STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION

STAFF REPORT FOR REGULAR MEETING OF OCTOBER 13-14, 2022

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ITEM NUMBER: 3

SUBJECT: ANNUAL AGRICULTURAL ORDER IMPLEMENTATION UPDATE

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KEY INFORMATION

Location:	Regional
Type of Discharge:	Agricultural
Existing Order:	General Waste Discharge Requirements for Discharges from Irrigated Lands, Order No. R3-2021-0040

ACTION: Informational Item

SUMMARY

This staff report summarizes actions related to the implementation of General Waste Discharge Requirements for Discharges from Irrigated Lands, Order No. R3-2021-0040[1] (Ag Order 4.0) since its adoption in April 2021. The Central Coast Water Board will receive annual updates from staff as well as the approved third-party compliance assistance provider, Central Coast Water Quality Preservation, Inc. (Preservation, Inc.) and other technical assistance providers and agencies during public meetings regarding the implementation of Ag Order 4.0. This implementation update includes an overview of staff outreach, engagement, and coordination efforts (collectively referred to as coordination herein); water quality monitoring requirements and data assessments;

[1] Agricultural Order 4.0 documents:
https://www.waterboards.ca.gov/centralcoast/water_issues/programs/ilp/regulatory_information.html.

individual enrolled grower[2] and third-party member compliance and progressive enforcement actions for Ag Order 4.0 requirements with due dates in 2022; upcoming requirements; successes, challenges, and emerging science and management practices; and presentations by various stakeholders, including Preservation, Inc., regarding aspects of Ag Order 4.0 implementation.

Since Ag Order 4.0 adoption, Central Coast Water Board Irrigated Lands Program (ILP) staff has increased outreach and coordination efforts by offering multiple options for growers to engage with staff and receive assistance to understand and implement new and existing requirements. Coordination efforts to support growers include development of tools such as guidance, procedural, and template documents, as well as tutorial videos and recordings of our workshops (in English, Spanish, and Chinese) available on our website,[3] and maintaining a staffed help desk consisting of a dedicated phone number and email address for grower support. Additional ILP coordination activities to facilitate compliance assistance include the following:

- Facilitating and participating in routine (every two weeks) and additional focus meetings with Preservation, Inc. regarding implementation, upcoming Ag Order 4.0 monitoring and reporting requirements, and State Water Resources Control Board (State Water Board) fees;
- Coordinating with Preservation, Inc. and State Water Board GeoTracker Information System staff and contractors to 1) create new and modify existing reporting forms and guidance documents that align with Ag Order 4.0 requirements and 2) develop data batch upload tools to improve reporting efficiency for growers and Preservation, Inc.; and
- Collaborating with researchers at the University of California Cooperative Extension (UCCE) and the U.S. Department of Agriculture (USDA) to develop protocols to help assist growers to 1) determine crop nitrogen removal conversion coefficient(s) and 2) determine a cover crop nitrogen credit.

In addition, ILP staff coordinate with external agencies to further the goals of Ag Order 4.0 and facilitate information sharing. In the past year, this coordination included review and comment on proposed California Department of Pesticide Regulation (DPR) surface water and groundwater monitoring studies and outreach to county public health departments regarding Ag Order 4.0 domestic well monitoring data and funding opportunities available for the counties to assist in-need domestic well users and communities to obtain safe drinking water solutions.

Ag Order 4.0 requirements and due dates are summarized in the Compliance Calendar[4] available on the ILP website in three languages. Ag Order 4.0 requirements implemented in 2021 and 2022 included continuous enrollment and maintaining

[2] The term "grower" is used herein to refer to operators/responsible parties enrolled in Ag Order 4.0.
[3] Irrigated Lands Program website: https://www.waterboards.ca.gov/centralcoast/water_issues/programs/ilp/
[4] Compliance Calendar in English, Spanish, and Chinese: https://www.waterboards.ca.gov/centralcoast/water_issues/programs/ilp/compliance_calendar/

updated enrollment information, management practice reporting, Total Nitrogen Applied (TNA) reporting for growers already reporting per Ag Order 3.0, surface water quality trends monitoring and reporting, submittal of a surface receiving water quality trend monitoring work plan for both individual growers and the third-party program, and groundwater quality monitoring and reporting of the primary irrigation well and all on-farm domestic wells. ILP staff evaluated compliance for all growers with monitoring and reporting requirements for 2021 and 2022 and are in the process of following up with growers that are out of compliance with one or more requirement. ILP staff are working directly with individuals that are not members of the third-party program and coordinating with Preservation, Inc., whose staff are following up with the third-party members. Follow-up efforts include past due reminders, discussions with growers via phone and email, and progressive enforcement to facilitate compliance.

Upcoming Ag Order 4.0 requirements (in 2023) include the following: submittal of a follow-up surface receiving water implementation work plan for growers that are not members of the third-party program with ranches in Surface Water Priority Area 1, submittal of a groundwater quality trend monitoring workplan for growers that are not members of the third-party program with ranches in Groundwater Phase 1 Area, and submittal of the first draft (35%) work plan for the third-party alternative compliance pathway for groundwater protection (third-party only); record keeping for TNA information for all growers in Groundwater Phase 2 and 3 Areas; and record keeping for irrigation and nutrient management information for all growers in Groundwater Phase 1 Area.

This Ag Order 4.0 update also includes the following guest speakers to provide additional information as noted and to engage with the Board:

- Sarah Lopez, Executive Director, Preservation, Inc., and Tim Tringali, Monitoring Project Manager, Tetra-Tech.
  - Overview of third-party implementation, compliance assistance efforts, and water quality monitoring programs.
- John Skardon, Chief Executive Officer, Tailwater Systems.
  - Nitrate removal systems for agriculture.
- Ross Clark, Program Director, Central Coast Wetlands Group.
  - Treatment systems and nutrient reductions in the Moro Cojo Slough.
- Dr. Eric Brennan, Research Horticulturist, USDA.
  - Field testing results developed in support of the calculated Pacheco Triticale and Merced Rye cover crop credits.
- Richard Smith, Vegetable Crops and Weed Science Farm Advisor, UCCE Monterey County.
  - Overview of future cover crop needs
  - Development of nitrogen removal conversion coefficients.

This summary is also available in Spanish. Interested persons may also request that the entire staff report be translated into Spanish, by contacting the staff named at the beginning of this staff report, dependent upon available resources.

DISCUSSION

Background

On April 15, 2021, the Central Coast Water Board adopted Ag Order 4.0. The Order was immediately effective. The Order carries over and requires immediate compliance with various foundational requirements of the prior agricultural order, while compliance with new requirements is being phased in over time to give enrolled growers and third-party technical assistance providers time to adjust to the new requirements. The waste discharge requirements were developed to protect surface and groundwater water quality and associated beneficial uses including drinking water and aquatic life habitats and to achieve water quality objectives in the Water Quality Control Plan for the Central Coastal Basin (Basin Plan) by:

- Minimizing nitrate discharges to groundwater
- Minimizing nutrient discharges to surface water
- Minimizing toxicity in surface water from pesticide discharges
- Protecting riparian and wetland habitat
- Minimizing sediment discharges to surface water

The following sections of this staff report summarize specific Ag Order 4.0 requirements and ILP staff actions to implement Ag Order 4.0.

Coordination Efforts

ILP Staff Outreach and Coordination

ILP staff are implementing a multi-pronged approach for outreach to coordinate with the regulated community, which includes YouTube video tutorials, workshops, one-on-one sessions with growers and stakeholders, email reminders or hard copy reminder mailed to growers with invalid or missing email addresses (collectively referred to as reminders herein), and a new ILP website. Our expanded outreach and coordination efforts for Ag Order 4.0, which are much more robust than for prior orders regulating waste discharges from irrigated lands (Ag Orders 1.0, 2.0, and 3.0), is innovative, effective, timely and in formats that are accessible to all growers enrolled in Ag Order 4.0, including limited resource farmers.[5]

[5] The USDA defines the term “Limited Resource Farmer or Rancher” for its Farm Act programs to mean a person with direct or indirect gross farm sales not more than the current indexed value in each of the previous two years, and who has a total household income at or below the national poverty level for a family of four, or less than 50 percent of county median household income in each of the previous two years. For legal entities or joint operations, the sum of gross sales and household income must be considered for all individual members. A Self-Determination Tool is available to the public and may be completed on-line or printed and completed hardcopy at the USDA website: https://lrftool.sc.egov.usda.gov/DeterminationTool.aspx?fyYear=2022

So far, ILP staff has created one YouTube tutorial titled *Enroll & Access GeoTracker*,[6] in three languages (English, Spanish, and Chinese) which is accompanied by translated downloadable transcripts. ILP staff are in the process of developing four additional videos in 2022, which will focus on TNA and Irrigation and Nutrient Management Plan (INMP) Summary Report recordkeeping and reporting. The YouTube tutorials are in alignment with the State Water Board's Office of Public Participation (OPP) efforts to improve outreach and communication through more diverse, equitable, and inclusive tools and materials.

In September 2021, ILP staff held seven virtual workshops covering the Ag Order 4.0 general requirements including TNA and INMP recordkeeping and reporting requirements. This included three workshops in English, two in Spanish, and two in Chinese. These workshops were recorded and are available on the ILP website[7], along with translated workshop materials. The attendance of the virtual workshops was significantly higher than previous in-person workshops, and attendee survey feedback indicated that 98% of English and 90% of Spanish respondents found the virtual format effective. Chinese attendees were unable to complete the survey because of limitations associated with the workshop oral interpretation services. ILP staff are using feedback and lessons learned from these initial workshops to improve future workshops and associated translation services.

ILP staff will host three virtual workshops in December 2022 that will focus on TNA and INMP recordkeeping requirements. These will be offered in English, Spanish, and Chinese, and will be recorded and posted to the ILP website. We are working closely with OPP and community partners to create an effective format that is understandable by all stakeholders, especially our Spanish and Chinese growers. ILP staff will also host workshops in 2023 that will focus on TNA and INMP reporting. ILP staff are coordinating with the third-party program to develop content and schedules that complement each other to provide an accessible, comprehensive, and efficient experience for growers.

Many of our growers and stakeholders have unique and ranch-specific questions, which are best addressed in one-on-one conversations as opposed to group workshops. Therefore, staff also offer and are implementing personalized virtual, and in some cases in-person, one-on-one sessions on request or as needed to assist growers and stakeholders with complex questions. In addition to providing the contact information for staff on the ILP website based on geographic area, the ILP has dedicated inquiry email and voicemail systems that are monitored daily by staff to assist growers and stakeholders with questions on reporting, sampling, and general compliance. Depending on the context of the assistance being provided by ILP staff in response to specific inquiries, they will also provide additional support to growers to help them correct other issues such as GeoTracker reporting errors.

[6] ILP Tutorials & Instructions website: https://www.waterboards.ca.gov/centralcoast/water_issues/programs/ilp/tutorials_and_instructions.html

[7] Recordings of the general Ag Order 4.0 requirements on the ILP Requirements website: https://www.waterboards.ca.gov/centralcoast/water_issues/programs/ilp/regulatory_information.html

ILP staff send out a series of reminders to growers and stakeholders about upcoming workshops, newly released YouTube videos, and TNA/INMP recordkeeping and reporting requirements throughout the year. ILP staff will also continue to send a TNA ranch summary to growers each year (via email or hardcopy) to provide growers with an overview of their ranch TNA data relative to Ag Order 4.0 targets and limits and how their ranch compares to similar ranches in their area. This year, the TNA ranch summary was sent to growers in late-September for all ranches that submitted a year 2021 TNA report. Growers can refer to the information in their TNA ranch summary to inform implementation of management practices and nitrogen applications.

Finally, ILP staff launched a new ILP website[8] in September 2021 that is accessible. "Accessibility" allows people with visual or other cognitive disabilities an opportunity to experience our website like those without disabilities, fostering equity within our program. The ILP website now contains 18 new and fully accessible pages including 29 new instruction, guide, and template documents, six of which are translated to Spanish and Chinese. We also have a fully accessible Tutorials & Instructions webpage that contains important videos and materials all in one place. ILP staff will also be publishing Spanish and Chinese Tutorial & Instructions webpages in 2022 or early 2023 that will contain translated documents and videos.

Central Coast Water Quality Preservation, Inc.

Ag Order 4.0 includes a third-party compliance assistance program framework and an associated process to form and administer third-party program(s). ILP staff have been collaborating with the approved third-party program, Preservation, Inc., since August 2021, to develop and implement a third-party compliance assistance program for Ag Order 4.0. Preservation, Inc. has been implementing our regional surface water monitoring program for agriculture – the Cooperative Monitoring Program (surface water CMP) – since 2006 in coordination with central coast growers and Water Board staff to comply with requirements associated with previous agricultural orders, starting with Ag Order 1.0. In addition to the ongoing implementation of the surface water CMP, Preservation, Inc.'s Ag Order 4.0 compliance assistance program is being built out to provide a comprehensive suite of other services such as on-farm domestic well and primary irrigation well testing. In addition, and in accordance with upcoming requirements, Preservation, Inc. intends to develop and implement a groundwater quality trend monitoring work plan, an alternative compliance pathway work plan for a groundwater protection program, and a follow-up surface receiving water monitoring work plan.

ILP staff and Preservation, Inc. have coordinated this year on the development of various forms, templates, and tracking and reporting tools for the TNA and INMP requirements. Earlier this year Preservation, Inc. contracted with a consultant and two certified laboratories (Monterey Bay Analytical Services and Fruit Growers Laboratory) to conduct on-farm domestic well and primary irrigation supply well sampling, analytical

[8] ILP Website: https://www.waterboards.ca.gov/centralcoast/water_issues/programs/ilp/

testing, and data uploads to GeoTracker on behalf of its third-party program members for the spring 2022 groundwater sampling period.

ILP staff and Preservation, Inc.'s Executive Director, Sarah Lopez, meet every two weeks to discuss and coordinate the third-party program development efforts (27 meetings to date). Additional focused topic meetings are also held on an as-needed basis (seven meetings to date). Discussion and coordination efforts for these focused topic meetings include enrollment and membership, outreach and education coordination, grower resources coordination, streamlined data collection and reporting, and opportunities to further assist small or disadvantaged growers.

Since August 2021, ILP staff and Preservation, Inc. have coordinated on several third-party program elements as well as outreach and education messaging to growers. Below are some key outcomes of the ILP team's coordination efforts with Preservation, Inc.

- **Fees**: Developed a timeline for third-party program invoicing.
- **TNA data reporting**: Developed a groundwater well sampling compliance tracking tool and worked with State Water Board GeoTracker staff to streamline reporting of third-party program member TNA data.
- **Groundwater monitoring and reporting**: Worked with State Water Board GeoTracker staff to develop the capability for well sampling data batch uploads to GeoTracker (instead of separate uploads for each ranch). ILP staff are in the process of providing feedback on Preservation, Inc.'s concept proposal for a groundwater trend monitoring program.
- **Surface receiving water quality trend monitoring and reporting**: Provided comments and proposed revisions to Preservation, Inc.'s 2021 annual report for surface receiving water quality trend monitoring to align with Ag Order 4.0 requirements (limits). The surface receiving water quality trend work plan was submitted by Preservation, Inc. on July 1, 2022, and has been reviewed by ILP staff and the Executive Officer. The work plan is currently being revised and finalized by Preservation, Inc. to address ILP staff and Executive Officer feedback.
- **INMP Summary reporting**: Developing INMP Summary Report forms and guidance documents. Discussions related to INMP summary reporting exemptions.
- **Annual Compliance Form (ACF) reporting**: Revisions to the ACF management measures section (envisioned to be a collaborative process that includes stakeholder input).

University and Government Agency Researchers

Standard Protocol Development: Nitrogen Removal Conversion Coefficients

Ag Order 4.0 requires growers to estimate the amount of nitrogen removed from the fields in crop material, through harvest or other methods. This is achieved by multiplying the crop conversion coefficient by the amount of crop material removed

from the fields. The crop conversion coefficient is a crop-specific coefficient used to convert from units of material removed per acre to units of nitrogen removed per acre. Ag Order 4.0 includes nitrogen removal conversion coefficients for 93% of all crop acres in the central coast region. UCCE researchers are developing conversion coefficients for additional crops. This effort will increase the nitrogen removal conversion coefficient coverage to approximately 97% of all crop acres on the central coast region. This work will be finalized in December 2023. Growers who grow specialty crops for which nitrogen removal coefficients are not available or choose not to use coefficients provided by the Central Coast Water Board have the option of developing their own conversion coefficient by following approved standard protocols to collect samples from their operation, or similar operation, and obtain a laboratory result for the samples. These standard protocols were finalized by Central Coast Water Board staff in coordination with UCCE researchers and the California Department of Food and Agriculture (CDFA) and were approved by the Executive Officer.[9]

Standard Protocol Development: Cover Crop Nitrogen Scavenging Credit

Ag Order 4.0 encourages growers to implement best management practices that reduce nitrogen leaching in the wet season and improve soil health, nutrient and carbon sequestration, and water holding capacity consistent with the state's Healthy Soils Initiative.[10] Growers may claim a nitrogen scavenging credit one time per year for each ranch acre utilizing cover crops based on two options. The first option is the application of a maximum allowable cover crop nitrogen scavenging credit of 30 pounds per acre per year. Alternatively, Ag Order 4.0 allows for the use of a calculated cover crop nitrogen scavenging credit based on certain criteria and standard protocols to determine the nitrogen concentration in cover crops. ILP staff coordinated with UCCE and USDA researchers to develop the standard protocols and calculated credit for two cover crop types, Merced Rye and Pacheco Triticale. The standard protocols are currently being finalized and are on track for Executive Officer approval within 18 months of Ag Order 4.0 adoption (by October 2022). Final protocols will be available on our website. Researchers from UCCE and USDA will provide the Board with presentations summarizing the development of these protocols.

California Department of Pesticide Regulation

In accordance with a Management Agency Agreement (MAA), California DPR provides Central Coast Water Board staff with routine updates and opportunities to comment on ongoing and planned pesticide monitoring programs and pesticide model development. ILP staff work with Total Maximum Daily Load (TMDL) Program staff to review and provide high-level feedback and comments on protocols and study reports developed by DPR's Ground Water Protection Program and Surface Water Protection Program that

[9] Crop Nitrogen Removal Conversion Coefficient Standard Protocols are available on the Irrigated Lands Program website at: https://www.waterboards.ca.gov/centralcoast/water_issues/programs/ilp/tna_inmp.html

[10] CDFA's Healthy Soils Initiative website: https://www.cdfa.ca.gov/healthysoils/

address agricultural and nonagricultural sources of pesticides in aquatic habitats. Water Board and DPR staff coordination per the MAA is intended to cooperatively address pesticide use and pesticide discharges that may cause water quality impacts, prevent duplication of efforts and inconsistency of actions, and work toward the prevention and abatement of surface and groundwater pollution.

County Health Departments

Staff conducted outreach to the county health departments throughout the region. Initial outreach in March 2022 included notification of upcoming monitoring and reporting efforts required of all growers with on-farm domestic wells including the requirement to provide all on-farm domestic well users with copies of the domestic well data from the laboratory and associated health risk information (available on the ILP website). Follow-up outreach to each county in May 2022 included information regarding funding opportunities for county health departments to assist in-need domestic well users and communities that use contaminated domestic water supplies to obtain safe interim drinking water solutions. These funding sources include the State Water Board's Safe and Affordable Funding for Equity and Resilience (SAFER) program[11] and county-wide and regional funding programs.[12] Staff are planning additional follow-up in fall 2022 to discuss well water quality data results, needs for replacement water and/or treatment systems, and the above-mentioned funding opportunities.

California Marine Sanctuary – Vegetated Management Practices/Food Safety Workshop

ILP staff has been coordinating with the California Marine Sanctuary (CMS) and others to develop and implement a workshop focused on identifying information gaps in understanding the benefits and risks associated with implementing on-farm vegetated management practices and food safety. Presenters will include Pam Krone (CMS), Daniel Karp (UCCE), Sarah Lopez (Preservation, Inc.), and Paula Richter (ILP staff). The group has been working with a large organic operation to learn more about the grower/buyer perspective. The workshop, focused on auditors and buyers, will be organized by CMS later this year or early next year.

Water Quality Monitoring Requirements and Data Assessments

Surface Water Quality

Growers with ranches actively enrolled in Ag Order 4.0 are required to conduct surface receiving water trend monitoring and reporting in accordance with an approved work plan, either individually or through a third-party program. All work plans were due by July 1, 2022, and a downloadable template is available on the ILP's Surface Water

[11] SAFER website at: https://www.waterboards.ca.gov/safer/
[12] County-wide and Regional Funding Programs website at: https://www.waterboards.ca.gov/safer/funding_solicitation.html

Quality Monitoring and Reporting[13] website. Third-party programs may submit work plans on behalf of their members. No surface water quality trend work plans were submitted by operations that are not members of the approved third-party program (additional information on compliance with this requirement for individual operations is discussed below in the Compliance and Enforcement section). Preservation Inc. fulfilled this requirement under the previous Orders and continued to do so during the first year after Ag Order 4.0 adoption. Preservation, Inc. submitted its third-party program work plan on July 1, 2022, as discussed above in the Central Coast Water Quality Preservation, Inc. section.

Preservation, Inc. provides most of the surface water quality trends monitoring data available to evaluate progress toward achieving the Ag Order 4.0 limits and develops annual reports in accordance with the Order's requirements. This year, ILP staff worked with Preservation, Inc. to incorporate the Ag Order 4.0 surface water limits into the annual report for the surface receiving water quality trends data. Preservation, Inc. is currently revising the annual report to address ILP staff feedback, as discussed above in the Central Coast Water Quality Preservation, Inc. section.

Preservation, Inc. will provide a presentation summarizing surface receiving water quality data and findings associated with monitoring conducted on behalf of its members. The data presentation will include both a summary of data from the 2021 monitoring year and a discussion of long-term trends since 2005. The presentation will also highlight Preservation, Inc. grower outreach and education activities associated with surface water quality data.

- **Surface water quality data**: Pesticide, nutrient, and sediment discharges from irrigated lands cause and/or contribute to widespread degradation of water quality and beneficial uses in the central coast region. Monitoring data from Preservation, Inc.'s CMP, the Central Coast Ambient Monitoring Program (CCAMP), and DPR, among other data sources, document this degradation and informed updates to the State's 2020-2022 federal Clean Water Act section 303(d) List of Impaired Waters (303(d) List). The U.S. EPA approved the most recent updates to the 303(d) List in May 2022. More than half of the waterbody and pollutant combinations added to the 303(d) List in 2022 (new impairments) were for agricultural-related pollutants, including pesticides (161 new impairments), nutrients and dissolved oxygen (25), toxicity (23), and turbidity (11). Water quality improvements were also documented. Six waterbodies were removed from the 303(d) List where the pesticides chlorpyrifos and/or diazinon are no longer exceeding water quality objectives (based on 28 or more samples). California's Water Quality Control Policy for developing the 303(d) List (Listing Policy) defines the methodologies used to determine if waterbodies are meeting their designated water quality objectives (e.g., defines the acceptable number of water quality objective exceedances for a given number of samples). The Listing

[13] ILP Surface Water Quality Monitoring and Reporting website: https://www.waterboards.ca.gov/centralcoast/water_issues/programs/ilp/swqmr.html

Policy methodologies will also be used to determine if surface receiving waters meet the Ag Order 4.0 surface receiving water numeric limits.

Noteworthy trends of improving water quality were also documented during the 2020-2022 303(d) List update. However, these trends require additional data to confirm whether water quality objectives are met and to justify a waterbody and pollutant combination's removal from the 303(d) List. Trends included significant reductions in chlorpyrifos concentrations in the Salinas Reclamation Canal and Tembladero Slough, reduced frequency and severity of toxic algal blooms in Pinto Lake, and reduced nutrient concentrations in Moro Cojo Slough (where nitrogen concentrations are currently below the Ag Order 4.0 numeric limits). A guest speaker from the Central Coast Wetlands Group will provide the Board with additional information about the wetland and bioreactor treatment systems in the Moro Cojo Slough watershed that contribute to the documented trend of improving nitrogen concentrations.

Groundwater Quality

Groundwater monitoring requirements include several elements including the following:

- Beginning in 2022, and annually thereafter, growers must sample all on-farm domestic wells and each ranch's primary irrigation well between March 1 and May 31.[14]
- Well samples must be analyzed by a qualified laboratory and the testing results must be uploaded to the GeoTracker database by July 31.
- Growers must provide on-farm domestic well users with a summary of laboratory results and health risk information associated with nitrate and 1,2,3-trichloropropane (1,2,3-TCP) within three business days of receiving testing results from the laboratory, or when the population of well users changes.
- Growers must update their eNOI to confirm that domestic well users have been provided with this information.

ILP staff developed, and posted to our Groundwater Monitoring and Reporting website,[15] a monitoring and reporting guidance document and a water quality results reporting template that includes health risk information for these parameters and instructions for growers to use when notifying on-farm domestic well users of nitrate and 1,2,3-TCP laboratory results. Spanish and Chinese translations of these documents are available on the ILP website.

Groundwater quality data: As of the development of this report, staff were still evaluating the 2022 on-farm domestic well monitoring data. During the Board Meeting, ILP staff will provide a high-level overview of the data reported by growers in 2022 and the areas

[14] Annual monitoring and reporting of ranches' primary irrigation wells is required until groundwater quality trend monitoring goes into effect.

[15] ILP Groundwater Monitoring and Reporting website: https://www.waterboards.ca.gov/centralcoast/water_issues/programs/ilp/groundwater_quality_monitoring_and_reporting.html.

where nitrate and 1,2,3-TCP exceedances occurred. Preservation, Inc. will also present an overview of the on-farm domestic and primary irrigation well monitoring conducted on behalf of their members.

Total Nitrogen Applied

Growers that were previously required to submit a TNA report under Ag Order 3.0 must continue to conduct monitoring, recordkeeping, and reporting and submit a year 2021 TNA report by March 1, 2022, and a year 2022 TNA report by March 1, 2023. Growers can submit TNA reports directly to GeoTracker or via Preservation, Inc. The TNA report includes information on the total amount of nitrogen applied from all sources of nitrogen, as well as acres of each specific crop grown and whether each crop was grown using organic or conventional growing methods. The TNA requirement expands to all ranches in Groundwater Phase 1,[16] 2 and 3 Areas in 2023.

Historic Total Nitrogen Applied Data

Since 2014, the Central Coast Water Board has required a subset of growers that grow crops with a high risk for nitrate loading to groundwater to submit nitrogen application data through the TNA reporting requirements. During Ag Order 2.0, this equated to an average of 115,000 acres (27% of acres enrolled) that submitted TNA reports each year. The reporting requirement was expanded under Ag Order 3.0, and on average 232,000 acres (55% of acres enrolled) have been required to submit TNA reports each year since 2017. Table 1 below displays a snapshot of the number of acres that have reported TNA information from 2014 to 2021.

Table 1. Number of acres reporting TNA from 2014 to 2021

Years Reported	2014-16	2017	2018	2019	2020	2021
Ag Order	2.0	3.0	3.0	3.0	3.0	4.0
Physical Acres Reported	112,555 to 116,918	226,722	205,733	238,980	246,606	241,803
Crop Acres Reported	201,791 to 225,719	386,271	363,315	411,400	417,878	374,511

The TNA data is essential for determining nitrogen application, improvements, and changes over time. ILP staff implements multiple actions to ensure a high rate of TNA reporting compliance, which begins with sending multiple reminders, a past due reminder, and Notice of Violation (NOV) letters.

[16] Growers in Groundwater Phase 1 areas are not required to submit a stand-alone TNA report; rather, they must conduct the expanded monitoring and reporting associated with INMP Summary reporting which includes the TNA reporting.

The Central Coast Water Board has primarily received TNA information for the following six crops, in descending order of prevalence - lettuce, broccoli, spinach, cauliflower, celery, and strawberries - in total representing approximately 75% of all crops reported each year. The submitted data are periodically analyzed to determine if there have been significant changes in nitrogen application rates. The results of these analyses are presented below.

Table 2 below displays the median application rates of fertilizer nitrogen (A_{FER}) to the top six crops, in pounds of nitrogen per acre per crop. While there have been changes in the median rates from one year to the next, overall, there have not been significant reductions in application rates even considering the expansion of the TNA reporting requirement that began in 2017.

Table 2. Median fertilizer nitrogen application rates from 2014 to 2021

Year	Lettuce	Broccoli	Spinach	Cauliflower	Celery	Strawberry
2014	174	201	155	199	248	236
2015	150	188	147	185	212	200
2016	161	190	141	198	221	178
2017	179	201	163	211	227	190
2018	170	199	162	219	229	162
2019	180	209	166	213	228	168
2020	182	210	167	215	223	179
2021	183	214	160	227	243	170
All Years (average)	175	201	161	213	227	179

All units are pounds of nitrogen per acre per crop.

The following conclusions can be made from the evaluation of the reported TNA data since 2014:

1. Fertilizer nitrogen application rates (A_{FER}) have not changed significantly in response to the TNA reporting requirement alone and
2. Growers continue to overapply nitrogen in fertilizers above the amount necessary to grow their crops and for crop uptake as compared to University of California, Davis and CDFA Fertilizer Research and Education Program (CDFA-FREP), California Crop Fertilization Guidelines.[17]

Fertilizer Nitrogen Application Limits

To make progress towards reducing nitrogen waste discharges from the over-application of synthetic fertilizer nitrogen and to reduce the risk of nitrogen discharge, Ag Order 4.0 established fertilizer application targets and limits. Growers who are not a member of an approved third-party alternative compliance program are required to comply with the first fertilizer nitrogen application limit in 2023, and with the second fertilizer application limit in 2025 (see Table C.1-2 of Ag Order 4.0). Growers who are

[17] California Crop Fertilization Guidelines - https://www.cdfa.ca.gov/is/ffldrs/frep/FertilizationGuidelines/

members of an approved third-party alternative compliance program have an additional year to comply with the same values but as targets, rather than limits. The fertilizer application targets and limits are based on an outlier approach, where a comparison of grower reported TNA data is used to determine "outliers" at the 90th and 85th percentiles of fertilizer nitrogen applications for each crop. Tables 3 and 4 below compare the most recent (year 2021) fertilizer nitrogen applications with the upcoming fertilizer nitrogen application limits to assess early compliance.

Table 3. Early assessment of compliance with the 2023 nitrogen fertilizer application limits

Crop	Year 2023 Limit[18]	Total Number of Crop Records Reported[19]	Early Compliance Assessment[20] % Crops Meeting the Year 2023 Limit
Broccoli	295	745	90%
Cauliflower	310	497	88%
Celery	360	314	92%
Lettuce	275	1,788	93%
Spinach	244	167	83%
Strawberry	320	270	85%
All Other crops	500	2,292	100%

Table 4. Early assessment of compliance with the 2025 fertilizer nitrogen application limits

Crop	Year 2025 Limit[21]	Total Number of Crops Reported[22]	Early Compliance Assessment[23] % Crops Meeting the Year 2025 Limit
Broccoli	280	745	87%
Cauliflower	285	497	83%
Celery	330	314	86%
Lettuce	255	1,788	87%
Spinach	230	167	81%
Strawberry	295	270	78%
All Other crops	480	2,292	99%

[18] The first Nitrogen Fertilizer Application limit corresponds to the 90th percentile of the TNA data between 2014 to 2019. All units are pounds of nitrogen per acre per crop.
[19] Based on year 2021 TNA data reported by growers.
[20] Based on year 2021 TNA data reported by growers.
[21] The second Nitrogen Fertilizer Application limit corresponds to the 85th percentile of the TNA data between 2014 to 2019. All units are pounds of nitrogen per acre per crop.
[22] Based on year 2021 TNA data reported by growers.
[23] Based on year 2021 TNA data reported by growers.

Based on year 2021 TNA data and early compliance assessments by crop shown in Tables 3 and 4 above, a high percentage of fertilizer nitrogen applications are already in compliance with both fertilizer nitrogen application limits, confirming that the approved limits are consistent with their intended purpose, to control and reduce the over-application of fertilizer nitrogen applications and to focus on outliers where applications exceed fertilizer nitrogen application limits.

Ag Order 4.0 Compliance and Enforcement

Progressive Enforcement Approach

The Water Boards have a variety of enforcement tools to use in response to noncompliance by the regulated community. Enforcement is an important component of the Water Boards' authority to encourage the regulated community to anticipate, identify, and correct violations. ILP staff, in coordination with the Central Coast Water Board's Enforcement Team (Enforcement Team) and State Water Board Office of Enforcement, follows a progressive enforcement approach in accordance with the State Water Board's 2017 Water Quality Enforcement Policy (Enforcement Policy),[24] to address noncompliance with Ag Order 4.0 requirements. The progressive enforcement approach contemplates an escalating series of actions beginning with compliance assistance and notification of violations, followed by enforcement orders compelling compliance, and potentially culminating in a complaint for civil liabilities (i.e., monetary penalties) where compliance is not attained within a reasonable time.

Reminders

ILP staff generally send out two or three reminders to growers in advance of upcoming Order requirements and a past due reminder to any growers out of compliance after the due date has passed. ILP staff views this as the first step in progressive enforcement although not explicitly stated in the Enforcement Policy. This approach historically results in improved grower compliance with a requirement.

Notice of Violation Letters

After past due reminders have been sent, ILP staff conduct a final compliance analysis and work with the Enforcement Team to issue NOV letters to growers that that have not reported after reminder notices. These NOVs are issued to both operators and landowners, as reported and identified on the eNOI.

Administrative Civil Liabilities

ILP staff, in coordination with the Enforcement Team, are developing a compliance analysis matrix and recommendations to prioritize issuance of Administrative Civil Liability (ACL) complaints seeking monetary penalties for violations of Ag Order 4.0

[24] State Water Board, 2017 Water Quality Enforcement Policy, effective October 5, 2017, https://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2017/040417_9_final%20adopted%20policy.pdf.

or the Water Code (e.g., failure to enroll in the Order). The Enforcement Policy establishes an ACL assessment methodology to create a transparent, fair, and consistent statewide approach to assess liabilities (i.e., how to calculate penalty amount). The Enforcement Team frequently reaches resolution of ACL complaints through settlement.

ILP staff are coordinating with Preservation, Inc. to ensure consistent messaging regarding support for growers that are out of compliance. ILP staff share their compliance list and coordinate with Preservation, Inc. on messaging to follow-up with growers that have failed to report. In general, ILP staff follow-up with individual growers that are not third-party program members while Preservation, Inc. follows up with its members. ILP staff also coordinate follow-up with technical assistance providers (such as private industry consultants, Resource Conservation Districts, and other community partners). The ILP is currently coordinating with the Enforcement Team to prioritize and phase follow-up actions and progressive enforcement in an effort to effectively balance Ag Order 4.0 enforcement with other fundamental implementation-related activities such as outreach and education, general compliance assistance associated with Order requirements, and coordination with technical assistance providers that will eventually lead to higher levels of compliance and meaningful water quality outcomes.

Opportunities and Challenges

This progressive enforcement approach offers opportunities for ILP staff to interact with the third-party program and growers to address non-compliance with Ag Order 4.0 and to conduct outreach and education on the importance of compliance to protect public health, achieve water quality objectives, and protect beneficial uses. Every contact with a grower allows the opportunity to conduct a thorough evaluation of reported information, compliance with all requirements, and further grower's understanding of those requirements.

Challenges include incorrect information reported by growers on their eNOI forms, staff resource constraints associated with issuing mass e-mails and mass letters via mail, and providing assistance to growers with questions about notifications and mailings.

Compliance Evaluations and Enforcement Actions

The following sections describe compliance evaluations for 2021 and 2022 Ag Order 4.0 requirements.

Enrollment

Both landowners and operators of irrigated land used for commercial crop production are responsible parties for discharges of waste from irrigated lands that could affect the quality of surface water or groundwater. Enrollment is completed by submitting an eNOI through GeoTracker. Enrolled growers must comply with the requirements of Ag Order 4.0 and keep eNOI information accurate and up to date.

Since the adoption of Ag Order 4.0, ILP staff sent multiple reminders to growers to comply with this requirement, answered questions from growers about how to complete the eNOI, and referred growers to the Enrollment[25] website for additional information.

As of September 2022, enrollment includes approximately 1,547 operations, 4,236 ranches, and 422,743 irrigated acres in the region. ILP staff estimates that approximately 22% of commercially irrigated agricultural lands (117,257 irrigated acres out of 540,000 total estimated irrigated acres in the region) are not enrolled in Ag Order 4.0. ILP staff, in coordination with the Enforcement Team, plan to prioritize an effort to identify parcels in the region that are active irrigated commercial agricultural operations that have not enrolled in Ag Order 4.0 and issue directive letters to enroll.

Annual Compliance Form

The purpose of the ACF is to assess management practices and management measures implemented by growers to meet water quality objectives and protect beneficial uses. The ACF includes monitoring and reporting on elements of the Farm Plan, including management practices implemented and assessed for effectiveness. This is the first year that all growers were required to submit an ACF for "year 2021" implementation, due by March 1, 2022.

ILP staff sent multiple reminders to growers prior to the reporting deadline and one past due reminder. As of September 2022, 75% of ranches (3,176 out of 4,236 ranches) have submitted their year 2021 ACF and 25% of ranches (1,060 out of 4,236 ranches) have not. Growers that did not submit their year 2021 ACF are out of compliance and are subject to enforcement. All growers are required to submit a "year 2022" ACF by March 1, 2023. ILP staff are currently coordinating with the Enforcement Team to prioritize the issuance of NOVs to growers that remain out of compliance.

Total Nitrogen Applied Reporting

2020 TNA Reporting

ILP staff coordinated with the Enforcement Team to prioritize issuance of ACL complaints for failure to comply with 2020 TNA reporting. This effort resulted in a $38,225 settlement with K&A Farms, LLC in June 2020 for failure to submit a timely report on the total amount of nitrogen applied to its ranch in 2020.

2021 TNA Reporting

The subset of growers that were previously required to submit a TNA report under Ag Order 3.0 and were enrolled in Ag Order 4.0 during the 2021 calendar year were required to submit a year 2021 TNA report by March 1, 2022. Growers can submit

[25] ILP Enrollment Website: https://www.waterboards.ca.gov/centralcoast/water_issues/programs/ilp/enrollment.html

TNA reports directly to GeoTracker or via Preservation, Inc., the approved third-party program. This report requires information on the total amount of nitrogen applied from all sources of nitrogen, acres of each specific crop grown, and whether each crop was grown using organic or conventional growing methods.

ILP staff sent multiple reminders to growers prior to the TNA reporting deadline and one past due reminder in late March 2022 to growers that had not yet submitted their TNA report. Growers that did not submit their year 2021 TNA report are out of compliance and were sent a NOV on July 27, 2022. Table 5 below summarizes compliance with the 2021 TNA reporting requirement.

Table 5. 2021 TNA Reporting Compliance

	# of Ranches	% of Ranches Required to Report
Ranches required to report TNA	1,793	
Reporting by March 2022	1,433	80%
Reporting after past due reminders	1,671	93%
NOVs issued	122	
Reporting after NOVs issued	1,738	97%

Compliance rates for TNA reporting have historically been high (95% to 98%). For reporting year 2021, there is a 97% compliance rate. ILP staff are currently coordinating with the Enforcement Team to prioritize the issuance of ACL complaints to growers that remain out of compliance.

Groundwater Well Monitoring, Reporting, and Notification Requirements

All growers are required to conduct groundwater well monitoring for all on-farm domestic wells and their primary irrigation well, arrange with the laboratory to upload the resulting analytical data to GeoTracker, and provide drinking water notifications, including health risk information, to all existing and new domestic well users. ILP staff sent multiple reminders to growers prior to the well sampling deadline of May 31, 2022 and one past due reminder on September 12, 2022 to growers that are not third-party program members and are out of compliance. Preservation, Inc. requested the opportunity to work with their members that are out of compliance to conduct past due groundwater monitoring and reporting rather than receiving a past due reminder from the Central Coast Water Board. ILP staff are currently coordinating with Preservation, Inc. and the Enforcement Team to prioritize the issuance of NOVs to growers that are out of compliance.

Table 6 below summarizes compliance with all the 2022 groundwater monitoring and reporting requirements. A grower can be out of compliance with one or more of the groundwater monitoring and reporting requirements. For example, a ranch may have sampled their well(s) but not for all the required parameters, or a ranch may have sampled their well(s) but failed to notify well users of sampling results and provide

associated health risk information, or a ranch may have notified well users but failed to report this information on their eNOI.

Table 6. Groundwater Monitoring, Reporting, and Notifications Compliance

	Total # of Ranches Required to Comply	Total # of Ranches Out of Compliance*	% of Ranches Out of Compliance
Third-Party Program Members	3,049	1,522	
Individual Growers	317	205	
Total	**3,366**	**1,727**	**51.3%**

*Ranches out of compliance for one or more of the groundwater monitoring and reporting requirements.

Individual Surface Water Quality Trends Work Plans

Growers must complete surface receiving water quality monitoring and reporting either individually or through an approved third-party monitoring program. Growers, either individually or as part of a third-party program, were required to submit a surface receiving water quality trends workplan by July 1, 2022. Preservation, Inc. submitted a draft workplan on behalf of their members who are therefore in compliance. ILP staff will continue to assess compliance with the surface water quality trend work plan requirement for growers that are not members of the third-party program to inform next steps in the progressive enforcement process, including issuance of NOVs. An initial compliance analysis, conducted on July 15, 2022, identified 179 operations out of compliance with this requirement that are not third-party program members and past due reminders were issued. A second compliance analysis conducted by ILP staff in September 2022 indicates that approximately 8% of operations (120 out of 1,547 operations) are not members of the third-party program and failed to submit individual surface water quality trends work plans. This change could be due to many factors including additional enrollment with the third-party program since July 15, 2022 or termination of the operation. ILP staff are currently coordinating with the Enforcement Team to prioritize the issuance of NOVs to growers that remain out of compliance.

Complaint Investigations

Between August 2022 and the previous ILP staff update to the Board in May 2019 regarding implementation of Ag Order 3.0, the ILP received 47 complaints related to irrigated agricultural waste discharges. Approximately one-third came from public citizens, followed by other regulatory agencies (26%), municipalities (16%), and the regulated agricultural community (14%). Silt/sediment discharges accounted for 35% of the complaints, and 29% of the complaints concerned irrigation discharges. Working with the enrolled growers, ILP staff resolved 67% of the complaints without the need for enforcement. Ten percent of the complaints resulted in identification and follow-up with landowners of parcels not enrolled in the Order. Row crop growers accounted for 67%

of total complaints (strawberry growers were the subject of 29% of total complaints). Geographically, complaints were fairly evenly distributed throughout the region.

The average time to resolve a complaint was approximately six months, with a maximum of 42 months, a minimum of 1 day, and a median of 43 days. The lengthier time frames for case resolution are largely due to monitoring and reporting requirements imposed on the enrolled grower that can span several years before the complaint investigation is considered closed. Two complaint investigations resulted in the issuance of NOVs and/or directives to enroll in the Ag Order.

Upcoming Requirements/Implementation

During year 2023, subsets of growers (depending on a growers Groundwater Phase Area or Surface Water Priority Area) will be required to comply with new requirements, as outlined in Ag Order 4.0. ILP staff will be coordinating with the third-party program and technical assistance providers to implement the following requirements and assist growers over the next year.

Follow-up Surface Receiving Water Implementation Work Plan

All growers must develop a follow-up surface receiving water implementation work plan, either individually or as part of an approved third-party program. The follow-up workplan must include follow-up actions such as numeric interim quantifiable milestones(s), implementation of management practices, education, outreach, source identification where applicable, and follow-up surface receiving water monitoring. Due dates are phased based on the Surface Water Priority Area in which the ranch is located, and on third-party program membership. Individual growers with ranches located in Surface Water Priority Area 1 must submit their work plans by March 1, 2023. As of September 2022, 92% of operations (1,427 out of 1,547 operations) are members of the third-party program and have an extra year before the first work plans must be submitted by March 1, 2024.

Groundwater Quality Trends Work Plans

All growers must conduct groundwater quality trend monitoring and reporting, either individually or as part of an approved third-party program. Third-party programs may submit work plans on behalf of participating growers. Work plans for ranches in the Groundwater Phase 1 Area are due by September 1, 2023. As of September 2022, 9% of ranches (382 out of 4,236 ranches) are in a Groundwater Phase 1 Area. ILP staff are currently in discussions with Preservation, Inc. regarding their conceptual groundwater trends work plan in preparation for a final work plan submittal on September 1, 2023.

Third-Party Alternative Compliance Pathway Work Plan

By April 15, 2023, the third-party program is required to submit the first draft (35%) work plan for the alternative compliance pathway for groundwater protection. This work plan must include information on the development of the groundwater protection target(s) for participating third-party members. ILP staff will be coordinating with the third-party

program to ensure the first draft (35%) work plan includes the following required information:

1. Proposed groundwater protection (GWP) areas and supporting scientific justification.
2. Proposed GWP formulas, objectives, and supporting scientific justification.
3. GWP value, methodology and objectives.
4. GWP target methodology and objectives.
5. Follow-up action and consequence concepts if GWP targets are not achieved
6. Assessment and evaluation program outline, methodology, and objectives.

Irrigation and Nutrient Management Summary Report

Beginning in year 2023, growers with ranches in Groundwater Phase 1 Area are required to keep records necessary to submit the INMP Summary report (which includes TNA reporting) by March 1, 2024. As of September 2022, 9% of ranches (382 out of 4,236 ranches) are in a Groundwater Phase 1 Area.

The INMP Summary report includes reporting of the following information:

1. TNA information.
2. Pounds of nitrogen removed when the crops are harvested (R_{HARV}), through sequestration in the woody tissue of semi and permanent crops (R_{SEQ}), through treatment technologies (R_{TREAT}), and through other innovative techniques (R_{OTHER}).
3. Irrigation management, including crop evapotranspiration information and an estimation of the gallons of water discharged to surface waters.
4. Specific information to receive credits for planting cover crops and applying high carbon amendments and woody mulch ($R_{SCAVENGE}$) and receive discounts when applying compost and using organic fertilizers (A_{COMP}).

ILP staff are prioritizing many outreach and education activities in late 2022 and in 2023 to help growers understand and prepare for the upcoming INMP Summary reporting requirements (see details in the Outreach and Coordination section above).

Total Nitrogen Applied Report

Beginning in year 2023, growers with ranches in Groundwater Phase 2 and 3 Areas are required to keep records necessary to submit the TNA report by March 1, 2024. As of September 2022, 53% of ranches (2,230 out of 4,236 ranches) are in Groundwater Phase 2 Area and 38% of ranches (1,624 out of 4,236 ranches) are in Groundwater Phase 3 Area. This will include some growers who have submitted TNA reports under Ag Order 3.0, as well as growers who are brand-new to this reporting requirement. ILP staff are prioritizing many outreach and education activities in late 2022 and in 2023 to help growers who are new to the TNA report to understand and prepare for the upcoming TNA reporting requirements (see details in the Outreach and Coordination section above).

The TNA report includes reporting of the following information:

1. Fertilizer nitrogen (A_{FER})
2. Compost nitrogen (A_{COMP})
3. Organic fertilizer nitrogen (A_{ORG})
4. Irrigation water nitrogen (A_{IRR})
5. Nitrogen present in the soil
6. Nitrogen concentration of the irrigation water and volume of irrigation water applied to the ranch

Human Right to Water

California Water Code section 106.3, subdivision (a), states that it is the policy of the State of California "that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitation purposes." On January 26, 2017, the Central Coast Water Board adopted Resolution No. R3-2017-0004, which affirms the realization of the human right to water and the protection of human health as the Central Coast Water Board's top priorities.

Ag Order 4.0 implements the Central Coast Water Board's human right to water resolution by establishing numeric targets and limits for fertilizer application and nitrogen discharge to groundwater designed to be quantifiable and enforceable to reduce the amount of nitrogen discharging to groundwater. Based on year 2021 TNA data and early compliance assessments (see Historic Total Nitrogen Applied Data section above), a high percentage of fertilizer nitrogen applications are already in compliance with both of the fertilizer nitrogen application limits, confirming that the adopted fertilizer nitrogen limits are consistent with their intended purpose, to control and reduce the over-application of fertilizer nitrogen applications and to focus on outliers where applications occur above fertilizer nitrogen application limits.

Ag Order 4.0 implements the Central Coast Water Board's human right to water resolution by establishing numeric receiving water limits for nutrients and pesticides in surface waters, and a series of requirements further identify and control sources of these pollutants. The surface water follow-up monitoring requirements include identifying implementation measures to address the pollutant sources and perform additional follow-up monitoring for source identification purposes (see Follow-up Surface Receiving Water Implementation Work Plan section above). Also, where the receiving water limit is not met by the compliance date, growers are subject to a numeric discharge limit that is the same as the receiving water limit and may be required to perform additional ranch-level surface discharge monitoring and reporting to confirm they are achieving the numeric discharge limit.

Ag Order 4.0 also requires monitoring of all on-farm domestic wells for nitrate and 1,2,3-TCP and requires growers to notify all well users of monitoring results and of the health risks associated with elevated concentrations of these parameters. In the event nitrate

or 1,2,3-TCP concentrations exceed applicable public health drinking water standards, growers also need to confirm well users have an alternative source of water supply.

In addition, ILP staff conducted outreach to county health departments in spring and summer of 2022 to discuss grant funding opportunities and are planning additional follow-up in fall 2022 to discuss well water quality data results, needs for replacement water and/or treatment systems, and funding opportunities (see County Health Departments section above). ILP staff will continue to coordinate with county health departments and drinking water programs as well as the State Water Board Divisions of Drinking Water and Financial Assistance to address drinking water related issues.

Environmental Justice

Environmental justice principles call for the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income in the development, adoption, implementation, and enforcement of all environmental laws, regulations, and policies that affect every community's natural resources and the places people live, work, play, and learn. The Central Coast Water Board implements regulatory activities and water quality projects in a manner that ensures the fair treatment of all people, including Underrepresented Communities. Underrepresented Communities include but are not limited to Disadvantaged Communities (DACs), Severely Disadvantaged Communities (SDACs), Economically Distressed Areas (EDAs), Tribes, Environmentally Disadvantaged Communities (EnvDACs), and members of Fringe Communities.[26] Furthermore, the Central Coast Water Board is committed to providing all persons the opportunity to participate in the public process and to provide meaningful input to decisions that affect their communities.

In this first year of Ag Order 4.0 implementation, ILP staff continue to support efforts previously initiated and related to drinking water replacement water and treatment for disadvantaged communities. Please also refer to the County Health Departments section above.

[26] Disadvantaged Community: a community with an annual median household income that is less than 80% of the statewide annual median household income (Public Resources Code section 80002(e)); Severely Disadvantaged Community: a community with a median household income of less than 60% of the statewide average. (Public Resources Code section 80002(n)); Economically Distressed Area: a municipality with a population of 20,000 persons or less, a rural county, or a reasonably isolated and divisible segment of a larger municipality where the segment of the population is 20,000 persons or less with an annual median household income that is less than 85% of the statewide median household income and with one or more of the following conditions as determined by the department: (1) financial hardship, (2) unemployment rate at least 2% higher than the statewide average, or (3) low population density. (Water Code section 79702(k)); Tribes: federally recognized Indian Tribes and California State Indian Tribes listed on the Native American Heritage Commission's California Tribal Consultation List; EnvDACs: CalEPA designates the top 25 percent scoring census tracts as DACs. Census tracts that score the highest five percent of pollution burden scores but do not have an overall CalEnviroScreen score because of unreliable socioeconomic or health data are also designated as DACs (refer to the CalEnviroScreen 3.0 Mapping Tool or Results Excel Sheet); Fringe Community: communities that do not meet the established DAC, SDAC, and EDA definitions but can show that they score in the top 25 percent of either the Pollution Burden or Population Characteristics score using the CalEnviroScreen 3.0.

The Central Coast Water Board recognizes that certain limited resource growers (as defined by the USDA) may have difficulty achieving compliance with Ag Order 4.0. The Central Coast Water Board will prioritize assistance for these growers, including but not limited to providing technical assistance and information about grant opportunities. ILP staff continue to increase our interpretation and translation efforts to provide information and resources in multiple languages (e.g., guidance documents, YouTube tutorials, drinking water health risk information, and our public workshops and Board Meetings), as mentioned in the Outreach and Coordination section above. In addition, ILP staff coordinated with the Community Water Center to assist a grower to determine limited resource status. Due to the individual's limited resource grower status, ILP staff was able to process a one-time refund for the grower's payment of increased-rate annual permit fees to the State Water Board to support the grower in becoming a member in good standing with the third-party program and to pay reduced-rate annual permit fees. ILP staff anticipates releasing further guidance for limited resource growers by early 2023. This guidance document will be available in English, Spanish, and Chinese.

Climate Change

The central coast region faces the threat and the effects of climate change for the foreseeable and distant future. To proactively prepare and respond, the Central Coast Water Board has launched the Central Coast Water Board's Climate Action Initiative, which identifies how the Central Coast Water Board's work relates to climate change and prioritizes actions that improve water supply resiliency through water conservation and wastewater reuse and recycling; mitigate for and adapt to sea level rise and increased flooding; improve energy efficiency; and reduce greenhouse gas production. The Climate Action Initiative is consistent with the Governor's Executive Order B-30-15 and the State Water Board's Climate Change Resolution No. 2017-0012.

Ag Order 4.0 contains several requirements that further the Central Coast Water Board's climate change goals. The fertilizer application and nitrogen discharge limits may have the added benefit of reduced nitrogen oxide emissions, and therefore may help mitigate greenhouse gas emissions. Incentives such as nitrogen removal credit for cover crops and high carbon amendments ($R_{SCAVENGE}$) and the compost "discount factor" (A_{COMP}) improve soil health and increases organic matter in soils that in turn, increases carbon sequestration. The prohibition for removing existing riparian vegetation has multiple benefits: Riparian vegetation sequesters carbon and nitrogen, reducing their availability as greenhouse gases and can also reduce adverse impacts associated with storm events by dispersing flows, storing floodwaters, and absorbing water (allowing for groundwater infiltration).

CONCLUSION

Ag Order 4.0 focuses on the highest priority water quality issues in the region and establishes requirements to address water quality impairments and restore beneficial uses such as drinking water and aquatic life habitats in waters of the state (surface water and groundwater). In the first year of implementation, ILP staff have successfully developed many guidance and template resources, assisted growers to understand and

comply with Ag Order 4.0 requirements (e.g., workshops and help desk services), evaluated compliance with requirements, followed our internal progressive enforcement process to provide a series of reminders before moving to NOVs and formal enforcement actions, and negotiated a settlement for one enforcement case.

ILP staff will continue to conduct outreach and education and provide real-time compliance assistance to growers, coordinate, and prioritize implementation efforts with Preservation, Inc. and other technical assistance partners and agencies like UCCE, USDA, Resource Conservation Districts, CDFA, DPR, etc., to leverage their expertise in support of implementing Ag Order 4.0.