STATE OF CALIFORNIA

STATE WATER RESOURCES CONTROL BOARD

ORDER WQ 2013-0101

In the Matter of Review of

Conditional Waiver of Waste Discharge Requirements Order No. R3-2012-0011
for
DISCHARGES FROM IRRIGATED LANDS

and Monitoring and Reporting Program Order Nos. R3-2012-0011-01,
R3-2012-0011-02, and R3-2012-0011-03,
and Resolution No. R3-2012-0012

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

SWRCB/OCC FILES A-2209(a)-(e)

BY THE BOARD:

In this Order, the State Water Resources Control Board (State Water Board) reviews the Conditional Waiver of Waste Discharge Requirements Order No. R3-2012-0011, the accompanying Monitoring and Reporting Program Orders Nos. R3-2012-0011-01, R3-2012-0011-02, and R3-2012-0011-03,[1] and the accompanying Resolution No. R3-2012-0012 (collectively referred to hereinafter as the Agricultural Order) issued by the Central Coast Regional Water Quality Control Board (Central Coast Water Board or Board) for discharges from irrigated agricultural lands in the Central Coast region. The Agricultural Order waives the requirement to obtain waste discharge requirements for discharges from irrigated lands that comply with certain conditions. For the reasons discussed herein, the State Water Board upholds most of the Agricultural Order but amends several requirements, including those with regard to approval of alternative third party water quality improvement projects and monitoring and reporting programs, authority of the executive officer to change tier designations, compliance with water quality standards and effective control of certain pollutants, maintenance of containment structures, recording of practice effectiveness and compliance in the farm plan,

[1] When referring to the Monitoring and Reporting Program Orders individually, this Order will use "Tier 1 MRP," "Tier 2 MRP," and "Tier 3 MRP," respectively.

cooperative groundwater monitoring, photo monitoring, monitoring of individual surface water discharges, reporting of total nitrogen application, reporting of elements of the irrigation and nutrient management plan, and compliance with nitrogen balance ratio milestones.[2]

I. BACKGROUND

The Central Coast Region has approximately 435,000 acres of irrigated land. The Agricultural Order, adopted pursuant to Water Code section 13269, regulates the discharge of irrigation return flows and storm water from irrigated lands in the region and supersedes a conditional waiver of waste discharge requirements in effect since 2004 (2004 Agricultural Order).[3] The provisions of the Agricultural Order address discharges to both surface water and groundwater.

The Agricultural Order defines three tiers of agricultural dischargers based on the risk of water quality impacts. A number of criteria are considered in determining the appropriate tier for a discharger. These include the proximity of the discharger's farm to a surface waterbody listed as impaired by toxicity, pesticides, nutrients, turbidity, or sediment; whether the discharger applies the pesticides chlorpyrifos or diazinon; and whether the discharger grows crop types with high potential to lead to discharge of nitrogen to groundwater. The Agricultural Order categorizes dischargers that pose the lowest threat to water quality as Tier 1 dischargers, and those that pose the highest risk as Tier 3 dischargers, with Tier 2 dischargers representing an intermediate risk level. The tier to which a discharger is assigned then determines the requirements that apply to that discharger. Tier 2 dischargers face more stringent requirements compared to Tier 1 dischargers; Tier 3 dischargers, in turn, must comply with the most stringent requirements.

The Agricultural Order requires dischargers to implement a number of controls to reduce discharge of pollutants from agricultural operations. The controls include, but are not limited to, the installation of backflow prevention devices, maintenance of containment

[2] The Central Coast Water Board has submitted a request for official notice of the "Report to the Legislature – Addressing Nitrate in California's Drinking Water" (Harter, T. et al., UC Davis Groundwater Nitrate Project, prepared for the State Water Board, March 2012) (UCD Nitrate Report). The UCD Nitrate Report was prepared for the State Water Board and we recognize the high significance of the information and analysis contained in the Report in understanding the impact of nitrate on drinking water and potential solutions to that issue. As discussed elsewhere in this Order, the State Water Board has committed to convening an expert panel to consider the findings of the UCD Nitrate Report and to assess agricultural nitrate control practices. However, for the short-term purposes of resolving the Petitions, we find that the administrative record already before us contains sufficient evidence of the impact of agricultural practices on drinking water in the Central Coast region as well as practices that may ameliorate the problem. The request to take official notice of the UCD Nitrate Report is therefore denied.

[3] While the 2004 Agricultural Order expired in 2009, the Central Coast Water Board, or its Executive Officer, due to a lack of quorum of board members eligible to act, administratively extended it several times.

structures, maintenance of riparian vegetative cover and riparian areas, and preparation of a farm plan for dischargers in all three tiers, initiation of certain irrigation and nutrient management practices to control nitrates for Tier 2 and Tier 3 dischargers, and maintenance of water quality buffers for Tier 3 dischargers. The Agricultural Order also has extensive monitoring and reporting requirements, including receiving water monitoring and groundwater monitoring for dischargers in all three tiers, photo monitoring and submission of an annual compliance form for Tier 2 and Tier 3 dischargers, and individual surface water discharge monitoring for Tier 3 dischargers. The Central Coast Water Board staggered compliance deadlines for the provisions of the Agricultural Order over its five-year term.

The Central Coast Water Board adopted the Agricultural Order and certified an associated Subsequent Environmental Impact Report (SEIR) on March 15, 2012, following a multi-year public process that included issuance of several draft orders and associated staff reports, with public comment periods and multiple public workshops and hearings before the Board.[4] The State Water Board received timely petitions for review of the Agricultural Order from five groups of petitioners: Monterey Coastkeeper, Santa Barbara Channelkeeper, San Luis Obispo Coastkeeper (collectively, Keepers); Ocean Mist Farms and RC Farms (collectively, Ocean Mist); Grower-Shipper Association of Central California, Grower-Shipper Association of Santa Barbara and San Luis Obispo Counties, and Western Growers (collectively, Grower-Shipper); California Farm Bureau Federation, Monterey County Farm Bureau, San Benito County Farm Bureau, San Luis Obispo County Farm Bureau, San Mateo County Farm Bureau, Santa Barbara County Farm Bureau, Santa Clara County Farm Bureau, and Santa Cruz County Farm Bureau (collectively, Farm Bureau); and Jensen Family Farms, Inc., and William Elliott (collectively, Jensen).[5]

Ocean Mist and Grower-Shipper also submitted complete requests that the State Water Board stay certain provisions of the Agricultural Order pending our resolution of the petitions for review on the merits. Following an evidentiary hearing to consider the requests for

[4] These included a Board workshop on September 2, 2010, Board panel hearings on March 17 and May 4, 2011, a Board workshop on February 1, 2012, and a Board hearing on March 14-15, 2012.

[5] Ocean Mist, Grower-Shipper, Farm Bureau, and Jensen are collectively referred to herein as the "Agricultural Petitioners." Not all of the arguments attributed to the Agricultural Petitioners in this Order were made by all four of these petitioners; however, for ease of reference, we refer to arguments made by one or more of Ocean Mist, Grower-Shipper, Farm Bureau, and Jensen as being made by the Agricultural Petitioners.

stay on August 30, 2012, we adopted an order on September 19, 2012 (Stay Order),[6] granting the requests in part and denying the remainder of the stay requests.

Having deemed the petitions complete, received the record and a response to the petitions from the Central Coast Water Board, and received responses to the petitions from interested persons, we now turn to the merits of petitioners' arguments. As permitted under our regulations,[7] we will consolidate the petitions and address all five petitions in this Order.

As an initial matter, in addressing the merits, we acknowledge that the State Water Board committed in a report to the Legislature in February of this year to convene a panel of experts to assess existing agricultural nitrate control practices and propose new practices to protect groundwater as appropriate (Expert Panel).[8] The Expert Panel, which the State Water Board is currently in the process of convening, will consist of a broad spectrum of experts from relevant disciplines and will hold several public workshops to take input and comment before making proposals to the State Water Board. Many of the groundwater issues contested in the petitions are best addressed by the Expert Panel, and we will task the Expert Panel with certain issues related to the impact of agricultural discharges on surface water as well.

While we have not delayed arriving at some resolution of the contested provisions of the Agricultural Order, we have in a number of instances indicated in this Order that we will pose the issue to the Expert Panel. We expect the panel to conduct a more thorough analysis and to provide long-term recommendations that may be applied statewide. Broadly, the issues we will request the Expert Panel to consider include: the indicators and methodologies for determining risk to surface and groundwater quality, the appropriate targets for measuring progress in lowering that risk, and the efficacy of groundwater and surface water discharge monitoring in evaluating practice effectiveness. More specific questions that will be posed to the Expert Panel are stated in the relevant sections of this Order. Answers to these broad and specific questions will inform the development of the agricultural regulatory program in the Central Coast and elsewhere in the State. We therefore emphasize, at the outset of our discussion of the issues, that this Order constitutes only an interim determination as to how to move forward on the difficult and complex questions presented in the petitions, pending the Expert Panel's more thorough examination of the underlying issues. If, following release of the

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[6] State Water Board Order WQ 2012-0012 (*Ocean Mist et al*.). With adoption of this Order, the stay has no further effect and is dissolved.

[7] Cal. Code Regs., tit. 23, § 2054.

[8] State Water Board, Report to the Legislature, *Recommendations Addressing Nitrate in Groundwater* (Feb. 20, 2013), available at <http://www.swrcb.ca.gov/water_issues/programs/nitrate_project/docs/nitrate_rpt.pdf> (as of Jun. 4, 2013).

Expert Panel's findings, we determine that additional revisions to the Agricultural Order are warranted, we will provide appropriate direction at that time.[9]

II. ISSUES AND FINDINGS

Between the five petitions, over forty contentions were raised claiming deficiencies in the Agricultural Order. Several issues were resolved, in whole or in part, in the Stay Order. We do not see the need to revisit these issues.[10] This Order addresses the most significant remaining contentions. To the extent petitioners raised issues that were not resolved in the Stay Order or are not discussed in this Order, such issues are dismissed as not raising substantial issues appropriate for State Water Board review.[11]

Following circulation of a first proposed draft of this Order on June 6, 2013, the State Water Board received a comment letter from representatives of the environmental justice community (Environmental Justice Groups).[12] Grower-Shipper submitted objections to certain references and comments in the comment letter,[13] specifically asking us to disregard (1) all references to the UCD Nitrate Report; (2) all comments related to Assembly Bill 685's[14] directive to consider the human right to safe, clean, affordable, and accessible water; (3) all comments related to antidegradation requirements; and (4) all comments addressing the recent approval by the Central Coast Water Board of cooperative monitoring plans. With regard to the UCD Nitrate Report, we agree that the report is not a part of the administrative record of this proceeding and we will not rely on the report in this Order.[15] We also agree with Grower-Shipper that the recently approved cooperative groundwater plans are not properly before us at

[9] We note that unlike a National Pollutant Discharge Elimination System permit, a general, conditional waiver is not subject to stringent limitations on re-opening and modification. (Compare 40 C.F.R §§ 122.62 & 122.64 [limiting modification and termination] with Wat. Code, § 13269, subd. (a)(2) [recognizing that termination may occur at any time].) Revisions to the Agricultural Order would be subject to the applicable public notice requirements.

[10] Issues we will not revisit because they were sufficiently resolved in the Stay Order include TMDL compliance (*id.* Stay Order, pp. 9-10); installation of backflow prevention devices (*id.,* pp. 10-12); and maintenance of riparian areas (*id.*, p. 14). While the Stay Order has no further effect following adoption of this Order, we decline to revise the provisions regarding TMDL compliance, installation of backflow prevention devices, and maintenance of riparian areas for the same reasons articulated in the Stay Order regarding the lack of substantial questions of fact and law raised by these issues.

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

[12] Comment Letter from Clean Water Action et al. (Jul. 16, 2013).

[13] Grower Shipper Motion to Strike (Jul. 22, 2013).

[14] AB 685 (Stats. 2012, ch. 524) added section 106.3 to the Water Code. While the Environmental Justice Groups refer to the legislative measure, for the remainder of this order we will refer to its statutory codification in Water Code section 106.3.

[15] See footnote 2, *ante*.

this time as they reflect actions taken after adoption of the Agricultural Order that are not part of the administrative record. However, we distinguish in Section G of this Order between reviewing the approved cooperative groundwater monitoring programs that are outside the scope of these proceedings and reviewing the provisions of the Agricultural Order that relate to cooperative groundwater monitoring. With regard to whether the State Water Board should consider Water Code section 106.3 and antidegradation requirements in adopting this Order, we address those questions in greater depth following our discussion of the issues raised in the petitions.

Following circulation of a second proposed draft of this Order on August 20, 2013, the State Water Board received comments from the Central Coast Groundwater Coalition (CCGC) and from Grower-Shipper discussing, in part, specific elements of a cooperative groundwater program submitted by CCGC and approved by the Central Coast Water Board (CCGC Program). Antonia Manzo, a petitioner challenging approval of the CCGC Program in a separate action, but represented by California Rural Legal Assistance, one of the Environmental Justice Groups participating in the current proceedings, filed an objection to all comments discussing the substance of the CCGC Program.[16] Manzo stated that comments not properly before the Board included, but were not limited to, (1) statements in the CCGC comment letter, including on page 1, asserting that the CCGC Program is consistent with the Tier 1, 2, and 3 MRPs; (2) the detailed description of the work plan of the CCGC Program on pages 3-4 of the CCGC comment letter; (3) various other comments on pages 2, 3, and 5 of the CCGC letter speaking to the adequacy and efficacy of the approved work plan; and (4) similar statements regarding the adequacy and efficacy of the approved work plan on pages 6-7 in the Grower-Shipper comment letter. As above, we hold that the recently approved cooperative groundwater plans, including the CCGC Program, are not properly before us at this time as they reflect actions taken after adoption of the Agricultural Order that are not part of the administrative record. The comments discussing the substance of the CCGC Program will not be made part of the record of these proceedings and we will not consider those comments in resolving issues in the proceedings. However, we continue to distinguish in Section G of this Order between reviewing the approved cooperative groundwater monitoring programs that are outside the scope of these proceedings and considering options for and potential effects of revisions to the cooperative groundwater monitoring provisions that are in the Order.

[16] Antonia Manzo Motion to Strike (Sept. 5, 2013).

A. Due Process Considerations and Third Party Compliance Options, Provision 11

At the March 14-15, 2012 hearing, after the close of public testimony and during Central Coast Water Board member deliberations, Board member Michael Johnston introduced a proposal that would allow third party approaches to implementation of controls and monitoring requirements (Johnston Proposal). The Central Coast Water Board then adopted the Agricultural Order with the Johnston Proposal. The Agricultural Petitioners argue that the inclusion of the Johnston Proposal violated their due process rights because it was developed based on impermissible ex parte communications and because they were not given an opportunity to comment on the Johnston Proposal.[17]

Allowing third party approaches to meeting permit obligations was a recurring discussion throughout the development of the Agricultural Order. There is a wide range and scope of potential third party approaches, but the distinguishing characteristic of all third party approaches is that they involve a group of dischargers organized around an entity other than a regional water quality control board (regional water board) that assists the dischargers with compliance with some or all of a regulatory program like the Agricultural Order. The Farm Bureau proposed third party based monitoring and data collection options in the first set of public comments in early 2010 and in correspondence thereafter.[18] A coalition of agricultural organizations (Farmers for Water Quality), which included the Agricultural Petitioners, presented a third party alternative to the Central Coast Water Board at the March 17, 2011 and May 4, 2011 Board meetings, and in written comments.[19] Farmers for Water Quality continued to refine its third party proposal with presentations at the February 1, 2012 Board workshop, and finally, at the Board adoption hearing on March 14-15, 2012.[20] In essence, this third party approach (referred to hereinafter as the "Agricultural Proposal") contemplated that dischargers would have the option of joining a coalition of dischargers in lieu of meeting certain Tier 2 and Tier 3 requirements, including annual compliance reporting, photo monitoring, surface water discharge monitoring, and implementation of a water quality buffer plan. The coalition would, with the assistance of a technical advisory committee (TAC), develop an auditable farm water quality management plan and a program for auditing twenty percent of members each year to evaluate management practice implementation, as well as develop a practice effectiveness

[17] See Gov. Code, § 11425.10, subd. (a)(1) & (8).

[18] See Administrative Record (AR) File Nos. 96 & 213.

[19] AR File Nos. 242, 264, 278 & 287.

[20] AR File Nos. 311 & 344.

evaluation program. The coalition would submit aggregated compliance data to the Central Coast Water Board, in contrast to the farm-level data required to be submitted by the draft order proposed by Central Coast Water Board staff.[21]

In February 2012, in response to the Agricultural Proposal, Steve Shimek, representing Monterey Coastkeeper, drafted a proposed compromise to allow for the development of third party approaches subsequent to adoption of the Agricultural Order (Shimek Proposal). The compromise did not specify any particular third party compliance option, but allowed for a third party administered program to be reviewed by a TAC and approved by the Central Coast Water Board's Executive Officer subsequent to adoption by the Central Coast Water Board of the Agricultural Order. Shimek shared his Proposal with several interested parties, including Agricultural Petitioners' experts Marc Los Huertos and Ross Clark, Rick Tomlinson with the Strawberry Commission, California Environmental Protection Agency Undersecretary Gordon Burns, Executive Officer of the Central Coast Water Board, Roger Briggs, and Central Coast Water Board staff Lisa McCann and Angela Schroeter. The Shimek Proposal did not garner full support from either the agricultural community or the environmental community and Shimek did not present it during testimony at the March 14-15, 2012, Central Coast Water Board hearing.[22]

At some point shortly before the March 2012 hearing, Board Member Johnston communicated with Executive Officer Briggs about developing language for the Agricultural Order that would allow the dischargers to propose third party options for compliance subsequent to permit adoption. Mr. Briggs, in collaboration with Board Counsel Frances McChesney, drafted language that became the Johnston Proposal, borrowing some of that language from the Shimek Proposal.[23] Board Member Johnston introduced his proposal during Board member deliberations on March 15, 2012, as an alternative to adopting the Agricultural Proposal. Although Central Coast Water Board staff had proposed during the hearing to incorporate some changes responsive to comments from Farmers for Water Quality, staff had not recommended adopting an order with the Agricultural Proposal, primarily because of concerns with moving away from farm-level accountability. Board Member Johnston suggested that his proposal would allow the Board to adopt the Agricultural Order as proposed by staff, but retain the option

[21] AR File No. 344.

[22] Declaration of Steve Shimek, attached to Response of Monterey Coastkeeper, San Luis Obispo Coastkeeper, and Santa Barbara Channelkeeper (Oct. 31, 2012), pp. 3-4, ¶¶ 4-9, Exh. A & B; Petition for Review and Statement of Points and Authorities of Grower-Shipper et al. (Apr. 16, 2012) (Grower-Shipper Petition), Exh. G.

[23] AR File No. 352; Grower-Shipper Petition, Exh. G.

of approving third party approaches to compliance in the future, including potentially the Agricultural Proposal in some modified form. After extensive discussion on whether it was preferable to instead spend the additional time to iron out any issues with the Agricultural Proposal for incorporation into a final order, the Board unanimously[24] chose to adopt the Agricultural Order with the Johnston Proposal instead. Neither Board Member Johnston nor the other Board members appear to have been aware that the Johnston Proposal included ideas and language from the Shimek Proposal.[25]

1. Ex Parte Communications Claims

Adoption of the Agricultural Order was an adjudicative proceeding, subject to the provisions of chapter 4.5 of the Administrative Procedures Act, including the prohibition against ex parte communications.[26] Although the Legislature has since created certain exceptions to the ex parte communications prohibition for general orders such as the Agricultural Order, the prohibition against both direct and indirect communications to Board members from parties or interested persons applied to the adoption of the Agricultural Order while it was pending before the Central Coast Water Board. The Agricultural Petitioners argue that the Johnston Proposal resulted from prohibited, indirect ex parte communications with a Board member, with Executive Officer Briggs acting as a conduit communicating Mr. Shimek's proposal to Board Member Johnston.

We disagree. The prohibition against ex parte communications does not apply to a board member's communications with advisory staff[27] as long as advisory staff does not (1) augment, diminish, or modify evidence in the record or (2) act as a conduit, or intermediary, between a party and a board member. Mr. Briggs and Ms. McChesney were advisory staff to the Board in the proceeding. Throughout development of a permit, advisory staff engages with parties and interested persons in the proceedings. Staff evaluates and synthesizes the feedback it receives through this ongoing process, and pushes forward ideas and solutions to

[24] Board Member Dr. Jean-Pierre Wolff recused himself from the proceedings and vote.

[25] AR File No. 352.

[26] Gov. Code, § 11430.10 et seq.

[27] *Id.*, § 11430.30; s*ee also* State Water Board, Chief Counsel Michael A.M. Lauffer*, Ex Parte Questions and Answers* (Sep. 17, 2008) [version in effect at time of Agricultural Order adoption], p. 9, Question No. 22. Jensen argues that, regardless of whether Executive Officer Briggs was acting as a conduit for the communication from Mr. Shimek, his communications with Board Member Johnston were prohibited ex parte communications from a staff member acting as an advocate. Jensen misconstrues the facts of the proceedings before the Central Coast Water Board. Unlike in enforcement actions, in permitting actions such as the adoption of the Agricultural Order, the State Water Board and regional water boards do not separate functions between prosecutorial and advisory staff members. In permitting actions, staff members are expected to make recommendations to the board members and doing so does not convert their role from advisory staff to independent advocates.

problems it finds to have merit. This process would be unreasonably hampered if staff were prohibited from communicating such ideas and solutions to board members seeking advice on permitting challenges, simply because some of those ideas and solutions may have originated in discussions with stakeholders.

Here, Central Coast Water Board staff met with both agricultural representatives and environmental representatives numerous times throughout the multiple-year process of developing the Agricultural Order, both in formal stakeholder settings and informally in meetings. Staff released several public drafts that were informed by these discussions, incorporating, in many instances, proposals made by agricultural representatives. Similarly, when asked to draft language for a compromise third party approach, it was not inappropriate for Executive Officer Briggs to turn to the input he had received from Mr. Shimek proposing a similar approach and to rework that input to address Mr. Johnston's inquiry. While the line between acting as a conduit to an indirect ex parte communication and proposing a solution based, in part, on a stakeholder's advocated position may be admittedly difficult to pinpoint, in the context discussed, we find that the Johnston proposal did not cross that line. It was not a result of a prohibited indirect ex parte communication, but rather a legitimate advisory action by the Board Executive Officer and Counsel.[28]

2. Notice and Opportunity to be Heard

The Agricultural Petitioners additionally argue that they were deprived of due process because they were not given notice and opportunity to be heard on the Johnston Proposal.[29] We again disagree. As a preliminary matter, the Central Coast Water Board staff and members were certainly not required to bring the process of revising the Agricultural Order to a halt with the release of the final proposed draft for comment. In most permitting actions, revisions continue to be made through adoption of the permit. The Agricultural Petitioners themselves anticipated this when they brought a revamped Agricultural Proposal to the March 14-15, 2012 Board Hearing and presented it to the Board. The law recognizes a

[28] We also note that recent legislation added Water Code section 13287, which, effective January 1, 2013, created an exception to the ex parte communications prohibition for certain proceedings concerning general orders. Under Water Code section 13287, Mr. Shimek would have been allowed to bring his proposal directly to the Board members up to 14 days prior to Board adoption, as long as he disclosed that communication. The exception was not in effect at the time and does not control resolution of this matter, but we nevertheless view the subsequent legislative endorsement of these types of communications as further grounds for resolving any ambiguity in favor of the Board. Finally, we note that to the extent there has been full consideration of the underlying proposals by us during this petition review process, any procedural defect at the Central Coast Water Board has either been cured or rendered harmless by our review and this Order.

[29] The Agricultural Petitioners cite to Government Code section 11425.10, subdivision (a)(1).

dynamic process in which revisions will be made in response to comments received on the proposed draft and requires that a new opportunity for comment be created only if the revisions were not a "logical outgrowth" of comments received. If the interested parties reasonably could have anticipated the final version from the draft permit, then an additional opportunity for notice and comment is not required.[30]

As stated previously, proposals for third party compliance options had been discussed throughout the process of developing the Agricultural Order. Although the final draft that went before the Board on March 14-15, 2012, did not include the Agricultural Proposal,[31] that alternative was clearly on the table as Farmers for Water Quality continued to push for the proposal in written and oral comments before the Board and in a presentation at the Board hearing.[32] The Johnston Proposal was an attempt to acknowledge the potential of third party approaches while declining to adopt the particular third party option presented in the Agricultural Proposal. As such, Board Member Johnston's proposal was a direct outgrowth of the extensive comments received on the proposed Agricultural Order.[33]

We understand, however, that the argument made by the Agricultural Petitioners is more nuanced. They point out that Board Member Johnston waited to introduce his proposal until after the close of public testimony and that as a result there was no opportunity for them to weigh in orally on the proposal. They also argue that this late introduction of a new proposal shifted the focus of the deliberations away from how to re-work the Agricultural Proposal such that the Board might agree to adopt some version of it at the hearing[34] by, in essence, giving the Board members the appearance of an option to postpone those difficult determinations to a future date. Had the Agricultural Petitioners been given an opportunity to engage the Board members on the Johnston Proposal earlier in the proceedings, they assert, the Board members may have reconsidered whether the Johnston Proposal in fact was the reasonable compromise it appeared to be. It is not clear to the Agricultural Petitioners that the Johnston Proposal, and in

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[30] See *Natural Resources Defense Council v. U.S. E.P.A.* (9th Cir. 2002) 279 F.3d 1180, 1186; *First American Discount Corp. v. Commodity Futures Trading Com.* (D.C. Cir. 2000) 222 F.3d 1008, 1015; State Water Board Order WQ 2012-0013 (*Sacramento Regional Wastewater Treatment Plant*), p. 39.

[31] AR File No. 338.

[32] AR File Nos. 287, 311, & 344.

[33] We also note that the Proposal did not change any of the future requirements of the proposed final draft of the Agricultural Order, but merely added a path that allowed for consideration of alternative compliance options.

[34] Here, the Agricultural Petitioners appear also to be arguing that the Board members were misled into thinking they could not adopt the Agricultural Proposal as presented and were therefore drawn to the Johnston Proposal because staff had misrepresented that the Agricultural Proposal failed to meet certain legal or policy requirements. On this point, we find that Board members were entitled to rely on Board staff and counsel's advice regarding asserted policy and legal deficiencies in the Agricultural Proposal and to decline to adopt the Proposal wholesale.

particular the Agricultural Order's resulting Provision 11 would, in fact, accommodate approval of a proposal similar to the Agricultural Proposal in the future, even if the differences between Board staff and Farmers for Water Quality were resolved. This is so because Provision 11 primarily contemplated water quality improvement projects rather than third party monitoring and reporting programs.

On this last point, we are somewhat sympathetic to the Agricultural Petitioners' position. As apparent during deliberations, the Central Coast Board members anticipated that the Johnston Proposal was broad enough to be inclusive of future consideration of the type of third party proposal advocated by Farmers for Water Quality, albeit with changes to address certain legal and policy concerns.[35] Provision 11 as written, however, is confusing and arguably too narrow to allow for the approval of third-party auditing, monitoring, and reporting proposals because such proposals focus on the methodologies for data gathering and reporting and may be neutral as to practice implementation for water quality achievement.[36] Provision 11 mentions both water quality management "projects" and cooperative monitoring and reporting "programs" but does not clarify the distinction in the criteria for evaluation of these separate categories.

This is not to say that we find that the process for adoption of Provision 11 was legally flawed. The Board members had the record before them and had heard extensive comments from interested persons. We expect regional water board members to evaluate the evidence before them and deviate from staff or stakeholder-proposed options to formulate their own solutions when appropriate. Nothing in the law precludes Board members from introducing their own proposals during Board deliberations and other Board members from signing on to those solutions. Adoption of the Johnston Proposal was accordingly a legitimate and legal exercise of the Board's discretion.

Yet, it appears that in this particular case, because the issue of third party alternatives had been so central to the proceedings, all parties, including the Board itself, would have benefited had the Board sought at least some brief oral input on the Johnston Proposal from the interested persons present at the hearing. The Board Chair has the discretion to reopen a hearing when he or she believes that additional comment would benefit the Board's

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[35] AR File No. 352, pp. 24-38; see also AR File No. 331 (showing that Johnston Proposal edits to Finding 11 included discussion of aggregate monitoring and reporting programs).

[36] Certain provisions of the proposed draft Agricultural Order, notably the surface receiving water monitoring and groundwater monitoring provisions, allowed for cooperative monitoring alternatives prior to introduction of Provision 11 in the final adopted Agricultural Order. (See Tiers 1, 2, & 3 MRPs, Part 1, Section A.1 & Part 2, Section A.6). As a result, Provision 11 is in certain instances duplicative of (but not inconsistent with) alternative monitoring requirements in the Agricultural Order.

decision. The value of such input would have been in helping the Board to refine the Johnston Proposal to ensure that it captured the Board's intent in adopting it. Accordingly, while we decline to overturn or amend the Agricultural Order on grounds of due process violations, we will address the ambiguity in the scope of Provision 11, as set out in the edits below. Specifically, we draw out the options of proposing third party water quality improvement programs and monitoring and reporting programs[37] in addition to third party water quality improvement projects and clarify the criteria for evaluating such program proposals.

We make two additional revisions to Provision 11. First, with regard to third party water quality improvement projects and programs, we revise the requirement regarding the chance of success of the project or program with the goal of permitting consideration of a range of water quality improvement projects and programs, not just those that may address toxicity or nutrients on a large scale. Second, we expand the role of the Central Coast Water Board in considering third party proposals. Provision 11 allows the Board's review only when the Executive Officer denies approval of a project or program. We have not found an articulated basis in the record for limiting review to denial of a project or program approval, when approval of a project or program may be equally concerning to interested persons – for instance, because a proposed project may not be sufficiently protective of water quality or a third party monitoring program may be designed to obscure accountability.[38]

Finally, while this last point is not reflected in specific revisions to Provision 11, we believe it is important here for us to express our support of third party approaches generally. There are a number of advantages to utilizing a third party approach to regulation of agricultural discharges. From a resource perspective, third parties allow a regional water board to leverage limited regulatory staff by acting as intermediaries between the regional water board staff and the growers, freeing regional water board resources to focus on problem areas or actors. Third parties also may have the expertise to provide technical assistance and training to growers at a scale that cannot be matched by regional water board staff resources, and, in many cases, third parties already have relationships in place with the dischargers. We recognize the need to be wary of third party programs that report compliance at too high a level of generality. As a result,

[37] In the new language describing third party monitoring and reporting programs, we state that "aggregate monitoring and reporting must be on a scale sufficient to track progress in small sub-basins and be sufficiently representative of conditions in the sub-basins." The program proponents have flexibility to propose the appropriate scale for such sub-basins. We expect small sub-basins to be a real representations that are dictated by local conditions and constitute a reasonable unit for follow-up practice implementation for water quality improvement.

[38] See discussion of Executive Officer discretion, *post*, at section II.C "Reasonableness of Tiering Criteria, Provisions 13-21."

we expect the Central Coast Water Board to review proposals carefully to ensure consistency with legal requirements to verify the adequacy and effectiveness of waiver conditions and provide sufficient feedback mechanisms for determination of whether the required controls are achieving the Agricultural Order's stated purposes.[39] However, we also expect the Central Coast Water Board to give fair and due consideration to proposed third party projects and programs and work with third party groups in good faith to develop viable alternatives. Depending on the scope of any proposed third party program under the current Agricultural Order, the Central Coast Water Board may consider developing a separate order specific to the third party program. Further, in the next iteration of the Agricultural Order, the Central Coast Water Board should strongly consider developing orders for both third party programs and individual dischargers.

We shall amend Provision 11 as follows:[40]

> 11. Dischargers may form third party groups to develop and implement alternative water quality ~~management practices (i.e., group projects)~~ **improvement projects or programs** or cooperative monitoring and reporting programs to comply with this Order. At the discretion of the Executive Officer, Dischargers that are a participant in a third party group that implements Executive Officer-approved water quality improvement projects **or programs** or Executive Officer-approved alternative monitoring and reporting programs may be moved to a lower Tier (e.g., Tier 3 to Tier 2, Tier 2 to Tier 1) and/or provided alternative project **or program**-specific **requirements,** timelines, and**/or** milestones.
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> To ~~be subject to~~ **qualify for** Tier changes or alternative **requirements,** timelines, **and/or milestones,** ~~Projects~~ **third party water quality improvement projects and programs** will be evaluated for, among other elements:
>
> - Project **or Program** Description. Description must include identification of participants, methods, and time schedule for implementation.
> - Purpose. Proposal must state desired outcomes or goals of the project **or program** (e.g., pollutants to be addressed, amount of pollution load to be reduced, water quality improvement expected).
> - Scale. Solutions must be scaled to address impairment.
> - Chance of Success. Projects **or programs** must demonstrate a reasonable chance of ~~eliminating toxicity within the permit term (five years) or reducing discharge of nutrients to surface and groundwater~~ **improving water quality and/or reducing pollutant loading**.

[39] Wat. Code, § 13269, subd. (a)(2); Policy for Implementation and Enforcement of the Nonpoint Source Pollution Control Program, State Water Board (May 20, 2004), available at <http://www.waterboards.ca.gov/water_issues/programs/nps/docs/oalfinalcopy052604.pdf> (as of Jun. 4, 2013) (Non-Point Source Policy), p. 13.

[40] Throughout this Order we will use ~~strikeout~~ text to indicate text to be removed from the Agricultural Order and **bold-underline** text to indicate our additions. All other emphasis is maintained from the existing Agricultural Order.

- Long term solutions and contingencies. Proposals must address what new actions will be taken if the project **or program** does not meet goals and how the project **or program** will be sustained through time.
- Accountability. Proposals must set milestones that indicate progress towards goals stated as above in "purpose."
- ~~M~~ **Project or program m**onitoring and reporting. Description of monitoring and measuring methods, and information to be provided to the Water Board. Monitoring points must be representative but may not always be at the edge-of-farm so long as monitoring results ~~demonstrate~~ **provide indicators of** water quality improvement **and/or pollutant load reductions,** and the efficacy of a project **or program**. **The monitoring and reporting may be a third party monitoring and reporting program consistent with the requirements in the next paragraph.** ~~In addition, monitoring must 1) characterize and be representative of discharge to receiving water, 2) demonstrate project effectiveness, 3) and verify progress towards water quality improvement and pollutant load reduction,~~

To qualify for Tier changes or alternative requirements, timelines, and/or milestones, third party monitoring and reporting programs will be evaluated for, among other elements:

- **Program Description: Description of monitoring methodologies, schedule, and reporting.**
- **Purpose: Third party monitoring and reporting programs must include collection of data that will provide indicators of water quality improvement and/or pollutant load reduction and aggregate monitoring and reporting must be on a scale sufficient to track progress in small sub-basins and be sufficiently representative of conditions in the sub-basins.**

~~Project~~ **Third party water quality improvement project or program and third party monitoring and reporting program** proposals will be evaluated by a Technical Advisory Committee (TAC) comprised of: Two researchers or academics skilled in agricultural practices and/or water quality, one farm advisor (e.g., from Natural Resources Conservation Service or local Resource Conservation Districts), one grower representative, one environmental representative, one environmental justice or environmental health representative, and one Regional Board staff. The TAC must have a minimum of five members to evaluate project **or program** proposals and make recommendations to the Executive Officer. The Executive Officer has discretion to approve any **third party water quality improvement** project **or program or third party monitoring and reporting program** after receiving project **or program** evaluation results and recommendations from the committee. ~~If the Executive Officer denies approval, the third party group~~ **The Executive Officer may waive the requirement for TAC review of a project or program if the Executive Officer determines that three or more of the seven specified representatives are unavailable for serving on a TAC. The Executive Officer shall document efforts to convene representatives from each category. Third party projects or programs specifically allowed elsewhere in this Order, such as cooperative receiving water monitoring and**

cooperative groundwater monitoring, are subject to the specific provisions authorizing such third party projects and programs, rather than the requirements of Provision 11.

An interested person may seek **discretionary** review by the Regional Board **of the Executive Officer's approval or denial of a third party project or program**. As stated in the NPS Policy, management practice implementation is not a substitute for compliance with water quality requirements. If the project is not effective in achieving water quality standards, additional management practices by individual Dischargers or the third party group will be necessary.

B. Water Code Sections 13141 and 13241

Water Code section 13141 states:

> State policy for water quality control adopted or revised in accordance with the provisions of this article, and regional water quality control plans approved or revised in accordance with Section 13245, shall become a part of the California Water Plan effective when such state policy for water quality control, and such regional water quality control plans have been reported to the Legislature at any session thereof.
>
> However, prior to implementation of any agricultural water quality control program, an estimate of the total cost of such a program, together with an identification of potential sources of financing, shall be indicated in any regional water quality control plan.

The Agricultural Petitioners point to Water Code section 13141 to argue that the Central Coast Water Board is required to amend the Water Quality Control Plan for the Central Coastal Basin (Central Coast Basin Plan) to add a cost analysis for the Agricultural Order prior to implemention. Section 13141 is in article 3 of chapter 3 of division 7 of the Water Code, which addresses state policy for water quality control, not permitting. The second paragraph of section 13141 simply modifies the first paragraph. We therefore read the second paragraph as applicable only to an agricultural water quality control program that is adopted within a water quality control plan. We do not read section 13141 to require amendment of a water quality control plan prior to reissuance of a conditional waiver regulating agricultural discharges, especially given later-enacted amendments to Water Code section 13269.[41] We also note that the Central Coast Water Board in fact engaged in an extensive analysis of the costs of the Agricultural Order requirements to the agricultural dischargers and of sources of financing to

[41] Stats. 1999, ch. 686 (adding provisions to Water Code section 13269 terminating all existing waivers, including agricultural waivers, and specifying that future waivers must be reconsidered at least every five years). Water Code section 13269 also requires that waivers must be consistent with any water quality control plan.

meet such costs.[42] As such, the Central Coast Water Board met the intent of section 13141 by considering the economic impact of the Agricultural Order on the dischargers.

The Agricultural Petitioners also argue that Water Code section 13241 required the Central Coast Water Board to conduct an analysis of the economic costs to the agricultural dischargers prior to adoption of the Agricultural Order. Water Code section 13241 requires the regional water boards to take into account "economic considerations" when establishing water quality objectives. Water Code section 13269, the authority under which the Central Coast Water Board adopted the Agricultural Order, does not reference Water Code section 13241.[43] Regardless, as stated above, the Central Coast Water Board did consider the economic implications of the Agricultural Order.

Accordingly, for the stated reasons, we find neither Water Code section 13141 nor section 13241 barred the Central Coast Water Board from adoption or implementation of the Agricultural Order.

C. Reasonableness of Tiering Criteria, Provisions 13-21

The Agricultural Order assigns each discharger to one of three "tiers," which determine the requirements applicable to the discharger. The tier designations are based on a number of criteria intended to capture the risk posed by the operation to water quality, including whether the discharger uses the pesticides chlorpyrifos or diazinon, proximity of discharger's farm to a surface waterbody listed as impaired for toxicity, pesticides, nutrients, turbidity or sediment,[44] and whether the discharger grows crop types with high potential to discharge nitrogen to groundwater.[45]

Specifically, a discharger is classified as a Tier 3 discharger – the tier expected to pose the highest threat to water quality – if (a) the discharger grows crop types with high potential to discharge nitrogen to groundwater and the farm total irrigated acreage is 500 acres or more, *or* (b) the discharger applies chlorpyrifos or diazinon at the farm, and the farm discharges irrigation or storm water runoff to a waterbody listed as impaired for toxicity or pesticides.

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[42] AR File No. 234.

[43] Water Code section 13263 explicitly references section 13241 in establishing the factors to be taken into consideration when adopting waste discharge requirements. (See *City of Burbank v. State Water Resources Control Bd.* (2005) 35 Cal.4th 613, 625.) Unlike section 13263, section 13269 contains no reference to section 13241.

[44] Relevant Central Coast region waterbodies are listed in Table 1 of the Agricultural Order based on the 2010 Clean Water Act Section 303(d) List of Impaired Waterbodies.

[45] The definitions section of the Agricultural Order specifies the crop types with high potential to discharge nitrogen to groundwater. (Agricultural Order, Att. A., Part C, & Prov. 10.)

On the other hand, a discharger is classified as a Tier 1 discharger – the lowest threat tier – if (a) if the discharger does not use chlorpyrifos or diazinon at the farm; *and* (b) the discharger's farm is located more than 1,000 feet from a surface waterbody listed as impaired for toxicity, pesticides, nutrients, turbidity, or sediment; *and* (c) the discharger either does not grow crop types with high potential to discharge nitrogen to groundwater or, if the discharger does grow such crops, the farm has less than 50 acres of total irrigated area and is not within 1,000 feet of a well that is part of a public water system that exceeds the maximum contaminant level (MCL) for nitrogen-related pollutants. Additionally, a discharger is classified as Tier 1 if the farm is certified by Sustainability in Practice (SIP), a sustainable agriculture program certified by a group of Central Coast vineyards, or a similar certified sustainable agriculture program approved by the Executive Officer of the Central Coast Water Board.

Dischargers that do not meet the criteria for Tier 1 or Tier 3 are classified as Tier 2 dischargers.[46]

Consistent with the expectation of threat to water quality, Tier 3 dischargers must comply with more stringent requirements than Tier 2 dischargers. Tier 2 dischargers, in turn, must meet more stringent requirements than Tier 1 dischargers. For example, while dischargers in all three tiers must prepare Farm Plans, only Tier 2 and Tier 3 dischargers are subject to annual reporting on their practices. And only Tier 3 dischargers are required to conduct and report individual surface water discharge monitoring.

The Agricultural Petitioners argue that the tiering criteria used by the Central Coast Water Board do not necessarily correlate to risk to water quality and are therefore arbitrary. They argue, for example, that there may be farms smaller than 50 acres that pose a greater risk to water quality than larger farms.[47] They posit that some farms using diazinon and chlorpyrifos may have no discharges to surface water.[48] They point out that the tiers do not capture the geology of a farm's soil or the depth to groundwater, both of which affect impacts to

[46] In general, the following categories of dischargers will be in Tier 2: dischargers that apply chlorpyrifos or diazinon at the farm, but do not discharge to a waterbody listed as impaired for toxicity or pesticides; dischargers with farms located within 1000 feet of a surface waterbody listed for impairment for toxicity, pesticides, nutrients, turbidity, or sediment, or dischargers that grow crop types with high potential to discharge nitrogen to groundwater and that are 50 acres or more but less than 500 acres or are within 1000 feet of a public water well that exceeds the MCL for nitrogen-related pollutants.

[47] Petition for Review of Farm Bureau et al. (Apr. 16, 2012) (Farm Bureau Petition), p. 67; Grower-Shipper Petition, p. 37, Request for Stay and Petition for Review of Ocean Mist and RC Farms (Apr. 16, 2012) (Ocean Mist Petition), p. 24. Ocean Mist appears to have misinterpreted the tiering criteria on this issue. Size is relevant to tiering only to the extent the farm already grows crops that have high potential to discharge nitrogen to groundwater.

[48] Grower-Shipper Petition, p. 37.

groundwater.[49] They argue that the management and cultural practices of certain commodities may be a better indicator of threat to water quality than the physical characteristics of the farms.[50] But the Agricultural Petitioners do not appear to be advancing a proposed, well-defined, alternative, and they are not advocating for uniform requirements for all dischargers.

The Central Coast Water Board chose to use a general order in the form of a conditional waiver, rather than farm-specific orders, to regulate agricultural discharges. The State Water Board supports the use of a general order given the general similarity of operations and discharges for the agricultural community in the Central Coast and in particular the considerations of efficiency in regulating a large number of dischargers. A general order necessitates either a one-size-fits-all approach or a scheme for grouping the dischargers into different categories to enable assigning different requirements. With as many farms as are covered by the Agricultural Order, it is no surprise that the categories chosen by the Central Coast Water Board may not fit each circumstance perfectly. The question for the State Water Board is not whether the Central Coast Water Board's criteria capture the risk level posed by each farm with perfect accuracy, but, rather, whether the Board chose rational distinctions between the farms to create those different categories.

We recognize that the tiering approach used by the Central Coast Water Board was not the only reasonable option available to it. There are numerous factors that determine the threat a given farm will pose to water quality and multiple variations on how those factors may be organized to provide a reasonable framework for assigning the farm to a risk category. Moreover, while the Central Coast Water Board utilized an approach based on individual farm characteristics, the Board could instead have chosen an approach based on regional characteristics, where dischargers are placed in a higher risk category commensurate with the vulnerability of the groundwater in the larger geographic area rather than individual farm characteristics.[51]

Yet, while the approach that was ultimately chosen by the Central Coast Water Board may not be perfect, it is a reasonable approach based on the evidence in the record[52]

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[49] Petition to Review of Jensen (Apr. 13, 2012), pp. 18-20.

[50] Grower-Shipper Petition, p. 36.

[51] This type of approach is utilized by the Central Valley Water Board in waste discharge requirements issued to growers in the Eastern San Joaquin River Watershed. (Order R5-2012-0116, <http://www.swrcb.ca.gov/rwqcb5/board_decisions/adopted_orders/general_orders/r5-2012-0116.pdf> [as of Jun. 4, 2013].) For illustrative purposes, we take official notice of the Central Valley Water Board's order (Cal. Code Regs., tit. 23, § 648.2 and Evid. Code, § 452, subd. (c)), although we express no opinions here on the merits of its approach.

[52] Such evidence includes, but is not limited to, the following: AR Reference Nos. 35, 47, 72, 74, 75, 132, 133, 134, 137, 145, 146, 147, 148, 149, 165, 226, 227, 228, & 258.

and based on a rationale articulated in the staff reports and responses to comments supporting the Agricultural Order.[53] For example, the criteria make distinctions in risk to water quality based on use of pesticides that are currently documented as a primary cause of toxicity in the Central Coast region.[54] As another example, with regard to farms growing crops with high potential to discharge nitrogen, the Central Coast Water Board analyzed the impact of size of the farm on such potential and explained that the numbers less than 50 acres and more than 500 acres were chosen as the thresholds for placing a discharger in Tiers 1 or 3 respectively because 50-500 acres represented an average loading appropriate for Tier 2 categorization.[55] The Board further articulated that, regardless of size, proximity of a farm to a public water system polluted by nitrate should trigger Tier 2 requirements consistent with proximal distances recommended by the Department of Public Health for source water assessment and protection.[56] The Central Coast Water Board also pointed out that the particular tiering criteria were selected in part because they reflect already available information and do not require additional data collection or complicated or expensive site evaluations.[57] Finally, the Central Coast Water Board included provisions that allow the Executive Officer to adjust the tier for any given farm, which helps ameliorate any potentially unreasonable result of the tiering scheme.

We are reluctant to substitute another reasonable, but imperfect, set of criteria for those selected by the Central Coast Water Board. Further, we will ask the Expert Panel to evaluate the selection of appropriate indicators of risk to water quality as one of the long-term, state-wide issues it considers. Accordingly, in the short-term, we will not disturb the tier structure set out in the Agricultural Order.

The Agricultural Petitioners also contend that the Agricultural Order inappropriately delegates authority to the Executive Officer to elevate the tier of a given discharger. On this point, we agree with the Agricultural Petitioners, but reach the broader conclusion that the Agricultural Order's unconfined delegation of authority to the Executive Officer in provisions 18 and 19 to move a discharger up *or down* the tiering scheme is problematic. The categorization of a farm in a specific tier under the Agricultural Order is determinative of the requirements that the discharger must comply with. For example, if the Executive Officer determines that a particular discharger will be in Tier 3 instead of Tier 2, that

[53] AR File Nos. 228, pp. 21-27; 232, pp. 6-16; 233; 260.

[54] See discussion of toxicity related to chlorpyrifos and diazinon at AR File No. 228, p. 23.

[55] See AR File Nos. 260, slides 18-23; 265, pp. 586-591; 283, p. 25.

[56] See AR File No. 228, p. 26.

[57] *Id.*, p. 22.

discharger will be required to implement a number of additional measures, including preparation of an Irrigation and Nutrient Management Plan and conducting of individual surface water discharge monitoring, with corresponding expenditures. Conversely, if the Executive Officer determines that a discharger qualifying as a Tier 2 discharger under the tiering criteria is more appropriately treated as a Tier 1 discharger, that discharger is no longer obligated to submit an annual compliance report or conduct photo monitoring, a reduction in requirements that could have significant implications for water quality protection.

As we have discussed, no tiering structure can perfectly account for all individual farm characteristics. There is accordingly a benefit to providing some flexibility for individual review of tier placement. However, the discretion provided to an Executive Officer to do so should not substitute for the role of the Central Coast Water Board in determining the appropriate requirements imposed on a discharger when the Board has issued an order broadly categorizing and prescribing requirements for a class of dischargers.[58] Provisions 18 and 19 state that the Executive Officer will make a determination based on information indicating a lower or higher threat to water quality than indicated by the assigned tier, but we find the concepts of "lower threat" or "higher threat" too vague to sufficiently circumscribe the Executive Officer's discretion. Nor are these concepts tied, even indirectly, to the tiering criteria of the Agricultural Order in any manner that would provide transparency about why a given discharger's water quality risk is not appropriately accounted for by the default tier under the Agricultural Order. While such a delegation may be appropriate with more specific criteria for the Executive Officer to evaluate, those criteria are lacking here.

In order to balance the need for some flexibility in tier determination with the need to confine that flexibility when carried out by the Executive Officer, we will amend the Agricultural Order to provide for discretionary Central Coast Water Board review, upon

[58] Water Code section 13223 excepts the issuance, modification, or revocation of waste discharge requirements from powers that a regional water board may delegate to its executive officer. By analogy, regional water boards should be cautious in delegating to an executive officer the power to determine a discharger's substantive requirements under a waiver of waste discharge requirements, when the boards themselves have issued the waivers in the first instance.

request,[59] of any Executive Officer determination of a tier when that determination deviates from the assignment of a tier under the tiering criteria.[60]

Although no petitioner contested the particular provision, we have similar concerns with the authority given to the Executive Officer to approve proposed sustainable agriculture programs, the result of which is that all certified participant dischargers in an approved program are lowered to Tier 1. Because approval of a sustainable agriculture program would allow a whole set of dischargers to be moved to a lower Tier, we believe the approval should be carried out by the Board in the first instance, rather than by the Executive Officer.[61]

We shall amend Provisions 15, 18, and 19 as follows:

> 15. **Tier 1** – Applies to all Dischargers whose individual farm/ranch meets all of the criteria described in **(1a), (1b), and (1c)**, or whose individual farm/ranch is certified in a sustainable agriculture program identified in **(1d)** that requires and verifies effective implementation of management practices that protect water quality:
>
> 1a. Discharger does not use chlorpyrifos or diazinon at the farm/ranch, which are documented to cause toxicity in surface waters in the Central Coast Region;
>
> 1b. Farm/ranch is located more than 1000 feet from a surface waterbody listed for toxicity, pesticides, nutrients, turbidity or sediment on the 2010 List of Impaired Waterbodies[9] (Table 1);
>
> 1c. If the Discharger grows crop types with high potential to discharge nitrogen to groundwater (as defined in Attachment A) at the farm/ranch, and the farm/ranch total irrigated acreage is *less than* 50 acres, and is *not* within 1000 feet of a well that is part of a public water system (as defined by the California Health and Safety Code, section 116275) that exceeds

[59] The Executive Officer is expected to provide notice of the determination through appropriate methods to facilitate a request for review. Where review by the Central Coast Water Board of an Executive Officer decision is expressly provided in the Agricultural Order, we would expect that any person not satisfied with the Executive Officer's determination would file a request for Central Coast Water Board review prior to filing a petition for review with the State Water Board. We understand that the Central Coast Water Board may not have the opportunity to review the Executive Officer's decision within the 30 day deadline for filing a petition for review with the State Water Board; in such a situation, the petitioner may ask that the petition for review be held in abeyance.

[60] In the case of Provision 11, we added review by the Board for both approval and denial of a third party project or program. Here, it is appropriate to limit review to instances where the Executive Officer makes a determination that deviates from a tier assignment based on the Agricultural Order's established criteria since the Board has already carefully considered the standard outcomes from application of the criteria.

[61] We support SIP's approval as a sustainable agricultural program protective of water quality. We expect, however, that the Executive Officer will exercise his authority to elevate an individual SIP farm to a higher tier if the farm is either out of compliance with the requirements of the SIP program or unique physical characteristics of the farm render the management practices recommended by the certified program ineffective at that particular location.

the maximum contaminant level (MCL) for nitrate, nitrite, or nitrate + nitrite[10];

1d. Sustainability in Practice (SIP, certified by the Central Coast Vineyard Team) or other certified programs approved by the ~~Executive Officer~~ **Central Coast Water Board**.

* * *

18. Dischargers may submit a request to the Executive Officer to approve transfer to a lower tier. The Discharger must provide information to demonstrate a lower level of waste discharge and a lower threat to water quality, including site-specific operational and water quality information to characterize the waste discharge and resulting effect on water quality. Dischargers remain in the tier determined by the criteria above and must meet all conditions for that tier until the Executive Officer approves the request to transfer to a lower tier. At a minimum, information provided by Dischargers requesting transfer to a lower tier must include the following:

a. Farm/ranch maps(s) identifying discharge points and any water quality sampling locations;
b. Schematic showing the flow of irrigation and stormwater runoff, including where it leaves the farm/ranch and where the discharge enters receiving water;
c. Description of the volume of discharges and when the discharge is present;
d. Description of type of chemicals applied (e.g., pesticide and fertilizer use);
e. Description of estimated pollutant loading to groundwater;
f. Description and results of any individual discharge water quality sampling information available (e.g., irrigation runoff and stormwater sampling, lysimeter sampling);

If the Executive Officer approves a transfer to a lower tier, any interested person may request that the Central Coast Water Board conduct a discretionary review the Executive Officer's determination.

19. The Executive Officer may elevate Tier 1 or Tier 2 Dischargers to a higher tier if the Discharger poses a higher threat to water quality based on information submitted as part of the NOI, MRP, or information observed upon inspection of a ranch/farm, or any other appropriate evidence that indicates the ranch/farm meets the criteria for a higher tier. **If the Executive Officer requires a transfer to a higher tier, any interested person may request that the Central Coast Water Board conduct a discretionary review the Executive Officer's determination.**

D. Water Quality Standards Compliance, Provisions 22-23; Effective Control of Pollutant Discharges, Provisions 82, 84-87

The Agricultural Petitioners contest Provisions 22 and 23 of the Agricultural Order on grounds that the provisions expose dischargers to immediate liability for non-

compliance with water quality standards and other provisions of the Central Coast Basin Plan. Although Provisions 22 and 23 are not qualified by any time schedule, we found in the Stay Order that, read in the context of other provisions and findings of the Order, the provisions do not require immediate compliance. Provision 12 of the Agricultural Order states that "[d]ischargers who are subject to this Order shall implement management practices, as necessary, to improve and protect water quality and to achieve compliance with applicable water quality standards." Finding 10 of the Agricultural Order similarly states that [d]ischargers must implement, and where appropriate update or improve, management practices . . . to effectively control discharges, meet water quality standards and achieve compliance with this Order."[62] We accordingly declined to stay Provisions 22 and 23 because we found that the Central Coast Water Board made it sufficiently clear in the Agricultural Order that it will not take enforcement action against a discharger for violations of Provisions 22 and 23 where that discharger is implementing or improving management practices to address discharges impacting water quality.

The Agricultural Petitioners also challenge Provisions 84 through 87 of the Agricultural Order, which were not before us in the stay proceedings. These provisions prescribe dates by which Tier 3 dischargers must "effectively control" discharges of pesticides and toxic substances, sediment and turbidity, nutrients, and nitrate to groundwater, respectively. The Agricultural Petitioners argue that the provisions are unreasonable and render dischargers vulnerable to enforcement for failing to control all relevant discharges by the prescribed dates. According to the Central Coast Water Board, provisions 84-87 were intended to be read in the context of Provision 82, which states that the Central Coast Water Board will consider a wide set of factors in determining whether a Tier 3 discharger is effectively controlling the relevant pollutants. Those factors include effectiveness of management practice implementation, effectiveness of treatment or control measures, results of individual discharge monitoring and downstream surface water monitoring, and information obtained from inspections. Provision 82 also references Table 4, which sets targets and milestones for reaching those targets for the pollutants referenced in Provisions 84-87. The Central Coast Water Board's Response to the Petitions clarifies that the Board intended to use multiple indicators, including the milestones in Table 4, which are non-enforceable indicators, to determine whether a discharger is effectively controlling a pollutant. The Central Coast Water Board also states that, consistent with Finding 10 and Provision 12 of the Agricultural Order, and similar to its approach to water quality

[62] See also Agricultural Order, Attachment A, Finding 2.

standards, the Board will not take enforcement action against a discharger that is implementing and improving management practices to address discharges impacting water quality.[63] We find that, while Provision 82 gives some context to the term "effectively control," the factors to be considered are phrased in terms of the "effectiveness" of practice implementation and "results" of monitoring, so that it is not entirely clear whether a discharger may be in violation of Provisions 84-87 even if the discharger is implementing management practices in good faith to address problem discharges. We will add a new provision to the Order to make explicit the Central Coast Water Board's intent that implementation of increasingly more effective management practices in an iterative manner as necessary constitutes compliance with Provisions 22-23 and Provisions 84-87 of the Agricultural Order. While agricultural regulatory programs must in the long-term achieve actual quantifiable reductions in pollutant discharges in order to protect and restore water quality, in this permit term, it is appropriate for the Central Coast Water Board to determine that a discharger is in compliance with these provisions where a discharger is engaged in a process to implement effective controls.[64] Dischargers must make a conscientious effort to identify and implement management practices that effectively address the relevant water quality issue. While we encourage innovation, we expect that most dischargers will implement known and available management practices in the near term.

We will also include in the new provision a reference to Provision 33 of the Order. Provision 33, which is discussed in greater detail in the next section, requires that discharges of waste to groundwater and surface water from containment structures not cause or contribute to water quality exceedances. For the same reasons discussed above, compliance with Provision 33 may also be achieved through implementation of management practices through a process of iterative improvement.

Finally, we edit Provision 22 to clarify that the appropriate requirement is for dischargers to not "cause or contribute to exceedances of water quality standards," rather than "comply with water quality standards."[65]

We shall amend Provision 22 as follows:

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[63] Central Coast Water Board Petition Response, pp. 81-82.

[64] The approach taken in the Agricultural Order to achieving compliance with the Central Coast Basin Plan requirements over time through management practice implementation is consistent with the State Water Board's Non-Point Source Policy (pp. 12-13) and consistent with the public interest in addressing a water quality issue that has few immediate and easy solutions.

[65] Although we have not revised every reference to compliance with water quality standards in the Agricultural Order, in all appropriate places, we interpret the requirement to "comply" with water quality standards to mean "not cause or contribute to exceedances of" water quality standards.

22. Dischargers ~~must comply with~~ **shall not cause or contribute to exceedances of** applicable water quality standards, as defined in Attachment A, **shall** protect the beneficial uses of waters of the State and **shall** prevent nuisance as defined in Water Code section 13050.

We shall add Provision 87.5 as follows:[66]

87.5. **To comply with Provisions 22, 23, 33, and 84-87 of this Order, Dischargers must (1) implement management practices that prevent or reduce discharges of waste that are causing or contributing to exceedances of water quality standards; and (2) to the extent practice effectiveness evaluation or reporting, monitoring data, or inspections indicate that the implemented management practices have not been effective in preventing the discharges from causing or contributing to exceedances of water quality standards, the Discharger must implement improved management practices.**

E. Containment Structures, Provision 33

The Agricultural Petitioners assert that Provision 33 of the Agricultural Order, requiring that dischargers "manage, construct, or maintain" containment structures "to avoid percolation of waste to groundwater" and to "minimize surface water overflows," constitutes an unreasonable restriction on the use of retention ponds. In particular, the Agricultural Petitioners argue that compliance with this provision would require dischargers to design or construct new containment structures or replace or upgrade existing containment structures, possibly requiring lining the structures. The Central Coast Water Board has stated that Provision 33 does not require lining of containment structures and that dischargers are expected to simply make iterative progress toward meeting the requirement "to avoid percolation to groundwater."[67] In the Stay Order, we stayed Provision 33 on the grounds that the plain language of the provision does not align with the Central Coast Water Board's stated intentions for it. We now make the necessary changes to make Provision 33 consistent with its intended purpose. We have already stated that compliance with Provision 33 is subject to an iterative process of management practice implementation as specified in new Provision 87.5. We additionally specify some of the types of management practices that may result in compliance with Provision 33.

We shall amend Provision 33 as follows:

33. Dischargers who utilize containment structures (such as retention ponds or reservoirs) to achieve treatment or control of the discharge of wastes must

[66] Provision 87.5 is to be inserted between provisions 87 and 88 as a new provision; it is not to be inserted as a subsection of provision 87.

[67] See Stay Order, pp. 12-13; Central Coast Water Board Written Response to Petitions (Oct. 31, 2012) (Central Coast Water Board Response to Petitions), pp. 75-77.

manage, construct, ~~or~~ **and** maintain such containment structures to avoid ~~percolation of waste to groundwater that causes or contributes to exceedances of water quality standards, and to minimize surface water overflows that have the potential to impair water quality~~ **discharges of waste to groundwater and surface water that cause or contribute to exceedances of water quality standards. Dischargers may choose the method of compliance appropriate for the individual farm, which may include, but is not limited to:**

- **implementing chemical treatment (e.g., enzymes);**
- **implementing biological treatment (e.g., wood chips);**
- **recycling or reusing contained water to minimize infiltration or discharge of waste;**
- **minimizing volume of water in the containment structure to minimize percolation of waste;**
- **minimizing percolation of waste via a synthetic, concrete, clay, or low permeability soil liner.**[68]

F. Farm Plan/Practice Effectiveness and Compliance, Provision 44

The Agricultural Petitioners argue that Provision 44.g, which requires the Farm Plan to include a "description and results of methods used to verify practice effectiveness," is unreasonable because the term "verify" implies the need for costly studies and statistical analyses. During the stay proceedings, the Central Coast Water Board testified that Provision 44.g does not dictate how the discharger would evaluate practice effectiveness and that it was the Board's expectation that dischargers could meet the requirements of 44.g by reporting on standard farming practices, such as evaluating irrigation efficiency to determine water use, combined with visual inspection and record keeping.[69] We stayed Provision 44.g pending resolution of the petitions on the merits, finding it ambiguous as written.

In its Response to the Petitions, the Central Coast Water Board has recommended that the State Water Board provide clarifying language for Provision 44.g, consistent with its position that practice effectiveness verification may rely on standard farming practices, visual inspections, and record keeping.[70] With this clarification, we find that the burden of the reporting required under 44.g bears a reasonable relationship to its anticipated benefits, as dischargers will not be required to hire consultants for study design and analysis. The practice effectiveness reporting, along with the water quality monitoring and photo monitoring required by the Agricultural Order, inform a determination of the adequacy and

[68] The edits to Provision 33 generally track those suggested by the Central Coast Water Board in its Response to the Petitions, pp. 75-77.

[69] See Stay Order, pp. 14-16.

[70] Central Coast Water Board Response to Petitions. p. 15.

effectiveness of the Agricultural Order's conditions, as required by Water Code section 13269, subdivision (a)(2).[71]

The Agricultural Petitioners additionally argue that privacy and competitive advantage concerns should preclude the requirement in Provision 44 that a current copy of the Farm Plan be made available to the Central Coast Water Board staff upon request. Petitioners' concern appears to be that proprietary information contained in the submitted Farm Plan could then be disclosed in response to a Public Records Act request.[72] We recognize the concern with disclosure of sensitive business information; however, the existing exceptions to the Water Code and to the Public Records Act, which allow withholding of information deemed trade secrets and secret processes, is sufficient to protect the most sensitive submitted data.[73] We must strike a balance between the need of the Central Coast Water Board to obtain information for compliance determination and the need of the public for transparency on the one hand, and the need of the agricultural community to innovate and compete on the other hand. Given the significant water quality problems facing the Central Coast region due to agricultural discharges, we decline to strike that balance in a manner more protective of business information than that established by the Legislature in the Water Code and the Public Records Act. The Central Coast Water Board has established an appropriate process in the Agricultural Order in Provision 65 for identifying information that is asserted to be exempt from disclosure.

We shall amend Provision 44 as follows:

> 44. **By October 1, 2012**, Dischargers must develop a farm water quality management plan (Farm Plan), or update the Farm Plan as necessary, and implement it to achieve compliance with this Order. Farm Plans must be kept current, kept on the farm, and a current copy must be made available to Central Coast Water Board staff, upon request. At a minimum, Farm Plans must include:

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[71] We decline to amend subsection c because we do not construe the word "locations" in 44.c to mean only "points," as Ocean Mist appears to construe it. "Locations" includes both points (e.g., outfalls such as pipes/culverts) and areas (e.g., low points on the edge of the field). We also will not amend subsection d. The phrase "description of the typical volume of discharges and when the discharge is typically present" is sufficiently descriptive of the type of estimated, general information sought by the Central Coast Water Board under the provision. Similar information is required to be reported in Section E of the Annual Compliance Form (see Exhibit 1 attached hereto). To the extent there is any remaining confusion as to what should be recorded in the Farm Plan under subsection d, the information requested in the Annual Compliance Form may act as an example. Finally, we will not remove the requirement in subsection f to identify management practices implemented to minimize the impact of tile drain discharges to water quality. Discharges from tile drains carry pollutants to surface waters and are appropriate for management practice implementation. (See AR File Nos. 207 [Letter 85]; 228. p. 50; 265, p. 483.) Requiring ongoing management practice implementation to minimize the impact of tile drain discharges on water quality is not inconsistent with the Central Coast Water Board staff's acknowledgment that tile drain discharges will require longer term study and cooperative solutions. (See AR File Nos. 233, pp.48-50; 295, pp. 8-10).

[72] Gov. Code, §§ 6250 et seq.

[73] Wat. Code, § 13267, subd. (b)(2); Gov. Code, § 6254, subd. (k); Evid. Code, § 1060.

a. Copy of this Order and a copy of the Notice of Intent (NOI) submitted to the Central Coast Water Board for reference by operating personnel and inspection by Central Coast Water Board staff;
b. Date the Farm Plan was last updated;
c. Farm/ranch maps(s) identifying irrigation and stormwater runoff discharge locations where irrigation and stormwater runoff leaves or may leave the farm/ranch and where the discharge enters or may enter receiving water;
d. Description of the typical volume of discharges and when the discharge is typically present;
e. Description of type of chemicals applied (e.g., pesticide and fertilizer use);
f. Description and time schedule for any farm water quality management practices, treatment and/or control measures implemented to comply with this Order. This includes, but is not limited to, management practices related to irrigation efficiency and management, pesticide management, nutrient management, salinity management, sediment and erosion control (including stormwater management), and aquatic habitat protection to achieve compliance with this Order. In addition, Farm Plans must describe tile drain discharges and the management measures Dischargers have implemented or will implement to minimize impacts to water quality;
g. ~~Description and results of methods used to verify practice effectiveness and compliance with this Order (e.g., water quality sampling, discharge characterization, reductions in pollutant loading);~~ **A description of the method and schedule for assessing the effectiveness of each management practice, treatment, and control measure identified in accordance with subsection (f). Such methods for assessing effectiveness are expected to be based on standard practices such as, but not limited to: visual inspections, photographs, soil nutrient testing, soil moisture measurements, and recordkeeping. Dischargers may also choose more advanced methods for assessing effectiveness, such as water quality sampling, modeling software, calculated reductions in pollutant loading, toxicity testing, biological indicators evaluations, and other measurement types that prove useful to determining the effectiveness of a management practice. The use of advanced methods is not required.**

G. Groundwater Monitoring, Provision 51 and Part 2 of Tier 1-3 MRPs

The Agricultural Order requires dischargers in all tiers to sample private domestic drinking water wells and at least one irrigation water well on the farm to evaluate groundwater conditions. All dischargers must conduct two rounds of monitoring over the course of the first year of the Agricultural Order and must submit the results by October 1, 2013. Tier 3 dischargers must additionally sample once per year and submit the results annually thereafter. In each case, the dischargers may choose to participate in a cooperative groundwater monitoring effort in lieu of individual monitoring and reporting, and Tier 1 and Tier 2 dischargers

also have the option of submitting existing data instead of conducting new sampling.[74] The Agricultural Petitioners assert that the burden of conducting the groundwater monitoring does not bear a reasonable relationship to the need for the monitoring and reporting and that the monitoring is therefore contrary to the requirements of Water Code section 13267.[75]

We declined to stay the groundwater monitoring provisions when we considered the issue as part of the stay proceedings, pointing to the compelling concerns regarding drinking water safety and nitrates in groundwater.[76] We decline to strike them now for the same and additional considerations as explained below.

The Agricultural Petitioners' primary objection to the monitoring of drinking water and irrigation water wells appears to be that such information does not accurately measure compliance with the Agricultural Order. In other words, the current levels of nitrate in supply wells may be unrelated to current management activities. Therefore, they posit, the burden of conducting the monitoring is not reasonably related to the benefit of compliance determination. We do not disagree with Agricultural Petitioners' position that groundwater monitoring is an inexact measure of compliance. Nitrate measured in the groundwater now may reflect historic practices, not current practices. Further, in some areas – but not all – trends must be measured over the course of a number of years, often decades, so that even annual data over the course of the five-year term of the Agricultural Order may reveal little about whether concurrently implemented management practices are leading to improvements. We will task the Expert Panel with considering appropriate structures and methodologies for monitoring that may support long-term nitrate control efforts.

Compliance determination is not, however, the sole, or even primary, reason the Central Coast Water Board has required groundwater monitoring. After a review of the record, we find that the Central Coast Water Board required groundwater monitoring for reasons reasonably related to the relatively low burden of conducting the monitoring. The Board asserted that the shallow or intermediate groundwater depths of agricultural and domestic drinking water wells may provide shorter-term indicators of impacts from agricultural discharges.

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[74] Agricultural Order, Prov. 51, MRPs 1, 2, & 3, Part 2, §§ A, B.

[75] We see no merit in the argument made by the Agricultural Petitioners that, for all contested monitoring and reporting provisions, the Central Coast Water Board failed to provide dischargers "with a written explanation with regard to the need for the reports" and to "identify the evidence that supports requiring that person to provide the reports." (Wat. Code, § 13267, subd. (b)(1).) The need for the monitoring and reporting provisions, as well as the bases for including these requirements, is well documented in the various staff reports supporting the Agricultural Order as cited throughout this Order.

[76] Stay Order, pp. 16-17.

But the Board also stated that the data is needed to characterize groundwater quality to help the Board identify and prioritize for follow up areas and individual farms that are at greater risk for pollutant loading and to inform those domestic well users who may be affected by poor drinking water quality. With regard to monitoring in individual irrigation water wells, the Central Coast Water Board also found that such monitoring will provide information to the discharger to account for nitrogen in irrigation water and inform appropriate reduction in fertilizer application.[77]

We considered the cost of groundwater monitoring in the Stay Order and contrasted the $2,000-$3,000 per sample projected by the dischargers with laboratory quotes introduced by Central Coast Water Board estimating charges of less than $200 per sample.[78] The actual costs may fall somewhere in between, but we do not view these costs as unreasonable in light of the benefits of groundwater monitoring.[79] Further, we note that dischargers have the option of sharing costs by joining a third party group for groundwater monitoring in lieu of individual monitoring and, as we discussed previously, we expect the Central Coast Water Board to work in good faith with dischargers to make this option a viable one. Given the importance of characterizing groundwater quality in the region, the significant danger to the public of consuming drinking water with high nitrate concentrations, and the need for dischargers to know the nitrogen levels in their irrigation water supply, we find that the Central Coast Water Board reasonably required initial sampling of drinking water wells and agricultural supply wells.

We see the benefits of annual groundwater monitoring for Tier 3 dischargers as less compelling. Once dischargers have conducted the first-year round of monitoring of drinking water wells and irrigation water wells, the primary purpose of such monitoring in detecting unhealthy levels of nitrates or of evaluating the nitrogen content of irrigation water is arguably accomplished. However, we cannot rule out the possibility that water quality in a well may fluctuate within a year, and, particularly in the context of health concerns with drinking water quality, find that annual monitoring for the highest risk dischargers is reasonable.

We deny the Agricultural Petitioners' request to strike or amend Provision 51 of the Agricultural Order and Sections A.1-5 and B of Part 2 of MRP Orders 1, 2, and 3.

However, we will make revisions to the cooperative groundwater monitoring provisions at Section A.6 of Part 2 of MRP Orders 1, 2, and 3. Nitrate in groundwater is a

[77] AR File No. 291, pp. 17-19; see also Central Coast Water Board Response to Petitions, p. 48.

[78] Stay Order, pp.16-17 (citing AR File No 234 at p. 34; Central Coast Water Board Submission (Aug. 27, 2012), Exh. 21; Schroeter Testimony (Aug. 30, 2012)).

[79] Wat. Code, § 13267, subd. (b)(1).

significant public health threat facing the Central Coast region. Nitrate pollution is especially prevalent in the Salinas Valley area, where a large population relies on groundwater for drinking water. Nitrates consumed at concentrations above the MCL of 45 milligrams per liter (mg/L)[80] set by the Department of Public Health can pose serious health risks to pregnant women and infants. Given the significant concerns with drinking water safety in the Central Coast Region, we find that any cooperative groundwater monitoring must still characterize drinking water at the level of the individual well if there is a concern that the nitrate concentration in the well may approach the MCL. The cooperative groundwater monitoring provision states that "at a minimum, the cooperative groundwater monitoring effort must include sufficient monitoring to . . . identify and evaluate groundwater used for domestic drinking water purposes."[81] The significant health and safety concerns in conjunction with widespread evidence of elevated nitrate levels in the Central Coast Region lead us to the conclusion that identification and evaluation should encompass monitoring of all at risk wells that are used or may be used for drinking water purposes.[82] Our revision states that, even where a cooperative groundwater monitoring program relies on representative sampling to determine nitrate levels in drinking water wells, direct sampling of the individual well is required if the nitrate level is projected to be within 50% of the MCL. Further, repeat sampling is required if the nitrate level is within 80% of the MCL because of the potential for such wells to exceed the MCL in a short timeframe. We note that the Executive Officer has the authority within the MRPs to require increased sampling for both individual and cooperative monitoring where warranted. We expect that, in most cases, the Executive Officer would also require repeat sampling where individual groundwater monitoring shows a nitrate level within 80% of the MCL.

Because the data to be generated through groundwater monitoring is of significant public interest and value, we also find that it is appropriate to provide for discretionary Central Coast Water Board review of Executive Officer approvals or denials of cooperative groundwater monitoring programs, if requested by an interested person. Finally, we recognize the potential severity and urgency of the health issues associated with drinking groundwater with high concentrations of nitrates, and we will require that the discharger conducting individual

[80] Expressed as NO_3.

[81] Tier 1, 2, & 3 MRPs, Part 2, §A.6.

[82] In making this determination, we do not review or rely on any cooperative groundwater monitoring programs that have been proposed to or approved by the Central Coast Water Board to date. As stated previously in this Order, those programs post-date the Central Coast Water Board's adoption of the Agricultural Order and are outside the scope of these proceedings. We expect, however, that the Central Coast Water Board will reevaluate any previously-approved cooperative groundwater monitoring programs to ensure that they are consistent with this Order.

groundwater monitoring or the third party conducting cooperative groundwater monitoring notify the Central Coast Water Board when a well is identified as exceeding the MCL for nitrate, and that the discharger or the Central Coast Water Board timely notify users of the well..

We shall amend Section A.6 of Part 2 of the Tier 1, 2, and 3 MRPs, and add Section A.7 to Part 2 of the Tier 1, 2, and 3 MRPs as follows:

6. In lieu of conducting individual groundwater monitoring, Dischargers may participate in a cooperative groundwater monitoring effort to help minimize costs and to develop an effective groundwater monitoring program. Qualifying cooperative groundwater monitoring and reporting programs may include, but are not limited to, regional or subregional groundwater programs developed for other purposes as long as the proposed cooperative groundwater monitoring program meets the Central Coast Water Board's general purpose of characterizing groundwater quality and ensuring the protection of drinking water sources. Proposals for cooperative groundwater monitoring efforts, including the use of other regional or subregional groundwater monitoring programs, must be approved by the Executive Officer. **An interested person may seek discretionary review by the Regional Board of the Executive Officer's approval or denial of a cooperative groundwater monitoring program.** At a minimum, the cooperative groundwater monitoring effort must include sufficient monitoring to adequately characterize the groundwater aquifer(s) in the local area of the participating Dischargers, characterize the groundwater quality of the uppermost aquifer, and identify and evaluate groundwater used for domestic drinking water purposes.

   Because drinking water evaluation is a very high priority, the cooperative groundwater monitoring proposals must, at a minimum, include one or more of the following approaches for each of the participating Dischargers' wells that is or may be used for drinking water purposes: (1) direct sampling; (2) submission of existing data for the well if it has been sampled and analyzed for nitrate using U.S. EPA approved methods at least twice within the last five years; or (3) a statistically valid projection of groundwater quality at the location of the well. In addition, each of the participating Dischargers' wells that is or may be used for drinking water that is projected to have a nitrate concentration between 22.5 and 45 mg/L nitrate as NO_3 (or between 5 and 10 mg/L nitrate + nitrite as N) must be individually sampled. Each of the participating Dischargers' wells that is or may be used for drinking water that has a nitrate concentration between 36 and 45 mg/L nitrate as NO_3 (or between 8 and 10 mg/L nitrate + nitrite as N) must have a repeat sample taken within 12 months and must be sampled annually thereafter unless an alternate sampling schedule based on trending data for the well is approved by the Executive Officer. Consideration shall be given to the timing of all sampling so that potential seasonal fluctuations and other variables are accounted for, in order that the wells are sampled at the highest potential nitrate value to the extent practicable. Cooperative groundwater monitoring program work must be scheduled so as to make drinking water evaluation the first priority. Drinking water quality information must be reported as it becomes

available, and all of the requirements of this paragraph, with the exception of any repeat sampling, must be completed by December 1, 2014.

Cooperative groundwater monitoring efforts must comply with the requirements for sampling protocols and laboratory analytical methods identified in this MRP, including parameters listed in Table 3, or propose a functional equivalent that meets the same objectives and purposes as individual groundwater monitoring. The cooperative groundwater monitoring program must report results consistent with individual groundwater reporting defined in part 2.B, or report results in a manner that is consistent with that approved by the Executive Officer in his or her approval of the cooperative groundwater monitoring proposal. Dischargers electing to participate in a cooperative groundwater monitoring effort must convey this election to the Central Coast Water Board within 90 days of adoption of this Order, and the individual groundwater monitoring requirements shall not apply as long as a cooperative groundwater monitoring proposal for that Discharger's area is submitted within one (1) year of adoption of this Order. If no cooperative groundwater monitoring proposal for that Discharger's area is submitted within one (1) year **of adoption of this Order**, then the individual groundwater monitoring provisions shall apply and the Discharger shall have **two (2)** ~~one (1)~~ year**s from the adoption of this Order** to comply with the provisions identified in Part 2. **Notwithstanding the foregoing, cooperative groundwater monitoring proposals may be submitted between September 24, 2013, and November 1, 2013. Dischargers who have not joined a cooperative groundwater monitoring group prior to September 24, 2013, may participate in an approved cooperative groundwater monitoring program, provided they have completed two rounds of monitoring as required under individual groundwater monitoring requirements.**

7. **If a discharger conducting individual groundwater monitoring or a third party conducting cooperative groundwater monitoring determines that water in any well that is used or may be used for drinking water exceeds or is projected to exceed 45 mg/L of nitrate as NO_3 (or 10mg/L of nitrate + nitrite as N), the discharger or third party must provide notice to the Central Coast Water Board within 24 hours of learning of the exceedance or projected exceedance. For wells on a Discharger's farm/ranch, the Central Coast Water Board will require that the Discharger notify the users within 10 days. For all other wells, the Central Coast Water Board will notify the users promptly.**

We direct the Central Coast Water Board to work with the State Water Board, dischargers, any third-party cooperative groundwater monitoring groups, interested stakeholder groups, and public health agencies to develop and make available uniform English and Spanish language templates for notification consistent with new Section A.7 of Part 2 of the Tier 1, 2, and 3 MRPs. Any templates developed shall include the following minimum information:

- Information identifying affected well
- Level of Nitrate as NO_3 or Nitrate + Nitrite (as N) in well

- Potential health effects associated with consuming the water, including the following:
  Nitrate: Infants below the age of six months who drink water containing nitrate in excess of the MCL may quickly become seriously ill and, if untreated, may die because high nitrate levels can interfere with the capacity of the infant's blood to carry oxygen. Symptoms include shortness of breath and blueness of the skin. High nitrate levels may also affect the oxygen-carrying ability of the blood of pregnant women.
  Nitrite: Infants below the age of six months who drink water containing nitrite in excess of the MCL may become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blueness of the skin.
- Direction to share the notice with all the other people who drink the well water, especially those who may not have received the notice directly (for example, people in apartments, nursing homes, schools, and businesses), by posting the notice in a public place or distributing copies by hand or mail.
- Information as to whether the nitrate level was derived using direct sampling or a statistical projection.

H. Photo Monitoring, Provision 69 and Part 4 of Tier 2 and Tier 3 MRPs

The Agricultural Order requires Tier 2 and Tier 3 dischargers with farms adjacent to impaired water bodies to photo monitor the condition of perennial, intermittent, or ephemeral streams and riparian and wetland area habitat. Dischargers are required to conduct such monitoring consistent with a protocol issued by the Executive Officer.[83] In the Stay Order, we found that the photo monitoring protocol issued by the Executive Officer provided implementation avenues for photo monitoring that were too limited, unnecessarily increasing the cost of monitoring for some dischargers. We stayed the requirement until June 1, 2013, and directed the Central Coast Water Board Executive Officer to amend the protocol to allow alternative documentation methods such as aerial photography or the use of elevated vantage points.[84] The Executive Officer issued a revised protocol on February 28, 2013 (Revised Protocol).[85]

We now find that the Revised Protocol does not fully comply with the State Water Board's direction to the Central Coast Water Board to allow alternative photo documentation methods. The Revised Protocol contemplates that the discharger may propose alternative methods, but does not provide any direction or specification on how aerial or elevated vantage

[83] Agricultural Order, Tier 2 and Tier 3 MRPs, Part 4.

[84] Stay Order, pp. 19-21.

[85] Photo Monitoring and Reporting Protocol, Central Coast Water Board (Feb. 28, 2013), available at <http://www.waterboards.ca.gov/centralcoast/water_issues/programs/ag_waivers/docs/resources4growers/photomonitoring_protocol_and_form_28feb2013.pdf> (as of Jun. 4, 2013). To the extent necessary, we take official notice of the revised protocols on our own motion. (Cal. Code Regs., tit. 23, § 648.2 and Evid. Code, § 452, subd. (c).)

point photography may be used to fulfill the photo monitoring requirements. To make clearer our intent that these alternative methods be specifically permitted and discussed in the Protocol, we will now make revisions to the photo monitoring provisions of the Agricultural Order. We recognize that the initial compliance deadline for photo monitoring has passed and that photo monitoring is required every four years with dischargers directed to use the same photo point locations in the next iteration.[86] Nevertheless, we believe it is important to make the revision to achieve consistency with the Stay Order and to provide direction to the regional water boards that photo monitoring requirements be made more cost-effective by allowing for reasonable alternatives. Some dischargers may find it advantageous to repeat the photo monitoring using a more cost-effective methodology in order to set the baseline for future monitoring.

We will also make a revision to clarify that photo documentation must be maintained in the Farm Plan and needs to be submitted to the Executive Officer only upon request. This revision makes Provision 69 consistent with revisions made by the Central Coast Water Board Executive Officer to the Tier 2 and Tier 3 MRPs subsequent to adoption of the Agricultural Order.

We shall amend Provision 69 as follows:

> 69. By ~~**October**~~ **June 1, ~~2012~~, 2014, and by June 1, 2017,** and every four years thereafter, Tier 2 and Tier 3 Dischargers with farms/ranches adjacent to or containing a waterbody identified on the 2010 List of Impaired Waterbodies as impaired for temperature, turbidity, or sediment (identified in Table 1) must conduct photo monitoring per MRP Order No. R3-2012-0011-02 and MRP Order No. R3-2012-0011-03, respectively. Photo monitoring must document the condition of perennial, intermittent, or ephemeral streams and riparian and wetland area habitat, and demonstrate compliance with Basin Plan erosion and sedimentation requirements (see Part F. 80 of this Order), including the presence of bare soil vulnerable to erosion and relevant management practices and/or treatment and control measures implemented to address impairments. **Aerial photography and photography from an elevated vantage point are permitted methodologies for photo monitoring.** Photo documentation must be ~~submitted electronically, in a format specified by the Executive Officer.~~**maintained in the Farm Plan and must be submitted upon request of the Executive Officer.**

Additionally, we direct the Executive Officer of the Central Coast Water Board to further revise the Revised Protocol consistent with this Order, including specifically allowing aerial photography and elevated vantage photography, and establishing an appropriate methodology for monitoring, documentation, and reporting for these alternatives.

[86] Tier 3 dischargers that are required to prepare a Water Quality Buffer Plan must submit photo monitoring annually beginning October 1, 2016. (Tier 3 MRP, Part 7, Section A.2.g)

I. Individual Surface Water Discharge Monitoring, Provisions 72-73 and Part 5 of Tier 3 MRP

The Agricultural Order requires Tier 3 dischargers that discharge irrigation water (tailwater or tile drain discharges) or storm water to a surface water or a containment structure to conduct both dry and wet weather monitoring of a number of parameters, including turbidity, chlorpyrifos, diazinon, and nitrate.[87] As discussed *ante*, Tier 3 dischargers are those that either (a) grow crop types with high potential to discharge nitrogen to groundwater and are greater than or equal to 500 acres; or (b) apply chlorpyrifos or diazinon and discharge to a waterbody listed for toxicity or pesticides. Thus, for dischargers with these high-risk characteristics, the individual surface water discharge monitoring is intended to determine the characteristics of the discharges that leave the fields, through tailwater, tile drain discharges, or storm water.

The record conveys that limitations of cooperative surface receiving water monitoring in identifying the causes and sources of measured exceedances under the 2004 Agricultural Order drove inclusion of individual surface water discharge monitoring in the Agricultural Order.[88] The Central Coast Water Board argues that it is appropriate for the highest risk dischargers to monitor for the presence and absence of critical water quality parameters such as toxicity, pesticides, and nitrates, and generate data that will help the Board prioritize follow up of the greatest threats to public health and the environment.[89]

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

[87] Although the Agricultural Order and the Tier 3 MRP do not explicitly state that only those Tier 3 dischargers that have discharges to a receiving water must conduct individual surface water monitoring, the Central Coast Water Board has since made that clarification in guidance. (Central Coast Water Board, Resources for Growers, Tier 3 – Individual Surface Water Discharge Monitoring (Feb. 7, 2013, revised Mar. 4, 2013) available at <http://www.waterboards.ca.gov/centralcoast/water_issues/programs/ag_waivers/docs/resources4growers/tier3ind_discharge_overview_revised.pdf> [as of Jun. 4, 2013].)

[88] Agricultural Order, Finding 16; AR File Nos. 232, pp. 22-23; 233, p. 26.

[89] Central Coast Water Board Response to Petitions, pp. 49-50; AR File No. 233, pp. 45, 101.

exceedances. Although the Agricultural Order's surface receiving water monitoring contemplates that the Executive Officer may approve additional monitoring sites to "better assess the pollutant loading from individual sources"[90] or may require toxicity evaluation "to identify the individual discharges causing the toxicity,"[91] it does not establish the type of comprehensive process necessary to identify and address problem discharges. The surface receiving water monitoring approach recently approved by the Central Valley Regional Water Quality Control Board (Central Valley Water Board) for growers in the Eastern San Joaquin Watershed, where a detected exceedance may trigger source identification, management practice implementation, and follow up reporting,[92] perhaps more closely matches the type of monitoring that would assure pollutant discharges are actually addressed.

We will ask the Expert Panel to consider both the receiving water and discharge monitoring approaches to identification of problem discharges. In the interim, we believe the Agricultural Order must retain some methodology for addressing high risk discharges and some accountability for high-risk dischargers. Although we could strike the individual surface water discharge monitoring requirements and amend the receiving water monitoring section of the Agricultural Order to add the type of follow up monitoring described above, we are hesitant at this point to substitute an expanded monitoring requirement that would impact all dischargers in the region for the existing discharge monitoring impacting only a subset of Tier 3 dischargers.

We accordingly retain the requirement for Tier 3 dischargers to conduct individual surface water discharge monitoring. However, we will narrow the scope of such monitoring. As drafted, the individual surface water discharge requirements could be interpreted to be inclusive of monitoring of sheet flow, which is a burdensome requirement given the difficulty in identifying the locations of such discharges and anticipating discharge frequency. Individual surface water discharge monitoring should be limited to monitoring of discharges conveyed through pipes, ditches, swales, tile drains, and other discrete structures and features. We will also revise the requirement to monitor containment structures to clarify that such structures should be monitored only if the water is not being reused for irrigation.[93] The water in some containment structures is re-applied to the fields, and there is no significant benefit to characterizing the

[90] Tiers 1-3 MRPs, Part 1, § A.9.

[91] *Id.* at Part 1, § A.13.

[92] Central Valley Water Board Order R5-2012-0116, Appendix MRP-1.

[93] Our revisions also state that the water in the containment structures need not be monitored if it is discharged to surface waters. This is because the water will then be monitored at the point of discharge, as we have clarified that locations where discharges exit the farm/ranch after being conveyed by a containment structure are considered outfalls.

quality of that water unless it will reach surface waters or is retained in the structure to percolate to groundwater.[94] We decline, however, to eliminate monitoring requirements for discharges conveyed to surface waters through tile drains. Discharges from tile drains carry pollutants to surface waters and are appropriate for monitoring under the Agricultural Order.[95]

With the revisions below, we find that the cost of carrying out the surface water discharge monitoring requirement is reasonably related to the benefit of identifying and addressing those discharges at highest risk of impacting surface water quality.[96]

The sampling and analysis plan and the quality assurance project plans for the individual surface water discharge monitoring were due by March 15, 2013, and dischargers have presumably already submitted such plans indicating the discharge points that will be sampled.[97] While the plans may now require amending for consistency with this Order, such amendments will only result in reduced monitoring. We will, however, extend the deadline to initiate surface water discharge monitoring from October 1, 2013, as required under the Agricultural Order, to December 1, 2013.

We shall amend Provision 72 and Part 5, Section A, of the Tier 3 MRP as follows:

> 72. **By ~~October~~ December 1, 2013**, Tier 3 Dischargers must initiate individual surface water discharge monitoring per MRP Order No. R3-2012-0011-03 or alternative monitoring and reporting programs approved by Executive Officer as set forth in Finding 11 and Condition 11.
>
> **PART 5. INDIVIDUAL SURFACE WATER DISCHARGE MONITORING AND REPORTING REQUIREMENTS**

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[94] The Agricultural Order already requires Tier 2 and Tier 3 dischargers to report total nitrogen applied to the fields. That reporting requirement is inclusive of the nitrogen content of the irrigation water as clarified further in the next section. Irrigation water reapplied from a containment structure is expected to generally be only a small component of overall irrigation water and not significant enough to require characterization.

[95] See AR File Nos. 207 (Letter 85); 228, p. 50; 265, p. 483. As previously stated, we do not see ongoing monitoring of tile drains as inconsistent with the Central Coast Water Board staff's acknowledgment in the administrative record that addressing pollutants discharged through tile drains is an issue requiring long-term perspectives and cooperative solutions. (See AR File Nos. 233, pp. 48-50, 295, pp. 8-10).

[96] Cost information submitted in the stay proceedings primarily addressed costs associated with preparation of the sampling and analysis plans and the quality assurance project plans for individual surface water discharge monitoring. We found then that the cost estimates submitted by dischargers were inflated and declined to stay preparation of the relevant plans. (Stay Order, pp. 23-24.) Those plans were due by March 15, 2013. The Stay Request submitted by Grower-Shipper included a declaration asserting that a grower with five to ten sampling locations would incur costs ranging from $7000 to $11,000 per sampling event. (Grower-Shipper Request for Stay, Suverkropp Decl.[Apr. 12, 2012], ¶ 8.) The Central Coast Water Board has estimated the cost of sampling and laboratory analysis to be in the range of $5,000 for one tailwater discharge point, one storm water discharge point, and three sampling events. (Central Coast Water Board Response to the Petitions, p. 33; AR File No. 234, p.34)

[97] We declined during the stay proceedings to stay the provisions for preparation of the sampling and analysis plan and the quality assurance project plan. (Stay Order at 23-24.)

Monitoring and reporting requirements for individual surface water discharge identified in Part 5.A. and Part 5.B. apply to ~~all~~ Tier 3 Dischargers **with irrigation water or stormwater discharges to surface water from an outfall. Outfalls are locations where irrigation water and stormwater exit a farm/ranch, or otherwise leave the control of the discharger, after being conveyed by pipes, ditches, constructed swales, tile drains, containment structures, or other discrete structures or features that transport the water. Discharges that have commingled with discharges from another farm/ranch are considered to have left the control of the discharger.** Key monitoring and reporting requirements for individual surface water discharge are shown in Tables 5A and 5B. Time schedules are shown in Table 6.

A. Individual Surface Water Discharge Monitoring

1.~~2.~~Tier 3 Dischargers must conduct individual surface water discharge monitoring to a) evaluate the quality of individual waste discharges, including concentration and load of waste (in kilograms per day) for appropriate parameters, b) evaluate effects of waste discharge on water quality and beneficial uses, and c) evaluate progress towards compliance with water quality improvement milestones in the Order.

Individual Sampling and Analysis Plan

2.~~3.~~**By March 15, 2013**, Tier 3 Dischargers must submit an individual surface water discharge Sampling and Analysis Plan and QAPP to monitor individual discharges of ~~waste~~ **irrigation water and stormwater** ~~from~~ **that leaves** their farm/ranch **from an outfall**~~, including irrigation run-off (including tailwater discharges and discharges from tile drains, tailwater ponds and other surface water containment features unless constructed with impermeable liner), and stormwater discharges~~. The Sampling and Analysis Plan and QAPP must be submitted to the Executive Officer.

3.~~4.~~ The Sampling and Analysis Plan must include the following minimum required components to monitor irrigation **water** ~~run-off, including tailwater discharges and discharges from tile drains, tailwater ponds and other surface water containment features~~ and stormwater discharges:

a. Number and location of ~~discharge points~~ **outfalls** (identified with latitude and longitude or on a scaled map);
b. Number and location of monitoring points;
c. Description of typical irrigation runoff patterns;
d. Map of discharge and monitoring points;
e. Sample collection methods;
f. Monitoring parameters;
g. Monitoring schedule and frequency of monitoring events;

4.~~5.~~ The QAPP must include appropriate methods for sampling, measurement and analysis, data collection or generation, data handling, quality control activities, and documentation.

5.~~6.~~ The Sampling and Analysis Plan and QAPP, and any proposed revisions are subject to approval by the Executive Officer. The Executive Officer may require modifications to the Sampling and Analysis Plan or Tier 3 Dischargers may propose Sampling and Analysis Plan modifications for Executive Officer approval, when modifications are justified to accomplish the objectives of the MRP.

Individual Surface Water Discharge Monitoring Points

6.~~7.~~Tier 3 Dischargers must select monitoring points to characterize at least 80% of the estimated **maximum** irrigation run-off discharge volume from each farm/ranch ~~at the point in time the sample is taken~~**based on that farm's/ranch's typical discharge patterns,**[8]~~,~~ including tailwater discharges and discharges from tile drains. Sample must be taken when irrigation activity is causing maximal run-off. Load estimates will be generated by multiplying flow volume of discharge by concentration of contaminants. Tier 3 Dischargers must include at least one monitoring point from each farm/ranch which drains areas where chlorpyrifos or diazinon are applied, and monitoring of runoff or tailwater must be conducted within one week of chemical application. If discharge is not routinely present, Discharger may characterize typical run-off patterns in the Annual Report. See Table **5A**~~4a~~ for additional details.

7. ~~8.~~Tier 3 Dischargers must also monitor ~~tailwater~~ **storage** ponds and other **terminal** surface water containment ~~features~~ **structures that collect irrigation and stormwater runoff, unless the structure is (1) part of a tail-water return system where a major portion of the water in such structure is reapplied as irrigation water, or (2) the structure is primarily a sedimentation pond by design with a short hydraulic residence time (96 hours or less) and a discharge to surface water when functioning** . If multiple ponds are present, sampling must cover at least **those structures that would account for** 80% ~~by~~ **of the maximum storage** volume of the containment features, **regardless of their current stored volume**. See Table ~~4b~~ **5B** for additional details. **Where water is reapplied as irrigation water, Dischargers shall document reuse in the Farm Plan.**

Individual Surface Water Discharge Monitoring Parameters, Frequency, and Schedule

8.~~9.~~ Tier 3 Dischargers must conduct monitoring for parameters, laboratory analytical methods, frequency and schedule described in Table~~s~~ **5A and 5B**~~4A and 4B~~. Dischargers may utilize in-field water testing instruments/equipment as a substitute for laboratory analytical methods if the method is approved by U.S. EPA, meets reporting limits (RL) and practical quantitation limits (PQL) specifications in the MRP, and appropriate sampling methodology and quality assurance checks can be applied to ensure that QAPP standards are met to ensure accuracy of the test.

9.~~10.~~**By ~~October~~ December 1, 2013** ~~of the adoption of the Order~~, Tier 3 Dischargers must initiate individual surface water discharge monitoring per the Sampling and Analysis Plan and QAPP, unless otherwise directed by the Executive Officer.

[8] The requirement to select monitoring points to characterize at least 80% of the estimated **maximum** irrigation run-off **based on typical discharge patterns** is for the purposes of **attempting to** collect~~ing~~ samples that represent a majority of the volume of irrigation run-off discharged**; however, the Board recognizes that predetermining these locations is not always possible and that sampling results may vary**. The MRP does not specify the number or location of monitoring points to provide maximum flexibility for growers to determine how many sites are necessary and exact locations given **the anticipated** site-specific conditions.

J. Provisions Addressing Nitrogen Application

The Agricultural Order contains a number of provisions designed to control and reduce the discharge of nitrogen to groundwater (collectively referred to herein as "nutrient management requirements"). As previously discussed, nitrate in groundwater is a significant public health threat facing the Central Coast Region. We initially proposed convening the Expert Panel primarily to study and make recommendations with regard to how to address nitrate in groundwater statewide.

We will make some revisions to the nutrient management requirements of the Agricultural Order. These revisions reflect our best judgment as to temporary measures required to keep work on this important public health and environmental issue moving forward, while we await the results of the more extensive analysis from the Expert Panel. We expect the Expert Panel to propose a comprehensive, consistent approach that will inform agricultural regulatory programs statewide. However, the work on nitrates in groundwater is too critical to await those results, and we support the Central Coast Water Board's efforts to address the issue in the interim, with the revisions directed below.

1. Determination of Nitrate Loading Risk Level, Provision 68 and Part 2, Section C.1-4 of Tier 2 and Tier 3 MRPs

The nutrient management requirements of the Agricultural Order apply only to dischargers in Tier 2 and Tier 3 that are determined to have a high risk of causing nitrate loading to the groundwater. The Agricultural Order allows Tier 2 and Tier 3 dischargers to determine whether they have a high nitrate loading risk using one of two methodologies. The first is a methodology developed by the Central Coast Water Board that considers crop type, irrigation system type, and irrigation water nitrate concentration at the farm (or, at the discretion of the discharger, in smaller "nitrate loading risk units") and assigns a risk based on these

factors.[98] Alternatively, dischargers may use the Groundwater Pollution Nitrate Hazard Index developed by the University of California Agricultural and Natural Resources (UCANR) group, which assigns a risk level based on crops grown, irrigation type, and soil type at the farm, and whether the fields have been deep ripped.[99] Dischargers report a Nitrate Loading Risk level for each farm or each nitrate loading risk unit, which is a subdivision of the farm based on farm conditions such as irrigation system type or crop type.

We agree with the Agricultural Petitioners that neither methodology can provide a precise measurement of risk of nitrate loading to groundwater, although the UCANR methodology comes closer because of the inclusion of soil type in the risk factors. Further, as the Agricultural Petitioners point out and the Central Coast Water Board acknowledges, the dischargers will need to estimate some of the inputs; for example, they may have to rely on crop substitutions when the exact crop is not ranked for risk or enter the most permeable soil type as the input when the farm has several soil types. We will task the Expert Panel with developing or endorsing a methodology for determining when a particular farm poses a risk to loading nitrates to groundwater.

However, despite the flaws in the proposed methodologies, we will not disturb the nitrate loading risk level determination set up by the Central Coast Water Board. We previously stayed these provisions, finding that the Agricultural Petitioners had raised enough concerns and questions about the reliability of the methodologies and stating that the methodologies needed to provide meaningful and reliable information.[100] Our review on the merits has not alleviated our concern that the methodologies are imprecise; however, neither has it revealed a more suitable methodology. In the absence of a clearly superior single methodology, we believe that the dischargers should have the opportunity to estimate their risk under either method. The effect of having both options is to permit a discharger with a high-risk determination under the Central Coast Water Board methodology to recalculate that result using the UCANR method. In effect, the discharger must submit to the nutrient management requirements of the Agricultural Order only if the discharger measures as high risk under both methods – a result that reduces the chances that a farm that is actually low risk will be categorized as high risk under the Agricultural Order.

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[98] Tier 2 and Tier 3 MRPs, Part II, §§ C.1-4 & Table 4.

[99] University of California, Center for Water Resources, Nitrate Groundwater Pollution Hazard Index, <http://ucanr.org/sites/wrc/Programs/Water_Quality/Nitrate_Groundwater_Pollution_Hazard_Index/> (as of Jun. 4, 2013).

[100] Stay Order, p. 18.

The deadline for calculation of the nitrate loading risk level in the Agricultural Order is October 1, 2012, which was stayed by our Stay Order. We now direct Tier 2 and Tier 3 dischargers to calculate their Nitrate Loading Risk Level by January 15, 2014.

We shall amend Provision 68 as follows:

> 68. **By ~~October~~ January 15, ~~2012,~~ 2014,** Tier 2 and Tier 3 Dischargers must determine nitrate loading risk factor(s) in accordance with MRP Order No. R3-2012-0011-02 and MRP Order No. R3-2012-0011-03 and report the nitrate loading risk factors and overall Nitrate Loading Risk level calculated for each ranch/farm or nitrate loading risk unit in the Annual Compliance Form, electronically (or in a format specified by the Executive Officer).

2. Total Nitrogen Applied, Provision 70 and Part 2, Section C.5 of Tier 2 and Tier 3 MRPs

Once a Tier 2 or Tier 3 discharger is determined to have high nitrate loading risk, the requirement to report total nitrogen applied is triggered. By October 1, 2014, and by October 1 annually thereafter, the discharger must report the total annual nitrogen applied per crop per acre for each farm or nitrate loading risk unit.

We support the reporting of total nitrogen applied, but find that this requirement is confusing as written. Also, because we strike some of the requirements for reporting under the Irrigation and Nutrient Management Plan provisions as discussed in the next section, we believe it is especially important that a comprehensive set of data is reported under the provisions for total nitrogen applied. Our amendments to Part 2, Section C.5 of the Tier 2 and Tier 3 MRPs clarify the set of data expected to be reported by creating two methods for reporting. The first method requires reporting for each field or management block that is planted with a single crop and requires reporting of nitrogen applied through fertilizers, nitrogen in the irrigation water, and nitrogen present in the soil.[101] This method is preferred because it will assist the discharger in determining how much nitrogen should be applied to the field or management block. We note that the practice of recording and budgeting of nitrogen application is a relatively low-cost, standard industry practice that is widely recommended by agronomists and crop specialists and already utilized by many growers in the Central Coast region.[102] However, we recognize that for some farms that have multiple crops planted over multiple rotations, this reporting requirement may be overly burdensome. As a result, we provide a second method of reporting for such

[101] The Central Coast Water Board has acknowledged in its Response to the Petitions that the provisions on total nitrogen applied require revision and clarification. (Central Coast Water Board Response to the Petitions, pp. 18-20.)

[102] See AR File Nos. 23, 177, 178, & 234.

farms that allows for aggregated data to be reported at the nitrate loading risk unit level. While the second method does not assist the discharger in effectively managing nitrogen inputs, it will provide sufficient data to the Central Coast Water Board to identify dischargers who are applying relatively high levels of nitrogen for any appropriate follow up action. We will ask the Expert Panel to evaluate both methods of reporting.

The Agricultural Order allows dischargers to develop an individual discharge groundwater monitoring and reporting program in lieu of reporting total nitrogen applied. We do not see this alternative as one that will produce data of use to the Central Coast Water Board in the absence of an ambitious and costly approach that would include drilling and monitoring of monitoring wells. We will strike that alternative and instead require all Tier 2 and Tier 3 dischargers to report total nitrogen applied.[103]

We shall amend Sections C.2 and C.5 of Part 2 of the Tier 2 and Tier 3 MRPs as follows:

Tier 2 MRP, Part 2, Section C:

2. Tier 2 Dischargers may choose to subdivide the ranch/farm into "nitrate loading risk units," based on the variability of ranch/farm conditions for the purposes of complying with this Order. A nitrate loading risk unit is a subdivided unit of the ranch/farm ~~with different farming conditions~~**. Factors that a discharger may consider in subdividing the farm into nitrate loading risk units include but are not limited to** ~~(~~irrigation system type, crop type, nitrate concentration in the irrigation water, **soil type, number and size of management blocks that would have to otherwise be reported under Method 1 in subsection C.5 below**~~etc.)~~. The nitrate loading risk unit may be the total ranch, a number of blocks, or an individual block. If a Discharger chooses to subdivide the ranch/farm into individual nitrate loading risk units, the Discharger must maintain individual record keeping, and conduct monitoring and reporting for each nitrate loading risk unit.

. . .

5. Tier 2 Dischargers with individual farms/ranches or nitrate loading risk units that have a HIGH nitrate loading risk must report **application of nitrogen annually using Method 1 or 2:**
   Method 1 (by field or management block):
   a. **T**~~t~~otal nitrogen applied **in lbs/acre per crop[1] for each field or management block and identification of the crop type[2]** ~~per crop, per acre, per year to each farm/ranch or nitrate loading risk unit in the electronic Annual Compliance Form~~. Total nitrogen ~~must be reported~~

[103] We reject the argument made by the Agricultural Petitioners that total nitrogen applied is sensitive proprietary information not appropriate for reporting for the same reasons articulated in our discussion of Farm Plans. We have already stated in this Order that, with regard to the proprietary of information submitted by dischargers, we will defer to the protections for sensitive business information created by the Legislature in the Water Code and the Public Records Act. Further, we see the timing and frequency of applications, which are not required to be reported, rather than data regarding total amount, as more relevant to competitive business practices.

~~in units of nitrogen, for~~ **applied includes** any product, form**,** or concentration including, but not limited to, organic and inorganic fertilizers, slow release products, compost, compost teas, manure, **and** extracts**.**~~,~~ ~~nitrogen present in the soil, and nitrate in irrigation water;~~ **The discharger shall also identify the underlying basis for the amount of total nitrogen that the discharger decided to apply. The discharger may report more than one basis.**

b. Average nitrogen concentration in irrigation water during the annual reporting period, reported as total nitrogen in mg/L, applied to each farm/ranch or nitrate loading risk unit, and also the calculated or estimated nitrogen load in lbs/acre for each field or management block.

c. Total nitrogen present in the soil in lbs/acre for each field or management block prior to the first application of fertilizer to the crop.

~~a. As an alternative to reporting total nitrogen, Tier 2 Dischargers with high nitrate loading risk may propose an individual discharge groundwater monitoring and reporting program (GMRP) plan for approval by the Executive Officer. The GMRP plan must evaluate waste discharge to groundwater from each ranch/farm or nitrate loading risk unit and assess if the waste discharge is of sufficient quality that it will not cause or contribute to exceedances of any nitrate water quality standards in groundwater.~~

Method 2 (by nitrate loading risk unit):

a. Total acres of each nitrate loading risk unit.

b. Total nitrogen applied (sum of all applications) to each nitrate loading risk unit during the annual reporting period in lbs.[1] Total nitrogen applied includes any product, form, or concentration including, but not limited to, organic and inorganic fertilizers, slow release products, compost, compost teas, manure, and extracts. The discharger shall also identify the underlying basis for the amount of total nitrogen that the discharger decided to apply. The discharger may report more than one basis.

c. Average nitrogen concentration in irrigation water during the annual reporting period, reported as total nitrogen in mg/L, applied to each farm/ranch or nitrate loading risk unit, and also the calculated or estimated nitrogen load in lbs/acre.

d. Total acres of each crop type grown[3] within the nitrate loading risk unit during the annual reporting period.

e. Total nitrogen present in the soil in lbs/acre for each field within the nitrate loading risk unit, measured once per annual reporting period prior to the first application of fertilizer to the first crop in rotation.

[1] This reporting requirement is for the nitrogen content of fertilizer in lbs and not the total lbs of fertilizer. For example, if 100 lbs/acre of fertilizer is applied with 12 percent nitrogen, 12 lbs/acre of nitrogen is reported.

[2] In order to report on a field basis, the entire field must be planted with the same crop and receive the same fertilizer inputs. A management block is any portion of a discharger's land that is planted with the same crop and receives the same

fertilizer inputs. Management blocks may consist of multiple fields and/or divisions of a single field.

[3]If a crop type is grown in more than one rotation during the annual reporting period, then total acres of the crop type equals the sum of the acres planted in each rotation.

Tier 3 MRP, Part 2, Section C:

3. Tier 3 Dischargers may choose to subdivide the ranch/farm into "nitrate loading risk units," based on the variability of ranch/farm conditions for the purposes of complying with this Order. A nitrate loading risk unit is a subdivided unit of the ranch/farm ~~with different farming conditions~~**. Factors that a discharger may consider in subdividing the farm into nitrate loading risk units include but are not limited to** ~~(~~irrigation system type, crop type, nitrate concentration in the irrigation water, **soil type, number of management blocks that would have to otherwise be reported under Method 1 in subsection C.5 below** ~~etc.)~~. The nitrate loading risk unit may be the total ranch, a number of blocks, or an individual block. If a Discharger chooses to subdivide the ranch/farm into individual nitrate loading risk units, the Discharger must maintain individual record keeping, and conduct monitoring and reporting for each nitrate loading risk unit.

. . .

5. Tier 3 Dischargers with individual farms/ranches or nitrate loading risk units that have a HIGH nitrate loading risk must report **application of nitrogen annually using Method 1 or 2:**

   Method 1 (by field or management block):

   a. ~~t~~**Total** nitrogen applied **in lbs/acre[1] per crop for each field or management block and identification of the crop type.[2]** ~~per crop, per acre, per year to each farm/ranch or nitrate loading risk unit in the electronic Annual Compliance Form~~. Total nitrogen ~~must be reported in units of nitrogen, for~~ **applied includes** any product, form**,** or concentration including, but not limited to, organic and inorganic fertilizers, slow release products, compost, compost teas, manure, **and** extracts~~,~~**.** ~~nitrogen present in the soil, and nitrate in irrigation water;~~ **The discharger shall also identify the underlying basis for the amount of total nitrogen that the discharger decided to apply. The discharger may report more than one basis.**~~;~~

   b. Average nitrogen concentration in irrigation water during the annual reporting period, reported as total nitrogen in mg/L, applied to each farm/ranch or nitrate loading risk unit, and also the calculated or estimated nitrogen load in lbs/acre for each field or management block.

   c. Total nitrogen present in the soil in lbs/acre for each field or management block prior to the first application of fertilizer to the crop.

      ~~a. As an alternative to reporting total nitrogen, Tier 3 Dischargers with high nitrate loading risk may propose an individual discharge groundwater monitoring and reporting program (GMRP) plan for approval by the Executive Officer. The GMRP plan must evaluate~~

~~waste discharge to groundwater from each ranch/farm or nitrate loading risk unit and assess if the waste discharge is of sufficient quality that it will not cause or contribute to exceedances of any nitrate water quality standards in groundwater.~~

Method 2 (by nitrate loading risk unit):

a. Total acres of each nitrate loading risk unit.

b. Total nitrogen applied (sum of all applications) to each nitrate loading risk unit during the annual reporting period in lbs.[1] Total nitrogen applied includes any product, form, or concentration including, but not limited to, organic and inorganic fertilizers, slow release products, compost, compost teas, manure, and extracts. The discharger shall also identify the underlying basis for the amount of total nitrogen that the discharger decided to apply. The discharger may report more than one basis.

c. Average nitrogen concentration in irrigation water during the annual reporting period, reported as total nitrogen in mg/L, applied to each farm/ranch or nitrate loading risk unit, and also the calculated or estimated nitrogen load in lbs/acre.

d. Total acres of each crop type grown[3] within the nitrate loading risk unit during the annual reporting period.

e. Total nitrogen present in the soil in lbs/acre for each field within the nitrate loading risk unit, measured once per annual reporting period prior to the first application of fertilizer to the first crop in rotation.

[1] This reporting requirement is for the nitrogen content of fertilizer in lbs and not the total lbs of fertilizer. For example, if 100 lbs/acre of fertilizer is applied with 12 percent nitrogen, 12 lbs/acre of nitrogen is reported.

[2] In order to report on a field basis, the entire field must be planted with the same crop and receive the same fertilizer inputs. A management block is any portion of a discharger's land that is planted with the same crop and receives the same fertilizer inputs. Management blocks may consist of multiple fields and/or divisions of a single field.

[3] If a crop type is grown in more than one rotation during the annual reporting period, then total acres of the crop type equals the sum of the acres planted in each rotation.

3. Irrigation and Nutrient Management Plan, Provisions 74-77 and 79 and Part 6 of Tier 3 MRP

Tier 3 dischargers with a high nitrate loading risk must prepare and implement an Irrigation and Nutrient Management Plan (INMP) and have it certified by a qualified professional. The INMP is a plan to help the dischargers budget and manage nutrients applied to the fields[104] and requires identification of crop nitrogen needs, record keeping of nitrogen applied, balancing nitrogen applied and nitrogen uptake, and identification of practices to reduce nitrogen loading to groundwater. The Agricultural Petitioners do not object generally to the requirement to

[104] Tier 3 MRP, Part 6, § A.2.

prepare and implement an INMP, but challenge four elements of the INMP that must be reported on the annual compliance form: (1) identification of crop nitrogen uptake values; (2) annual balance of nitrogen applied per crop compared to typical crop nitrogen uptake for each farm or nitrate loading risk unit; (3) annual estimation of nitrogen loading to groundwater and surface water; and (4) annual evaluation of reductions in nitrate loading to groundwater due to practice implementation. The Agricultural Petitioners argue that the information gathered and calculated for these elements is speculative and therefore not appropriate for inclusion in the INMP and for public reporting, as it might be misinterpreted or misused.[105] For the same reasons, the Agricultural Petitioners argue that an INMP effectiveness report to be submitted by October 1, 2016, will be speculative and should not be required. The Agricultural Petitioners additionally posit that the certification requirement for the INMP constitutes an unnecessary expense and that the dischargers can prepare the INMP without expert assistance.

With regard to the four reportable elements of the INMP, we agree with the Agricultural Petitioners that they result in at best an estimate of the nutrient balance ratio at a given farm and of the nitrate load leaving the farm. Crop nitrogen uptake values are not widely available and will require crop substitution, making the accuracy of the balance ratio questionable. An accurate calculation of the load discharged to surface water and groundwater requires a much more nuanced calculation than simply comparing the nitrogen applied to the fields and the amount expected to be taken up by the crops. Without reliable data on annual nitrate loading to groundwater in the first place, estimates of annual reductions in that loading are also unreliable. For these reasons, we will strike the requirements in the Agricultural Order to include calculations of the balance ratio of nitrogen applied to nitrogen uptake, the estimation of annual loading of nitrogen to groundwater and surface water, and the annual reduction in nitrogen loading to groundwater, as well as the requirement to report this information to the Central Coast Water Board. We will retain the requirement to determine crop nitrogen uptake values as part of preparation of the INMP, as this information is important to both the discharger and the professional certifying the INMP in determining the appropriate amount of nitrogen to be applied at the farm, but we will strike the requirement to have that information reported.

We recognize the value to the Central Coast Water Board of collecting data that will help identify dischargers that significantly overapply nitrogen. Such data allows the Central

[105] The Agricultural Petitioners also argue that the requested information is proprietary. Because we strike the reporting requirement based on other grounds, *post*, we do not need to address this contention. Additionally, we have already stated in this Order that, with regard to the proprietary of information submitted by dischargers, we will defer to the protections for sensitive business information created by the Legislature in the Water Code and the Public Records Act.

Coast Water Board to follow up and work with these dischargers to reduce nitrogen loss to groundwater and surface water. But we do not agree with the Central Coast Water Board that the balance ratio constitutes the appropriate data for identifying excess application. We think the more detailed and accurate data that we have required to be reported under the total nitrogen applied provisions, which does not suffer from the same level of unreliability as the balance ratio (and which must be reported by both Tier 2 and Tier 3 dischargers that have high nitrate loading risk), will allow the Central Coast Water Board to easily identify outliers in nitrogen application and to prioritize these dischargers for follow up.

Further, while we strike the nitrogen balance requirements in the short-term, we will ask the Expert Panel to develop a template for nutrient balance determinations. We will also ask the Expert Panel to consider the best approaches to evaluating nitrate discharges to groundwater. For example, a more promising approach may be to require dischargers to do a soil profile analysis designed to determine the extent to which nitrogen applied to the fields moves below the root zone, a measure of excessive application. In the interim, we see little benefit to the Central Coast Water Board in collecting data upon which it cannot draw any reliable conclusions.

We will also strike Provision 76, which allows dischargers to develop an individual discharge groundwater monitoring and reporting program in lieu of the development and implementation of an INMP. As with the similar alternative provided under the total nitrogen reporting requirements, we do not see this alternative to the INMP as one that will produce data of use to the Central Coast Water Board in the absence of an ambitious technical undertaking. The INMP is a management practice that is generally supported by agricultural experts,[106] and we believe preparation of the INMP, rather than an alternative, is appropriate for Tier 3 dischargers with high nitrate loading risk.

We will not strike the requirements for certification of the INMP. The Central Coast Water Board convincingly argues that the certification requirement assures the Board that the INMPs will be agronomically sound and environmentally effective.[107] We will also retain the effectiveness report, but with revisions to clarify that the evaluation may be carried out by the dischargers, as opposed to a qualified professional, based on data that the discharger is already required to collect under the Agricultural Order. Unlike the reporting of elements of the INMP

[106] See AR File Nos. 23; 177; 178; 233, p. 61; 287 (Letter 12), pp. 5-6; see also Ocean Mist Petition, p. 19, & Grower-Shipper Petition, p. 46 (stating that petitioners do not generally oppose a requirement for an irrigation and nutrient management plan).

[107] Central Coast Water Board Response to the Petitions, p. 21; AR File Nos. 233, p. 146; 265, pp. 490-91.

that we will strike, the effectiveness evaluation, as revised, constitutes a more qualitative assessment of the discharger's experience in implementing the INMP and, as a result, does not suffer from the same level of imprecision as the individual numbers required to be reported for balance ratios, loads, and load reductions.

We shall delete Provisions 74, 76, and 77 and Section B.1 of Part 6 of the Tier 3 MRP.[108] We shall amend Sections A.3-5 and Section B.2 of Part 6 of the Tier 3 MRP as follows:

Section A:

3. The professional certification of the INMP must indicate that the relevant expert has reviewed all necessary documentation and testing results, evaluated ~~nutrient balance calculations (~~total nitrogen applied relative to typical crop nitrogen uptake and nitrogen removed at harvest~~), evaluated estimated~~ **with consideration to potential** nitrate loading to groundwater,~~ evaluated progress towards nutrient management targets,~~ and conducted field verification to ensure accuracy of reporting.

4. Tier 3 Dischargers with High Nitrate Loading Risk must include the following elements in the INMP. The INMP is not submitted to the Central Coast Water Board, ~~with the exception of key elements identified in Part 6B~~**with the exception of the INMP Effectiveness Report**:
    a. Proof of INMP certification;
    b. Map locating each farm/ranch or nitrate loading risk unit;
    c. Identification of nitrate loading risk factors or input to the Groundwater Pollution Nitrate Hazard Index and overall Nitrate Loading Risk level calculation for each ranch/farm or nitrate loading risk unit;
    d. Identification of crop nitrogen uptake values for use in nutrient balance calculations;
    e. Record keeping **annually** ~~of~~ **by either Method 1 or Method 2:**
    Method 1 (by field or management block):
        i. **T**~~t~~he total nitrogen applied **in lbs/acre** per crop~~, per acre to each farm/ranch or nitrate loading risk unit~~ **for each field or management block and identification of the crop type.** ~~(in units of nitrogen, in~~ **Total nitrogen applied includes** any product, form**,** or concentration~~)~~ including, but not limited to, organic and inorganic fertilizers, slow release products, compost, compost teas, manure~~,~~ **and** extracts**.**~~, nitrogen present in the soil, and nitrate in irrigation water~~ **The discharger shall also identify the underlying basis for the amount of total nitrogen that the discharger decided to apply. The discharger may report more than one basis.**~~;~~
        ii. Average nitrogen concentration in irrigation water during the annual reporting period, reported as total nitrogen in mg/L,

[108] Throughout this Order, when we order deletion of an entire provision from the Agricultural Order, the strikeout text will not reflect that deletion. For example, the text below does not reproduce the stricken Table 5B. At the end of this Order, we identify for clarity the specific provisions deleted from the Agricultural Order.

applied to each farm/ranch or nitrate loading risk unit, and also the calculated or estimated nitrogen load in lbs/acre for each field or management block.

iii. Total nitrogen present in the soil in lbs/acre for each field or management block prior to the first application fertilizer to the crop.

Method 2 (by nitrate loading risk unit):

i. Total acres of each nitrate loading risk unit.

ii. Total nitrogen applied (sum of all applications) to each nitrate loading risk unit during the annual reporting period in lbs. Total nitrogen applied includes any product, form, or concentration including, but not limited to, organic and inorganic fertilizers, slow release products, compost, compost teas, manure, and extracts. The discharger shall also identify the underlying basis for the determination of the amount of total nitrogen applied. The discharger may report more than one basis.

iii. Average nitrogen concentration in irrigation water during the annual reporting period, reported as total nitrogen in mg/L, applied to each farm/ranch or nitrate loading risk unit, and also the calculated or estimated nitrogen load in lbs/acre.

iv. Total acres of each crop type grown within the nitrate loading risk unit during the annual reporting period.

v. Total nitrogen present in the soil in lbs/acre for each field within the nitrate loading risk unit, measured once per annual reporting period prior to the first application of fertilizer to the first crop in rotation.

f. ~~Dischargers must~~**To meet the requirement to record total nitrogen in the soil in 4.e. dischargers may** take a nitrogen soil sample (e.g. laboratory analysis or nitrate quick test) or use an alternative method to evaluate nitrogen content in soil, prior to planting or seeding the field or prior to the time of pre-sidedressing. The amount of nitrogen remaining in the soil must be accounted for as a source of nitrogen when budgeting, and the soil sample or alternative method results must be maintained in the INMP.

~~g. Annual balance of nitrogen applied compared to typical crop nitrogen uptake for each ranch/farm or nitrate loading risk unit (Nitrogen Balance ratio);~~

~~h. Annual estimation of nitrogen loading to groundwater and surface water, including subsurface drainage (e.g., tile drains), from each ranch/farm or nitrate loading risk unit;~~

~~i.~~ **g**. Identification of irrigation and nutrient management practices in progress (identify start date), completed (identify completion date), and planned (identify anticipated start date) to reduce nitrate loading to groundwater to achieve compliance with this Order.

~~j. Annual evaluation of reductions in nitrate loading to groundwater resulting from decreased fertilizer use and/or implementation of irrigation and nutrient management practices;~~

~~k.~~ **h.** Description of methods Discharger will use to verify overall effectiveness of the INMP.

5. Tier 3 Dischargers must evaluate the effectiveness of the INMP. Irrigation and Nutrient Management Plan effectiveness monitoring ~~must be conducted or supervised by a registered professional engineer, professional geologist, Certified Crop Advisor, or similarly qualified professional. Monitoring~~ must evaluate ~~measured progress towards protecting, preserving, and restoring groundwater quality in the upper-most aquifer (or perched aquifer, whichever is first encountered), resulting from~~ reductions in loading based on reduced fertilizer use and improved irrigation and nutrient management practices **in order to minimize nitrate loading to surface water and groundwater**. ~~Monitoring~~ **Evaluation** methods used may include, but are not limited to**,** ~~lysimeter monitoring, shallow groundwater or soil monitoring, or~~ **analysis of** groundwater well monitoring **data or soil sample data, or analysis of trends in nitrogen application data**. ~~If the physical monitoring by itself cannot demonstrate progress towards compliance with the Order, the Discharger may need to supplement physical monitoring with contaminant transport and flow modeling.~~

Section B:

1. ~~2.~~ **By October 1, 2016**, Tier 3 Dischargers that have farms/ranches with high nitrate loading risk to groundwater must submit an INMP Effectiveness Report to evaluate ~~measured progress towards protecting, preserving, and restoring groundwater quality in the upper-most aquifer, including~~ reductions in **nitrate** loading **to surface water and groundwater** based on the implementation of irrigation and nutrient management practices. ~~The INMP Effectiveness Report must be prepared by a state registered professional engineer, professional geologist, Certified Crop Advisor, or similarly qualified professional~~. Dischargers in the same groundwater basin or subbasin may choose to comply with this requirement as a group by submitting a single report that evaluates the overall effectiveness of the broad scale implementation of irrigation and nutrient management practices identified in individual INMPs to protect groundwater ~~and achieve water quality standards for nitrate~~. Group efforts must use data from each farm/ranch (e.g., **data from** individual groundwater wells, ~~lysimeters, and/or~~ soil samples, **or nitrogen application**) ~~to adequately represent groundwater quality and progress towards groundwater protection for all farms/ranches in the group~~. The INMP Effectiveness Report must include **a description of the methodology used to evaluate and verify effectiveness of the INMP.** ~~the following elements and submitted with the electronic Annual Compliance Form:~~

~~a. A description of the methodology used to evaluate and verify effectiveness of the INMP (e.g., lysimeter monitoring, shallow groundwater or soil monitoring, groundwater well monitoring, contaminant transport and flow modeling);~~

~~b. An evaluation of how discharges of waste and any associated reductions in nitrate loading will decrease the concentration of nitrate in the upper-most aquifer, commensurate with water quality standards, within a reasonable and foreseeable time frame, and compared to milestones identified in the Order;~~

c. ~~Based on estimated nitrate loading reductions to the groundwater basin or subbasin, the estimated number of years to achieve water quality standards in receiving water;~~

4. Nitrogen Balance Ratios, Provision 78

Provision 78 requires Tier 3 dischargers with high nitrate loading risk level to "report progress toward certain nitrogen balance ratios by October 1, 2015." Dischargers producing crops in annual rotation must report progress toward a nitrogen balance ratio target of 1.0. Dischargers producing annual crops occupying the ground for the entire year must report progress towards a nitrogen balance ratio target of 1.2. The Agricultural Petitioners argue that the ratios represent an oversimplification of crop nutrient needs compared to nutrient applied and are therefore inappropriate targets. They further contend that the requirement constitutes the Central Coast Water Board dictating the manner of compliance in contravention of Water Code section 13360. Because our conclusion below rests on the former issue, we need not address the latter argument.

Going into the March 14-15, 2012 Central Coast Water Board hearing, the proposed Draft Agricultural Order Provision 78 stated that the relevant dischargers "must meet," as opposed to "report progress toward," the nitrogen balance ratio targets.[109] The provision was amended in response to comments at the hearing. The Keepers argue that elimination of the firm and measurable requirement that would have applied to nitrate discharges to groundwater rendered the Agricultural Order inconsistent with the water quality objectives in the Central Coast Basin Plan[110] and with Water Code section 13269's mandate that any waiver of waste discharge requirements be in the public interest.

We have already stated above that we view the balance ratio required to be calculated by the dischargers in the INMP to be at best an estimate of the relationship between the nitrogen employed by the discharger and the nitrogen needed by the crop. Similarly, the target ratios advocated by the Central Coast Water Board and the Keepers are approximations of a complex relationship between nitrogen application and crop uptake.[111] We are keenly aware of the benefit and necessity of providing targets to encourage and measure progress in

[109] AR File No. 338, p. 29.

[110] The Keepers reference the Central Coast Basin Plan requirements that 1) all waters be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal or aquatic life (Central Coast Basin Plan, § III-4); that 2) waters not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses (*id*. at § III-3); and that 3) nitrate concentrations in domestic water supplies shall not exceed 45 mg/l (*id.* at §§ III-5, III-7). (Petition Requesting Review by Monterey Coastkeeper et al. (Apr. 16, 2012), p. 10.)

[111] AR File Nos. 254, pp. 52-57; 287 (Letter 12), pp. 6-8.

reducing pollutant discharges in agricultural regulatory programs. However, because of the speculative and overly simplistic nature of both the calculated ratios relevant to each farm and of the target ratios, we see little to be gained from asking the dischargers to even "make progress toward" these particular targets. As such, we disagree with the Keepers that the nitrogen balance ratio targets are in fact firm and measurable requirements.[112] We will ask the Expert Panel to determine whether the targets can be reformulated to support some firm and measurable requirement or if an alternative approach, such as soil profile monitoring or monitoring of a regional network of monitoring wells would be preferable.

We shall delete Provision 78.

K. Water Quality Buffer Plan, Provision 80 and Part 7 of Tier 3 MRP

Provision 80 and Tier 3 MRP Part 7 require a subset of Tier 3 dischargers, specifically those with farms adjacent to or containing a waterbody listed as impaired for temperature, turbidity, or sediment, to prepare and implement a Water Quality Buffer Plan. The Water Quality Buffer Plan must propose a 30-foot or more buffer of undisturbed soil and riparian vegetation along the impaired waterbody or justify a smaller buffer based on an analysis of site-specific conditions approved by the Executive Officer.[113] As an alternative to the development and implementation of the Water Quality Buffer Plan, the affected dischargers may submit evidence to the Executive Officer demonstrating that any discharge of waste is sufficiently treated or controlled such that it will not cause or contribute to exceedances of water quality standards.

The Agricultural Petitioners make two arguments that the Water Quality Buffer Plan is contrary to law. First, they argue that the requirement dictates the manner of compliance in contravention of Water Code section 13360. Given the alternative compliance option whereby a discharger can choose instead to demonstrate that the discharge is treated or controlled to a level of not causing or contributing to violations of water quality standards, we

[112] As discussed, the Agricultural Order requires compliance with applicable water quality standards and with applicable provisions of the Central Coast Basin Plan at Provisions 22 and 23. The approach taken in the Agricultural Order to achieving compliance with the Central Coast Basin Plan requirements over time through management practice implementation is consistent with the State Water Board's Non-Point Source Policy (pp. 12-13) and consistent with the public interest in addressing a water quality issue that has few immediate and easy solutions.

[113] To the extent the Central Coast Water Board picked the buffer width of 30 feet based on the Basin Plan language cited in the Agricultural Order, the Board was misguided. A filter strip width of 30 feet is specified in the Basin Plan only for construction activities, not all land disturbance activities. (Central Coast Basin Plan, § V-13.) However, we find no harm as the provisions contemplate that the buffer width may be less (or more) than 30 feet based on site-specific conditions.

find that the Central Coast Water Board is not dictating the dischargers' manner of compliance here.[114]

Second, the Agricultural Petitioners argue that the requirement to implement the Water Quality Buffer Plan effects a regulatory taking prohibited by the Fifth Amendment by interfering with the investment-backed expectations of the dischargers who would otherwise utilize the buffer strips for agricultural use. A regulatory taking is an economic loss resulting from a regulatory action, as opposed to the government physically taking property through its power of eminent domain. The seminal case on regulatory takings is *Penn Central Transp. Co. v. City of New York* (1978) 438 U.S. 104 (*Penn Central*). *Penn Central* held that determining whether a regulatory action constitutes a taking requires a fact-specific consideration of "[t]he economic impact of the regulation on the claimant and, particularly, the extent to which the regulation has interfered with distinct investment-backed expectations," as well as the nature of the taking, i.e. whether it is "a physical invasion by government . . . or arises from some public program adjusting the benefits and burdens of economic life to promote the common good."[115]

Here, the alleged taking – the requirement that a subset of Tier 3 dischargers devote a strip of land along impaired water bodies to uses consistent with providing a filter to pollutants – is the result of regulatory action to promote environmental and public health protection. Further, with regard to the economic impact, the reduction in agricultural production is limited by the fact that the buffer strips will in most cases constitute a small portion of any given farm.[116] Finally, we note that dischargers may avoid the Water Quality Buffer Plan requirements by utilizing the alternative compliance option or by opting out of the Agricultural Order altogether in favor of individual waste discharge requirements. We reject the argument that the requirement to implement the Water Quality Buffer Plan constitutes a taking.

Accordingly, we will make no changes to the Water Quality Buffer Plan provisions. We emphasize that the buffers required by the relevant provisions will be along water bodies with known impairments due to pollutants associated with agricultural discharges.

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[114] See *Tahoe-Sierra Preservation Council v. State Water Resources Control Bd.* (1989) 210 Cal.App.3d 1421, 1438 (recognizing that preserving freedom of compliance options does not violate Water Code section 13360).

[115] *Penn Central,* 438 U.S. at 124; see also *Keystone Bituminous Coal Assoc. v. DeBenedictis* (1987) 480 U.S. 470, 487-493 (emphasizing the importance of the state's purpose in takings analysis and finding no taking where regulation was enacted to prevent subsidence resulting from coal extraction).

[116] "'Taking' jurisprudence does not divide a single parcel into discrete segments and attempt to determine whether rights in a particular segment have been entirely abrogated." (*Penn Central*, *supra,* 438 U.S. at 130; see also *Keystone Bituminous Coal Assoc., supra*, 480 U.S. at 497; *MacLeod v. Santa Clara County* (9th Cir. 1984) 749 F.2d 541, 547.) The case before us is not a total taking where a discharger is deprived of "all economically beneficial or productive use of land." (*Lucas v. South Carolina Coastal Council* (1992) 505 U.S.1003; see also *Palazzolo v. Rhode Island* (2001) 533 U.S. 606, 631-632.)

We support the Central Coast Water Board's determination that providing a buffer for filtration of the pollutants in these discharges is one of the most effective practices for protecting these most vulnerable waterways.[117]

We shall deny the request to delete Provision 80 and Part 7 of the Tier 3 MRP.

L. Annual Compliance Form, Provision 67 and Part 3 of Tier 2 and Tier 3 MRPs

The Agricultural Order requires Tier 2 and Tier 3 dischargers to electronically submit an Annual Compliance Form to the Central Coast Water Board on October 1, 2012, and to update it annually thereafter. In the Stay Order, we endorsed the use of the Annual Compliance Form generally,[118] but stayed certain provisions and required revisions consistent with the Stay Order directives.[119] We now make revisions to the Tier 2 and Tier 3 MRPs to make the Annual Compliance Form requirements consistent with our revisions elsewhere in this Order.

We shall amend Part 3 of the Tier 2 and Tier 3 MRPs as follows:

Tier 2 MRP, Part 3:

A. Annual Compliance Form

1. **By October 1, 2012 and updated annually thereafter by October 1**, Tier 2 Dischargers must submit an Annual Compliance Form electronically, in a format specified by the Executive Officer. The electronic Annual Compliance Form includes, but is not limited to the following minimum requirements**:**[3]

    a. Signed transmittal letter;
    b. Verification that any change in general operation or farm/ranch information (e.g., crop type, irrigation type, discharge type) is reported on update to Notice of Intent (NOI);
    c. Verification of compliance with monitoring requirements, including any cooperative monitoring fees;
    d. Verification of completed Farm Plan and date of last update;
    e. Information regarding type and characteristics of discharge (e.g., number of discharge points, estimated flow/volume-number of tailwater days);

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[117] See AR File No. 232, pp. 71-74.

[118] Our endorsement of the use of the Annual Compliance Form was based in part on the Central Coast Water Board's representation that it would be a user-friendly document facilitating ease of reporting. We reiterate our expectation here that the form be clear and user-friendly, and that it facilitate efficient reporting as well as allow easy updating and revising of submissions. We see the Annual Compliance Form more as a means of communicating the iterative process that the dischargers are undertaking, and less as a strict compliance point, since the iterative process of trying management practices and adjusting to changing conditions is a continuous process.

[119] Stay Order, pp. 21-22. The Annual Compliance Form is available at <http://www.waterboards.ca.gov/centralcoast/water_issues/programs/ag_waivers/docs/resources4growers/2012_09_26_acf_instructions_sampleform.pdf> (as of Jun. 4, 2013).

f. Identification of any direct agricultural discharges to a stream, lake, estuary, bay, or ocean;
g. Identification of specific farm water quality management practices completed, in progress, and planned to address water quality impacts caused by discharges of waste including irrigation management, pesticide management, nutrient management, salinity management, stormwater management, and sediment and erosion control to achieve compliance with this Order**, and identification of specific methods used, and described in the Farm Plan consistent with Order Provision 44.g., for the purposes of assessing the effectiveness of management practices implemented and the outcomes of such assessments** ;
h. ~~Nitrate concentration of irrigation water~~ **Average nitrogen concentration in irrigation water during the annual reporting period, reported as total nitrogen in mg/L applied for each farm/ranch or nitrate loading risk unit, and also the calculated or estimated nitrogen load in lbs/acre**;
i. Identification of the application of any fertilizers, pesticides, fumigants or other chemicals through an irrigation system (e.g. fertigation or chemigation) and proof of proper backflow prevention devices;
j. Description of method and location of chemical applications relative to surface water;
k. Nitrate Loading Risk factors in Table 4 or Nitrate Groundwater Pollution Hazard Index input and Nitrate Loading Risk level;
l. Proof of approved California Department of Fish and Game (CDFG) Streambed Alteration Agreement, as required by CDFG for any work proposed within the bed, bank or channel of a lake or stream, including riparian areas, that has the potential to result in erosion and discharges of waste to waters of the State;

Tier 2 Dischargers with farms/ranches that contain or are adjacent to a waterbody impaired for temperature, turbidity or sediment:

m. Photo monitoring to document condition of streams, riparian, and wetland area habitat and the presence of bare soil within the riparian habitat area that is vulnerable to erosion;[4]

Tier 2 Dischargers with farms/ranches that have High Nitrate Loading Risk:[5]

Either:

Method 1 (by field or management block):

n. ~~m.~~ Total nitrogen applied ~~per acre to each farm/ranch or nitrate loading risk unit~~ **in lbs/acre per crop for each field or management block and identification of the crop type.** ~~(in units of nitrogen, in~~ **Total nitrogen applied includes** any product, form**,** or concentration~~)~~ including, but not limited to, organic and inorganic fertilizers, slow release products, compost, compost teas, manure, **and** extracts**.**~~,~~ ~~nitrogen present in the soil, and nitrate in irrigation water;~~ **The discharger shall also identify the underlying basis for the determination of the amount of total**

nitrogen applied. The discharger may report more than one basis;
o. Total nitrogen present in the soil in lbs/acre for each field or management block prior to the first application of fertilizer to the crop;
or
Method 2 (by nitrate loading risk unit):
p. Total acres of each nitrate loading risk unit;
q. Total nitrogen applied (sum of all applications) to each nitrate loading risk unit during the annual reporting period in lbs. Total nitrogen applied includes any product, form or concentration including, but not limited to, organic and inorganic fertilizers, slow release products, compost, compost teas, manure, and extracts. The discharger shall also identify the underlying basis for the determination of the amount of total nitrogen applied. The discharger may report more than one basis;
r. Total acres of each crop type grown within the nitrate loading risk unit during the annual reporting period;
s. Total nitrogen present in the soil in lbs/acre for each field within the nitrate loading risk unit, measured once per annual reporting period prior to the first application of fertilizer to the first crop in rotation.

[3]Items reported in the Annual Compliance Document are due by October 1, 2012 and annually thereafter, unless otherwise specified.
[4]**Reporting due by October 1, 2014.**
[5]Due by October 1, 2014 and annually thereafter by October 1.

Tier 3 MRP, Part 3:

A. Annual Compliance Form

1. **By October 1, 2012 and updated annually thereafter by October 1**, Tier 3 Dischargers must submit an Annual Compliance Form electronically, in a format specified by the Executive Officer. The electronic Annual Compliance Form includes, but is not limited to the following minimum requirements[3]:
    a. Signed transmittal letter;
    b. Verification that any change in general operation or farm/ranch information (e.g., crop type, irrigation type, discharge type) is reported on update to Notice of Intent (NOI);
    c. Verification of compliance with monitoring requirements, including any cooperative monitoring fees;
    d. Verification of completed Farm Plan and date of last update;
    e. Information regarding type and characteristics of discharge (e.g., number of discharge points, estimated flow/volume, number of tailwater days);
    f. Identification of any direct agricultural discharges to a stream, lake, estuary, bay, or ocean;
    g. Identification of specific farm water quality management practices completed, in progress, and planned to address water quality impacts caused by discharges of waste including irrigation

management, pesticide management, nutrient management, salinity management, stormwater management, and sediment and erosion control to achieve compliance with this Order**, and identification of specific methods used, and described in the Farm Plan consistent with Order Provision 44.g., for the purposes of assessing the effectiveness of management practices implemented and the outcomes of such assessments**;

h. ~~Nitrate concentration of irrigation water~~ **Average nitrogen concentration in irrigation water during the annual reporting period, reported as total nitrogen in mg/L applied for each farm/ranch or nitrate loading risk unit, and also the calculated or estimated nitrogen load in lbs/acre**;

i. Identification of the application of any fertilizers, pesticides, fumigants or other chemicals through an irrigation system (e.g. fertigation or chemigation) and proof of proper backflow prevention devices;

j. Description of method and location of chemical applications relative to surface water;

k. Nitrate Loading Risk factors in Table 4 or Nitrate Groundwater Pollution Hazard Index input and Nitrate Loading Risk level;

l. Proof of approved California Department of Fish and Game (CDFG) Streambed Alteration Agreement, as required by CDFG for any work proposed within the bed, bank or channel of a lake or stream, including riparian areas, that has the potential to result in erosion and discharges of waste to waters of the State;

Tier 3 Dischargers with farms/ranches that contain or are adjacent to a waterbody impaired for temperature, turbidity or sediment:

m. Photo monitoring to document condition of streams, riparian, and wetland area habitat and the presence of bare soil within the riparian habitat area that is vulnerable to erosion;[4]

n. ~~Water Quality Buffer Plan or alternative~~[54];

Tier 3 Dischargers with farms/ranches that have High Nitrate Loading Risk:

Either:

Method 1 (by field or management block):

o. ~~Total nitrogen applied per acre to each farm/ranch or nitrate loading risk unit~~ **in lbs/acre per crop for each field or management block and identification of the crop type.** ~~(in units of nitrogen, in~~ **Total nitrogen applied includes** any product, form**,** or concentration~~)~~**,** including, but not limited to, organic and inorganic fertilizers, slow release products, compost, compost teas, manure, **and** extracts~~,~~**. The discharger shall also identify the underlying basis for the determination of the amount of total nitrogen applied. The discharger may report more than one basis;** ~~nitrogen present in the soil, and nitrate in irrigation water~~[5]~~;~~[6]

p. Total nitrogen present in the soil in lbs/acre for each field or management block prior to the first application of fertilizer to the crop;[6]

~~p. Specific elements of the INMP (e.g., Proof of certification, Crop Nitrogen Uptake Values, Nitrogen Balance Ratio, Estimate of Nitrate Loading to Groundwater, Estimate of Reduction in Nitrate Loading to Groundwater)~~[6];

or

Method 2 (by nitrate loading risk unit):

g. Total acres of each nitrate loading risk unit;

r. Total nitrogen applied (sum of all applications) to each nitrate loading risk unit during the annual reporting period in lbs. Total nitrogen applied includes any product, form, or concentration including, but not limited to, organic and inorganic fertilizers, slow release products, compost, compost teas, manure, and extracts. The discharger shall also identify the underlying basis for the determination of the amount of total nitrogen applied. The discharger may report more than one basis;

s. Total acres of each crop type grown within the nitrate loading risk unit during the annual reporting period;

t. Total nitrogen present in the soil in lbs/acre for each field within the nitrate loading risk unit, measured once per annual reporting period prior to the first application of fertilizer to the first crop in rotation.

and

~~q~~**u.**. INMP Effectiveness Report**.**[7]

[3]Items reported in the Annual Compliance Form are due by October 1, 2012 and annually thereafter, unless otherwise specified.

[4]**Reporting due by October 1, 2014 and October 1, 2017.**

[5][4]Due by October 1, 2016

[6][5]Due by October 1, 2014 and annually thereafter by October 1

[6]~~Due by October 1, 2015~~

[7]Due by October 1, 2016

Additionally, the Executive Officer of the Central Coast Water Board is directed to revise the Annual Compliance Form consistent with the revisions made to Part 3 of the Tier 2 and Tier 3 MRPs as well as consistent with revisions made to all other sections of the Agricultural Order. We note again that, with the adoption of this Order, the Stay Order has no further effect. During the stay proceedings, the petitioners and Central Coast Water Board staff met with State Water Board staff to come to agreement on which provisions of the Annual Compliance Form would be revised or removed to make the form consistent with the Stay Order. Since the Stay Order has no further effect, the Central Coast Water Board may now restore all requirements of the Annual Compliance Form that are consistent with this Order. The Central Coast Water Board has provided a redline/strikeout of the Annual Compliance Form showing revisions made to the form as a result of the Stay Order. To prevent any confusion that

may arise as to the effect of the dissolution of the stay on the Annual Compliance Form, we take official notice of the submission[120] and attach it to this Order as Exhibit 1. We find that the Annual Compliance Form may be restored to its original language with the exception (1) that Section B require reporting of the nitrate concentration in irrigation water as the annual average concentration and the estimated nitrogen loading consistent with the revisions above, and (2) that the Section K photo monitoring deadline reflect the new deadline of June 1, 2014, with the requirement to report on photo monitoring optional until October 1, 2014. We also expect the Central Coast Water Board to further revise the Annual Compliance Form prior to October 1, 2014, to include the requirements for high nitrate loading risk dischargers to report total nitrogen applied and nitrogen present in the soil consistent with our revisions,[121] and as otherwise necessary to reflect the requirements in the Agricultural Order as revised by this Order. For the October 1, 2013 reporting deadline, dischargers shall use the existing Annual Compliance Form prepared by the Central Coast Water Board following the stay, due to the short time frame between adoption of this Order and the deadline. The Annual Compliance Form shall be revised after October 1, 2013, to include Provision 68's requirement that Tier 2 and Tier 3 dischargers report the nitrate loading risk factors and overall Nitrate Loading Risk level by January 15, 2014.

M. Time Schedules, Order Tables 3 and 4, Table 5 of Tier 2 MRP, and Table 6 of Tier 3 MRP

We make additional edits to several tables in the Agricultural Order consistent with our amendments elsewhere in this Order.

We shall amend Tables 3 and 4, Table 5 of the Tier 2 MRP, and Table 6 of the Tier 3 MRP as follows:

Table 3. Additional Time Schedule for Compliance with Conditions Tier 2 and Tier 3 Dischargers

CONDITIONS	COMPLIANCE DATE
Tier 2 and Tier 3:	
Submit electronic Annual Compliance Form	October 1, 2012, and updated annually thereafter by October 1.

[120] Cal. Code Regs., tit. 23, §648.2.

[121] The Central Coast Water Board should work with the other regional water boards to develop a format for reporting total nitrogen applied and nitrogen present in the soil that can be used statewide.

Submit photo documentation of riparian or wetland area habitat (if farm/ranch contains or is adjacent to a waterbody impaired for temperature, turbidity, or sediment)	~~October 1, 2012~~**June 1, 2014, June 1, 2017**, and every four years thereafter by ~~October 1.~~**June 1.**
Calculate Nitrate Loading Risk level and report in electronic Annual Compliance Form	~~October1, 2012,~~ **January 15, 2014,** and annually thereafter by October 1.
Submit total nitrogen applied in electronic Annual Compliance Form (if discharge has High Nitrate Loading Risk)	October 1, 2014, and annually thereafter by October 1.
Only Tier 3:	
Initiate individual surface water discharge monitoring	~~October~~ **December** 1, 2013
~~Determine Crop Nitrogen Uptake (if discharge has High Nitrate Loading Risk)~~	~~October 1, 2013~~
Submit individual surface water discharge monitoring data	March 15, 2014, October 1, 2014 and annually thereafter by October 1
~~Submit INMP elements in electronic Annual Compliance Form (if discharge has High Nitrate Loading Risk), including Nitrogen Balance Ratio~~	~~October 1, 2015, and annually thereafter by October 1~~
~~Submit progress towards Nitrogen Balance Ratio target equal to one (1) for crops in annual rotation (e.g., cool season vegetables) or alternative, (if discharge has High Nitrate Loading Risk)~~	
~~Submit progress towards Nitrogen Balance Ratio target equal to 1.2 for annual crops occupying the ground for the entire year (e.g., strawberries or raspberries) or alternative, (if discharge has High Nitrate Loading Risk)~~	~~October 1, 2015~~
Submit Water Quality Buffer Plan or alternative (if farm/ranch contains or is adjacent to a waterbody impaired for temperature, turbidity, or sediment)	October 1, 2016
Submit INMP Effectiveness Report (if discharge has High Nitrate Loading Risk)	October 1, 2016

Table 4. Time Schedule for Milestones

MILESTONES[1]	DATE
Tier 1, Tier 2 and Tier 3:	
Measurable progress towards water quality standards in waters of the State or of the United States[1], or	Ongoing
Water quality standards met in waters of the State or of the United States.	October 1, 2016

Only Tier 3:	
<u>Pesticide and Toxic Substances Waste Discharges to Surface Water</u> *- One of two individual surface water discharge monitoring samples is not toxic* *- Two of two individual surface water discharge monitoring samples are not toxic*	 *October 1, 2014* *October 1, 2015*
<u>Sediment and Turbidity Waste Discharges to Surface Water</u> *- Four individual surface water discharge monitoring samples are collected and analyzed for turbidity.* *- 75% reduction in turbidity or sediment load in individual surface water discharge relative to October 1, 2012 load (or meet water quality standards for turbidity or sediment in individual surface water discharge)*	 *October 1, 2014* *October 1, 2015*
<u>Nutrient Waste Discharges to Surface Water</u> *- Four individual surface water discharge monitoring samples are collected and analyzed* *- 50% load reduction in nutrients in individual surface water discharge relative to October 1, 2012 load (or meet water quality standards for nutrients in individual discharge)* *- 75% load reduction in nutrients in individual surface water discharge relative to October 1, 2012 load (or meet water quality standards for nutrients in individual surface water discharge)*	 *October 1, 2014* *October 1, 2015* *October 1, 2016*
<u>Nitrate Waste Discharges to Groundwater</u> *- Achieve annual reduction in nitrogen loading to groundwater based on Irrigation and Nutrient Management Plan effectiveness and load evaluation*	 *October 1, 2016 and annually thereafter*

~~*- Achieve Nitrogen Balance Ratio equal to one (1) for crops in annual rotation (e.g., cool season vegetables) or alternative, (if discharge has High Nitrate Loading Risk)*~~	~~October 1, 2015~~
~~*- Achieve Nitrogen Balance Ratio equal to 1.2 for annual crops occupying the ground for the entire year (e.g., strawberries or raspberries) or alternative, (if discharge has High Nitrate Loading Risk)*~~	

[1] Indicators of progress towards milestones includes, but is not limited to data and information related to a) management practice implementation and effectiveness, b) treatment or control measures, c) individual discharge monitoring results, d) receiving water monitoring results, and e) related reporting.

Table 5. Tier 2 - Time Schedule for Key Monitoring and Reporting Requirements

REQUIREMENT	TIME SCHEDULE[1]
Submit Quality Assurance Project Plan and Sampling And Analysis Plan for Surface Receiving Water Quality Monitoring (individually or through cooperative monitoring program)	Within three months
Initiate surface receiving water quality monitoring (individually or through cooperative monitoring program)	Within six months
Submit surface receiving water quality monitoring data (individually or through cooperative monitoring program)	Within nine months, quarterly thereafter (January 1, April 1, July 1, and October 1)
Submit surface receiving water quality Annual Monitoring Report (individually or through cooperative monitoring program)	Within one year, annually thereafter by January 1
Initiate monitoring of groundwater wells	Within one year
Tier 2 Dischargers with farms/ranches that contain or are adjacent to a waterbody impaired for temperature, turbidity or sediment: Conduct photo monitoring of riparian or wetland area habitat	~~October 1, 2012~~**June 1, 2014, June 1, 2017**, and every four years thereafter by ~~October 1.~~**June 1.**
Submit electronic Annual Compliance Form	October 1, 2012, and updated annually thereafter by October 1
Submit groundwater monitoring results	October 1, 2013
Tier 2 Dischargers with farms/ranches that have High Nitrate Loading Risk: Report total nitrogen applied per acre to each ~~farm/ranch or nitrate loading risk unit~~**field or management block or nitrate loading risk unit**, in electronic Annual Compliance Form	October 1, 2014, and annually thereafter by October 1.

[1] Dates are relative to adoption of this Order or enrollment date for Dischargers enrolled after the adoption of this Order, unless otherwise specified.

Table 6. Tier 3 - Time Schedule for Key Monitoring and Reporting Requirements

REQUIREMENT	TIME SCHEDULE[1]
Submit Quality Assurance Project Plan and Sampling And Analysis Plan for Surface Receiving Water Quality Monitoring (individually or through cooperative monitoring program)	Within three months
Initiate surface receiving water quality monitoring (individually or through cooperative monitoring program)	Within six months
Submit surface receiving water quality monitoring data (individually or through cooperative monitoring program)	Within nine months, quarterly thereafter (January 1, April 1, July 1, and October 1)
Submit surface receiving water quality Annual Monitoring Report (individually or through cooperative monitoring program)	Within one year, annually thereafter by January 1
Initiate monitoring of groundwater wells	Within one year
Submit individual surface water discharge Sampling and Analysis Plan	March 15, 2013
Initiate individual surface water discharge monitoring	~~October~~ **December** 1, 2013
Submit individual surface water discharge monitoring data	March 15, 2014, October 1, 2014 and annually thereafter by October 1
Submit electronic Annual Compliance Form	October 1, 2012, and updated annually thereafter by October 1
Submit groundwater monitoring results	October 1, 2013
Tier 3 Dischargers with farms/ranches that contain or are adjacent to a waterbody impaired for temperature, turbidity or sediment:	
Conduct photo monitoring of riparian or wetland area habitat	~~October 1, 2012~~**June 1, 2014, June 1, 2017**, and every four years thereafter by ~~October 1.~~**June 1.**
Submit Water Quality Buffer Plan or alternative	October 1, 2016
Tier 3 Dischargers with farms/ranches that have High Nitrate Loading Risk:	
Report total nitrogen applied per acre to each ~~farm/ranch or nitrate loading risk unit~~**field or management block or nitrate loading risk unit**, in electronic Annual Compliance Form	October 1, 2014, and annually thereafter by October 1.
~~Determine Crop Nitrogen Uptake~~	~~October 1, 2013~~
~~Submit INMP elements in electronic Annual Compliance Form~~	~~October 1, 2015, and annually thereafter by October 1~~
~~Submit indication of progress towards Nitrogen Balance Ratio milestone equal to one (1) for crops in annual rotation (e.g. cool season vegetables) or alternative,~~	~~October 1, 2015~~
~~Submit indication of progress towards Nitrogen Balance Ratio milestone equal to 1.2 for annual crops occupying the ground for the entire year (e.g. strawberries or raspberries) or alternative~~	
Submit INMP Effectiveness Report	October 1, 2016

[1] Dates are relative to adoption of this Order, unless otherwise specified.

N. Water Code Section 106.3's Human Right to Water and Antidegradation

We now turn to the two remaining legal assertions made by the Environmental Justice Groups in their July 16, 2013, comment letter that have been opposed by Grower-Shipper in a Motion to Strike.

1. Water Code Section 106.3

Water Code section 106.3 requires all relevant state agencies, including the State Water Board, when revising or adopting polices, regulations, and criteria, to consider "that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes." The Environmental Justice Groups argue that section 106.3 applies to the State Water Board's action in reviewing and revising the Agricultural Order. Grower-Shipper objects to consideration of section 106.3 on grounds that the law was not in effect at the time of adoption of the Agricultural Order by the Central Coast Water Board. We understand the Environmental Justice Groups to be asserting not that the Central Coast Water Board should have considered section 106.3, but that the State Water Board should now consider it in adopting this Order.

The Environmental Justice Groups did not file a petition in this action and none of the petitioners raised consistency with section 106.3 as an issue in their petitions, presumably because Assembly Bill 685 had not yet become law. With regard to our action in adopting this Order, section 106.3, by its terms, does not apply to the issuance of a water quality order.[122] Nonetheless, we recognize the important, basic human right expressed in Water Code section 106.3, subdivision (a), and the importance of this Order to a large number of residents throughout the Central Coast Region. We find that it is appropriate to address the human right to water established by section 106.3 in adopting the Order.

In considering this basic human right, we have considered this Order's requirements and its intent to protect beneficial uses, such as drinking water supplies. We find that this Order is consistent with advancing the human right to safe, clean, affordable, and accessible water, adequate for human consumption, cooking, and sanitary purposes. The Order, in conjunction with the Agricultural Order, advances the human right expressed in Water Code section 106.3 because it (1) requires implementation of management practices to reduce discharge of waste to groundwater and to assess the effectiveness of such practices for the purposes of protecting beneficial uses, including drinking water supplies; (2) requires monitoring

[122] Wat. Code, § 106.3, subd. (b).

of all on-farm wells that are or may be used for drinking water and are at risk of exceeding the MCL for nitrate; (3) requires reporting to users of any exceedances of the MCL for nitrate; (4) requires reporting of total nitrogen application to fields in a manner that will allow the Central Coast Water Board to identify excessive application and follow up to help reduce such application; and (5) requires avoidance of discharges of waste from containment structures that cause or contribute to exceedances of water quality standards in surface water or groundwater.

2. Antidegradation

The Environmental Justice Groups additionally argue that the Agricultural Order fails to meet antidegradation requirements as laid out in State Water Board Resolution No. 68-16 (Antidegradation Policy)[123] and as recently interpreted by the Court of Appeal in *Asociacion de Gente Unida por el Agua v. Central Valley Regional Water Quality Control Board* (2012) 210 Cal.App.4th 1255 (*AGUA* decision).[124] The Antidegradation Policy sets requirements regarding waters that are "high quality." High quality waters are those that have a baseline water quality better than required by water quality control plans and policies. The Antidegradation Policy requires that high quality waters be maintained unless it can be demonstrated that any change in water quality (1) will be consistent with maximum benefit to the people of the state; (2) will not unreasonably affect present or probable future beneficial uses of such water; and (3) will not result in water quality less than prescribed in water quality control plans or policies. Further, discharges to high quality waters must meet waste discharge requirements which result in the best practicable treatment or control (BPTC) necessary to assure that no pollution or nuisance will occur and the highest water quality consistent with the maximum benefit to the people of the State will be maintained.[125] The Environmental Justice Groups argue that the Central Coast Water Board failed to make the necessary findings and demonstrations in support of the conditions of the Agricultural Order.

Grower-Shipper has asked us to disregard the antidegradation argument on grounds that the Environmental Justice Groups should have raised the issue in comments before the Central Coast Water Board and further should have filed a petition with the State Water Board raising the argument. With regard to antidegradation arguments directed at the Agricultural Order as adopted by the Central Coast Water Board, we agree with Grower-

[123] State Water Board Resolution No. 68-16, Statement of Policy with Respect to Maintaining High Quality of Waters in California (1968).

[124] See also 40 C.F.R. §131.12.

[125] *Ibid*. See also *AGUA,* 210 Cal.App.4th 1255.

Shipper. By raising antidegradation claims only through comments on the June 6, 2013, Draft Order, and not before the Central Coast Water Board and through a timely filed petition, the Environmental Justice Groups failed to exhaust their administrative remedies.[126] Raising the issue before the Central Coast Water Board would allow that board to consider the arguments, allow other parties to address the arguments, provide an appropriate record, and create a suitable foundation for our review. Challenging the Agricultural Order's compliance with the Antidegradation Policy in a comment letter on our draft Order circumvents the petition process, prevents the Central Coast Water Board from considering the issue in the first instance, and forecloses other parties from properly responding to the issue. As a result, the issue is not properly before us.

To the extent the Environmental Justice Groups are arguing that the State Water Board's incremental action in revising the Agricultural Order has failed to comply with the Antidegradation Policy, we will consider the issue. Ultimately, however, we reject that argument on the merits. The incremental changes made to the Agricultural Order by the State Water Board do not alter the fundamental water quality protections and will not independently lead to any increases in volume or severity of the discharges already authorized by the Agricultural Order or any lowering of water quality. The most significant revisions are those that eliminate calculation and reporting of nitrogen balance ratios, and making progress toward certain balance ratio targets; however those revisions reflect our conclusions that the provisions related to the balance ratios are unlikely to yield reliable data in support of water quality improvements. We have substituted expanded total nitrogen reporting for reporting of the balance ratios to provide an alternative mechanism for the Central Coast Water Board to identify excessive nitrogen application. Further, we have retained all monitoring necessary to detect and track any degradation in surface water and groundwater, and, as a result, the Central Coast Water Board can require more stringent management practices where it determines that degradation is in fact occurring. Therefore, we are not obligated to make any additional findings regarding antidegradation in this Order.

While we decline to make any changes to the Agricultural Order or this Order based on antidegradation claims, we are cognizant of the important mandate to carry out an appropriate antidegradation analysis prior to water boards' regulatory actions. We previously

[126] See. Wat. Code, § 13320; Cal. Code Regs., tit. 23, § 2050, subd. (a)(9). See generally, *Abelleira v. District Court of Appeal, Third Dist.* (1941) 17 Cal.2d 280, 293 (discussing the origin and jurisdictional nature of the exhaustion doctrine).

commenced a review of the Antidegradation Policy. Following the *AGUA* decision, we understand the need to provide better tools for the regional water boards to conduct an appropriate analysis, consistent with the interpretation of the Antidegradation Policy in the *AGUA* decision. The State Water Board staff has already begun working on this effort, in conjunction with staff of the regional water boards. Interested persons will have an opportunity to weigh in on this important issue. We will use this process to provide specific tools to assist the regional water boards in conducting antidegradation analyses for agricultural discharges, among other types of discharges. These resources will be available to the Central Coast Water Board as it develops its next iteration of the Agricultural Order. Further, to the extent the Central Coast Water Board determines it necessary or appropriate to revisit its antidegradation analysis consistent with the new analytical tools, we have previously noted that it may reopen and make revisions to the Agricultural Order.[127]

III. CONCLUSION

Based on the above discussion, the State Water Board concludes that:

1. An expert panel shall be convened to provide a more thorough analysis and long-term statewide recommendations regarding many of the issues implicated in the Agricultural Order, including indicators and methodologies for determining risk to surface and groundwater quality, targets for measuring reductions in risk, and the use of monitoring to evaluate practice effectiveness.

2. The Central Coast Water Board did not violate any due process rights, ex parte communication rules, or notice and comment procedures when it included Provision 11, which authorizes the approval of third party approaches. As described above, however, Provision 11 should be amended to expand the scope of allowable third party approaches and to provide for Central Coast Water Board review of an Executive Officer decision to approve or disapprove a third party project or program.

3. Water Code sections 13141 and 13241 do not apply to the Central Coast Water Board's adoption of the Agricultural Order.

4. The tiered discharger classification scheme adopted by the Central Coast Water Board is a reasonable, interim approach based on the evidence in the record. As described above, however, the procedures for approving revisions to the applicable tiers should

[127] See footnote 9, *ante*.

be amended to provide for Central Coast Water Board review of an Executive Officer decision to approve or disapprove a new tier determination for a single discharger, and to provide that the decision to approve or disapprove a new tier determination for members of a sustainable agricultural program shall be taken by the Central Coast Water Board in the first instance.

5. A new provision 87.5 is added to the Agricultural Order to make clear the Central Coast Water Board's intent that dischargers will comply with provisions requiring compliance with water quality standards and Central Coast Basin Plan provisions, as well as the provisions requiring dischargers to effectively control certain pollutant discharges, by (1) implementing management practices that prevent or reduce discharges of waste that are causing or contributing to exceedances of water quality standards; and (2) to the extent practice effectiveness evaluation or reporting, monitoring data, or inspections indicate that the implemented management practices have not been effective in preventing the discharges from causing or contributing to exceedances of water quality standards, implementing improved management practices.

6. Provision 33, which deals with containment structures, should be amended to make it clear that dischargers are required to avoid discharges of waste from containment structures to groundwater or surface water that cause or contribute to exceedances of water quality standards, and further to identify various potential methods of compliance. A reference to Provision 33 is also added to Provision 87.5 to clarify that dischargers will comply with the requirement to avoid discharges of waste from containment structures that cause or contribute to exceedances of water quality standards by engaging in the process of management practice implementation set out in Provision 87.5.

7. Provision 44, which deals with Farm Plans, should be amended as described above to clarify that dischargers are expected to rely upon standard practices, such as visual inspections and record keeping, in assessing practice effectiveness.

8. The Agricultural Order includes an adequate process based on existing statutory protections for dischargers to identify sensitive information that the dischargers assert should be exempt from disclosure to the public.

9. The groundwater monitoring provisions are appropriate and do not impose unreasonable costs in light of the human health and groundwater characterization benefits to be derived from the monitoring. The cooperative groundwater monitoring provisions should be amended to require cooperative groundwater monitoring work to prioritize drinking water evaluation. Any cooperative groundwater monitoring program must, at a minimum, achieve (1) direct sampling; (2) submission of appropriate existing data; or (3) statistically valid

projection of groundwater quality for all wells that are or may be used for drinking water, with direct sampling, and, as specified, repeat sampling, required where the well is at risk of exceeding the MCL for nitrate. Further, a provision is added to require individuals or third parties conducting groundwater monitoring to timely notify the Central Coast Water Board of exceedances of any MCLs, and for the discharger or the Central Coast Water Board to timely notify users of the well.

10. The Central Coast Water Board did not fully follow the State Water Board's directive in the Stay Order to allow aerial and high vantage point photo monitoring methods. Provision 69, which deals with photo monitoring, should be amended as described above to expressly authorize aerial and high vantage point photography, and to allow additional time to comply for those dischargers who would like to use these methods.

11. The individual surface water discharge monitoring requirements are generally acceptable as an interim approach, but the requirements should be amended as described above to eliminate the requirements to monitor sheet flow discharges and to monitor water contained in tailwater ponds and other surface containment structures if the water is reused as irrigation water.

12. The provisions addressing nitrogen application are generally appropriate as an interim approach, but the requirements should be amended as described above to allow additional time for Tier 2 and Tier 3 dischargers to calculate and report their nitrate loading risk factors and to revise the types of data that must be reported.

13. The requirement to calculate and report certain elements of the Irrigation and Nutrient Management Plan is unreasonable in light of the fact that the underlying data and the calculations for these elements are inexact and speculative. For the same reasons, the requirements to make progress toward certain nitrogen balance ratios are unreasonable.

14. The requirement to have the Irrigation and Nutrient Management Plan certified by a qualified professional is appropriate.

15. The requirement to evaluate and report the effectiveness of the Irrigation and Nutrient Management Plan is appropriate, but should be amended as discussed above to clarify that the evaluation may be carried out by dischargers, as opposed to qualified professionals, based on data collected under other provisions of the Agricultural Order.

16. The Water Quality Buffer Plan requirements for Tier 3 dischargers adjacent to an impaired water body are appropriate.

17. The Annual Compliance Form should be amended to be consistent with the remainder of this Order.

18. The time schedule tables should be amended to be consistent with the remainder of this Order.

19. This Order is consistent with Water Code section 106.3's directive to advance the human right to safe, clean, affordable, and accessible water, adequate for human consumption, cooking, and sanitary purposes, and with the Antidegradation Policy.

20. Consistent with the discussion above, the following provisions shall be deleted from the Agricultural Order:

a. Provisions 74, 76, 77, and 78, and

b. Section B.1 of Part 6 of the Tier 3 MRP.

IV. ORDER

IT IS HEREBY ORDERED that the Agricultural Order is hereby amended as described above in this Order. The Central Coast Water Board is directed to prepare a complete version of the Agricultural Order (including any necessary non-substantive conforming corrections), post the conformed Agricultural Order on its website, and distribute it as appropriate.

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 September 24, 2013.

AYE:	Chair Felicia Marcus Vice Chair Frances Spivy-Weber Board Member Steven Moore Board Member Dorene D'Adamo
NAY:	None
ABSENT:	None
ABSTAIN:	Board Member Tam M. Doduc (recused)

Jeanine Townsend

Jeanine Townsend
Clerk to the Board