in support of the temporal and spatial design of the program
- Toxicology, biology, chemistry: Expertise to address selection of test methods and test species appropriate for the chemicals selected to be monitored, including some expertise on the fate and transport of these particular elements in the typical receiving waters of California.

Once convened, the expert panel will report to the State Water Board on the monitoring and program data needed to inform the expert panel's review and determinations. The Executive Director of the State Water Board may then issue a monitoring and reporting program order under Water Code section 13267 to the Eastern San Joaquin Coalition and to other third parties in the irrigated lands programs requesting the data recommended by the expert panel. In the interim, the Central Valley Water Board and the Third Party shall continue to implement the existing program.

8. Groundwater Quality Monitoring

The Eastern San Joaquin Agricultural General WDRs contain a set of requirements for groundwater quality monitoring and management practice assessment and evaluation. The General WDRs first require preparation of a Groundwater Quality Assessment Report, which provides a baseline for groundwater quality conditions in the watershed by assessing all existing data.¹³⁰ Second, the General WDRs require implementation of a Management Practice Evaluation Program in which targeted studies are conducted to evaluate management practices that are protective of groundwater quality.¹³¹ Third, the General WDRs require Groundwater Quality Trend Monitoring, based on sampling of a network of existing wells, to determine current and long-term regional groundwater quality trends.¹³²

We add to the groundwater monitoring provisions of the Eastern San Joaquin Agricultural General WDRs a set of monitoring and reporting requirements designed specifically to

¹³⁰ Eastern San Joaquin Agricultural General WDRs, Attach. B, MRP, § IV.A, pp.13-15.

¹³¹ *Id.*, Attach. B, MRP, § IV.B, pp. 15-17.

¹³² *Id.*, Attach. B, MRP, § IV.C, p.17.

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address identification of on-farm drinking water supply wells with nitrate concentrations that are detrimental to public health. We then make several revisions to the Groundwater Quality Assessment, Management Practice Evaluation Program, and Groundwater Quality Trend Monitoring provisions of the General WDRs, but these modifications are comparatively minor.

a. Drinking Water Well Monitoring

Nitrates consumed at concentrations above the MCL of 10 milligrams per liter (mg/L) of nitrate+nitrite as N¹³³ can pose serious health risks to pregnant women and infants. In State Water Board Order WQ 2013-0101 we recognized the importance of making accurate, reliable nitrate concentration data available to the consumers of well water and established a framework where the nitrate concentration for every drinking water well was determined through existing data, direct sampling, or a statistically valid projection, and where users were notified of exceedances. We now add drinking water well monitoring provisions to the Eastern San Joaquin Agricultural General WDRs similar to those established for the Central Coast by Order WQ 2013-0101.

The new provisions require Members to initially sample all on-farm drinking water supply wells for nitrate concentrations annually. In lieu of one or more annual samples, the Member may rely on drinking water supply well sampling data available from any time within the prior five years. Where existing data or sampling data indicates that the nitrate concentration was below 8 mg/L for three consecutive annual sampling events, the member may thereafter sample every five years instead of annually. An alternative sampling schedule may be required by the Executive Officer at any time. Results of the drinking water supply well monitoring must be submitted by the laboratory directly to GeoTracker. Results of any existing sampling data must be reported to GeoTracker directly by the Member.

The new provisions require that users receive notification if a drinking water well exceeds 10 mg/L of nitrate+nitrite as N. The Member must provide notice to users within ten days of the exceedance and send a copy of the notice to the Central Valley Water Board. Where the Member is not the property owner, the Member may choose to provide the notice or instead pass on the results to the property owner within 24 hours of learning of the exceedance; the property owner must then notify the users within nine days of the exceedance and copy the Central Valley Water Board.¹³⁴ The State Water Board expects that the Central Valley Water Board will, where

¹³³ As stated previously, the MCL is also expressed as 45 mg/L of nitrate as NO₃.

¹³⁴ Finding 2 of the Eastern San Joaquin Agricultural General WDRs states that enforcement action for non-compliance may be taken against both the owner and the operator, even when the owner is not enrolled as a Member.

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appropriate, act promptly to require the Member to provide users with safe drinking water for consumption.

~~Unlike in Order WQ 2013-0101, where we permitted a statistically valid projection of well nitrate levels, with this order we require actual sampling of all wells. The ultimately unsuccessful effort to characterize drinking water supply wells through representative monitoring under the Central Coast Agricultural Order has borne out that obtaining a statistically valid projection for nitrates is a subjective and problematic process in the absence of an extensive set of data points. We conclude that, given the public health risk associated with drinking water that exceeds the MCL levels, the only way to ensure that public health is fully protected is to require sampling of every drinking water supply well.¹³⁶~~

We are aware of ongoing discussions and proposals among interested persons to address drinking water well contamination and the provision of replacement water through legislation that would more broadly address private drinking water supply wells, not only on-farm drinking water supply wells, as the Modified Eastern San Joaquin Agricultural General WDRs does. In order to allow some time for consideration of legislative proposals, the requirements for on-farm drinking water well monitoring will not take effect, if, prior to January 1, 2019, the State Water Board determines that the legislature has established a comprehensive statewide program that assures that private drinking water wells will be routinely monitored for nitrate contamination and users of those wells will be notified of the results.

The Environmental Petitioners argue that the Eastern San Joaquin Agricultural General WDRs disproportionately impact low-income communities and communities of color, are discriminatory, and are null and void by virtue of denying enjoyment of those communities'

Commented [A4]: The language provided here is unnecessary and fails to accurately characterize the Central Coast domestic well monitoring program.

¹³⁶—In June 2015, Senate Bill 83 amended Water Code section 13752 to mandate public access to well completion reports. Well completion reports are required to be filed with the Department of Water Resources (DWR) for all groundwater wells at the time that they are constructed. The reports are required to contain information regarding each well's location and construction, and the lithology of the subsurface, among other items. As a result of the amendment, all well completion reports are available to the public, except that personal information (e.g., an individual's name and address) must be redacted. In the past, the State Water Board has obscured from public view in its online groundwater information systems, including GeoTracker, the precise locations of water supply wells for public water systems and some private domestic wells by providing a randomly-generated point within approximately one mile of the well's precise location. In addition, the State Water Board's Division of Drinking Water has not released records that identify the precise location of water supply wells used by public water systems. Since well completion reports, including information about the location of the wells, are now publicly available by request from DWR, we announced our decision that, as of January 10, 2017, we will no longer obscure public water system groundwater well location information on our online groundwater information systems or withhold other records that identify the precise location of water supply wells used by public water systems. With this Order, we extend our decision to all other groundwater wells. Henceforth, we will cease obscuring the location of any groundwater wells, absent exceptional circumstances. Not only is this consistent with the Legislature's clear policy direction regarding the transparency of groundwater data, it also helps to facilitate efforts by governmental agencies and nongovernmental organizations to identify individuals and communities that are in need of infrastructure and replacement water supplies, and general research regarding groundwater quality.

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residence, landownership, and tenancy, because Latino and low-income communities are more likely to have drinking water contaminated by nitrates and less likely to have access to health care, treatment, or substitute water sources.¹³⁶ With the revisions we have made to the General WDRs, including the additional drinking water well monitoring provisions added with this section, we find that the discharges of waste authorized by the General WDRs will not disproportionately impact or discriminate against Latino and low-income communities, or deny their enjoyment of their residences, property, or tenancy. We make this finding in particular because the Modified Eastern San Joaquin Agricultural General WDRs require (1) calculation and reporting of field-level AR data; (2) implementation and reporting of management practices where the Member is identified as having a significantly higher than average multi-year A/R ratio in order to reduce over-application of nitrogen; (3) monitoring of on-farm drinking water supply wells to determine if they exceed public health standards; (4) prompt notification of users if a well exceeds public health standards. [Further, the General WDRs do not disproportionately affect Latinos or low-income groups over another group as it is applied across all irrigated lands in the East San Joaquin watershed boundary areas regardless of community groups and populations therein.](#) ~~Also~~ [Further](#), although Water Code section 106.3, by its terms, does not apply to the issuance of a water quality order, it is appropriate for us to consider the human right to water in this context,¹³⁷ and we find that our adoption of the order supports the basic human right “to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes,” expressed in Water Code section 106.3, for the same reasons articulated in this paragraph.

In sum, after January 1, 2019, Members must initiate sampling of private drinking water supply wells located on their property. The requirements of this section will not take effect if, prior to January 1, 2019, the State Water Board determines that the legislature has established a comprehensive statewide program that assures that private drinking water wells will be routinely monitored for nitrate contamination and users of those wells notified of the results.

The requirement for on-farm drinking water supply well monitoring shall be precedential statewide.

¹³⁶ See Gov't Code, §§ 11135, 12900 et seq., & 65008.

¹³⁷ See State Water Board Order WQ 2013-0101, pp. 67-68.

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The directed revisions are indicated at Appendix A, Modified Eastern San Joaquin Agricultural General WDRs, section VII.E, p. 30, section VIII.E.1, page 34; Attachment B, MRP, section IV.A, pages 14-15.

b. Groundwater Quality Assessment Report

The Groundwater Quality Assessment Report, which serves the purpose of providing the technical basis informing the scope and level of effort for implementation of the General WDRs groundwater monitoring and implementation provisions, was approved by the Central Valley Water Board on December 14, 2014. We make no revisions to the requirements at this point.

The preparation of a Groundwater Quality Assessment Report shall not be precedential statewide.

c. Management Practice Evaluation Program

The scope and purpose of the Management Practice Evaluation Program (MPEP) has evolved since the adoption of the Eastern San Joaquin Agricultural General WDRs and is continuing to evolve. We are reluctant to make any significant revisions to the MPEP requirements so that the Central Valley Water Board retains continued flexibility to refine the program. We expect that the MPEP will initially focus on the determination of the crop-specific coefficients for conversion of yield to nitrogen removed and then on the determination of acceptable ranges for the multi-year A/R ratio target values by crop.

We further expect the MPEP will help identify specific management practices appropriate for specific conditions to assist Members in minimizing surface water and groundwater impacts, particularly in areas with SQMPs and GQMPs. We revise the MPEP to require study of management practice effectiveness in all areas, not just areas designated as high vulnerability areas, although we explicitly acknowledge that prioritization may be based on the high vulnerability determination. The Central Valley Water Board stated as follows in a comment letter submitted in response to a February 8, 2016, draft of this order, which had proposed removal of the high/low vulnerability distinctions:

[T]he Central Valley Water Board does not oppose abolishing the high/low vulnerability distinction and is not disputing the State Water Board's rationale for doing so. The Central Valley Water Board has found that the high/low vulnerability distinction in the exiting General WDRs has become problematic because only Members within high vulnerability areas are required to participate and fund the MPEP . . . , even though the Board intended for these activities to

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be funded by all Members. Removing the designation would therefore allow the obligations to be funded in a more equitable manner.¹³⁸

In response to other comments we received, we reinstated the high/low vulnerability distinctions in the Eastern San Joaquin Agricultural General WDRs generally with this order, but we will remove them for purposes of the MPEP requirements.

We also require that any groundwater monitoring data supporting the Management Practice Evaluation Program be collected through shallow groundwater monitoring because shallow groundwater exhibits a more rapid response to practices on the field.¹³⁹

The MPEP requirements shall not be precedential statewide.

The directed revisions are indicated at Appendix A, Modified Eastern San Joaquin Agricultural General WDRs, section VIII.E.3, p. 35, Attachment B, MRP, section IV.E, pp. 20-21.

d. Groundwater Quality Trend Monitoring

In addition to nitrate+nitrite as N, the Groundwater Quality Trend Monitoring provisions require monitoring for conductivity, pH, dissolved oxygen, temperature, total dissolved solids, and general minerals.¹⁴⁰ The Environmental Petitioners have asked us to expand the list of constituents further and argue specifically that the Groundwater Quality Trend Monitoring constituents should include pesticides and degradation products from pesticides.¹⁴¹ We will not expand the monitoring constituents to include pesticides and degradation products from pesticides where the Central Valley Water Board can rely instead on the monitoring conducted by the Department of Pesticide Regulation (DPR) for data on these constituents. We address that issue through a revision to the GQMP provisions under section II.9. However, we direct the Central Valley Water Board to consider adding monitoring for parameters that are not covered by

Commented [A5]: We find it inappropriate for the Second Draft Order to define Shallow Groundwater. The Central Valley Water Board is currently discussing this issue in its development of Basin Plan Amendments for implementation of the Central Valley SNMP. Defining shallow groundwater is not an easy task and should be deferred to the Central Valley Water Board rather than in a footnote in this Second Draft Order.

¹³⁸ Comment Letter, Central Valley Water Board, June 1, 2016, p. 17, available at http://www.swrcb.ca.gov/public_notices/comments/a2239ac/patrick_pulupa.pdf (as of Oct. 6, 2017). The comment letter implies that the same concern may apply to the Groundwater Quality Trend Monitoring Program, but we read the requirements for that program as not limited to high vulnerability areas.

¹³⁹ ~~We define shallow groundwater as groundwater located less than ten feet below the soil surface. As we discuss below, the Agricultural Expert Panel Report found that groundwater quality monitoring will not provide useful data for purposes of evaluating the effectiveness of above-ground practices, except in very limited circumstances. (Agricultural Expert Panel Report, p. 8.) Monitoring of shallow groundwater constitutes the scenario in which the data is most likely to be meaningful. We note that the Agricultural Expert Panel's conclusions were with regard to impacts associated with farming, and not with impacts from other potentially more concentrated sources, such as holding ponds at dairies.~~

¹⁴⁰ Eastern San Joaquin Agricultural General WDRs, Attach. B, MRP, § IV.E, pp. 19-20.

¹⁴¹ The Groundwater Quality Trend Monitoring constituents specified in the Eastern San Joaquin Agricultural General WDRs are conductivity, pH, dissolved oxygen, temperature, nitrate as N, total dissolved solid, and general minerals. (*Id.*, Attach. B, MRP, table 3, pp. 19-20.) In addition to advocating for addition of pesticides and degradation products from pesticides to that list, the Environmental Petitioners argue that the Groundwater Quality Trend Monitoring constituents should include deleterious minerals. On this point, we agree with the Central Valley Water Board's conclusion that the presence of nitrates at elevated levels (plus general minerals) serves as an indicator of other potential problems associated with irrigated agricultural discharges. (*Id.*, Attach. A, Information Sheet, p. 15.)

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DPR but are known groundwater contaminants associated with agriculture, in particular 1,2,3-TCP and DBCP.

The requirement for groundwater quality trend monitoring shall be precedential statewide; however, the specific requirements and the monitored constituents specified in the General WDRs shall not be precedential.

e. *The Multi-Year A/R Ratio and A-R Difference as Indicators of Nitrogen Loading to Groundwater*

It is important to note in our discussion of groundwater quality monitoring that the role of groundwater quality monitoring in any agricultural regulatory program is primarily one of trend monitoring. Groundwater quality monitoring does not yield data responsive enough to above-the-ground impacts to allow correlation of management practices and water quality outcomes, except under very limited conditions. The Agricultural Expert Panel stated that monitoring of first-encountered groundwater as an indication of the effectiveness of above-ground practices is meaningful only in a context where “sampled groundwater volume can be attributed to a defined recharge area, which must be contained within the area where the regulated discharge occurs” and further that such attribution is meaningful primarily in “areas of very shallow groundwater tables, relatively steady groundwater flow directions, high recharge, large regulated units, and a strong introduced discharge signal.”¹⁴² Where these conditions are present, there are opportunities for studies of management practice effectiveness, as with the Management Practice Evaluation Program of the General WDRs. But another tool is needed to track the effectiveness of implemented practices in reducing discharges to groundwater under a broader set of regional conditions. Although one such tool may be conducting a soil profile analysis by monitoring soil samples for presence of constituents of concern, obtaining a statistically significant number of samples on an annual basis would be prohibitively expensive.

In contrast, the multi-year A/R ratio, analyzed in concert with the A-R difference, is both a cost-effective and a reliable methodology for tracking the amount of nitrogen left in the soil over a period of time, and that may enter the groundwater from the soil. Trends in the multi-year A/R ratio are expected to follow changes in management practices on the field, providing a reliable indication of whether management practices are working to increase efficiency in nitrogen application and to reduce the potential for nitrogen loss to groundwater. The A-R difference further informs the magnitude of any potential over-application of nitrogen. The multi-year A/R ratio and the A-R difference are thus appropriate metrics for determining measurable progress

¹⁴² Agricultural Expert Panel Report, p. 8.

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The AR data is, of course, specific to nitrogen impact, and the groundwater monitoring provisions of the Eastern San Joaquin Agricultural General WDRs consider impacts from a wider set of constituents and remain an indispensable component of the regulatory program. However, with regard to nitrogen, we expect the multi-year A/R ratio and A-R difference to be the primary tools for management, reporting, and oversight going forward.

The agricultural coalition representatives and environmental justice organization representatives who presented the compromise proposal for data reporting to us also proposed development of a methodology for determining groundwater protection targets for nitrogen loading on a township by township basis. The group has committed to working on the proposal and we welcome their input. We direct the East San Joaquin Coalition to develop a project scope and timeline to further flesh out the proposal, in consultation with the Central Valley Water Board, for approval within two years of the adoption of this Order.

9. Surface Water and Groundwater Quality Management Plans

Under the Eastern San Joaquin Agricultural General WDRs, the Third Party proposes and implements a SQMP or GQMP in an area in response to certain triggers indicative of water quality problems related to agricultural discharges to surface water or groundwater. Once triggered, a SQMP or GQMP must have a specific schedule of management practices and tasks to be implemented to achieve compliance with receiving water limitations and a monitoring system designed to measure whether management practice changes are in fact effective at achieving the requirements of the General WDRs.¹⁴³ In general, we do not disturb these provisions because we find that the triggers are appropriate for identifying areas in which additional or alternative management practice implementation and additional monitoring, above and beyond the baseline conditions of the General WDRs, is necessary to address exceedances.¹⁴⁴ In the previous section, we declined to expand groundwater monitoring constituents to include pesticides and degradation products from pesticides, but indicated that we

Commented [A6]: The agricultural coalition representatives and the EJ representatives are currently working on developing suggested revisions to the Second Draft Order as well as Appendix A to better capture the agreement between the participants.

¹⁴³ Eastern San Joaquin Agricultural General WDRs., Attach. B, MRP, Appen. MRP-1, §§ I.C-D, pp. 4-6.

¹⁴⁴ The triggers for the preparation of SQMPs and GQMPs are based on the same criteria as the high vulnerability determinations. Although we have found that the baseline requirements of the General WDRs should be applied uniformly, for purposes of prioritizing areas for additional management practices, the criteria are appropriate.

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would instead rely on data collected by DPR on pesticide impacts. That data is available in GeoTracker.¹⁴⁵ We will add to General WDRs a clarification that a GQMP may be triggered based on exceedances detected through monitoring programs outside the scope of the Eastern San Joaquin Agricultural General WDRs provisions. We will additionally direct that the Executive Officer consider the State Water Board Hydrogeologically Vulnerable Areas and the DPR Groundwater Protection Areas when determining if an area should be subject to a GQMP.¹⁴⁶

The SQMP and GQMPs are primary vehicles for requiring implementation of new and improved management practices under the General WDRs, but reporting on practices implemented with the SQMP and GQMP lacks specificity.¹⁴⁷ The Third Party is directed to report “a summary of management plan grower outreach conducted” and a “summary of the degree of implementation of management practices.”¹⁴⁸

We add a provision to the SQMP and GQMP to make the requirement to report the degree of implementation of management practices more explicit. Members in a SQMP and/or GQMP areas shall submit a Management Practice Implementation Report (MPIR) to the Third Party at least annually, laying out new or improved management practices implemented to address the particular water quality issues identified in the area. The Third Party will prepare an appropriate form specific to each SQMP or GQMP with appropriate reporting frequency based on the implementation cycle of the applicable management practices. For the SQMP and the GQMP already approved by the Central Valley Water Board, submission of MPIRs shall commence in 2019. Similar to the submission associated with the Farm Evaluations, the Third Party will submit a data set based on the MPIRs to the Central Valley Water Board with Anonymous Member IDs and Anonymous APN IDs.¹⁴⁹

¹⁴⁵ Although the DPR data in GeoTracker is not available by precise location, the exceedances are correlated with a small enough area to be appropriate as a trigger for a GQMP. See also discussion of DPR’s groundwater quality monitoring program at Eastern San Joaquin Agricultural General WDRs, Attachment A, Information Sheet, p. 17.

¹⁴⁶ Appen. A, Modified Eastern San Joaquin Agricultural General WDRs, § VIII.H.2, pp. 37-38.

¹⁴⁷ Over the next several years, we expect that improvements made in response to a high multi-year A/R ratio, rather than in response to a GQMP, to become the primary vehicle for implementing improved management practices addressing nitrate impacts. However, the GQMP, or an equivalent approach, will continue to have a significant role in agricultural regulatory programs in addressing impacts from pollutants other than nitrates. There may also be some fields in areas with conditions -- soil types and depth to groundwater -- that lead to nitrate impacts even with a low multi-year A/R ratio. In those cases, programs would have to rely on the GQMP or an equivalent approach to require improved practices in the area.

¹⁴⁸ Eastern San Joaquin Agricultural General WDRs, Attach. B, MRP, Appen. MRP-1, § I.F, p. 6.

¹⁴⁹ We recognize that the Eastern San Joaquin Agricultural General WDRs currently require the Third Party to identify, as part of its annual Membership List submission, Members who have failed to implement improved water quality management practices within the timeframe specified by an applicable SQMP or GQMP. (*Id.*, § IV.C.9, p. 21.) This already required information is significant in that it allows the Central Valley Water Board to follow up with or take enforcement against Members in violation of the SQMP or GQMP requirements, but it does not replace the need for a

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SQMPs and GQMPs shall not be precedential statewide.

The directed revisions are indicated at Appendix A, Modified Eastern San Joaquin Agricultural General WDRs, section VIII.H., pages 36-37 and footnotes 35-36; Attachment B, MRP-1.

10. Monitoring and Reporting Requirements and Water Code Section 13267

The revisions we have directed in the above sections modify many of the monitoring and reporting requirements of the General WDRs. Water Code section 13267 states that “[t]he burden, including costs, of [monitoring and reporting] shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports.” This order revises the monitoring and reporting requirements of the General WDRs primarily as follows:

For Members:

1. Members in low and high vulnerability areas must submit a Farm Evaluation only every five years instead of annually;
2. Members in a SQMP or GQMP areas must submit management practice implementation information to the Third Party on the MPIR;
3. Members must include irrigation management practice information and other irrigation-associated data and nitrogen management practice information in the INMP and the INMP Summary Report (previously reported on the Farm Evaluation);
4. Members in low vulnerability areas must now ~~obtain certification of the INMP and~~ submit INMP Summary Reports (these requirements are phased in to allow additional time for Members exempt under the General WDRs);
5. Members who do not have existing sampling data must sample on-farm drinking water supply wells annually for at least three years; some Members may be required to provide notification of high nitrate levels.

For the Third Party:

1. The Third Party must develop unique Anonymous Member IDs and Anonymous APN IDs and maintain and track the IDs from year to year;
2. The Third Party must submit to the Central Valley Water Board management practice implementation data reported on the MPIRs by Anonymous Member ID;
3. The Third Party must submit to the Central Valley Water Board management practice implementation data reported on the Farm Evaluations and INMP Summary Reports by Anonymous Member ID;
4. The Third Party must identify and develop coefficients for conversion of yield into nitrogen removed;

broader set of data, including data for management practices implemented under a SQMP or GQMP as well as in the absence of a SQMP or GQMP, to support effective program implementation.

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5. The Third Party must calculate values for each field for nitrogen removed, A/R, A-R, and multi-year A/R;
6. The Third Party must submit to the Central Valley Water Board the data it receives from the INMP Summary Reports and from its calculations by Anonymous Member ID, by anonymous APN ID, and by township;
7. The Third Party must arrange for storage of field-specific data submitted in a secure offsite location managed by an independent entity.

The increased costs for the Third Party may be passed onto the Members in the form of higher membership fees.

We received comments on a February 8, 2016, draft of this order estimating projected increased costs based on the revisions to the monitoring and reporting provisions proposed in that draft.¹⁵⁰ We made a number of additional revisions in response to the comments to the provisions to minimize some of the potential cost increases. We now find that, while there will be an additional burden due to the revised monitoring and reporting requirements as compared to the existing requirements in the General WDRs, that additional burden bears a reasonable relationship to the benefits to be obtained from the expanded monitoring and reporting requirements.

With regard to revisions to the reporting of management practice implementation data, we find that, for Members in high vulnerability areas, the reporting burden is actually decreased by reduction of Farm Evaluation submission from annually to every five years, although some management practice implementation data will continue to be reported on the INMP Summary Report annually and, where applicable on the MPIR, according to a schedule to be determined by the Third Party. For Members in low vulnerability areas, irrigation practices and nitrogen practices must now be reported annually through the INMP Summary Report, which we consider below.

¹⁵⁰ Comments on the February 8, 2016 draft are available at http://www.swrcb.ca.gov/public_notices/comments/a2239ac/ > (as of Oct. 6, 2017). Comments presenting cost projections include, but are not limited to: Patrick Pulupa, Central Valley Water Board, pp. 17-19 (June 1, 2016) (Central Valley Water Board Comment Letter); Theresa Dunham, Somach Simmons & Dunn on behalf of East San Joaquin Water Quality Coalition, pp. 36-39 (June 1, 2016) (East San Joaquin Coalition Comment Letter); William Thomas, Best Best & Krieger on behalf of the Southern San Joaquin Valley Water Quality Coalition, pp. 22-25 (May 3, 2016); Ed Sills, Placer-Nevada-South Sutter-North Sacramento Subwatershed Group, pp. 2-3 (April 22, 2016); Nicole Bell, Kern River Watershed Coalition Authority, pp. 18-22 (May 30, 2016) (Kern River Coalition Comment Letter). In addition, several speakers at scheduled public workshops (see, e.g. Jennifer Markarian, Cost Notes, (May 17, 2016) available at < https://www.waterboards.ca.gov/public_notices/petitions/water_quality/docs/a2239/workshops/markarian.pdf > (as of Oct. 6, 2017)) and a number of parties meeting with Board members in disclosed ex parte meetings (see, e.g. Theresa Dunham, Somach Simmons & Dunn, on behalf of California Rice Commission, Ex Parte Disclosure (Sept. 12, 2016) available at < http://www.swrcb.ca.gov/public_notices/petitions/water_quality/docs/a2239/ex_parte/exparteseptember12.pdf > (as of Oct. 6, 2017) (September 12, 2016, Rice Commission Submission) presented cost information.

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The costs with regard to nitrogen application reporting do not change for Members in high vulnerability areas. Members in low vulnerability areas have to prepare an INMP under the existing General WDRs. ~~Under our revisions, they will be required to have the INMP certified; however, Members have the option of self-certification after attending an approved training program.~~ Based on comments received, professional certification for a farm ranges in cost from \$1,500 to \$4,500 based on size.¹⁵¹ Self-certification ranges from \$440 to \$960, which represents a range of hourly salaries for eight hours for a Member's employee to attend the training class.¹⁵² Members in low vulnerability areas must now also submit an INMP Summary Report to the Third Party. The INMP Summary Report primarily requires transferring data already recorded in the INMP to a separate sheet. We estimate that Summary Report preparation represents between two and eight hours of Member employee time, with a cost range of \$110 to \$960.

While Members will incur some additional direct compliance costs, the increased workload associated with field-level reporting of management practice information and AR data will be borne primarily by the Third Party, which, we recognize, must pass on its increased costs to Members in the form of membership fees. Increased costs will be due to additional staff for outreach and training, especially in low vulnerability areas, increased costs of mailings, the work associated with assigning anonymous identifiers to field-level data and compiling the data sets, cost of the secure, off-site storage of the data, and other expenses. In comments submitted on the February 8, 2016, draft, the East San Joaquin Coalition estimated that a similar set of requirements would lead to an annual cost increase in the range of \$310,000, which, according to our rough calculations translates to a 10% increase in the Coalition's annual budget and would result in a similar increase in Member fees.¹⁵³ We acknowledge that this is not an insignificant increase in costs. We note, however, that the applicable requirements will not be phased in completely until 2021, allowing the Third Party an opportunity to ramp up slowly and consider the most cost-effective approaches as the program develops.

¹⁵¹ These costs are estimated based on data provided in the Kern River Coalition Comment Letter, Table 1, p. 19.

¹⁵² The hourly salary range used in this calculation is based on a low of \$55 per hour (September 12, 2016 Rice Commission Submission) and a high of \$120 per hour (Kern River Coalition Comment Letter, Table 1, p. 19).

¹⁵³ These figures represent a rough estimate based on figures provided in the East San Joaquin Coalition Comment Letter at pages 36-39. Expenses projected in that comment letter that are no longer relevant include individual well data management. The entry of field-level data into Geotracker is also no longer a requirement under this order; however, we have retained \$25,000 of those costs in the calculations to account for the Third Party's work in preparing and submitting electronic data tables to the Central Valley Water Board. In addition, the costs representing the addition of a professional to assist members with self-certification and INMP requirements is deducted from the East San Joaquin Coalition estimates because the costs are already assigned to the Members above.

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Members will incur new costs for on-farm drinking water well sampling. That cost is estimated based on two to four hours of a Member's employee's time with a cost range of \$110 to \$480, and \$40 in sampling costs per well. Not all farms have drinking water supply wells and it is anticipated that the bulk of the farms that do will have only one well. We also note that these costs will be incurred beginning in 2019 only if a legislative solution to drinking water well monitoring is not in place prior to that date.

The Central Valley Water Board also submitted cost projections in response to the February 8, 2016, draft, based on increased staffing needs.¹⁵⁴ The Central Valley Water Board stated that such increased regulatory costs would result in higher annual waste discharge permit fund fees for Members. One significant driver of increased staffing predicted by the Central Valley Water Board was the workload associated with providing notification to users of on-farm drinking water supply wells with exceedances. That draft requirement applied only where the Member was not the owner of the irrigated lands. In response, we replaced the requirement for the Central Valley Water Board to provide notification with a requirement that the non-Member owner provide such notification if requested by the operator. Another driver of increased staffing needs was projected to be the work to compile paper submissions of field-level data. This order makes it clear that all field-level data will be submitted to the Central Valley Water Board in an electronic format. With regard to review of the field-level data, the Central Valley Water Board's role at this point is to review the data to facilitate oversight of Third Party analyses and follow up determinations. We expect the sortable and searchable nature of the data to allow more efficient review, to focus the Central Valley Water Board's evaluation of Member compliance and oversight over Third Party activities, and to facilitate measurement of progress towards improved water quality. We find that the review is achievable within existing Central Valley Water Board staffing resources and does not add to existing workload associated with oversight of the regulatory program.¹⁵⁵

While we acknowledge above that Members will incur additional costs, under our revisions to the Eastern San Joaquin Agricultural General WDRs, the additional burden bears a reasonable relationship to the burden of the new monitoring and reporting requirements. These

¹⁵⁴ Central Valley Water Board Comment Letter, pp. 17-19.

¹⁵⁵ As discussed, we also revised the outreach requirements of the General WDRs such that Members in low vulnerability areas, like members in high vulnerability areas, must now participate in outreach events annually. These are not strictly monitoring and reporting requirements but costs should nevertheless be considered consistent with other provisions of the Water Code. (Wat. Code §§ 13241, 13263.) To minimize any increases in costs, we additionally revised the outreach requirements to make it clear that Members could participate remotely, as well as phased in the outreach requirements for low vulnerability areas so that they are effective only after two years.

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benefits have been discussed at length in the sections above. In brief summary, the data reported is expected to be used as follows:

- The multi-year A/R ratio will provide the Member and the Third Party with a reliable metric for any field-level nitrogen over-application and will more effectively target Third Party follow up for potential nitrate impacts, facilitating water quality improvements.
- The multi-year A/R ratio will provide the Member with an efficiency metric that can be used to support cost-savings in nitrogen application. The inclusion of irrigation management practice implementation reporting in the INMP may additionally improve efficiency in irrigation water usage.
- The field-level anonymous management practice implementation data and AR data will allow the Central Valley Water Board and stakeholders to verify that the Third Party is following up with appropriate Members and that the Members are implementing improved practices in response to the follow up.
- The field-level anonymous AR data will allow the Central Valley Water Board and stakeholders to verify that the Third Party's summary analyses accurately represent conditions and trends.
- The field-level anonymous AR data will enable the Central Valley Water Board to determine appropriate multi-year A/R ratio ranges by crop for potential incorporation into future regulatory programs.
- The Central Valley Water Board will be able to correlate management practice implementation data from the INMP Summary Report and MPIR with AR data for use in statistically valid analyses to identify effective and ineffective management practices to reduce nitrate loading.
- The township level AR data set will be available to researchers to perform watershed-based modeling for nitrate groundwater loading, both within the Third Party boundaries and in the entire basin (by using data from other coalitions).
- The township-level AR data set will be available to researchers to conduct relevant studies that may help advance the science supporting future developments in the regulatory program, to local agencies to support groundwater quality management efforts, and to cities, counties, and non-governmental organizations to aid in anticipating areas, especially disadvantaged communities, that may need drinking water assistance.
- The drinking water well data will allow for notification of users consuming drinking water with nitrate levels above the public health standards.

11. Direction to Central Valley Water Board Regarding Use of Submitted Data

As a result of the revisions we have directed in the above sections, the Central Valley Water Board will receive several data sets commencing in May of 2019, in addition to the water quality monitoring data submitted to the Central Valley Water Board under the existing Eastern San Joaquin Agricultural General WDRs: a data set with management practice implementation reported by Members on the Farm Evaluation, INMP Summary Report, and MPIR, three data sets with AR data reported by Members on the INMP Summary Report, one associated

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First, the Central Valley Water Board is directed to use the data to verify the accuracy and completeness of the analyses and summaries submitted by the Third Party based on the Farm Evaluations and the INMP Summary Reports. Second, the Central Valley Water Board is directed to use the data to confirm that the Third Party is appropriately following up with its Members, including those who are AR data outliers, those failing to implement appropriate management practices, and those that fail to timely submit required reports. Third, the Central Valley Water Board is directed to make the anonymous field-level data tables available to researchers and stakeholders to support studies and analyses, including modeling of nitrate loading to groundwater.

Finally, we direct the Central Valley Water Board, in consultation with the Third Party and other coalitions formed under the Central Valley irrigated lands regulatory program, to evaluate the AR data submitted by the Third Party for the purposes of developing acceptable ranges for the multi-year A/R ratio target values for crops grown in the Eastern San Joaquin River Watershed. The Central Valley Water Board is directed to develop, in coordination with the State Water Board and other regional water boards, target values for each crop within three years of the availability of the nitrogen removed coefficient for that crop. It is expected that the multi-year A/R ratio target values will be further refined over time for different conditions (e.g., irrigation method, soil conditions) for each crop.

The Central Valley Water Board is directed to report annually to the State Water Board commencing September 1, 2020, on data received and progress toward identifying effective management practices and developing acceptable ranges for multi-year A/R ratio target values. To the extent stakeholders proceed on the proposal to develop township level targets for nitrogen loading, the Central Valley Water Board shall include discussion of progress on that proposal in its annual report. Commencing on September 1, 2022, and every two years thereafter, the Central Valley Water Board shall also report to the State Water Board on whether anonymous field-level reporting is providing sufficient information for oversight of and progress in the regulatory program.

It is premature at this point to project the manner in which the multi-year A/R ratio target values might serve as regulatory tools. That determination will be informed by the data collected and the research conducted in the next several years. If we move forward with a new regulatory approach in the future, we expect to do so only after convening an expert panel that

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12. Summary

We have directed significant revisions to the Eastern San Joaquin Agricultural General WDRs in the above discussions. With those revisions, the Modified General WDRs have the following key components:

1. The Modified General WDRs require compliance with receiving water limitations that prohibit discharges from causing or contributing to an exceedance of applicable water quality objectives, unreasonably affecting applicable beneficial uses, or causing or contributing to a condition of pollution or nuisance. The Members must show immediate compliance with the receiving water limitations except where the Member is implementing a SQMP or a GQMP for specified waste parameters in accordance with an approved time schedule.
2. The Modified General WDRs' first step in achieving compliance with the receiving water limitations is to impose baseline requirements on all Members:
 - Members must implement management practices that minimize waste discharge offsite in surface water, minimize percolation waste to groundwater, and protect wellheads from surface water intrusion. Members plan and document the management practices by preparing a Farm Evaluation, an Erosion and Sediment Control Plan, and an INMP. Members participate in outreach activities to learn about management practice options.
 - Members report these management practices at the field level through submission of the Farm Evaluation and the INMP Summary Report to the Third Party. The INMP Summary Report also reports on the AR data of the Member by field.
3. The Modified General WDRs' second step in achieving compliance with the receiving water limitations is to impose additional requirements on Members where there are indications of water quality problems:
 - Where a Member is an AR data outlier, the Member must to obtain additional training or employ an expert for certification of the INMP.
 - Where surface water or groundwater quality monitoring required to be conducted by the Third Party shows an exceedance, the Third Party must prepare a SQMP or GQMP that imposes additional management practice implementation requirements on Members in the area.
4. The Modified General WDRs' third step in achieving compliance with the receiving water limitations is to verify that implemented management practices are effective in addressing water quality problems.
 - The Third Party submits the field-level data from the Farm Evaluations and the INMP Summary Reports to the Central Valley Water Board with anonymous identifiers.
 - The field-level data sets allow the Central Valley Water Board to verify that Members are implementing additional management practices and that such implementation is leading to either an improved multi-year A/R ratio or improved water quality results.

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- The field-level data sets additionally allow the Central Valley Water Board to verify that the Third Party is identifying the appropriate set of Members for follow up and additional requirements.
- Finally, the township-level data sets allow the Central Valley Water Board to predict trends in water quality, both potential degradation and improvement, and to associate the trends with management practice implementation so that a more complete set of information regarding the effectiveness of management practices and of the program as a whole is available.

We find that the approach in the Modified Eastern San Joaquin Agricultural General WDRs complies with the Water Code and of the Nonpoint Source Policy. The Modified General WDRs require compliance with receiving water limitations, but accomplish that compliance through implementation of management practices and through implementation of improved management practices where Members are not in compliance with the receiving water limitations. The Modified General WDRs ensure that the Third Party and the Central Valley Water Board have the feedback mechanism needed to link management practice implementation to water quality results so that the effectiveness of the management practices required can be verified. As a result, we find that there is a high likelihood that the Modified Eastern San Joaquin Agricultural General WDRs will lead to attainment of the receiving water limitations.

B. Compliance with the Antidegradation Policy

The Environmental Petitioners argue that the Central Valley Water Board failed to comply with the Antidegradation Policy in many respects when it adopted the Eastern San Joaquin Agricultural General WDRs. As explained above, several of these contentions are more appropriately considered under the rubric of compliance with the Water Code and the Nonpoint Source Policy in Section II.A of this order. By its terms, the Antidegradation Policy applies only to waters that are high quality; it supplements the Water Code requirements discussed above by adding additional antidegradation requirements that apply if the receiving waters are considered to be high quality. We will discuss the Environmental Petitioners' remaining arguments that relate only to high quality waters in this section.

High quality waters are those surface waters or areas of groundwater that have a baseline water quality better than required by water quality control plans and policies. The Antidegradation Policy required the Central Valley Water Board to issue WDRs that maintain the high quality of those waters unless it finds that any degradation of water quality (1) will be consistent with maximum benefit to the people of the state; (2) will not unreasonably affect present or probable future beneficial uses of such water; and (3) will not result in water quality less than prescribed in water quality control plans or policies. In addition, the WDRs must require

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that discharges to high quality waters result in the best practicable treatment or control necessary to assure that no pollution or nuisance will occur and the highest water quality consistent with the maximum benefit to the people of the State will be maintained. We have already addressed the requirements to not unreasonably affect beneficial uses, not result in water quality less than the quality specified by water quality objectives, and not cause a pollution or nuisance in Section II.A, above. While we found merit in several of the Environmental Petitioners' contentions discussed above and accordingly made several modifications to the General WDRs, we find no merit in the remainder of their contentions discussed below. To the contrary, we find that the Central Valley Water Board properly identified and complied with the remaining requirements of the Antidegradation Policy when it adopted the Eastern San Joaquin Agricultural General WDRs.

1. Application of Antidegradation Policy to Nonpoint Source Discharges

The State Water Board has, to date, provided relatively little specific direction to the regional water boards on how to apply the Antidegradation Policy to nonpoint sources.¹⁵⁶ The Nonpoint Source Policy's only reference to the Antidegradation Policy simply states that nonpoint source control implementation programs must be designed to meet water quality requirements, which include "water quality objectives established to protect beneficial uses and any higher level of water quality needed to comply with the State's antidegradation policy."¹⁵⁷ We recently explained that a traditional antidegradation analysis for a discrete point source discharge has limited value when considering antidegradation in the context of storm water discharges from diffuse sources, conveyed through multiple outfalls, with multiple pollutants impacting multiple water bodies within a region.¹⁵⁸ These same practical considerations also make it inappropriate to apply a discrete point source discharge approach in the context of a general order regulating both surface water and groundwater discharges from irrigated agriculture operations across a large

¹⁵⁶ As correctly noted by the Central Valley Water Board, Administrative Procedures Update 90-004 applies to discharges regulated under the federal Clean Water Act's National Pollutant Discharge Elimination System. It does not apply to nonpoint source discharges. *Asociacion de Gente Unida por el Agua v. Central Valley Water Board*, *supra*, 210 Cal.App.4th at 1270.

¹⁵⁷ Nonpoint Source Policy, p.12, AR 36151.

¹⁵⁸ State Water Board Order WQ 2015-0075 (*Los Angeles MS4*), p.27.

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landscape.¹⁵⁹ [Accordingly, we take this opportunity to provide specific direction to regional water boards on how to apply the Antidegradation Policy to nonpoint sources.](#)

[First, the Central Valley Water Board included an excellent synopsis of relevant existing guidance, and appropriate findings, regarding the application of the Antidegradation Policy to the Eastern San Joaquin General WDRs in Attachment A, and we find this synopsis and analysis to be an appropriate example analysis for other regional water boards to consider when applying the antidegradation policy to nonpoint sources of pollution.](#)¹⁶⁰ We concur with that synopsis, which is generally applicable to all nonpoint source general orders, and also augment it by further addressing specific nonpoint source antidegradation issues [and by providing additional guidance](#) below.

2. Baseline Water Quality

The baseline water quality considered in making the appropriate findings is the best quality of the water since 1968, the year of the adoption of the Antidegradation Policy, or a lower level if that lower level was allowed through a permitting action that was consistent with applicable antidegradation policies.¹⁶¹ The Environmental Petitioners contend that the Central Valley Water Board's assessment of baseline water quality throughout the area regulated by the General Order is too general and vague. We disagree.

When assessing baseline water quality for a general order, we find a general review and analysis of readily available data is sufficient. Regional water boards need not generate new data or take extraordinary steps to search for existing data. It is unusual to find substantial amounts of high quality historical data from the 1970's and 1980's, let alone 1968, for such extensive areas as those covered by the Central Valley Water Board's Eastern San Joaquin Agricultural General WDR. While new ambient surface water and groundwater quality data are constantly being produced, there will always be substantial data gaps. Generation and synthesis of new data to fill all these gaps would be time intensive and costly, delaying the ultimate implementation of what would likely be a vastly similar program with or without the data. If existing data has already been synthesized or analyzed, or can be done so with minimal effort, then the regional water boards should consider those syntheses or analyses. Regional water boards should not delay the implementation of a regulatory program in order to conduct a

¹⁵⁹ The diffuse, landscape level groundwater discharges regulated under the Eastern San Joaquin Agricultural General WDRs are unlike the concentrated discharges from dairy retention ponds and corral areas that were the subject of *Asociacion de Gente Unida por el Agua v. Central Valley Water Board*, *supra*, 210 Cal.App.4th 1255.

¹⁶⁰ Eastern San Joaquin Agricultural General WDRs, Attachment A, Information Sheet, pp. 31-44. Due to its length, we decline to reprint it here. The synopsis is included in Appendix A to this order.

¹⁶¹ State Water Board Order WQ 2015-0075, p.24.

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In almost all cases, it will be impossible for the regional water boards to establish an accurate numeric baseline for potentially hundreds of waterbodies and dozens of waste constituents in an area covered by a general order. Instead, regional water boards must conduct a general assessment of the existing water quality data that is reasonably available. Here, the Central Valley Water Board appropriately assessed thousands of surface water and groundwater data points and concluded that at least some of the surface waters and groundwater in the Eastern San Joaquin River watershed were high quality. Based on this finding, the Central Valley Water Board acted appropriately by then conducting a general antidegradation analysis for the General WDRs.

3. Maximum Benefit

The Central Valley Water Board appropriately found that the degradation allowed¹⁶² by the General WDRs is consistent with the maximum benefit to the people of the state.¹⁶³ The Programmatic Environmental Impact Report for the Central Valley Irrigated Lands Regulatory Program supports this finding, noting that the state depends on Central Valley agriculture for food and that Central Valley communities rely on agriculture for employment.¹⁶⁴ The Central Valley Water Board considered social costs of the discharges and reasonably concluded that the General WDRs' requirements to address all exceedances of water quality objectives according to the terms of a time schedule, implement best practicable treatment and control where irrigated agricultural waste discharges may cause degradation, and the inclusion of performance standards that work to prevent further degradation of surface and groundwater quality, should ensure that local communities not incur any additional treatment costs associated with the limited degradation authorized by their Order. As discussed above, while dischargers are working to comply with the time schedule, if monitoring of drinking water supply wells indicates that MCLs are being exceeded, we expect dischargers that are causing or contributing to the exceedance to provide replacement water to the affected population. Given that the considerable societal benefits outweigh the costs associated with the effects of irrigated agriculture under the Modified General

¹⁶² Contrary to the Environmental Petitioners' assertion, the General WDRs do not automatically authorize all surface waters and groundwater to become degraded up to the water quality objectives. The General WDRs include requirements that dischargers implement management practices that minimize waste discharge offsite in surface water and minimize percolation waste to groundwater, among other requirements.

¹⁶³ Eastern San Joaquin Agricultural General WDRs, Attachment A, p. 43.

¹⁶⁴ Programmatic EIR, Appendix A, AR 31907-32232.

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WDRs, any degradation allowed by the Modified General WDRs is consistent with the maximum benefit to the people of the state.

4. Best Practicable Treatment or Control

The Environmental Petitioners argue that the General WDRs fail to demonstrate that discharges to existing high quality waters will result in best practicable treatment or control. The General WDRs require farm evaluations for all Members and development of management plans when trends indicate degradation is threatening beneficial uses.¹⁶⁵ Management plans will evolve over time as monitoring and other feedback leads to new practices being developed and refined as part of the Management Practice Evaluation Program that the General WDRs require. The General WDRs require Members to implement practices found to be protective of groundwater through the Management Practice Evaluation Program. In addition, use of the multi-year A/R ratio will be required in the Modified General WDRs as it will drive the implementation of more effective management practices over time and identify management practices that are less effective. The Modified General WDRs also require implementation of irrigation and nitrogen management plans and use of the multi-year A/R ratio in conjunction with the other management practices required by the Modified General WDRs. We find that these requirements, in combination with the other key components of the Modified General WDRs described in Section II.A., satisfy the best practical treatment or control standard. Not only do these requirements represent the present best approach in the view of our Expert Panel, we are not aware of any more protective requirements for large scale irrigated agricultural operations elsewhere.

III. ORDER

For the reasons discussed in this order:

1. The Central Valley Water Board shall post and circulate a revised version of the Eastern San Joaquin Agricultural General WDRs as indicated in redline/strike-out format in Appendix A, and also incorporating the Central Valley Water Board's amendments dated February 19, 2016.
2. Commencing on September 1, 2020, the Central Valley Water Board shall report annually to the State Water Board on data received and progress toward identifying effective management practices and developing acceptable ranges for multi-year A/R ratio target values. Commencing on September 1, 2022, and every two years thereafter, the Central Valley Water Board shall also report to the State Water Board on whether anonymous field-level reporting is providing sufficient information for oversight of and progress in the regulatory program.

CERTIFICATION

¹⁶⁵ Eastern San Joaquin Agricultural General WDRs, §§ III.B, pp. 24-25, VIII.H.2, pp.33-34, and Attachment A, pp. 41-42.

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The undersigned, Clerk to the Board, does hereby certify that the foregoing is a full, true, and correct copy of an order duly and regularly adopted at a meeting of the State Water Resources Control Board held on _____.

AYE:

NO:

ABSENT:

ABSTAIN:

DRAFT

Jeanine Townsend
Clerk to the Board

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9 BEFORE THE STATE WATER RESOURCES CONTROL BOARD

10 *In the Matter of Review of Waste Discharge*
11 *Requirements General Order No. R5-2012-0116*
12 *For Growers Within the Eastern San Joaquin*
13 *River Watershed That Are Members of the Third-*
14 *Party Group*

SWRCB/OCC File Nos. A-2239(a)-(c)

**EAST SAN JOAQUIN WATER
QUALITY COALITION'S REQUEST
FOR CONSIDERATION OF
SUPPLEMENTAL EVIDENCE**

15 Pursuant to section 2050.6 of title 23 of the California Code of Regulations, the East San
16 Joaquin Water Quality Coalition (ESJ Coalition) hereby requests that the State Water Resources
17 Control Board (State Board) add the following supplemental evidence to the administrative
18 record for the above-captioned matter and consider the following document: **Exhibit 1 – Review**
19 **of the Irrigated Lands Monitoring Program for the East San Joaquin Watershed**
20 **(December 2017)**, prepared by Exponent, Inc. (Exponent).

21 The ESJ Coalition makes this request because admission of the aforementioned document
22 is necessary and appropriate to respond to issues and questions raised by the State Water
23 Resources Control Board (State Board) in its review of Waste Discharge Requirements for
24 Growers Within the Eastern San Joaquin River Watershed that are Members of the Third-Party
25 Group (General Order No. R5-2012-0116) (Second Draft Order). This request is consistent with
26 the State Board's regulations governing requests for supplemental evidence that were not
27 previously provided to the regional board (here the "Central Valley Regional Water Quality
28 Control Board," or "Central Valley Water Board") in the underlying proceedings for adoption of

1 the Waste Discharge Requirements for Growers Within the Eastern San Joaquin River Watershed
2 that are Members of the Third-Party Group (East San Joaquin WDR).

3 I. ARGUMENT

4 Section 2050.6 of title 23 of the California Code of Regulations requires any person
5 requesting the State Board to consider extra-record evidence to provide a reason why the
6 documents were unavailable for presentation to the regional board, a detailed statement of the
7 nature of the evidence and facts to be proved, and a detailed explanation of why the evidence
8 could not previously have been submitted. This Request for Consideration of Supplemental
9 Evidence justifies admitting the documents in question as supplemental evidence.

10 Exhibit 1 as identified above was not presented to the Central Valley Water Board during
11 the administrative process related to consideration and adoption of the East San Joaquin WDR
12 because it did not exist at the time that the East San Joaquin WDR was adopted in 2012. Further,
13 it was impossible to anticipate during the Central Valley Water Board's proceedings, issues,
14 questions and findings that might arise in a subsequent State Board review, as is occurring in this
15 case.

16 Specifically, when the Central Valley Water Board considered and adopted the East San
17 Joaquin WDR, the Central Valley Water Board found that the ESJ Coalition's existing
18 monitoring program was adequate. Now, the State Board is considering a Second Draft Order
19 with respect to review of the East San Joaquin WDR, and has found the ESJ Coalition's
20 monitoring program to be inadequate. Additionally, the Agricultural Expert Panel's review of the
21 ESJ Coalition's existing monitoring program was a new process that occurred after Central
22 Valley Water Board adoption, and prior to this State Board proceeding. Thus, the need to
23 respond to the Second Draft Order, State Board staff findings and the Agricultural Expert Panel's
24 review has arisen recently and well after completion of the Central Valley Water Board's
25 proceedings.

26 In response to statements and proposed findings in the Second Draft Order that focus on
27 the ESJ Coalition's existing irrigated lands surface water monitoring program, and the Second
28 Draft Order's suggestion that a new Expert Panel process is warranted, the ESJ Coalition on its

1 own initiative retained a national leading expert at Exponent to conduct an objective and
2 independent review of its surface water monitoring program. The final version of Exponent's
3 report became available on December 21, 2017.

4 **A. Request for Supplemental Evidence Is Timely Made.**

5 The ESJ Coalition submitted this Request for Supplemental Evidence as soon as possible
6 after the report became available on December 21, 2017. The need for this report became
7 apparent only in response to the Second Draft Order, whereby the State Board staff made
8 significant findings with respect to the sufficiency, or lack thereof, of the ESJ's surface water
9 monitoring program. The Central Valley Water Board, on the other hand, has made significant
10 findings as to the adequacy of the ESJ Coalition's monitoring program. Accordingly, the ESJ
11 Coalition timely submits this Request for Supplemental Evidence.

12 **B. Nature of the Evidence.**

13 As previously indicated above, the evidence being provided here was not available at the
14 time of the Central Valley Water Board's consideration and adoption of the East San Joaquin
15 WDR. That process took place over five (5) years ago, and State Board just now questions the
16 sufficiency of the ESJ Coalition's monitoring program. It is appropriate for the State Board to
17 supplement the record with the requested evidence because it is being offered directly in response
18 to proposed revisions that the State Board potentially seeks to make with respect to the Second
19 Draft Order.

20 The document being proposed as supplemental evidence is being provided to support the
21 ESJ Coalition's request that the State Board find that the ESJ Coalition's monitoring program is
22 adequate.

23 **C. Additional Evidence Provided in Writing.**

24 With this request, the ESJ Coalition provides the supplemental evidence in writing, on a
25 compact disc, attached as Exhibit 1.

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28 ///

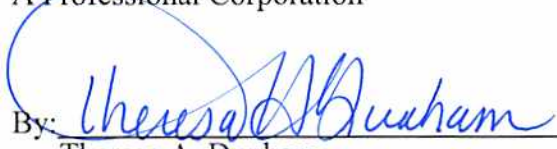
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II. CONCLUSION

For the reasons provided above, the ESJ Coalition respectfully requests that the State Board grant the request contained herein.

SOMACH SIMMONS & DUNN
A Professional Corporation

DATED: December 22, 2017

By: 

Theresa A. Dunham
Attorneys for East San Joaquin Water Quality
Coalition

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2 THERESA A. DUNHAM, ESQ. (SBN 187644)
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4 Sacramento, CA 95814
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8 Attorneys for East San Joaquin Water Quality Coalition

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BEFORE THE STATE WATER RESOURCES CONTROL BOARD

*In the Matter of Waste Discharge Requirements
General Order No. R5-2012-0116 For Growers
Within the Eastern San Joaquin River Watershed
That Are Members of the Third-Party Group*

SWRCB/OCC File Nos. A-2239(a)-(c)

DECLARATION OF SUSAN C.
PAULSEN IN SUPPORT OF EAST SAN
JOAQUIN WATER QUALITY
COALITION'S REQUEST FOR
CONSIDERATION OF
SUPPLEMENTAL EVIDENCE

I, Susan C. Paulsen, declare:

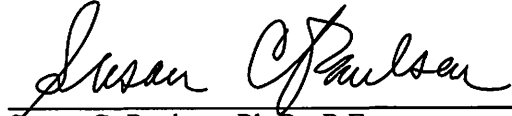
1. I am Principal Scientist and Director of the Environmental and Earth Sciences Practice with the consulting firm of Exponent, Inc. (Exponent). Exponent is a consulting firm with expertise in assisting clients with human health, environmental, engineering, and regulatory issues, including projects involving hydrodynamics, aquatic chemistry, and the environmental fate of numerous constituents. Exponent was retained by the East San Joaquin Water Quality Coalition (ESJ Coalition) to conduct a review of the ESJ Coalition's existing irrigated lands monitoring program. I provided direct oversight of Exponent's services to the ESJ Coalition, particularly the preparation of the monitoring program review.

2. Additionally, I have 25 years of experience with projects involving hydrology, hydrogeology, hydrodynamics, aquatic chemistry, and the environmental fate of a range of constituents. My expertise includes designing and implementing both field and modeling studies to evaluate surface water and groundwater flows and contaminant fate and transport.

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3. Exhibit 1 attached to the ESJ Coalition’s Request for Consideration of Supplemental Evidence (ESJ Coalition Request) is a true and correct copy of the final *Review of the Irrigated Lands Monitoring Program for the East San Joaquin Watershed* (December 2017) produced by Exponent. This report involved reviewing data characterizing land use, crop types, pesticide use, water quality and toxicity within the monitoring area, and performing statistical analyses to evaluate these data. The report explains that the ESJ Coalition’s monitoring program is adequate – specifically that monitoring sites selected provide sufficient spatial coverage, that the program’s data shows changes and improvements in water quality over time, that data gathered shows non-agricultural sources are likely important influences on water quality, and that the program’s structured framework helps tailor monitoring and implementation measures to maximize the likelihood that water quality problems will be identified.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct. Executed this 21st day of December 2017, at Pasadena, California.



Susan C. Paulsen, Ph.D., P.E.

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8 Attorneys for East San Joaquin Water Quality Coalition

9 BEFORE THE STATE WATER RESOURCES CONTROL BOARD

10 *In the Matter of Waste Discharge Requirements*
11 *General Order No. R5-2012-0116 For Growers*
12 *Within the Eastern San Joaquin River Watershed*
13 *That Are Members of the Third-Party Group*

SWRCB/OCC File Nos. A-2239(a)-(c)

DECLARATION OF MELANIE
EDWARDS IN SUPPORT OF EAST SAN
JOAQUIN WATER QUALITY
COALITION'S REQUEST FOR
CONSIDERATION OF
SUPPLEMENTAL EVIDENCE

14
15 I, Melanie Edwards, declare:

16 1. I am an accredited statistician with the consulting firm of Exponent, Inc.
17 (Exponent). Exponent is a consulting firm with expertise in assisting clients with human health,
18 environmental, engineering, and regulatory issues, including projects involving hydrodynamics,
19 aquatic chemistry, and the environmental fate of numerous constituents. Exponent was retained
20 by the East San Joaquin Water Quality Coalition (ESJ Coalition) to conduct a review of the ESJ
21 Coalition's existing irrigated lands monitoring program. I assisted with data analytics for the
22 preparation of the monitoring program review for the ESJ Coalition.

23 2. Additionally, I have over 20 years of experience performing and critiquing aspects
24 of data analytics of lab chemistry concentrations, toxicity tests, field screening results, and
25 background or reference comparisons. My areas of application include environmental chemical
26 forensics and pesticide registration, and I have provided statistical support on projects involving
27 metals, PCBs, PAHs, and dioxins/furans in soil, sediment, dust, groundwater, and surface water.
28

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8 Attorneys for East San Joaquin Water Quality Coalition

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BEFORE THE STATE WATER RESOURCES CONTROL BOARD

*In the Matter of Waste Discharge Requirements
General Order No. R5-2012-0116 For Growers
Within the Eastern San Joaquin River Watershed
That Are Members of the Third-Party Group*

SWRCB/OCC File Nos. A-2239(a)-(c)

PROOF OF SERVICE

1 **PROOF OF SERVICE**

2 I am employed in the County of Sacramento; my business address is 500 Capitol Mall,
3 Suite 1000, Sacramento, California; I am over the age of 18 years and not a party to the foregoing
4 action.

5 On December 22, 2017, I served the following document(s):

6 **EAST SAN JOAQUIN WATER QUALITY COALITION'S RESPONSE TO STATE
7 WATER RESOURCES CONTROL BOARD'S SECOND DRAFT ORDER;**

8 **EAST SAN JOAQUIN WATER QUALITY COALITION'S REQUEST FOR
9 CONSIDERATION OF SUPPLEMENTAL EVIDENCE**

10 **DECLARATION OF SUSAN C. PAULSEN IN SUPPORT OF EAST SAN JOAQUIN
11 WATER QUALITY COALITION'S REQUEST FOR CONSIDERATION OF
12 SUPPLEMENTAL EVIDENCE**

13 **DECLARATION OF MELANIE EDWARDS IN SUPPORT OF EAST SAN JOAQUIN
14 WATER QUALITY COALITION'S REQUEST FOR CONSIDERATION OF
15 SUPPLEMENTAL EVIDENCE**

16 XX (electronically) On December 22, 2017, I served the above listed document(s) by
17 electronically transmitting a true copy to the person(s) at the electronic mailing addresses as set
18 forth below.

19 **ELECTRONIC MAIL SERVICE LIST**

20 Ms. Jeanine Townsend 21 Clerk to the Board 22 State Water Resources Control Board 23 1001 I Street, 24 th Floor 24 Sacramento, CA 95814 25 commentletters@waterboards.ca.gov	20 Laurel Firestone, Esq. 21 Community Water Center 22 716 10 th Street, Suite 300 23 Sacramento, CA 95814 24 Laurel.firestone@communitywatercenter.org
25 Jennifer L. Spaletta, Esq. 26 Spaletta Law PC 27 P.O. Box 2600 28 Lodi, CA 95241 jennifer@spalettalaw.com	25 Marisol Aguilar, Esq. 26 California Rural Legal Assistance 27 1111 I Street, Suite 310 28 Modesto, CA 95354 maguilar@crla.org
29 Bill Jennings 30 California Sportfishing Protection Alliance 31 3536 Rainier Avenue 32 Stockton, CA 95204 33 deltakeep@me.com	29 Phoebe Seaton, Esq. 30 Leadership Counsel 31 764 P Street, Suite 12 32 Fresno, CA 93721 33 pseaton@leadershipcounsel.org
34 Susana De Anda, Coordinator 35 Asociación de Gente Unida por el Agua 36 311 W. Murray Avenue 37 Visalia, CA 93291 38 Susana.deanda@communitywatercenter.org	34 Parry Klassen, Executive Director 35 East San Joaquin Water Quality Coalition 36 1201 L Street 37 Modesto, CA 95354 38 pklassen@unwiredbb.com

1	Mike Jackson, Esq. Law Office of Mike Jackson P.O. Box 207 429 W. Main Street Quincy, CA 95971 mjatty@sbcglobal.net	Michael R. Lozeau, Esq. Lozeau Drury LLP 420 12 th Street, Ste. 250 Oakland, CA 94607 michael@lozeaudrury.com
2	Casey Creamer Steering Committee Chairman Southern San Joaquin Valley Water Quality Coalition 4886 E. Jensen Avenue Fresno, CA 93725 ccreamers@krccd.org	Nancy M. McDonough, Esq. Kari E. Fisher, Esq. California Farm Bureau Federation 2300 River Park Drive Sacramento, CA 95833 kfisher@cfbf.com photz@cfbf.com nmcdonough@cfbf.com
3	Adam Laputz, Assistant Executive Officer Central Valley Regional Water Quality Control Board 11020 Sun Center Drive, Ste. 200 Rancho Cordova, CA 95670-6114 adam.laputz@waterboards.ca.gov	Carolee Krieger, President California Water Impact Network 808 Romero Canyon Road Santa Barbara, CA 93108 caroleekrieger7@gmail.com
4	Mike Wackman Agriculture, Water and Natural Resources Wackman Consulting 8753 Eschinger Rd. Elk Grove, CA 95757 mkwconsulting@outlook.com	Jonathan Bishop Chief Deputy Director State Water Resources Control Board 1001 I Street, 24 th Floor Sacramento, CA 95814 jonathan.bishop@waterboards.ca.gov
5	Darrin Polhemus Chief, Division of Drinking Water State Water Resources Control Board 1001 I Street, 24 th Floor Sacramento, CA 95814 darrin.polhemus@waterboards.ca.gov	Lori T. Okun, Esq. Office of Chief Counsel State Water Resources Control Board 1001 I Street, 24 th Floor Sacramento, CA 95814 lori.okun@waterboards.ca.gov
6	Sue McConnell Supervising WRCE Central Valley Regional Water Quality Control Board 11020 Sun Center Drive, Ste. 200 Rancho Cordova, CA 95670-6114 sue.mcconnell@waterboards.ca.gov	Patrick E. Pulupa, Esq. Office of Chief Counsel State Water Resources Control Board 1001 I Street, 24 th Floor Sacramento, CA 95814 patrick.pulupa@waterboards.ca.gov
7	Philip G. Wyels, Esq. Office of Chief Counsel State Water Resources Control Board 1001 I Street, 24 th Floor Sacramento, CA 95814 phil.wyels@waterboards.ca.gov	

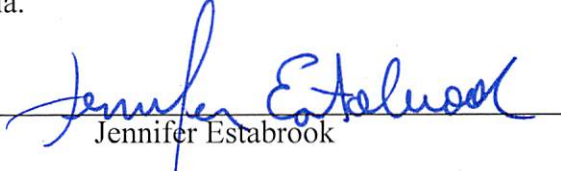
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XX (by mail) on the following parties in said action, in accordance with Code of Civil Procedure § 1013a(3), by placing a true copy thereof enclosed in a sealed envelope, with postage fully paid thereon, in the designated area for outgoing mail, addressed as set forth below.

U.S. MAIL SERVICE LIST

Fairmead Community and Friends 1225 Gill Avenue Madera, CA 93637	Mr. Silvero Damian Planada en Accion 462 Gwinn Street P.O. Box 618 Planada, CA 95356
--	--

I declare under penalty of perjury that the foregoing is true and correct. Executed on December 22, 2017, at Sacramento, California.


Jennifer Estabrook