

STATE OF CALIFORNIA  
STATE WATER RESOURCES CONTROL BOARD

**ORDER WQ 2023-0081**

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In the Matter of Review of

General Waste Discharge Requirements for Discharges from Irrigated Lands  
Order No. R3-2021-0040

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

***SWRCB/OCC FILES A-2751(a)-(b)***

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BY THE BOARD:

In this order, the State Water Resources Control Board (State Water Board) reviews on its own motion General Waste Discharge Requirements for Discharges from Irrigated Lands Order No. R3-2021-0040 (General WDRs) issued by the Central Coast Regional Water Quality Control Board (Central Coast Water Board). The General WDRs authorize discharges from irrigated lands operations to waters of the state within the Central Coast region. For the reasons discussed herein, we uphold several of the requirements of the General WDRs but remand the General WDRs to the Central Coast Water Board to make revisions consistent with certain precedential elements of State Water Board Order WQ 2018-0002 (*Eastern San Joaquin River Watershed*). We also direct the Central Coast Water Board to make revisions regarding composting requirements and extensions of total maximum daily load deadlines, and to develop an alternative water supply program.

**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 Coast region, where approximately 3,000 agricultural operations utilize approximately 540,000 acres of irrigated lands.<sup>1</sup> Both growers and residents in the Central Coast region rely primarily on groundwater, which supplies approximately 90 percent of the drinking water in the region through more than

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<sup>1</sup> General WDRs, p. 1.

700 municipal public supply wells and more than 40,000 permitted private supply wells.<sup>2</sup> In the three primary agricultural basins in the Central Coast region (the Salinas, Santa Maria, and Pajaro groundwater basins), agriculture accounts for approximately 80 to 90 percent of groundwater pumping.<sup>3</sup>

One of the most challenging responsibilities for the State Water Board and the regional water quality control boards (regional water boards) is developing and implementing a long-term sustainable irrigated lands regulatory program that protects the quality of waters of the state. Collectively, with the help of our partners, we have made substantial progress in defining a science-based, data-driven approach that we believe provides a solid foundation for our next steps. But we still have much to do. As we stated in Order WQ 2018-0002,

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 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.<sup>4</sup>

The Central Coast Water Board adopted the first iteration of its modern irrigated lands regulatory program in 2004 with Order R3-2004-0117, Conditional Waiver of Waste Discharge Requirements for Discharges from Irrigated Lands. The

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<sup>2</sup> General WDRs, Attachment A, Findings, p. 2.

<sup>3</sup> *Id.* at p. 3.

<sup>4</sup> State Water Board Order WQ 2018-0002, pp. 2-3.

Central Coast Water Board adopted updates to its irrigated lands regulatory program in 2012 (Order R3-2012-0011) and 2017 (Order R3-2017-0002). The Central Coast Water Board commenced the process for updating Order R3-2017-0002 later in 2017.<sup>5</sup> After almost four years of extensive public participation,<sup>6</sup> on April 15, 2021, the Central Coast Water Board certified an Environmental Impact Report<sup>7</sup> and adopted the General WDRs, the fourth iteration of its irrigated lands regulatory program.

In response to the Central Coast Water Board's adoption of the General WDRs, we received two timely petitions for review filed by Grower-Shipper Association of Central California, et al. (GSA Petitioners)<sup>8</sup> and by the California Coastkeeper Alliance, et al. (CCKA Petitioners)<sup>9</sup> (collectively Petitioners). After determining that the petitions were complete, consolidating the petitions for review, receiving a response to the petitions and the administrative record from the Central Coast Water Board, and receiving responses to the petitions from interested persons, we took up the matter on our own motion by adopting Order WQ 2022-0020 on April 19, 2022. We took up the matter on our own motion to give ourselves sufficient time to consider the issues raised in the petitions and other issues associated with the General WDRs.<sup>10</sup>

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<sup>5</sup> General WDRs, finding 17, p. 4.

<sup>6</sup> See General WDRs, pp. 4-6.

<sup>7</sup> Central Coast Water Board Resolution No. R3-2021-0039.

<sup>8</sup> SWRCB/OCC File A-2751(a) Petition of Grower-Shipper Association of Central California, Grower-Shipper Association of Santa Barbara and San Luis Obispo Counties, Western Growers Association, Western Plant Health Association, California Farm Bureau Federation, Monterey County Farm Bureau and California Strawberry Commission.

<sup>9</sup> SWRCB/OCC File A-2751(b) Petition of California Coastkeeper Alliance, Santa Barbara Channelkeeper, Monterey Coastkeeper, San Jerardo Cooperative, California Sportfishing Protection Alliance, Pacific Coast Federation of Fishermen's Associations, and Institute for Fisheries Resources.

<sup>10</sup> On August 11, 2023, we received a request from the CCKA Petitioners to consider supplemental evidence. The evidence is voluminous. Most of it was referenced in CCKA's August 11, 2023 letter commenting on an early draft of this Order; the rest of it was contained in an appendix with fourteen scientific studies. CCKA Petitioners only briefly summarize the nature of the evidence, largely fail to detail the facts to be proved by the evidence, and fail to adequately explain why the vast majority of the evidence could not have been submitted to the Central Coast Water Board, all in contravention of California Code of Regulations, title 23, section 2050.6, subdivision (a)(2). We therefore decline to accept the supplemental evidence referenced in CCKA's comment letter or appendix. It is also important to note that this proceeding is not an opportunity to re-litigate the issues that we resolved in State Water Board Order WQ 2018-0002. To the extent that the evidence proffered by CCKA Petitioners would be appropriate for review by an expert panel as described below, CCKA Petitioners will have the opportunity to submit it at that time.

## II. ISSUES AND FINDINGS

The two petitions raise several issues concerning the General WDRs. To the extent petitioners or other commenters raised 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 review in this order.<sup>11</sup> We issue this Order to restate and reinforce some of the most important precedential requirements of Order WQ 2018-0002, to announce our intention to further develop the Irrigated Lands Regulatory Program (ILRP) by convening a second expert panel, to direct the Central Coast Water Board to develop an alternative water supply program to assist residents who rely on nitrate-contaminated groundwater, to direct the Central Coast Water Board to require that large on-farm composting operations obtain coverage under the composting general waste discharge requirements we issued in 2020, and to address certain issues raised in the petitions.<sup>12</sup> As such, the only portions of this Order that are precedential in nature are the generally applicable statements regarding quantifiable milestones and final time schedules in Section II.C, the derivation of numeric limitations based on narrative water quality objectives in Section II.E, the lack of a legal obligation to conduct a broad economic study in Section II.G, the limitations on revising final compliance dates that were adopted as basin plan amendments in Section II.H, the public trust doctrine in Section II.I, and the lack of a precedential designation for our general orders in footnote 90.

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<sup>11</sup> Cal. Code Regs., tit. 23, § 2052, subd. (a)(1); *People ex rel. Cal. Regional Water Quality Control Bd. v. Barry* (1987) 194 Cal.App.3d 158, 175-177; *Johnson v. State Water Resources Control Bd.* (2004) 123 Cal.App.4th 1107, 1114.

<sup>12</sup> CCKA Petitioners assert that we failed to comply with Water Code sections 189.7 and 13149.2 in adopting this Order. Those sections were enacted by Assembly Bill 2108 (Assem. Bill No. 2108, (2021-2022 Reg. Sess.) §§ 2-3) and took effect on January 1, 2023. Section 189.7, subdivision (a)(1), requires the State Water Board and the regional water boards to “[e]ngage in equitable, culturally relevant community outreach to promote meaningful civil engagement from potentially impacted communities of proposed discharges of waste that may have disproportionate impacts on water quality in disadvantaged communities or tribal communities and ensure that outreach and engagement shall continue throughout the waste discharge planning, policy, and permitting processes.” Section 13149, subdivision (c), requires the State Water Board and the regional water boards to “make a concise, programmatic finding on potential environmental justice, tribal impact, and racial equity considerations” when issuing or reissuing regional waste discharge requirements, and specifies that for reissuances, “the finding may be limited to considerations related to any changes to the requirements of the prior waste discharge requirements.” This Order is much more modest than Order WQ 2018-0002, in which we announced several new precedential requirements for all irrigated lands regulatory programs administered by the regional water boards and took the additional step of amending the underlying general waste discharge requirements

The Central Coast Water Board issued the General WDRs under the 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 Coast Water Board to adopt waste discharge requirements that implement relevant water quality control plans.<sup>13</sup> The General WDRs primarily implement the Water Quality Control Plan for the Central Coastal Basin (Basin Plan)<sup>14</sup> which establishes the beneficial uses of the surface water bodies and groundwater in the region and water quality objectives to be achieved in those waters. The General WDRs must also comply with state policies for water quality control.<sup>15</sup> The most relevant state policy for water quality control to our irrigated lands regulatory programs is the Policy for the Implementation and Enforcement of the Nonpoint Source Pollution Control

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issued by the Central Valley Regional Water Quality Control Board (Central Valley Water Board). Had Assembly Bill 2108 been in effect in 2018, it certainly would have applied to our adoption of Order WQ 2018-0002. In this Order, however, we are solely remanding the General WDRs to be consistent with orders we adopted prior to the effective date of Assembly Bill 2108 and reviewing (and largely upholding) portions of the General WDRs that were adopted by the Central Coast Water Board prior to the effective date of Assembly Bill 2108. Our water quality petition authority is contained in Water Code section 13320 and does not involve our authority to adopt state policy for water quality control (Water Code section 13140 et seq.) or our authority to adopt water quality control plans (Water Code section 13170). Because we are exercising our Water Code section 13320 discretion to not revisit our prior precedential direction or amend the General WDRs, we are not engaging in the permitting process or issuing or reissuing waste discharge requirements. Therefore, the adoption of this Order is not subject to the requirements of Assembly Bill 2108. On remand, however, the Central Coast Water Board will comply with Assembly Bill 2108 to the extent that its reissuance of the General WDRs includes changes to the requirements in the existing General WDRs that go beyond what is needed to comply with Order WQ 2018-0002.

Nonetheless, we feel it is important to note that we fully support the goals of Assembly Bill 2108, which are consistent with our own values as expressed in our Racial Equity Action Plan and our Human Right to Water Resolution No. 2016-0010. In particular, our direction to the Central Coast Water Board in Section C of this Order to involve representatives of impacted communities and environmental justice organizations in developing an alternative water supply program to assist residents who rely on nitrate-contaminated groundwater exemplifies our commitment to these values.

<sup>13</sup> Wat. Code, §13263, subd. (a).

<sup>14</sup> Water Quality Control Plan for the Central Coastal Basin at [https://www.waterboards.ca.gov/centralcoast/publications\\_forms/publications/basin\\_plan/](https://www.waterboards.ca.gov/centralcoast/publications_forms/publications/basin_plan/) [as of September 7, 2023]. In addition, the General WDRs must implement applicable statewide water quality control plans.

<sup>15</sup> Wat. Code, § 13146.

Program (Nonpoint Source Policy).<sup>16</sup> In addition, the General WDRs must also conform to our precedential water quality orders.<sup>17</sup> Of particular relevance here is our Order WQ 2018-0002.

**A. Consistency with Order WQ 2018-0002's Precedential Nitrogen Reporting Requirements**

Government Code section 11425.60, subdivision (b), authorizes agencies to designate a decision, or part of a decision, that contains a significant legal or policy determination of general application that is likely to recur as a precedential decision. Shortly after the enactment of section 11425.60, subdivision (b), we expressly designated all State Water Board decisions and orders adopted after a public meeting as precedential decisions, except to the extent that a decision or order indicates otherwise, or is superseded by later enacted statutes, judicial opinions, or actions of the State Water Board. We explained that a prior decision or order may be distinguished or overturned by a later decision or order, but that the treatment of our decisions and orders as precedent helps provide greater consistency and predictability.<sup>18</sup>

The field of water quality regulation is constantly evolving, and we firmly believe that our less mature regulatory programs, including the irrigated lands regulatory program, benefit greatly from varying experimentation by the different regional water boards. However, once we determine that such experimentation has run its course and we resolve a technical, policy, or legal issue by issuing a precedential water quality order, we fully expect that the regional water boards will carefully follow our direction. As public bodies, we have an obligation to provide consistency and predictability for our stakeholders where we can, so that they may plan their affairs accordingly. Such consistency and predictability, where appropriate, contribute to both the actual and perceived integrity of the Water Boards' regulatory programs.

The State Water Board has been actively engaged in further developing and refining the Water Boards' irrigated lands regulatory programs in recent years. In 2013, we adopted Order WQ 2013-0101, reviewing the Central Coast Water Board's Order No. R3-2012-0011. In Order WQ 2013-0101, we revised several provisions of

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<sup>16</sup> State Water Board Policy for the Implementation and Enforcement of the Nonpoint Source Pollution Control Program (2004) at [https://www.waterboards.ca.gov/water\\_issues/programs/nps/docs/plans\\_policies/nps\\_iepolicy.pdf](https://www.waterboards.ca.gov/water_issues/programs/nps/docs/plans_policies/nps_iepolicy.pdf) [as of September 7, 2023].

<sup>17</sup> See State Water Board Order WR 96-1 (*Lagunitas Creek*), fn. 11 (designating as precedential those decisions and orders adopted by the State Water Board at a public meeting, unless expressed otherwise in the decision or order); *Malaga County Water District v. State Water Resources Control Bd.* (2020) 58 Cal.App.5th 447, 475; see also Wat. Code, § 13320, subd. (c) (providing State Water Board review authority over most regional water board adjudicative decisions to determine whether the action was appropriate and proper).

<sup>18</sup> State Water Board Order WR 96-1 (*Lagunitas Creek*), fn. 11.

Order No. R3-2012-0011 related to nitrogen balance. We explained that we had significant concerns with the precision, reliability, and usefulness of the data that would have been required to be reported under Order No. R3-2012-0011.<sup>19</sup> Rather than giving precedential direction to the regional water boards on these issues, we stated that we would be referring these and other issues to an expert panel for a more thorough analysis and long-term statewide recommendations and that we would provide additional direction as appropriate based on the expert panel's findings.<sup>20</sup> We subsequently convened the expert panel, known as the Agricultural Expert Panel.<sup>21</sup>

In 2018, we adopted Order WQ 2018-0002. Order WQ 2018-0002 was the result of several years of extensive stakeholder input, including from the Agricultural Expert Panel, the Nitrogen Tracking Task Force convened by the California Department of Food and Agriculture (CDFA), the broader scientific community, grower organizations and individual growers, environmental and environmental justice organizations, CDFA, regional water boards including the Central Coast Water Board, other public agencies, and agricultural consultants. The specific actions, events, and considerations that led us to adopt Order WQ 2018-0002 are recounted in detail throughout Order WQ 2018-0002 itself and will only be summarized here to the extent relevant.

It is worth noting that the Agricultural Expert Panel reviewed both the Central Coast Water Board's nitrogen balance reporting approach and a different nitrogen reporting approach used by the Central Valley Water Board in its Order R5-2013-0120 for the Tulare Lake Basin, and rejected both in favor of a new approach.<sup>22</sup> In Order WQ 2018-0002, we accepted the Agricultural Expert Panel's recommended new approach. In so doing, we expressly established new precedential statewide irrigated lands regulatory program requirements for reporting specific data related to growers' nitrogen usage and other items.<sup>23</sup>

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<sup>19</sup> Order WQ 2013-0101, pp. 49-51.

<sup>20</sup> *Id.* at pp. 4-5.

<sup>21</sup> State Water Board Order WQ 2018-0002, pp. 7-8. 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. (See Conclusions of the Agricultural Expert Panel (2014) at <[https://www.waterboards.ca.gov/water\\_issues/programs/agriculture/docs/ILRP\\_expert\\_panel\\_final\\_report.pdf](https://www.waterboards.ca.gov/water_issues/programs/agriculture/docs/ILRP_expert_panel_final_report.pdf)> [as of September 7, 2023].)

<sup>22</sup> Conclusions of the Agricultural Expert Panel, pp. 21-22, 26; State Water Board Order WQ 2018-0002, p. 37.

<sup>23</sup> See, e.g., State Water Board Order WQ 2018-0002, pp. 47-51.

Order WQ 2018-0002 represented a significant step forward in our evolving understanding of how best to collect usable data that will ultimately enable the Water Boards to address the challenges associated with nitrate pollution from agricultural operations. As directed in Order WQ 2018-0002, growers must report the pounds of nitrogen applied (referred to as “A”) and the pounds of nitrogen removed (referred to as “R”) for each field annually on a per acre basis to the regional water board.

The nitrogen applied includes all nitrogen proactively added to a field from any source [(]such as organic amendments, synthetic fertilizers, manure, and 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. 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 removed from the field for a given crop per unit of crop yield.<sup>24</sup>

Using the nitrogen applied and nitrogen removed data reported by the grower, the next step is to calculate the annual and multi-year (or multi-cropping cycle) ratios of nitrogen applied to nitrogen removed for each field on a per acre basis. This metric is known as the “A/R ratio.”<sup>25</sup>

The Agricultural Expert Panel proposed a multi-year A/R calculation “as the simplest metric of good management”<sup>26</sup> relying on “quantitative measurements that can be performed simply and repeatedly with relative accuracy and that it is easy to understand.”<sup>27</sup>

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 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. A high multi-year A/R ratio thus alerts the [grower], 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

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<sup>24</sup>*Id.* at p. 38 (internal citation omitted).

<sup>25</sup>*Id.* at pp. 38-40, fn. 108.

<sup>26</sup> *Id.* at p. 37.

<sup>27</sup> *Id.* at p. 38.



groundwater. 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 multiyear 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.<sup>28</sup>

We concluded in Order WQ 2018-0002 that the A/R ratio will be more informative if paired with an additional calculation of the pounds of nitrogen applied minus the pounds of nitrogen removed for each field on a per acre basis. This metric is known as the “A-R difference.”<sup>29</sup> The A-R difference, which uses the same A and R data that is used to calculate the A/R ratio,

further tease[s] 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. 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.<sup>30</sup>

We made it clear in Order 2018-0002 that the requirements for growers to report their A and R data, and for the grower, the third party<sup>31</sup> or the regional water board to calculate each grower’s annual and multi-year A/R ratios and annual and multi-year A-R difference values was precedential statewide for all irrigated lands regulatory programs,<sup>32</sup> with specified exceptions.<sup>33</sup> We also made it clear that, regardless of which of

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<sup>28</sup> *Id.* at p. 39 (internal citations omitted).

<sup>29</sup> *Ibid.*

<sup>30</sup> *Ibid.*

<sup>31</sup> A third party, typically a coalition of growers, is a separate entity that is authorized by a regional water board to assist its member growers and to accept responsibility for compliance with certain aspects of the regional water board’s ILRP. See *generally*, Nonpoint Source Policy, p. 8; State Water Board Order WQ 2018-0002, pp. 19-21.

<sup>32</sup> State Water Board Order WQ 2018-0002, p. 40.

<sup>33</sup> See *id.* at fn. 92, pp. 34, 40-41. The irrigation and nitrogen management requirements in State Water Board Order WQ 2018-0002 are not precedential for rice growers in the Central Valley region, growers who never apply nitrogen to their fields, and growers who demonstrate that the nitrogen applied to their fields does not percolate below the root zone in an amount that could impact groundwater and does not migrate to surface water

the three entities calculated the A/R ratio and A-R difference values, it was a precedential statewide requirement that the A/R ratio and A-R difference values were to be shared with the grower, the third party, and the regional water board so that the values could be used for the purposes identified above.<sup>34</sup>

We also endorsed the Agricultural Expert Panel's recommendation to use the growers' A and R data to develop acceptable multi-year A/R ratio target values, stating that they are "the most reliable measure of the potential for nitrogen to reach groundwater that is currently available to us," and that they "are expected to provide a valuable tool in irrigated lands regulatory programs for fair and even-handed consideration of nitrogen application practices."<sup>35</sup> We therefore directed the Central Valley Water Board "to develop, in coordination with the State Water Board, other regional water boards, and CDFA, target values for each crop within three years of the availability of the nitrogen removed coefficient for that crop."<sup>36</sup> We acknowledged, however, that

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 can help evaluate and consider the appropriate use of the acceptable ranges for multi-year A/R ratio target values in irrigated lands regulatory programs statewide.<sup>37</sup>

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through discharges, including drainage, runoff, or sediment erosion. In addition, the regional water boards were given the discretion to apply alternative requirements to some or all growers in the following categories: (1) growers who operate in areas with limited nitrogen impacts, have minimal nitrogen inputs, and have difficulty measuring crop yield (e.g., some growers who operate irrigated pastures), (2) diversified socially disadvantaged growers who do not operate more than 45 acres, have annual sales less than \$350,000, and grow no fewer than an average of two different crops per acre, and (3) other growers who do not operate more than 20 acres and grow no fewer than an average of two different crops per acre. The final three categories of growers are required to report their A values, but the regional water boards were given the discretion to determine when or how these growers will report their R values. We take this opportunity to reiterate to the regional water boards that these are currently the only authorized exceptions to our precedential direction in Order WQ 2018-0002. Based on comments we received from the third party, we expect that the Central Coast Water Board will, on remand, consider using this discretion as appropriate. We also encourage the Central Coast Water Board to work closely with the third party to develop targeted education in appropriate languages for reporting A prior to revising the General WDRs on remand.

<sup>34</sup> *Id.* at pp. 39-40.

<sup>35</sup> *Id.* at p. 44.

<sup>36</sup> *Id.* at p. 74.

<sup>37</sup> *Ibid.*

We directed the regional water boards to revise their existing irrigated lands regulatory programs within five years to be consistent with the precedential direction that we detailed in Order WQ 2018-0002.<sup>38</sup> Throughout its consideration and adoption of the General WDRs, the Central Coast Water Board was well aware of the precedential nature of Order WQ 2018-0002 and that many of the provisions of the General WDRs were implicated by our precedential direction.<sup>39</sup> The Central Coast Water Board attempted to recast our precedential direction as merely setting a floor for regional board irrigated lands regulatory programs<sup>40</sup> and to distinguish the circumstances in its region as justifying deviations from our requirements.<sup>41</sup> As we will discuss below, the Central Coast Water Boards' efforts to justify its departures from our precedential direction are unavailing.

In recognition of the fact that it will take many years for the data collection and analysis required by Order WQ 2018-0002 to bear fruit, we stated that we will be directing the regional water boards to provide updates on their irrigated lands regulatory program on a triennial basis,<sup>42</sup> and that we will consider establishing a neutral panel to evaluate the programs after the second triennial update.<sup>43</sup> We have now arrived at the five year anniversary of our adoption of Order WQ 2018-0002. The scientific work to develop and further refine nitrogen removal coefficients is well underway, with a requirement in Order WQ 2018-0002 that coefficients for crops that cover 99 percent of the acreage within the Eastern San Joaquin Coalition's boundaries due to be published in 2023.<sup>44</sup> And at the same time, the Third District Court of Appeal recently affirmed the judgment of the Superior Court denying three petitions for writs of mandate challenging

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<sup>38</sup> *Id.* at p. 9.

<sup>39</sup> See General WDRs, Attachment A, Findings, pp. 77-89.

<sup>40</sup> *Id.* at p. 78 (“This Order uses the flexibility afforded to the regional boards through the ESJ Order but does not include requirements that are inconsistent with the minimum precedential requirements established through the ESJ Order (i.e., this order uses ESJ as the regulatory minimum, or floor, as the basis for its requirements).”)

<sup>41</sup> *Ibid.* (“This Order incorporates the precedential portions of the ESJ Order, as described below. In some instances, this Order differs from the precedential requirements to some extent based on differences between the facts before the Central Coast Water Board and the facts that were the basis for the State Water Board precedent, for example by building requirements that incentivize the use of compost and by establishing nitrogen discharge limits to protect water quality and beneficial uses. The requirements of this Order that deviate from precedential requirements of the ESJ Order are based on extensive nitrogen application and groundwater monitoring data the Central Coast Water Board has collected relative to the Central Valley Water Board, as well as recognition of the differences between the groundwater quality and reliance on groundwater in the central coast region relative to the central valley region.”)

<sup>42</sup> State Water Board Order WQ 2018-0002, p. 51.

<sup>43</sup> *Id.* at p. 52.

<sup>44</sup> *Id.* at p. 42.

several aspects of Order WQ 2018-0002.<sup>45</sup> Therefore, in Section II.A.6, we give direction to our staff to review the data that have been collected and the progress that has been made related to the regional water boards' irrigated lands regulatory program.

## 1. Modifications to Nitrogen Applied (A) and Nitrogen Removed (R)

In the General WDRs, the Central Coast Water Board made modifications to the calculations of nitrogen applied (A) and nitrogen removed (R) that are inconsistent with Order WQ 2018-0002. As stated above, Order WQ 2018-0002 defines nitrogen applied as including “all nitrogen proactively added to a field from any source such as organic amendments, synthetic fertilizers, manure, and irrigation water.”<sup>46</sup> Order WQ 2018-0002 defines nitrogen removed as “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.”<sup>47</sup>

In order to encourage the use of compost and organic fertilizers, the General WDRs allow the use of discount factors for calculating nitrogen applied in the form of compost ( $A_{COMP}$ ) and organic fertilizers ( $A_{ORG}$ ). A discount factor (C) as low as 0.05 can be used in calculating nitrogen in composted materials, depending on the ratio of carbon to nitrogen in the compost product, such that 100 pounds of nitrogen applied to a field via finished compost would result in counting only five pounds of nitrogen in the calculation of nitrogen applied (A).<sup>48</sup> Similarly, a discount factor (O) as low as 0.03 can be used in calculating nitrogen in organic fertilizer, depending on the ratio of carbon to nitrogen in the organic fertilizer, such that 100 pounds of nitrogen applied to a field via organic fertilizer would result in counting only three pounds of nitrogen in the calculation of nitrogen applied (A).<sup>49</sup> In order to encourage the use of management practices that remove nitrogen, the General WDRs also provide opportunities for growers to increase the calculation of nitrogen removed (R) by creating three new categories of nitrogen removed that are not contemplated in Order WQ 2018-0002: nitrogen scavenging ( $R_{SCAVENGE}$ ),<sup>50</sup> nitrogen treatment ( $R_{TREAT}$ )<sup>51</sup> and any other method

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<sup>45</sup> *Environmental Law Foundation v. State Water Resources Control Bd.* (2023) 89 Cal.App.5th 451, as modified (Apr. 13, 2023), review denied (June 14, 2023).

<sup>46</sup> State Water Board Order WQ 2018-0002, p. 38.

<sup>47</sup> *Ibid.*

<sup>48</sup> General WDRs, pp. 24-25; General WDRs, Attachment B, Monitoring and Reporting Program, p. 4.

<sup>49</sup> General WDRs, pp. 24-25; General WDRs, Attachment B, Monitoring and Reporting Program, pp. 5, 35.

<sup>50</sup> “[T]he amount of nitrogen credited as removed from the field through nitrogen scavenging cover crops utilized during the wet/rainy season, nitrogen scavenging high carbon amendments during the wet/rainy season, or high carbon woody materials applied as mulch to the crop ground surface.” General WDRs, p. 24.

<sup>51</sup> “[T]he amount of nitrogen removed from the ranch through a quantifiable treatment method (e.g., bioreactor).” (*Ibid.*)

of removing nitrogen (R<sub>OTHER</sub>).<sup>52</sup>

To the extent growers utilize the Central Coast Water Board's discount factors for nitrogen applied, they will be using artificially reduced A values, resulting in lower A/R ratio values and A-R difference values than are required to be calculated under Order WQ 2018-0002. And while we support the use of management practices to remove additional nitrogen and expect that growers using those management practices will continue to report their use to the Central Coast Water Board, we are concerned with the lack of uniformity and reliability in determining the amount of nitrogen actually removed with those management practices.<sup>53</sup> As we noted in discussing the A/R ratio, "[t]he 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."<sup>54</sup> In Order WQ 2018-0002, we designated the method of determining A and R, and of calculating the A/R ratio values and the A-R difference values as precedential elements that apply to regional water board irrigated lands regulatory programs statewide.<sup>55</sup> These elements were adopted, based on the recommendations of the Agricultural Expert Panel, not only to provide "a cost-effective and 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,"<sup>56</sup> but also to develop a set of consistently derived data across regions to inform scientific analyses and other developments in the regulation of discharges from irrigated lands.<sup>57</sup>

Accordingly, we remand the General WDRs to the Central Coast Water Board with the instruction to revise the use of nitrogen applied and nitrogen removed data for the purposes of calculating the A/R ratio and A-R difference values to be consistent with Order WQ 2018-0002.

## **2. Modifications to Nitrogen Applied Minus Nitrogen Removed Difference Value**

Order WQ 2018-0002 designated the calculation of the A-R difference value as a precedential element because it provides information on the magnitude of the amount of nitrogen left in the soil.<sup>58</sup> The A-R difference value that we identified in Order WQ 2018-0002 is simply the nitrogen applied (A) minus the nitrogen removed (R). In the General WDRs, however, the Central Coast Water Board established three compliance pathways,<sup>59</sup> each with a distinct method of calculating the A-R difference:

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<sup>52</sup> "[T]he amount of nitrogen removed from the ranch through other methods not previously quantified." (*Id.* at p. 25.)

<sup>53</sup> See, e.g., General WDRs, Attachment A, Findings, pp. 153-154.

<sup>54</sup> State Water Board Order WQ 2018-0002, p. 38.

<sup>55</sup> State Water Board Order WQ 2018-0002, pp. 40, 51.

<sup>56</sup> *Id.* at p. 65.

<sup>57</sup> *Id.* at p. 73.

<sup>58</sup> *Id.* at p. 39.

<sup>59</sup> General WDRs, p. 24.

- Compliance Pathway 1:  
 $A_{FER}^{60} + (C \times A_{COMP}) + (O \times A_{ORG}) + A_{IRR}^{61} - R = \text{Nitrogen Discharge}$
- Compliance Pathway 2:  
 $A_{FER} + (C \times A_{COMP}) + (O \times A_{ORG}) = R$
- Compliance Pathway 3:  
 $A_{FER} + (C \times A_{COMP}) + (O \times A_{ORG}) - R = \text{Nitrogen Discharge}$

As described above, the application of discount factors in calculating the nitrogen applied in compost and organic fertilizers in all three compliance pathways is inconsistent with the precedential direction of Order WQ 2018-0002. The exclusion of nitrogen applied in irrigation water from the calculation of total nitrogen applied in Compliance Pathways 2 and 3 is also inconsistent with Order WQ 2018-0002. The use of the discount factors and the exclusion of nitrogen applied in irrigation water in calculating the A-R difference can result in substantially understated amounts of nitrogen left in the soil with potential to reach groundwater. Additionally, the three compliance pathways will result in inconsistently derived data, not just across regions, but within the Central Coast region itself. Accordingly, we remand the General WDRs to the Central Coast Water Board with the instruction to modify the calculation of A-R consistent with Order WQ 2018-0002.

We understand that the Central Coast Water Board modified A, R, and A-R in an effort to incentivize management practices that are intended to reduce nitrogen loading from ongoing agricultural operations. While we agree that properly designed incentives to reduce growers' nitrogen impacts are highly desirable, ultimately, those incentives should not come at the cost of accuracy in determining the true impacts of the growers' nitrogen practices on water quality. We also note widespread support in comments to the State Water Board for the continued use of discount factors for calculating nitrogen applied, the new categories of nitrogen removed, and the use of the three compliance pathways. As such, the Central Coast Water Board may continue to collect the data and use the compliance pathway formulas for limited purposes, as described in Section II.A.5 below, during the interim period between the adoption of this Order and when the State Water Board acts on the expert panel's findings (see below).

### **3. Lack of Use of A/R Ratio Values**

As explained in Section II.A, above, in Order WQ 2018-0002 we directed that the use of both the A/R ratio values and the A-R difference values would be required for all irrigated lands regulatory programs. The Central Coast Water Board

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<sup>60</sup> "A<sub>FER</sub> is the amount of fertilizer nitrogen applied in pounds per acre." *Id.* at p. 52.

<sup>61</sup> "A<sub>IRR</sub> is the amount of nitrogen in pounds per acre applied in the irrigation water estimated from the volume required for crop evapotranspiration (ET) or volume of water applied." *Ibid.*

chose to rely on its version of the A-R difference values, explaining that it believed that the A-R difference value by itself “is a reasonable proxy for the amount of nitrogen discharge from a ranch, which can be correlated to potential discharges of nitrogen and impacts to water quality.”<sup>62</sup> The Central Coast Water Board stated that it would calculate the A/R ratio values,<sup>63</sup> but there is no indication in the record that the Central Coast Water Board intends to share the calculated A/R ratio values with the growers and any applicable third party, as required by Order WQ 2018-0002. On remand, the Central Coast Water Board shall revise the General WDRs to be consistent with this aspect of Order WQ 2018-0002.

#### **4. Enforceable Limits on Nitrogen Applied**

The General WDRs impose enforceable limits on fertilizer nitrogen application ( $A_{FER}$ ) for individual dischargers that are not participating in the third-party option, known as “non-participating dischargers.” Beginning on December 31, 2023, on a crop-by-crop basis, these dischargers must limit their application of fertilizer nitrogen to no greater than the 90th percentile of total nitrogen applied as reported to the Central Coast Water Board from 2014 through 2019, as specified in Table C.1-2.<sup>64</sup> After two years, those limits are further reduced to the 85th percentile, also as specified in Table C.1-2.<sup>65</sup> It appears that any exceedance of these nitrogen application limits would be a violation of the General WDRs and therefore subject to enforcement.

For dischargers participating in the third-party alternative compliance pathway program, the General WDRs contain fertilizer nitrogen application targets, rather than enforceable limits, that go into effect on December 31, 2024.<sup>66</sup> Like the limits described above, after two years, these targets are reduced from the 90th to the 85th percentile.<sup>67</sup> While exceedances of targets are not subject to the same enforcement as exceedances of limits, participating dischargers that apply fertilizer nitrogen at rates “greater than the targets in Table C.2-1 for a two-year running average after the compliance date, are no longer eligible to participate in the third-party alternative compliance pathway program and must comply with the individual groundwater protection requirements.”<sup>68</sup> As a result, participating dischargers may ultimately be subject to the same enforcement for violations of the General WDRs as non-participating dischargers.

Focusing on fertilizer nitrogen application alone, without reference to other sources of nitrogen added to a field or nitrogen removed from the field, does not provide meaningful insight into the amount of nitrogen left in the soil with potential to reach

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<sup>62</sup> General WDRs, Attachment A, Findings, p. 81.

<sup>63</sup> *Ibid.*

<sup>64</sup> *Id.* at pp. 23, 51.

<sup>65</sup> *Id.* at p. 51.

<sup>66</sup> *Id.* at pp. 32, 54.

<sup>67</sup> *Id.* at p. 54.

<sup>68</sup> *Id.* at p. 32.

groundwater. As such, there is not a clear connection between the amount of fertilizer nitrogen applied and impacts on water quality. Enforceable limitations on fertilizer nitrogen application were not contemplated by Order WQ 2018-0002. The Central Coast Water Board acknowledged this, but apparently concluded that Order WQ 2018-0002 therefore did not preclude enforceable limitations on fertilizer application.<sup>69</sup> However, as explained above, we explicitly stated that “[i]f we move forward with a new regulatory approach in the future, we expect to do so only after convening an expert panel.”<sup>70</sup> While it is true that we were discussing this in the specific context of the A/R ratio target values, our cautionary statement applies equally to any other new regulatory approach focused on nitrogen impacts to water quality.

Accordingly, we remand this portion of the General WDRs to the Central Coast Water Board with the instruction to eliminate the use of enforceable limits based solely on fertilizer nitrogen application rates. We are cognizant, however, of the need to maintain some continuity and momentum toward reducing fertilizer nitrogen application rates in the short term for the growers that are currently required to collect only nitrogen application data. Therefore, the Central Coast Water Board may continue to use the existing fertilizer nitrogen application limits and targets for growers who are not yet reporting nitrogen removed for the limited purpose of requiring additional education for those growers who exceed the targets. This use of fertilizer nitrogen application rates will be short-lived, because the Central Coast Water Board will need to accelerate the timing for collecting R data from all growers on remand, consistent with Order WQ 2018-0002. The fertilizer nitrogen application targets may not be used for any other purpose, including removal from the third-party alternative compliance pathway program, progressive enforcement actions, or additional requirements, such as implementing additional or improved management practices, or increased monitoring or reporting.<sup>71</sup>

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<sup>69</sup> See General WDRs, Attachment A, Findings, pp. 88-89. In essence, the Central Coast Water Board justified its departure from the precedential direction in Order WQ 2018-0002 because it had developed information showing that high nitrogen application rates have contributed to nitrate contamination in groundwater. This situation, of which the State Water Board was well aware when we adopted Order WQ 2018-0002, also exists in the central valley region and numerous other irrigated lands areas throughout California. The Central Coast Water Board also noted that it would reevaluate its regulatory approach if “an expert panel finds that another regulatory method would be more protective of water quality, or if the more protective regulatory methods are identified through other sources.” The Central Coast Water Board’s attempt to eschew the precedential direction in Order WQ 2018-0002 by distinguishing its region and opening the door to revisiting the regulatory approach of the General WDRs is simply not appropriate.

<sup>70</sup> State Water Board Order WQ 2018-0002, p. 74.

<sup>71</sup> In its August 11, 2023 comment letter, GSA Petitioners asked us to issue a stay of the nitrogen application and discharge targets and limits on our own motion. Because we are providing specific direction to the Central Coast Water Board regarding its use of the targets and limits in this Order, a stay is not necessary.



In revising this portion of the General WDRs, the Central Coast Water Board shall add an “outlier” approach similar to that described in Section II.A.5.f of Order WQ 2018-0002.<sup>72</sup> The Central Coast Water Board shall also develop a process to include properly calculated interim milestones based on A/R ratio and A-R difference targets. These targets could also be used to inform follow-up by the Central Coast Water Board or third-party program administrator, such as requiring additional education, Irrigation and Nutrient Management Plan certification by a qualified professional, implementing additional or improved management practices, and increased monitoring or reporting, or both monitoring and reporting consistent with Order WQ 2018-0002.

While the use of directly enforceable limits on fertilizer nitrogen application is currently impermissible for the reasons stated above, the Central Coast Water Board and the other regional water boards are not precluded from using a grower’s repeated clearly excessive A/R ratio or A-R difference data, in conjunction with other evidence, to demonstrate noncompliance with other enforceable provisions of their waste discharge requirements, including, for example, requirements to implement the management practices contained in the grower’s Irrigation and Nutrient Management Plan. In addition, when faced with exceedingly high nitrogen application data and the absence of any R data, the Central Coast Water Board could, for example, issue a Water Code section 13267 Order to the grower requiring the collection and submission of R data and development of a certified Irrigation and Nutrient Management Plan sooner than would otherwise be required, or any other relevant information.

## **5. Enforceable Limits on A-R Difference**

The General WDRs also impose what it refers to as “nitrogen discharge targets and limits” based on the calculation of nitrogen applied minus nitrogen removed (A-R).<sup>73</sup> Non-participating dischargers will ultimately be subject to enforceable limits, as measured using one of the three compliance pathway calculations noted above. Beginning on December 31, 2023, and continuing for four years, non-participating dischargers will be subject to non-enforceable nitrogen discharge targets.<sup>74</sup> On December 31, 2027, these growers will become subject to enforceable nitrogen discharge limits, which will be progressively reduced over the course of the next 24 years.<sup>75</sup>

The consequences for discharges of nitrogen in excess of the nitrogen discharge targets include “obtaining additional education, [Irrigation and Nutrient Management Plan] certification by a qualified professional, implementing additional or

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<sup>72</sup> See *id.* at pp. 52-53.

<sup>73</sup> General WDRs, pp. 23-24.

<sup>74</sup> See *id.*, Table C.1-3, Compliance Dates for Nitrogen Discharge Targets and Limits, p. 52.

<sup>75</sup> *Ibid.*

improved management practices, and increased monitoring and/or reporting.”<sup>76</sup> When the nitrogen discharge limits go into effect, dischargers who exceed the limits may also be subject to enforcement actions.<sup>77</sup>

Dischargers participating in the third-party alternative compliance pathway program are subject only to nitrogen discharge targets, not limits.<sup>78</sup> These targets take effect on December 31, 2024, and are progressively reduced over the course of four years.<sup>79</sup> Consequences for participating dischargers that report A and R values in excess of the applicable compliance pathway for the nitrogen discharge targets depends on how long the exceedances continue. After one year of exceedances, participating dischargers “are subject to follow-up by the approved third-party alternative compliance pathway program administrator, which could include additional education and/or implementation of additional or improved management practices.”<sup>80</sup> If a participating discharger exceeds the target for a two-year running average, that discharger “must obtain annual [Irrigation and Nutrient Management Plan] certification by a qualified professional until nitrogen discharge targets are achieved for a two-year running average.”<sup>81</sup> If a participating discharger exceeds the final nitrogen discharge target that takes effect on December 31, 2028, for a three-year running average, the discharger is “no longer eligible to participate in the third-party alternative compliance pathway program and must comply with individual groundwater protection requirements,” (i.e., the nitrogen discharge limits).<sup>82</sup>

The Central Coast Water Board’s use of its A-R difference compliance pathways as enforceable nitrogen discharge limits is also a new regulatory approach. Accordingly, as with the fertilizer nitrogen application limits discussed above, we remand this portion of the General WDRs to the Central Coast Water Board with the instruction to eliminate the use of enforceable limits for the A-R difference. The Central Coast Water Board shall add interim targets that are consistent with Order WQ 2018-0002 for purposes other than direct enforcement, as discussed in the preceding section.

As noted above in Section II.A.2, the State Water Board acknowledges support for the modifications to the calculation of nitrogen applied and nitrogen removed, the compliance pathways calculations, and the use of discharge targets in triggering certain follow-up actions by growers. As such, during the interim period between the adoption of this Order and when the State Water Board acts on the expert panel’s findings (see below), the Central Coast Water Board may use the nitrogen

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<sup>76</sup> *Id.* at p. 27.

<sup>77</sup> *Ibid.*

<sup>78</sup> *Id.* at pp. 32-33.

<sup>79</sup> See *id.*, Table C.2-2, Compliance Dates for Nitrogen Discharge Targets (Alternative Compliance Pathway), p. 54.

<sup>80</sup> *Id.* at p. 33.

<sup>81</sup> *Ibid.*

<sup>82</sup> *Ibid.*

discharge limits and targets for the limited purposes of requiring additional education and Irrigation and Nutrient Management Plan certification by a qualified professional. Nitrogen discharge limits and targets may not be used for any other purpose, including removal from the third-party alternative compliance pathway program, progressive enforcement actions, or additional requirements, such as implementing additional or improved management practices, or increased monitoring or reporting.

## **6. Convening an Expert Panel**

In Order WQ 2018-0002, we indicated that, after a number of years, it may be appropriate to convene another expert panel to review the data generated by our irrigated lands regulatory programs that use the approach to gathering nitrogen applied (A) and nitrogen removed (R) data that we specified in Order WQ-2018-0002. This assessment could inform “the appropriate use of the acceptable ranges for multi-year A/R ratio target values in irrigated lands regulatory programs statewide.”<sup>83</sup> An expert panel could also evaluate other potential modifications to our irrigated lands regulatory programs, including the collection and analysis of A and R data.

Since we adopted Order WQ 2018-0002, the Central Valley Water Board has amassed almost four years of data on A, R, A/R, and A-R from the Eastern San Joaquin coalition’s area and from other coalition areas throughout the Central Valley region. The Central Coast Water Board has been collecting total nitrogen applied information for eight years across the entire Central Coast region, and will receive its first year’s R data from growers in its Groundwater Phase 1 area in March 2024. Given the amount of data generated and other progress made in implementing Order WQ 2018-0002, such as developing nitrogen removal coefficients for numerous crops, we hereby direct our staff to work with the regional water boards to conduct a review of the data that have been collected by the regional water boards and the other progress that has been made by CDFG, third parties, academics, and others in furtherance of regional water boards’ irrigated lands regulatory programs. The review shall be presented at a State Water Board meeting as soon as reasonable, but at least within the next twelve months. As part of that review, we direct staff to make recommendations regarding any changes to the data that are being collected and the sufficiency of the data for an expert panel’s evaluation.

As soon as we determine that sufficient data has been collected for review by an expert panel, we will direct staff to initiate an expert panel process to advise us on the next steps for our irrigated lands regulatory programs. That process will include opportunities for the public to provide their input on the data to be reviewed by the panel, the questions to be posed to the panel, and the areas of expertise for the panelists. The expert panel will be comprised of scientific experts drawn from entities such as academic institutions, scientific and policy institutes, and government agencies. The work of the expert panel will include opportunities for public participation and will be reviewed by the State Water Board with the expectation that its recommendations will

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<sup>83</sup> *Ibid.*

be used to provide additional precedential guidance to the regional water boards' irrigated lands regulatory programs. We are committed to acting promptly to initiate a new public process to give further precedential direction if the expert panel recommends any significant revisions to our irrigated lands regulatory program.

It is premature to determine the full charge of that expert panel now, but we foresee that we will task the expert panel to review the nitrogen applied and nitrogen removed data and evaluate the suitability of expanding the use of the multi-year A/R ratio target values and A-R difference values in our irrigated lands regulatory programs.<sup>84</sup> In addition, we expect to task the expert panel to review the modifications to measuring A and R advanced by the Central Coast Water Board in the General WDRs, including discount factors applied to nitrogen in compost and organic fertilizer and the creation of new categories of nitrogen removed ( $R_{SCAVENGE}$ ,  $R_{TREAT}$ , and  $R_{OTHER}$ ). The review of these new categories of A and R will involve evaluating the scientific bases for their measurements and expected efficacy in reducing overall nitrogen loading. And we also expect that we will task the expert panel with assessing whether incentivizing the use of nitrogen in irrigation water by excluding it from the calculation of total nitrogen applied is the most appropriate approach for evaluating and controlling potential discharges to groundwater and reducing overall concentrations of nitrates in groundwater.

## **B. Consistency with State Water Board's Composting General Order**

In the course of our review of the General WDRs, we identified a potential water quality concern regarding large on-farm composting operations that was not raised by any of the petitioners. On April 7, 2020, we adopted General Waste Discharge Requirements for Commercial Composting Operations, Order WQ 2020-0012-DWQ (Composting General Order). We adopted the Composting General Order to streamline the permitting of composting operations and protect water quality from discharges from composting activities.<sup>85</sup> In the Composting General Order, we found that on-farm composting operations that receive, process, or store less than 25,000 cubic yards of certain types of feedstocks at any given time and implement limited management practices are unlikely to degrade water quality, and therefore qualify for a conditional exemption from the Composting General Order.<sup>86</sup> By contrast, we imposed prescriptive design, construction and operation requirements for larger composting operations.<sup>87</sup>

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<sup>84</sup> We also intend to consider granting a request submitted by several environmental justice organizations to have the Groundwater Protection Targets described in Order WQ 2018-0002 and recently conditionally approved by the Central Valley Water Board reviewed, either by the expert panel or through a separate independent review process.

<sup>85</sup> State Water Board Order WQ 2020-0012-DWQ, finding 12, p. 7.

<sup>86</sup> *Id.*, finding 30, p. 13.

<sup>87</sup> *Id.* at pp. 32-33.

The General WDRs authorize on-farm composting operations and impose minimal management practices for those operations.<sup>88</sup> Unlike the Composting General Order, the General WDRs do not include any volumetric limitations on the size of the on-farm composting operations. We are concerned about the potential for groundwater or surface water quality impacts from large on-farm composting operations authorized under the General WDRs. Accordingly, we remand this portion of the General WDRs to the Central Coast Water Board with directions to revise the General WDRs to be consistent with the qualifications for the on-farm composting conditional exemption from the Composting General Order, including the 25,000 cubic yard limitation.<sup>89</sup> The General WDRs shall also require that any on-farm composting operations that do not qualify for the conditional exemption obtain coverage under the Composting General Order.

### **C. Nonpoint Source Policy**

For different reasons, both the GSA and CCKA Petitioners ask us to set aside or revise the General WDRs as inconsistent with the quantifiable milestones requirements of our Nonpoint Source Policy. As detailed below, we conclude that the Central Coast Water Board incorporated into the General WDRs milestones that are appropriately quantifiable, but that further consideration of timelines is necessary.

As we discussed at length in Order WQ 2018-0002, the Nonpoint Source Policy guides the interpretation and implementation of Water Code requirements, including Water Code sections 13263, in the context of regulating nonpoint source discharges, including discharges from irrigated lands.<sup>90</sup> The Nonpoint Source Policy

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<sup>88</sup> General WDRs, Part 2, Section D, Paragraph 22, pp. 45-46.

<sup>89</sup> Note that this direction is based on the same water quality concerns that led us to impose volumetric limitations on on-farm composting in our Composting General Order, not on any failure by the Central Coast Water Board to follow our precedential direction. We have not designated our general waste discharge requirements, including the Composting General Order, as precedential orders in accordance with Government Code section 11425.60. To the extent there is any ambiguity about our decision in *Lagunitas Creek* to designate our orders adopted at public meetings as precedential, we hereby clarify that the precedential designation does not apply to general orders, including general waste discharge requirements. General orders do not name the specific persons regulated by the order and generally provide a mechanism for persons to seek coverage or enrollment under the general order following adoption. General orders have attributes of both quasi-legislative and quasi-judicial administrative action and are ill-suited to precedential status under the adjudicative proceeding provisions of the Administrative Procedure Act. In the relatively rare circumstance where we issue a water quality order that also includes specific amendments to a general order issued by a regional water board (as we did in Order WQ 2018-0002), only the water quality order is precedential, unless specifically designated otherwise.

<sup>90</sup> State Water Board Order WQ 2018-0002, p. 14.

requires that any nonpoint source pollution control implementation program, including one administered by a third-party group, incorporate five “key elements.”<sup>91</sup>

Key Element 3 provides that, “Where a RWQCB determines it is necessary to allow time to achieve water quality requirements, the NPS control implementation program shall include a specific time schedule, and corresponding quantifiable milestones designed to measure progress toward reaching the specified requirements.”<sup>92</sup> The Central Coast Water Board incorporated numeric quantifiable milestones in several areas in the General WDRs. For example, as described in Sections II.A.4 and II.A.5 above, the General WDRs include numeric targets and limits for fertilizer nitrogen application and nitrogen discharge. These targets and limits are progressively reduced over time. (We are, of course, directing the Central Coast Water Board to revise those targets and limits and develop interim milestones consistent with Order WQ 2018-0002 in Section II.A.3, above.) The General WDRs also require that dischargers develop a surface receiving water implementation work plan that includes numeric quantifiable milestones for relevant constituents (e.g., pollutant load or concentration) and for management practices that show progress towards reducing the discharge of relevant constituents.<sup>93</sup>

GSA Petitioners complain that the quantifiable milestones required by Key Element 3 need not be “numeric in nature, or tied directly to concentrations or loads of pollutants.” Rather, GSA Petitioners assert, the quantifiable milestones required by Key Element 3 are “intended to be flexible and encompass a wide variety of performance goals and measures. By limiting quantifiable milestones to something numeric and directly tied to concentrations or loads of pollutants, [the General WDRs are] inconsistent with the Nonpoint Source Policy.”<sup>94</sup>

The regional water boards have discretion to determine the most appropriate quantifiable milestones for the situation.<sup>95</sup> Water quality objectives and total maximum daily loads are typically expressed as concentrations or loads, so pollutant concentrations and loads are particularly well suited for measuring progress toward reaching these water quality requirements. Key Element 3 requires that the milestones be “quantifiable,” which generally means that the milestones must be capable of being expressed as an amount, quantity, or numerical value.<sup>96</sup> Thus, the Central Coast Water Board’s inclusion of pollutant concentrations and loads as numeric quantifiable

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<sup>91</sup> Nonpoint Source Policy, p. 11.

<sup>92</sup> *Id.* at p. 13. The Nonpoint Source Policy identifies Water Code sections 13242, subdivision (b), and 13263, subdivision (c), as the statutory support for Key Element 3.

<sup>93</sup> General WDRs, p. 40.

<sup>94</sup> A-2751(a) Petition, pp. 42-43.

<sup>95</sup> See *Monterey Coastkeeper v. State Water Resources Control Bd.* (2018) 28 Cal.App.5th 342, 369 (State Water Board has discretion to determine appropriate milestones).

<sup>96</sup> Merriam-Webster.com Dict. at

<<https://www.merriam-webster.com/dictionary/quantifiable>> [as of September 7, 2023].

milestones is consistent with the Nonpoint Source Policy. In upholding the Central Coast Water Board's determination here, though, we do not preclude the appropriateness of a regional water board determining, with adequate justification, in another proceeding that a particular milestone should be expressed qualitatively so long as Key Element 3 is satisfied by the inclusion of a sufficient number of other milestones that are quantifiable.

CCKA Petitioners assert that Key Element 3 is not satisfied because the General WDRs do not include timelines for achieving nitrate water quality objectives in groundwater.<sup>97</sup> It is important to understand that nonpoint source control implementation programs developed pursuant to the Nonpoint Source Policy are designed to meet water quality requirements that are focused primarily on controlling current and proposed nonpoint source discharges of waste so that they do not cause or contribute to exceedances of water quality objectives in receiving waters, not on remediating existing pollution caused by historic discharges.<sup>98</sup> However, Key Element 3 does require that the nonpoint source control implementation programs include time schedules for achieving those water quality requirements. The commentary following Key Element 3 explains that:

The time schedule may not be longer than that which is reasonably necessary to achieve an NPS implementation program's water quality objectives .... If the [regional water board] later determines that additional time is necessary to complete the program, it may make further amendments to the time schedule or issue an enforcement order that contains a compliance schedule.<sup>99</sup>

For individual dischargers, the General WDRs establish final time schedules for the three nitrogen discharge compliance pathways discussed in Section II.A.2, above.<sup>100</sup> For participating dischargers, the General WDRs establish 2028 deadlines for the nitrogen discharge compliance pathways, but it does not appear that these dates are intended to be the final time schedules.<sup>101</sup> As discussed in

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<sup>97</sup> A-2751(b) Petition, p. 14.

<sup>98</sup> See, e.g., State Water Board Order WQ 2018-0002, p. 16; *Environmental Law Foundation v. State Water Resources Control Bd.*, *supra*, 89 Cal.App.5th at p. 465 (the ultimate purpose of the waste discharge requirements is that “[w]astes discharged from Member operations shall not cause or contribute to an exceedance of applicable water quality objectives in surface water [or underlying groundwater], unreasonably affect applicable beneficial uses, or cause or contribute to a condition of pollution or nuisance”).

<sup>99</sup> Nonpoint Source Policy, p. 13.

<sup>100</sup> General WDRs, Table C.1-3, p. 52.

<sup>101</sup> *Id.*, Table C.2-2, p. 54. The Central Coast Water Board indicates that the final time schedule for participating dischargers will be included in the third party's Groundwater Protection Area workplan described on page 34 of the General WDRs. (Central Coast

Section II.A, we are concerned that the General WDRs' inconsistencies with the precedential A/R and A-R direction in Order WQ 2018-0002 will understate (or overstate, in the case of fertilizer nitrogen application) the potential for nitrogen to reach groundwater. Because we are remanding the General WDRs to address those inconsistencies, we necessarily must also remand the time schedules based on those inconsistencies.<sup>102</sup>

Final time schedules for ongoing discharges to cease causing or contributing to exceedances of nitrate water quality objectives in groundwater consistent with the precedential A/R and A-R direction in Order WQ 2018-0002 must be incorporated in either the revisions to the General WDRs or in third party proposals subject to public comment and approval by the Central Coast Water Board.<sup>103</sup> We are fully aware of the apparent tension between requiring the establishment of final compliance dates for achieving nitrate water quality objectives and rejecting the General WDRs' use of enforceable limits on nitrogen application and A-R difference. This is a function of the fact that the science supporting our irrigated lands regulatory program is, as thoroughly explained in Order WQ 2018-0002, still evolving and we have not yet identified a metric that directly correlates to ongoing practices ceasing to cause or contribute to exceedances of nitrate water quality objective in groundwater that can be used as a regulatory tool. This is why Order WQ 2018-0002 called for convening another expert panel to evaluate data related to nitrogen application and removal and to propose modifications to our regulatory approach. Accordingly, we are aware that all of the regional water boards may have to amend their final compliance schedules in the future as our irrigated lands regulatory programs develop, as expressly contemplated by the Nonpoint Source Policy.<sup>104</sup>

As a related matter, because of the critical drinking water impacts associated with groundwater nitrate contamination, we hereby direct the Central Coast

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Water Board Response to Petitions, p. 66.) While the workplan is required to include final targets, it is not clear that it is also required to include final time schedules. On remand, the Central Coast Water Board should clearly indicate either the final time schedules or the process for approving final time schedules.

<sup>102</sup> As we discuss below, the Central Coast Water Board should note that we authorized a framework that allowed a maximum final time schedule of 35 years for dischargers to cease causing or contributing to exceedances of water quality objectives in the receiving water, but only for dischargers that are participating in a program that provides short-term and long-term drinking water supplies to affected residents, when we approved the Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS). (State Water Board Resolution No. 2019-0057.)

<sup>103</sup> *Environmental Law Foundation v. State Water Resources Control Bd.*, *supra*, 89 Cal.App.5th at p. 486.

<sup>104</sup> Nonpoint Source Policy, p. 13 ("If the [regional water board] later determines that additional time is necessary to complete the program, it may make further amendments to the time schedule or issue an enforcement order that contains a compliance schedule").



Water Board to incorporate a requirement or reach an agreement in which dischargers or their third-party representatives provide short-term and long-term alternative water supplies for residents relying on groundwater in areas where the maximum contaminant level (MCL) for nitrate is exceeded as a result of agricultural operations. The Central Coast Water Board shall take into account the experience gained through the Central Valley Water Board's CV-SALTS program and the Central Coast Water Board's own Salinas Basin Agricultural Stewardship Group interim replacement water settlement agreement, but shall also consider mechanisms that would include funding by dischargers with program management by an independent organization that focuses on providing alternative water supplies. The Central Coast Water Board could incorporate such a requirement in its water quality control plan or in cleanup and abatement orders, or reach an agreement with the dischargers that is incorporated into the General WDRs, in order to justify a longer final time schedule for ceasing to cause or contribute to nitrate water quality objectives exceedances in groundwater, similar to the maximum 35-year time schedule authorized under CV-SALTS. The Central Coast Water Board shall invite representatives of impacted communities, environmental justice organizations and other stakeholders, as well as State Water Board staff with experience in alternative water supplies, to participate in the development of such a requirement or agreement and shall report its progress to the State Water Board semi-annually.

#### **D. Monitoring for 1,2,3-TCP**

The GSA Petitioners challenge the General WDRs' requirement to monitor 1,2,3-trichloropropane (1,2,3-TCP) in on-farm domestic wells. In essence, GSA Petitioners contend that the monitoring requirements are not adequately justified and should not be included in the General WDRs for all enrollees. As set forth below, we conclude the Central Coast Water Board appropriately applied the Porter-Cologne Act's definition of discharge and thereby appropriately justified the 1,2,3-TCP monitoring requirement.

The General WDRs require that dischargers monitor on-farm domestic supply wells for 1,2,3-TCP, which is classified as a carcinogen.<sup>105</sup> According to the Central Coast Water Board's findings, 1,2,3-TCP

[W]as commonly used [as a soil fumigant] in agricultural activities from the 1950s until the 1990s [and] has been detected throughout California, including within the central coast region in some public water systems and monitoring wells, as well as in some private domestic wells.<sup>106</sup>

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<sup>105</sup> See 1,2,3-trichloropropane, Proposition 65 List, Safe Drinking Water and Toxic Enforcement Act at <<https://oehha.ca.gov/proposition-65/chemicals/123-trichloropropane>> [as of September 7, 2023].

<sup>106</sup> General WDRs, Attachment A, Findings, p. 167.

The General WDRs required annual monitoring beginning in 2022. If two consecutive samples result in non-detects, the discharger may suspend sampling for 1,2,3-TCP for a period of three years. If the sample in this follow-up test also results in a non-detect, no further monitoring is required of the discharger. However, if 1,2,3-TCP is detected in this sample, the discharger must resume annual monitoring.<sup>107</sup>

GSA Petitioners argue that dischargers who did not actually apply 1,2,3-TCP to their fields should not be required to monitor for its presence in on-farm domestic supply wells:

[T]he Central Coast Water Board makes no demonstration that those subject to [the General WDRs] applied the soil fumigant in question and there is no evidence that readily traces 1,2,3-TCP in on-site domestic wells to the discharge or disposal of 1,2,3-TCP from specific properties that are subject to [the General WDRs]. Accordingly, growers and landowners subject to [the General WDRs] are not dischargers of 1,2,3-TCP and thus the monitoring and reporting requirements as imposed in [the General WDRs] are improper and must be removed.<sup>108</sup>

While 1,2,3-TCP is not currently being used as a soil fumigant, it nonetheless continues to be discharged to groundwater in the Central Coast region. “The Central Coast Water Board acknowledged that products containing 1,2,3-TCP are likely no longer in use by the agricultural community.”<sup>109</sup> However, we have long construed the term “discharge” in Water Code section 13304 to refer not just to the initial discharge or release, but also to include the “entire time during which the discharged waste remains in the soil or groundwater and continues to impact or threaten the groundwater.”<sup>110</sup> This interpretation has been upheld by the Court of Appeal.<sup>111</sup> We agree that dischargers regulated under the General WDRs may be considered dischargers of 1,2,3-TCP, despite not having applied it to their fields, due to ongoing migration of 1,2,3-TCP through soil and groundwater throughout the region.

We have previously held that waste discharge requirements issued under Water Code section 13263 serve a different function than cleanup and abatement orders issued under Water Code section 13304, and the two functions should not be conflated.<sup>112</sup> But monitoring requirements associated with both waste discharge requirements and cleanup and abatement orders are authorized by the same Water Code section. Section 13267 broadly authorizes the regional water boards to require

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<sup>107</sup> General WDRs, Attachment B, Monitoring and Reporting Program, pp. 13, 37-38.

<sup>108</sup> A-2751(a) Petition, pp. 33-34.

<sup>109</sup> Central Coast Water Board Response to Petitions, p. 21.

<sup>110</sup> *Tesoro Refining & Marketing Co. LLC v. Los Angeles Regional Water Quality Control Bd.* (2019) 42 Cal.App.5th 453, 472 (citing State Water Board Order No. WQ 86-2 (*Zoecon*) and State Water Board Order No. 74-13 (*Atchison, Topeka and Santa Fe Railway Co.*)).

<sup>111</sup> *Ibid.*

<sup>112</sup> See, e.g., State Water Board Order WQ 96-2 (*County of San Diego*).

any person to furnish monitoring reports if that person has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge, waste.

In its findings, the Central Coast Water Board determined that,

Current landowners are dischargers when wastes continue to be discharged into waters of the state. Given the potential health risk to users who drink 1,2,3-TCP contaminated groundwater, the [Central Coast Water] Board also finds that the burden of adding sampling and analysis for 1,2,3-TCP to existing sampling of on-farm domestic wells is reasonably related to the need for the sampling and reporting and the benefits to be obtained.<sup>113</sup>

Given the pervasive nature of 1,2,3-TCP, its health risk, and the fact that the dischargers are already required to sample their on-farm drinking water wells for nitrate, we agree that the requirement to monitor for 1,2,3-TCP is appropriate.

#### **E. Pesticide Surface Water Receiving Water Limits**

GSA Petitioners argue that it was improper for the Central Coast Water Board to impose numeric surface water receiving water limits for specific pesticides where the underlying water quality objectives are framed as narrative objectives in the Basin Plan. We conclude, consistent with our prior decisions, that the Central Coast Water Board appropriately included numeric requirements to implement the narrative water quality objective in the Basin Plan.

The General WDRs establish numeric surface receiving water limits for a number of pesticides in areas not otherwise subject to TMDLs and require that dischargers in areas where the water quality for the identified pesticides is better than the applicable limit must not cause or contribute to an increase of that pesticide in receiving waters.<sup>114</sup> The discharge of pesticides that cause or contribute to an exceedance of the applicable limits on or after December 31, 2032 “may result in additional requirements, including obtaining additional education, implementing additional or improved management practices, follow-up monitoring and reporting, ranch-level surface discharge monitoring and reporting, and progressive enforcement actions.”<sup>115</sup>

GSA Petitioners fault the Central Coast Water Board for specifying numeric limits for pesticides in the General WDRs to implement the Basin Plan’s narrative water quality objectives. In their words, “before being used as a numeric limit,

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<sup>113</sup> General WDRs, Attachment A, Findings, p. 168.

<sup>114</sup> General WDRs, pp. 38-39, Table C.3-5, Compliance Dates for Pesticide and Toxicity Limits (Non-TMDL areas).

<sup>115</sup> *Id.* at p. 39, Table C.3-5.

a pesticide [water quality objective] must be adopted properly, pursuant to Water Code sections 13240 et seq., and must be based on proper evidence.”<sup>116</sup>

The receiving water limits for the pesticides at issue are derived from the narrative toxicity and pesticides water quality objectives in the Basin Plan.<sup>117</sup> When water quality objectives are established in a basin plan in narrative form, it is appropriate for a regional water board to exercise its professional judgment, relying on scientific studies, to establish numeric limits. This is a fundamental regulatory practice of the regional water boards in implementing basin plans and exercising their regulatory authority under the Water Code.<sup>118</sup>

In interpreting the narrative limits in the Basin Plan, the Central Coast Water Board properly relied on U.S. EPA aquatic life benchmarks and other scientific literature.<sup>119</sup> We find that the Central Coast Water Board appropriately established numeric receiving water limits for the pesticides at issue by interpreting narrative toxicity and pesticides water quality objectives contained in the Basin Plan.

## **F. Impermeable Surfaces**

GSA Petitioners also challenge requirements established in the General WDRs for the first time to address impermeable surfaces. In the GSA Petitioners’ view, these requirements create added expense and technical challenges without providing water quality benefits in most cases. After considering the record and arguments, we conclude the impermeable surface requirements are a lawful and measured response to ameliorate the effects of increased stormwater runoff.

The General WDRs require that any ranch with either 50 percent or more of its fields covered by impermeable surfaces, or with greater than or equal to 22,500 square feet (0.5 acre) of impermeable surfaces, must comply with requirements to address the associated impacts from increased stormwater runoff.<sup>120</sup> Impermeable surfaces are defined as, “Plastic-covered surfaces that do not allow fluid to pass through, including polyethylene mulch and hoop houses. For the purposes of this Order, impermeable surface does not refer to relatively impermeable soils.”<sup>121</sup> If a ranch

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<sup>116</sup> A-2751(a) Petition, p. 40.

<sup>117</sup> Central Coast Water Board Response to Petitions, pp. 40-41.

<sup>118</sup> See Wat. Code, § 13263, subd. (a); see also Order WQ 99-09 (*Communities for a Better Environment*); State Water Board Policy for Water Quality Control: Toxicity Provisions (2021), p. 4 (“The Permitting Authority may apply narrative toxicity water quality objective(s) to derive ... chemical-specific effluent limitations....”) at [https://www.waterboards.ca.gov/water\\_issues/programs/state\\_implementation\\_policy/docs/2021/2021-state-policy-toxicity-provisions.pdf](https://www.waterboards.ca.gov/water_issues/programs/state_implementation_policy/docs/2021/2021-state-policy-toxicity-provisions.pdf) [as of September 7, 2023].

<sup>119</sup> General WDRs, Attachment A, Findings, Table A.C.3-2, Source of Numeric Limits for Pesticides, Toxicity, and Toxic Units, pp. 190-93.

<sup>120</sup> General WDRs, p.37.

<sup>121</sup> General WDRs, Attachment C, Acronyms, Abbreviations, and Definitions, p. 14.

exceeds the threshold for impermeable surfaces, the following requirements must be satisfied:

- Stormwater discharge intensity from fields with impermeable surfaces must not exceed the stormwater discharge intensity from equivalent permeable field area for any storm event up to and including the 10-year storm event.
- Stormwater discharge volume from fields with impermeable surfaces must not exceed the stormwater discharge volume from equivalent permeable field area for any storm event up to and including the 95th percentile, 24-hour storm event.
- Description and time schedules of management practices, treatment, and/or control measures implemented to meet design storm requirements and mitigate for increased stormwater runoff from impermeable surfaces must be kept in the Farm Plan. Methods for assessing the effectiveness of each management practice, treatment, and/or control measure include calculation of peak and runoff volumes, visual inspection, photo documentation, and local precipitation event data, however other storm event measurement types and recordkeeping that determine the effectiveness of management practices may be used.<sup>122</sup>

GSA Petitioners argue that these new requirements for impermeable surfaces “add further layers of expense and complication for all berry farmers, regardless of size, with no direct connection to a threat to water quality in most cases.”<sup>123</sup> The GSA Petitioners are also concerned that the “average small berry farmer is not able to compute stormwater duration, rate and volume using urban stormwater management formulas or methods as part of their Farm Plan without expensive professional assistance.”<sup>124</sup>

We are supportive of the General WDRs’ requirements for impermeable surfaces. Experience has taught that increased stormwater runoff from large areas with impermeable surfaces, either individually or cumulatively, can cause significant water quality problems if not managed properly. We have included similar types of requirements for development projects that create or replace as little as 5,000 square feet or more of impervious surface in our Phase II Municipal Storm Sewer System Permit.<sup>125</sup> As climate change is likely to cause precipitation in California to become

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<sup>122</sup> General WDRs, p. 37.

<sup>123</sup> A-2751(a) Petition, p. 39.

<sup>124</sup> *Ibid.*

<sup>125</sup> Order No. 2013-0001-DWQ, § E.12, pp. 48-57.

more intense and extreme,<sup>126</sup> lessening runoff through requirements like those developed by the Central Coast Water Board will become even more important. We are sympathetic to the concerns expressed about the need for professional assistance, however, so we expect that the Central Coast Water Board will work with the third party to assist small berry farmers with understanding how to comply with these requirements.

## G. Economic Considerations

GSA Petitioners contend that the Central Coast Water Board did not adequately consider the economics associated with the long-term impact of the General WDRs on agricultural production. A careful review of the record shows extensive consideration of a variety of economic considerations. While we acknowledge growers will bear costs and there will be economic impacts to irrigated agriculture from implementation of the General WDRs, the Central Coast Water Board thoughtfully considered those issues and satisfied its legal obligations under the Porter-Cologne Act.

GSA Petitioners assert that the “long-term cumulative impact of [the General WDRs] on Central Coast Agriculture will make agricultural production infeasible.”<sup>127</sup> The crux of their argument is that the Central Coast Water Board failed to evaluate “economic considerations” as required under Water Code section 13241. GSA Petitioners allege that the Central Coast Water Board violated Water Code section 13263 because

[The General WDRs] essentially ignores the economic impacts of [the General WDRs] and instead substitutes economic considerations and analysis with cost considerations ... Economic considerations and cost considerations are not one and the same. Economics is the study of how individuals and businesses make decisions about allocation of resources in response to changing conditions. Thus, economic considerations would be looking at how agriculture will make decisions in response to requirements in [the General WDRs]. The fundamental question that the Central Coast Water Board needed to ask was “[w]hat happens to agriculture and the communities in the Central Coast under [the General WDRs]?”<sup>128</sup>

Water Code section 13263 requires that a regional board consider, among other things, the “provisions of Section 13241” when issuing waste discharge requirements.<sup>129</sup> Water Code section 13241 establishes “[f]actors to be considered by a

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<sup>126</sup> See, e.g., *Projected Changes in California’s Precipitation Intensity-Duration-Frequency Curves, A Report for California’s Fourth Climate Change Assessment* (August 2018) at <[https://www.energy.ca.gov/sites/default/files/2019-11/CCCA4-CEC-2018-005\\_ADA.pdf](https://www.energy.ca.gov/sites/default/files/2019-11/CCCA4-CEC-2018-005_ADA.pdf)> [as of September 7, 2023].

<sup>127</sup> A-2751(a) Petition, p. 43.

<sup>128</sup> *Id.* at pp. 44-45.

<sup>129</sup> Wat. Code, § 13263, subd. (a).

regional board in establishing water quality objectives,” which includes economic considerations.<sup>130</sup> “Section 13241 does not specify how a water board must go about considering the specified factors. Nor does it require that board to make specific findings on the factors.”<sup>131</sup> GSA Petitioners cite no authority to support their claim that Water Code section 13241 requires an analysis of “how individuals and businesses make decisions about allocation of resources in response to changing conditions” and “what happens to agriculture and the communities” as a result of the adoption of the General WDRs.

Attachment A to the General WDRs includes an extensive review of cost considerations. Spanning 27 pages, the Central Coast Water Board addresses costs to dischargers resulting from the requirements of the General WDRs and costs to the public and the environment resulting from water quality impacts from irrigated lands, including public health costs and alternative water supply costs associated with widespread nitrate contamination of drinking water in many areas of the Central Coast region.<sup>132</sup> The bulk of the cost assessment relates to costs to dischargers and covers issues such as costs of compliance, permit fees, costs of monitoring and reporting, and total costs to dischargers.

The discussion of cost of compliance is detailed, including identifying several agricultural management practices developed by the Natural Resources Conservation Service to address irrigation and nutrient management and a range of associated costs.<sup>133</sup> The Central Coast Water Board also considered potential costs associated with groundwater quality trend monitoring and reporting, monitoring of on-farm domestic wells and irrigation wells, ranch-level groundwater discharge monitoring, surface receiving water quality trend monitoring and reporting, surface receiving water follow-up monitoring and reporting, and ranch-level surface discharge monitoring and reporting.<sup>134</sup> The discussion on the costs of reporting goes into detail on the estimated time and costs dischargers may expect to expend in completing the Annual Compliance Form, Total Nitrogen Applied Report, and Irrigation and Nutrient Management Plan Summary Report.<sup>135</sup> A summary of costs to dischargers is provided in Table A.B-18.<sup>136</sup> We conclude that the Central Coast Water Board complied with its obligations regarding economic considerations in accordance with Water Code section 13241.

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<sup>130</sup> Wat. Code, § 13241.

<sup>131</sup> *City of Arcadia v. State Water Resources Control Bd.* (2010) 191 Cal.App.4th 156, 177.

<sup>132</sup> General WDRs, Attachment A, Findings, pp. 7-33.

<sup>133</sup> General WDRs, Attachment A, Findings, pp. 13-16.

<sup>134</sup> *Id.* at pp. 16-22.

<sup>135</sup> *Id.* at pp. 22-27.

<sup>136</sup> *Id.* at pp. 131-33.

## H. Extensions of TMDL Compliance Dates

CCKA Petitioners claim that the revision of total maximum daily loads (“TMDLs”) compliance dates in the General WDRs violates State Water Board policy and does not comply with notice requirements for modifying TMDLs.<sup>137</sup> CCKA Petitioners also assert that the TMDL compliance date modifications cannot be completed through this permitting action because to do so will violate basic principles of administrative procedure that require fair notice to all TMDL stakeholders.<sup>138</sup> As set forth below, we conclude the Central Coast Water Board acted appropriately for one subset of TMDLs derived from single-permitting actions, but require the Central Coast Water Board to take further actions to codify any extensions for final compliance schedules that are specified in the basin plan.<sup>139</sup>

The General WDRs extended the final compliance dates for two groups of TMDLs: TMDLs that were adopted exclusively as “single permitting actions”<sup>140</sup> as part of an earlier Central Coast irrigated lands order, and TMDLs that were adopted as basin plan amendments.<sup>141</sup> We are not concerned about the process that the Central Coast Water Board used to extend the TMDL final compliance dates for the subset of TMDLs that were adopted exclusively as “single regulatory actions,” because there was no quasi-legislative action taken by the Central Coast Water Board for these TMDLs; the General WDRs themselves serve to implement the TMDLs.

The Central Coast Water Board acted improperly, however, in using the General WDRs to extend final compliance dates for TMDLs that were adopted as basin plan amendments. As a quasi-legislative enactment, the basin plan is superior to the waste discharge requirements and other quasi-adjudicative orders that implement the basin plan. Water Code section 13263 requires that regional board waste discharge requirements “implement any relevant water quality control plans that have been adopted.”<sup>142</sup> This requires that waste discharge requirements be consistent with applicable basin plans, not the other way around. Therefore, final compliance dates for

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<sup>137</sup> A-2751(b) Petition, p. 25.

<sup>138</sup> *Id.* at p. 26.

<sup>139</sup> GSA Petitioners correctly note that some of the Central Coast Water Board’s basin plan TMDLs have estimated target dates, rather than final compliance schedules with final compliance dates. Our concern, and the rationale that we express herein, applies only to the basin plan TMDLs that have final compliance dates. In all other cases, the Central Coast Water Board may use the authority granted by Water Code section 13263, subdivision (c), to include, or revise, time schedules in its General WDRs.

<sup>140</sup> See State Water Board Water Quality Control Policy for Addressing Impaired Waters: Regulatory Structure and Options (June 16, 2005), p. 5, at [https://www.waterboards.ca.gov/water\\_issues/programs/tmdl/docs/iw\\_policy.pdf](https://www.waterboards.ca.gov/water_issues/programs/tmdl/docs/iw_policy.pdf) [as of September 7, 2023].

<sup>141</sup> General WDRs, Attachment A, pp. 33-39.

<sup>142</sup> Wat. Code, § 13263(a).



existing TMDLs adopted in basin plans may not be extended through the issuance of waste discharge requirements.<sup>143</sup>

In our order reviewing the Los Angeles Regional Water Quality Control Board's waste discharge requirements for municipal separate storm sewer systems,<sup>144</sup> we indicated that time schedule orders are appropriate "where a final compliance deadline for a state-adopted TMDL has passed and the Permittee believes that additional time to comply with the requirement is necessary."<sup>145</sup> In explaining why it revised the final compliance deadlines for some of its TMDLs adopted as basin plan amendments, the Central Coast Water Board noted that,

[I]f the [Central Coast Water Board] strictly followed the implementation schedule in the Basin Plan, hundreds of dischargers would be out of compliance with the Order provisions immediately or within the early stages of the implementation of the permit. The [Central Coast Water Board] considered the option of issuing time schedule orders to such dischargers under Water Code section 13300 in lieu of extending the compliance schedules within the permit under Water Code section 13263, subdivision (c), but concluded that time schedule orders would require an extensive investment of board resources with questionable water quality results. Applying a less-than-strict interpretation of target dates to achieve TMDL load allocations when establishing the surface receiving water limits in this Order is both a legally permissible and practical alternative to the exercise of issuing multiple time schedule orders.<sup>146</sup>

We certainly understand the practical difficulties associated with adopting hundreds of individual time schedule orders. In this case, however, all of the growers within each of the affected TMDL watersheds are similarly situated for these purposes, in that the Central Coast Water Board need not take into account their individual circumstances. Accordingly, the Central Coast Water Board should consider adopting a series of watershed-wide time schedule orders that apply to all dischargers within each watershed that has a TMDL with a final compliance date established in its Basin Plan. In

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<sup>143</sup> See *Monterey Coastkeeper v. State Water Res. Control Bd.*, 28 Cal. App. 5th 342, 370, 239 Cal. Rptr. 3d 140, 161 (2018) ("In *State Water Resources Control Bd. Cases* (2006) 136 Cal.App.4th 674, 39 Cal.Rptr.3d 189, this court found the State Board failed to implement certain salinity objectives of the 1995 Bay-Delta Plan at three locations. The State Board delayed implementation at these three locations by several years. We found this delay was not an adequate implementation because nothing in the 1995 Bay-Delta Plan allowed for such delay. *The State Board was in effect amending the 1995 Bay-Delta Plan without complying with the procedural requirements for an amendment.* (*Id.* at p. 735, 39 Cal.Rptr.3d 189.)" [Emphasis added.]

<sup>144</sup> See State Water Board Order WQ 2015-0075 (*Los Angeles MS4*).

<sup>145</sup> *Id.* at p. 32.

<sup>146</sup> *Id.* at pp. 91-92 (citing Responses to Comments, Revised Draft Agricultural Order, p. 47 (Master Response 5.6)).

addition, however, the Central Coast Water Board must initiate the process to amend its Basin Plan to reflect the changes in final compliance dates for those TMDLs.<sup>147</sup>

## I. Public Trust

CCKA Petitioners assert that the Central Coast Water Board, in adopting the General WDRs, failed to adequately analyze the impact of agricultural discharges on public trust resources and violated its trustee duties.<sup>148</sup> As discussed in more detail below, the relevant public trust resources are considered and the requirements to protect those resources where feasible are already addressed through the Central Coast Water Board's Porter-Cologne Act responsibilities to reasonably protect beneficial uses, including fisheries. We find that the Central Coast Water Board did not violate any obligations it may have under the public trust doctrine.

In the view of the CCKA Petitioners,

Neither the Order, the Findings, or the environmental impact report so much as mention the public trust, despite acknowledging that several types of agricultural discharges it proposes to authorize are likely to impact surface waters and have the potential to adversely impact fish and wildlife. The discharges likely to impact waterbodies include discharges of nutrients, pesticides, sediments and erosion carried by agricultural runoff and drains into surface waters. Yet the 2021 Order fails to do any analysis of the impacts to public trust resources.<sup>149</sup>

The Central Coast Water Board aptly responded to the CCKA Petitioners' assertion:

The Porter-Cologne Act is, in effect, a codification of the Water Boards' public trust duty vis-?-vis water quality because it requires the Water Boards to adopt water quality control plans establishing water quality objectives necessary to protect beneficial uses and further requires that waste discharge requirements issued by the Water Boards implement those water quality control plans, and

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<sup>147</sup> See *California Assn. of Sanitation Agencies v. State Water Res. Control Bd.* (2012) 208 Cal. App. 4th 1438, 1461, (“[T]he Basin Plan also charged the Regional Board with the responsibility, on a ‘case-by-case basis’ to correct an erroneous designation when circumstances require it, for example, when the board is issuing a permit prescribing discharges into those tributaries. As articulated by the State Board in its order, ‘[a]t a minimum, where a Regional Board has evidence that a use neither exists nor likely can be feasibly attained, the Regional Board must expeditiously initiate appropriate basin plan amendments to consider dedesignating the use.’<sup>20</sup> If the Regional Board unreasonably fails or refuses to do so, mandamus will lie.”)

<sup>148</sup> A-2751(a) Petition, p. 25.

<sup>149</sup> *Id.* at p. 24.

take into consideration the beneficial uses to be protected and the water quality objectives reasonably required for that purpose.<sup>150</sup>

We agree with the Central Coast Water Board that the Porter-Cologne Act is a codification of the Water Boards' public trust duty regarding water quality, that the Central Coast Water Board met its public trust duty in adopting the General WDRs, and that a specific finding on the public trust is not required.<sup>151</sup>

Pursuant to *National Audubon Society v. Superior Court*, the State Water Board "has an affirmative duty to take the public trust into account in the planning and allocation of water resources, and to protect public trust uses whenever feasible."<sup>152</sup> "[T]he state must bear in mind its duty as trustee to consider the effect of the taking on the public trust [citation], and to preserve, so far as consistent with the public interest, the uses protected by the trust."<sup>153</sup> In *National Audubon Society*, the California Supreme Court considered the State Water Board's duty associated with the planning and allocation of water resources, not as part of the Board's consideration or issuance of a water quality decision that at its core is about protecting and balancing among all beneficial uses, including fisheries.<sup>154</sup> In dicta in a case involving the State Water Board's implementation of a water quality control plan through a water rights proceeding, the Court in *State Water Resources Control Board Cases* noted that in creating a water quality control plan, the Board had a duty to adopt objectives to protect fish and wildlife uses, and in doing so consider and protect all of the other beneficial uses to be made of water in the Bay-Delta, including municipal, industrial and agricultural uses.<sup>155</sup> Essentially, the Court recognized that the water quality control plan reflected the State Water Board's determination of what was in the public interest consistent with the duties under *National Audubon Society*. Because the public trust petitioners in the *State Water Resources Control Board Cases* did not show that adoption of the plan was inconsistent with its duty to protect public trust values "so far as consistent with the public interest," the State Water Board's adoption of a water quality control plan would fulfill its duties under the public trust.<sup>156</sup>

Uses protected by the public trust have traditionally been navigation, commerce, and fisheries, including the right to fish, hunt, bathe, swim, to use for boating and general recreation purposes the navigable waters of the state, and to use the

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<sup>150</sup> Central Coast Water Board Response to Petitions, p. 88. See Wat. Code, §§ 13241, 13263.

<sup>151</sup> See Central Coast Water Board Response to Petitions, pp. 88-89.

<sup>152</sup> *National Audubon Society v. Superior Court* (1983) 33 Cal.3d 419, 446-47.

<sup>153</sup> *Ibid.*

<sup>154</sup> See *Monterey Coastkeeper v. Monterey County Water Resources Agency* (2017) 18 Cal.App.5th 1, 20-21 ("No issue was raised in *National Audubon Society* as to the Porter-Cologne Act's corresponding administrative remedies.")

<sup>155</sup> *State Water Res. Control Bd. Cases* (2006) 136 Cal.App.4th 674, 777-79.

<sup>156</sup> *Ibid.*

bottom of the navigable waters for anchoring, standing, or other purposes.<sup>157</sup> Groundwater is not itself a public trust resource.<sup>158</sup> Here the only public trust resource at issue is the agricultural discharges effects on fisheries. The evidence in the record shows that the Central Coast Water Board safeguarded fisheries with the requirement to meet surface water quality objectives protective of fish and wildlife beneficial uses and by requiring mitigation measures to the extent the General WDRs itself impacts public trust resources.

Even if consideration of the public trust is required, the Central Coast Water Board is not obligated to perform a separate supplemental analysis to determine the effect on the public trust resources if it has already performed an analysis which addresses its obligations under the public trust doctrine.<sup>159</sup> Here the Central Coast Water Board has considered fishery protections in adopting the Basin Plan and its protection of fish and wildlife beneficial uses. Further, the General WDRs require dischargers to meet the water quality objectives over time through its requirements including ranch-level surface discharge monitoring and reporting when water quality objectives are not met.

### III. ORDER

For the reasons discussed in this Order:

1. The Central Coast Water Board shall promptly revise the General WDRs consistent with the direction provided herein. All provisions of the General WDRs remain in effect pending revision, however, the Central Coast Water Board shall not take any action related to exceedances of the nitrogen application and nitrogen discharge targets or limits except as specifically authorized by this Order and shall inform its irrigated lands regulatory program stakeholders of this restriction.
2. State Water Board staff shall work with staff of the regional water boards to conduct a review of the data that have been collected by the regional water boards and the other progress that has been made by the California Department of Food and Agriculture, third parties, academics, and others in furtherance of regional water boards' irrigated lands regulatory programs. As part of the review, staff shall make recommendations regarding any changes to the data that are being collected and the sufficiency of the data for an expert panel's evaluation. The review and recommendations shall be presented at a State Water Board meeting as soon as reasonable, but no later than twelve months from the date of this Order.

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<sup>157</sup> *National Audubon Society v. Superior Court* (1983) 33 Cal.3d 419, 434.

<sup>158</sup> *Environmental Law Foundation v. State Water Resources Control Bd.* (2018) 26 Cal.App.5th 844, 859.

<sup>159</sup> *See Citizens for East Shore Parks v. California State Lands Comm.* (2011) 202 Cal.App.4th 549, 577.

## CERTIFICATION

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 September 20, 2023.

AYE: Chair E. Joaquin Esquivel  
Vice Chair Dorene D'Adamo  
Board Member Sean Maguire  
Board Member Laurel Firestone  
Board Member Nichole Morgan

NAY: None

ABSENT: None

ABSTAIN: None

  
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Courtney Tyler  
Clerk to the Board