



CCGC Work Plan – Ag Order 3.0

Central Coast Groundwater Coalition Cooperative Monitoring Work Plan for compliance with the Central Coast Regional Water Quality Control Board's Irrigated Lands Regulatory Program (ILRP Order No. R3-2017-0002).

Submitted to Central Coast Regional
Water Quality Control Board

April 3, 2017

1 CENTRAL COAST GROUNDWATER COALITION BACKGROUND

The Central Coast Groundwater Coalition (CCGC) has characterized drinking water quality within the Central Coast region under the cooperative monitoring Work Plans approved by the Central Coast Regional Water Quality Control Board in 2013. The CCGC has been conducting groundwater monitoring under these Work Plans since approval, sampling more than 1,200 domestic and irrigation supply wells on member ranches within the region.

The CCGC is aware that a long term groundwater monitoring program is necessary to measure progress towards complying with applicable water quality standards. It is recognized by Central Coast Regional Water Quality Control Board staff that the 2017 Order (No. R3-2017-002), here forward called Ag Order 3.0, and associated MRP is a “temporary three-year order, in anticipation of a comprehensive order anticipated for adoption in 2020” (Attachment A, Order No. R3-2017-0002). The CCGC is committed to being an integral part of the development of next Ag Order to ensure that the “comprehensive order” includes a groundwater monitoring program that allows for verification/feedback mechanisms necessary to meet non-point source policy requirements and demonstrate compliance with relevant provisions of the Order.

In the meantime, under the March 2017 Order, the CCGC is proposing a cooperative groundwater monitoring plan that allows the CCGC to accomplish the following goals:

- 1) Monitor nitrate concentration in groundwater wells and identify areas where groundwater quality is impacted. Track nitrate concentration in domestic wells by comparing results collected during the 2017 Order (Order 3.0) to previous results;
- 2) Address drinking water concerns by ensuring that users of domestic wells on CCGC member ranches with nitrate concentrations above the MCL are notified or continue to be notified, that appropriate notifications are posted, and replacement water actions are tracked. CCGC member notifications and confirmation letters will be provided to the Central Coast Water Board and available to the public;
- 3) Assist members in complying with the ILRP regulations. This assistance will be provided in coordination with and supplement the support provided by other agricultural groups in the Central Coast.

The CCGC monitoring proposal provides benefits and assistance to the Central Coast Water Board in the following ways:

- CCGC tracks parcel changes by members and ranch updates, and provides outreach regarding member requirements to ensure members are in compliance.
- Identifies and facilitates monitoring of all members’ domestic drinking water wells and primary irrigation wells twice within 3 years with the first sample collected in 2017.
- Maintains tracking of drinking water notifications and replacement water actions when member’s domestic wells are above the nitrate drinking water standard.

- Enables the CCGC to continue its involvement in representing its membership and also work on development of the groundwater component for the Order anticipated to be adopted in 2020. In 2020, the goal is to assist in developing a scientifically based monitoring program that evaluates agricultural discharges to groundwater.

2 2017 MRP MONITORING REQUIREMENTS

Ag Order 3.0 requires that “Dischargers must sample private domestic wells and the primary irrigation well on their farm/ranch to evaluate groundwater conditions in agricultural areas, identify areas at greatest risk for nitrogen loading and exceedance of drinking water standards, and identify priority areas for follow up actions.” Ag Order 3.0 groundwater monitoring requirements include monitoring all domestic wells and the primary irrigation well twice during the calendar year of 2017; one sample between March and June and the second sample between September and December. These monitoring requirements are similar to the 2012 MRPs associated with Agricultural Order No. R3-2012-0011 which ensures that each ranch has at least one well monitored.

3 CCGC BOUNDARIES

In this plan, CCGC intends that members in both northern and southern regions have consistent program elements that apply equally to members throughout Region 3. This work plan addresses monitoring needs for CCGC members in both the north and south of the Central Coast region.

Figure 1. Northern groundwater basins to be monitored by the CCGC

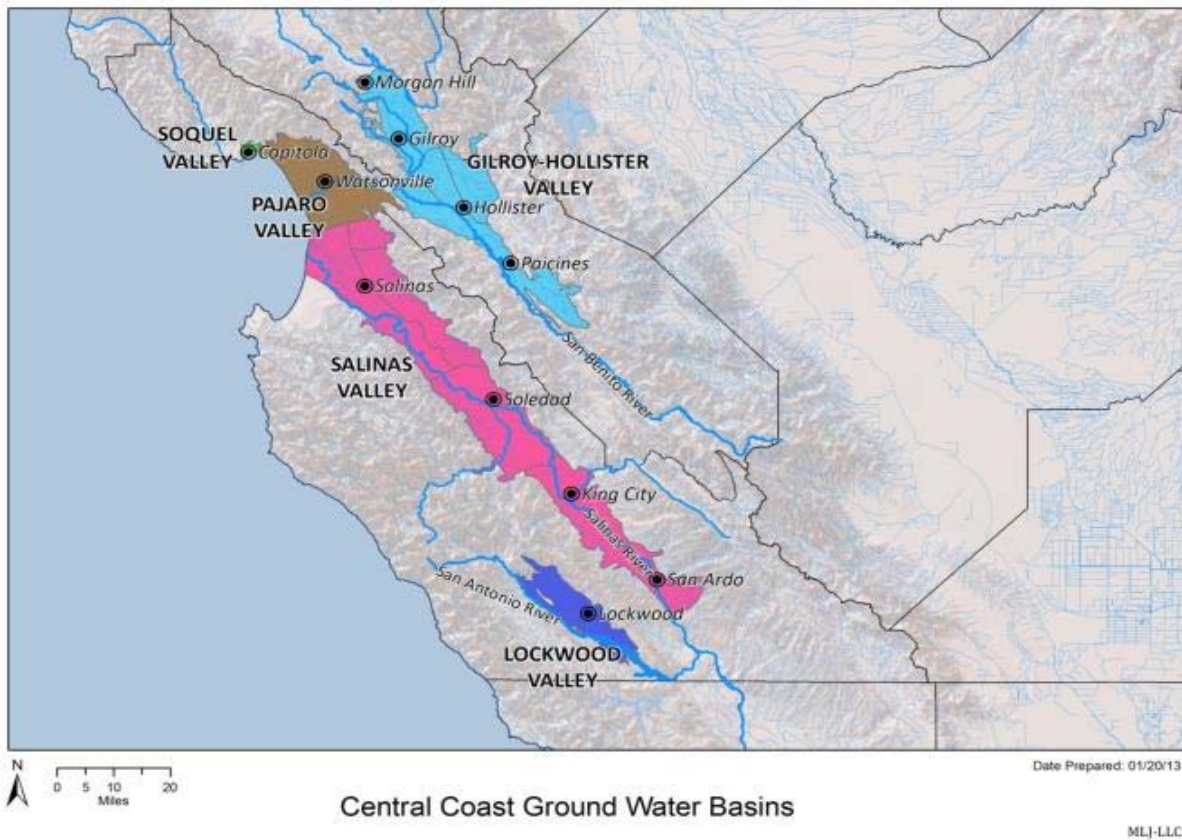
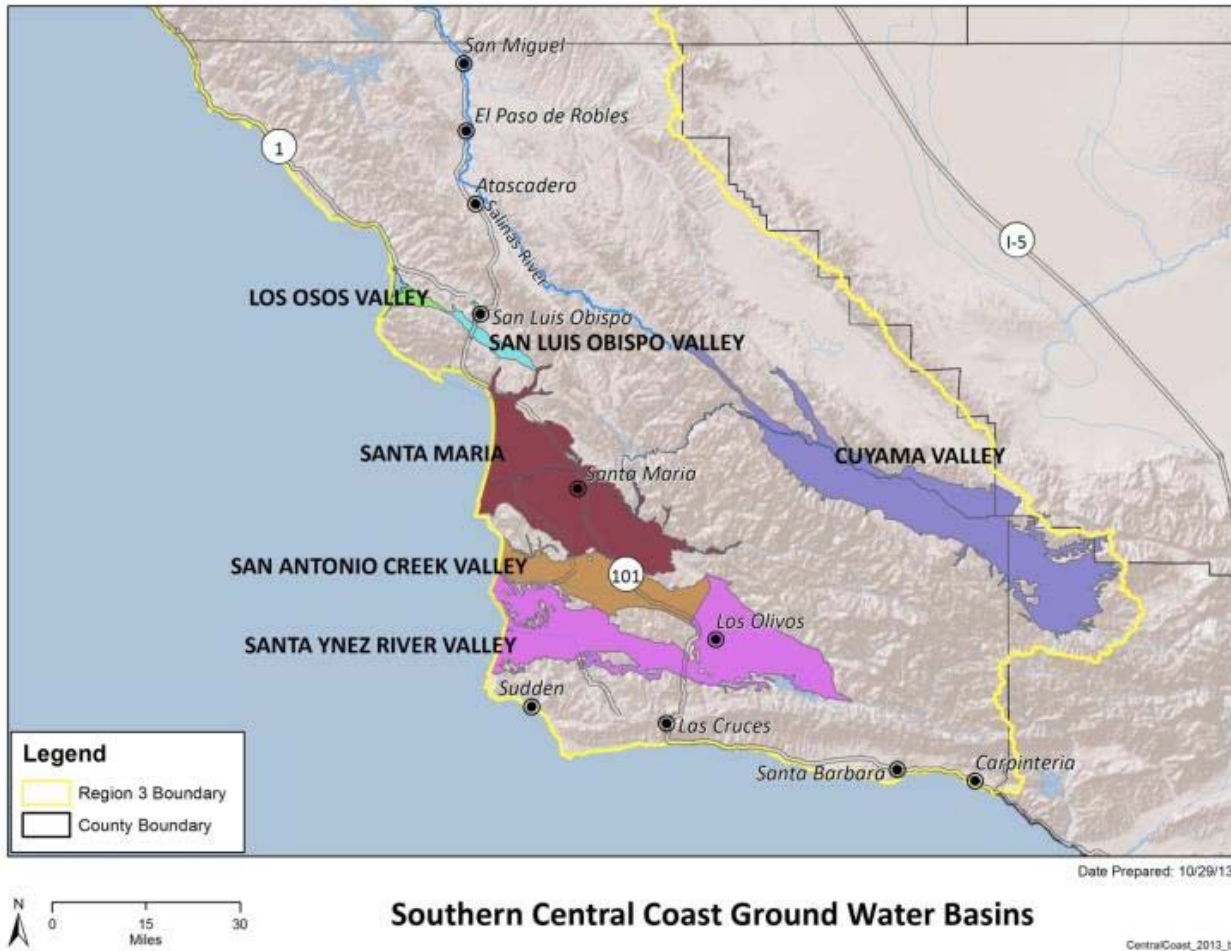


Figure 2. Southern groundwater basins to be monitored by the CCGC.



4 CCGC PROGRAM ELEMENTS

Under Ag Order 3.0, the CCGC will facilitate the monitoring of members’ domestic supply wells and irrigation supply wells. However, CCGC will not offer sample collection and laboratory delivery services as in the previous program. Members will be provided a list of consultants/laboratories qualified to perform the sampling and analysis which will include MLJ-LLC, the CCGC technical consultants. However, members may select any Regional Water Board qualified contractor/laboratory to conduct their sampling, perform the chemical analyses, and upload the data to GeoTracker. All the consultants/laboratories collecting samples and performing analyses will be required to follow the sampling and analytical requirements outlined in the MRPs.

The CCGC has records of member wells monitored under Order 2.0. If a new grower joins CCGC (e.g. they were previously covered under the individual program), or an existing member adds additional ranches not previously enrolled with the CCGC, the CCGC will work with the member to determine if any domestic or irrigation wells on the ranch were not sampled previously. Any domestic well identified for sampling on a ranch with no previous monitoring data will receive the full suite of monitoring parameters in Table 3 of the MRP documents. For wells with previous monitoring data that includes the full suite of constituents in Table 3 of the 2012 MRP, water samples will only be analyzed for nitrates, with a spring and fall sample taken between 2017 and 2019.

4.1 DOMESTIC WELL MONITORING REQUIREMENTS

The CCGC will assist its members in identifying all wells that are defined as domestic use by the Order and associated MRPs. A domestic use well is defined as any well that is used or may be used for domestic use purposes, that is connected to a residence, workshop, or place of business that may be used for human consumption, cooking, or sanitary purposes, located within the property boundary of the enrolled county assessor parcel numbers (APNs).

4.1.1 Domestic Well Monitoring Frequency and Parameters

- Domestic wells must be sampled twice during the life of Ag Order 3.0 (2017 – 2019). Sampling will occur once in the spring and once in the fall and the first sample must be collected in 2017. The second sample must be collected by December 31, 2019.
- For domestic wells previously sampled by the CCGC, monitoring parameters will include nitrate or nitrate + nitrite (measured as N), per the MRP. No additional constituents will need to be monitored by CCGC members if the well was monitored according to the requirements of the 2012 Order.
- For domestic wells not previously monitored according to the requirements of the 2012 Order, all monitoring parameters are required per Table 3 of the MRP for the first sample. The second sample will be analyzed for nitrates only.

4.1.2 Groundwater Data Reporting and Drinking Water Notifications

- CCGC will track data from samples collected by laboratories/consultants contracted by members.
- Within 60 days of sample collection, laboratories will be required to upload data from domestic supply wells to GeoTracker to the individual ranch global ID, and also provide the data to the CCGC.
- CCGC will store the results in a database that tracks member compliance with Order 3.0. The CCGC will review all monitoring results and inform members of any exceedances of the nitrate maximum contaminant level (MCL). Members will be notified within 2 business days of the exceedances and of their responsibilities that result from the elevated concentration of nitrate in their domestic supply wells. Members must provide written notification to the users within 10 days of learning of the exceedance and provide written confirmation of the notification to the CCGC.
- Information on exceedances will be provided to the Regional Water Board immediately through GeoTracker; CCGC will provide a quarterly exceedance report associated with copies of member notifications and follow up information regarding user notification and replacement water actions. The CCGC will continue to use the exceedance report and comprehensive exceedance report template developed and utilized under the previous CCGC Work Plan which tabulates the monitoring results and follow up actions associated with domestic wells with nitrate exceedances. Information will include the Global ID associated with the well so that monitoring results and exceedance notifications can be associated with an individual ranch and uploaded by CCGC or Regional Board staff to GeoTracker. Notifications and follow-up documentation will utilize updated CCGC templates which have been developed in coordination with the Regional Water Board to ensure consistency in notification with Regional Water Board notification letters and compliance with the requirements of Order 3.0.
- As with member wells that have been identified in previous sampling as having a nitrate concentration above the MCL, the CCGC will verify on an annual basis that there have been no changes involving users and notifications to those users. If any changes have occurred, the Regional Water Board will be notified and documentation of the changes will be provided in the quarterly submittal of the comprehensive exceedance report.

4.2 IRRIGATION WELL MONITORING AND TOTAL NITROGEN APPLIED REPORTING

Members are required to monitor and report the concentration of nitrate in irrigation supply wells.

4.2.1 Irrigation Well Monitoring Frequency and Parameters

- Irrigation wells must be sampled twice during the life of Ag Order 3.0 (2017 – 2019). Sampling will occur once in the spring and once in the fall and the first sample must be collected in 2017. The second sample must be collected by December 31, 2019.
- For irrigation wells previously sampled by the CCGC, monitoring parameters will include nitrate or nitrate + nitrite (measured as N), per the MRP. No additional constituents will need to be monitored by CCGC members if the well was monitored according to the requirements of the 2012 Order.
- For irrigation wells not previously monitored according to the requirements of the 2012 Order, all monitoring parameters are required per Table 3 of the MRP for the first sample. The second sample will be analyzed for nitrates only.

5 JUSTIFICATION/RATIONALE FOR CCGC MEMBER MONITORING REQUIREMENTS

Under the previous Order, the CCGC developed a QAPP that contained strict quality assurance/quality control measures. The monitoring of CCGC member's wells was guided by stringent measurement quality objectives for sample collection and analysis including the collection of duplicate samples to assess matrix interference and repeatability of the results. All data were uploaded to GeoTracker and provided to the Regional Water Board. The QA data were formally reviewed and an assessment of data quality for all CCGC data was provided to the Regional Water Board. The QA data and the evaluation of the completeness, accuracy, and precision of the data allowed the Regional Water Board to evaluate the concentrations of the anions/cations across the CCGC region with a high degree of certainty. The certainty associated with the CCGC data is not possible for data provided by those in the individual program.

Under the Order 3.0, all domestic supply wells and the primary irrigation supply well on each ranch must be sampled for nitrate and anions/cations. Once again, well monitoring can be facilitated by the CCGC if growers are members, or individuals can sample their wells and report individually to the Regional Water Board. If their wells were sampled previously as individuals, the accuracy of their data is unknown. Further testing of wells under Order 3.0 by individuals who do not belong to the CCGC does not include a requirement for QA samples. Consequently, there is never the opportunity to evaluate the accuracy of individual's results from either past sampling or any sampling that occurs under Order 3.0. The only way to potentially assess individual's data is to receive additional information on the concentration of the anions/cations during the life of Order 3.0. After receiving additional data, it may be possible to assess the accuracy of concentrations of the anions and cations. Conversely, CCGC member's domestic and irrigation well data accuracy has already been demonstrated through the QA program they followed, and it is not necessary to provide additional data on the concentration of the anions and cations during the life of Order 3.0.

6 RESPONSIBILITIES OF CCGC MEMBERS

1. Conduct monitoring twice within a three-year period (2017 – 2019) using a qualified laboratory for all domestic and primary irrigation wells.

- a. Sampling must be conducted according to MRP requirements.
- b. The first sample must be collected in 2017.
- c. If domestic or irrigation well was previously monitored according to the MRP Table 3 requirements, only nitrate as nitrogen analysis required.
- d. If the irrigation or domestic well was not previously monitored, all Table 3 constituents need to be monitored in first sample, which must be collected in 2017. For the second sample, only nitrate (or nitrate + nitrite) as nitrogen analysis is required.
- e. Ensure that laboratory uploads all **domestic well** and **primary irrigation well** results onto GeoTracker within 60 days; results must also be submitted to CCGC. Analytical results are uploaded to the individual ranch Global ID.
- f. Members must provide written notification to the users within 10 days of learning of an exceedance of the MCL for a domestic well and provide confirmation of the notification to CCGC. CCGC will transmit a copy of the written notification and confirmation to the Central Coast Water Board, identified by the individual ranch Global ID.

7 RESPONSIBILITIES OF THE CCGC

1. Receive and maintain well monitoring results from laboratory/consultant contracted by members in a specified format (compatible with GeoTracker).
2. Notify members of nitrate exceedances in domestic wells within 2 business days of verifying results.
 - a. Utilize existing member exceedance notification forms which include a form for members to fill out regarding user notification and replacement water actions (due 30 days from exceedance notification).
 - b. For domestic wells previously tested and nitrate exceedance notification process already completed, member to acknowledge receipt of new exceedance notification and will provide new user notification. Member will provide CCGC with confirmation that current residence has been notified and is aware of existing water quality situation.
 - c. Follow up with members annually to determine if follow up actions are the same (e.g. ensure any new users have been identified and notified).
3. Quarterly to Regional Board:
 - a. Drinking Water Exceedance report(s) based on monitoring that occurred during the previous quarter. CCGC members must be identified by GeoTracker Global ID.
 - b. Comprehensive Exceedance Report which includes a summary of follow up actions (notification and replacement water).
 - c. Copies of all individual member notification letters and responses from members to confirm notification and provide other relevant information required by Central Coast Water Board.
 - d. Membership list with enrolled ranches by AW and Global ID including when samples are expected to be collected for associated wells (e.g. Spring 2017).

8 SAMPLING IMPLEMENTATION

CCGC will notify its members of the option of utilizing its existing contractor (MLJ-LLC) to perform sampling of their wells or members can use another Regional Water Board approved laboratory/contractor to collect and

analyze the samples. Members will be invoiced a flat fee for CCGC administrative costs; monitoring costs will be separate from membership dues and the member will pay the contractor/laboratory directly. In the member renewal packets, the CCGC will ask members to respond with when they plan to have their well sampled and by which contractor/laboratory. To ensure that the member understands what to communicate to the contractor/laboratory, a Laboratory Checklist will be developed by CCGC and included in the membership renewal packet. Monitoring under the CCGC Monitoring Plan will commence in May 2017. The first wells to be sampled include wells that were not sampled previously under the cooperative program requirements. Members may contract with other entities independently for sampling and analysis.

9 DATA MANAGEMENT

All CCGC data will be loaded to GeoTracker. Contracted laboratories will load results to GeoTracker and also submit the electronic data to the CCGC. Data loaded to GeoTracker and received by CCGC will be maintained in an Access database. For sampling that is performed by the CCGC contractor, the results will be loaded to GeoTracker by the laboratory (nitrate analysis) and the contractor (latitude/longitude and field results).

The CCGC currently manages a membership database that stores member information including operation-specific AW identifiers and ranch-specific GlobalIDs. The database is reconciled with the Central Coast Regional Water Quality Control Board eNOI information quarterly. It is recognized that the Central Coast Water Board must be able to link CCGC members to eNOI information to ensure that CCGC members are in compliance with the Order.

The CCGC submits a quarterly member list to the Central Coast Water Board that is used to update the monitoring status associated with eNOIs from individual to cooperative where necessary. For some members, the CCGC does not have a GlobalID for ranches enrolled due to one of the following reasons:

1. Ranch Name provided to the CCGC does not match exactly the Ranch Name included with their eNOI information;
2. Global ID is pending due to a new eNOI submission that is still being processed by Central Coast Water Board staff.

Both the CCGC and Central Coast Water Board staff have experienced the difficulty of having land on the Central Coast farmed by more than one operation and therefore associated with different eNOI information throughout the year. The CCGC maintains well information in a separate database and links wells to members and associated eNOI information allowing the association of a well with more than one member/Global ID.

The CCGC and Central Coast Water Board staff coordinate efforts to work through discrepancies between the two databases which has generated more accurate data for both the CCGC and the Regional Water Board staff. In general, this effort has resulted in the following:

1. **Existing well sample data:** based on CCGC monitoring and communication with members, updates have occurred in Geotracker to reflect more accurate latitude/longitudes and correct use (domestic versus irrigation); not all of this information has been correct when laboratories loaded data to Geotracker
2. **Duplicate Global IDs:** although the combination of AW and Ranch Name should be unique and have only one Global ID, it is possible for a grower to have more than one GlobalID per an AW/Ranch Name

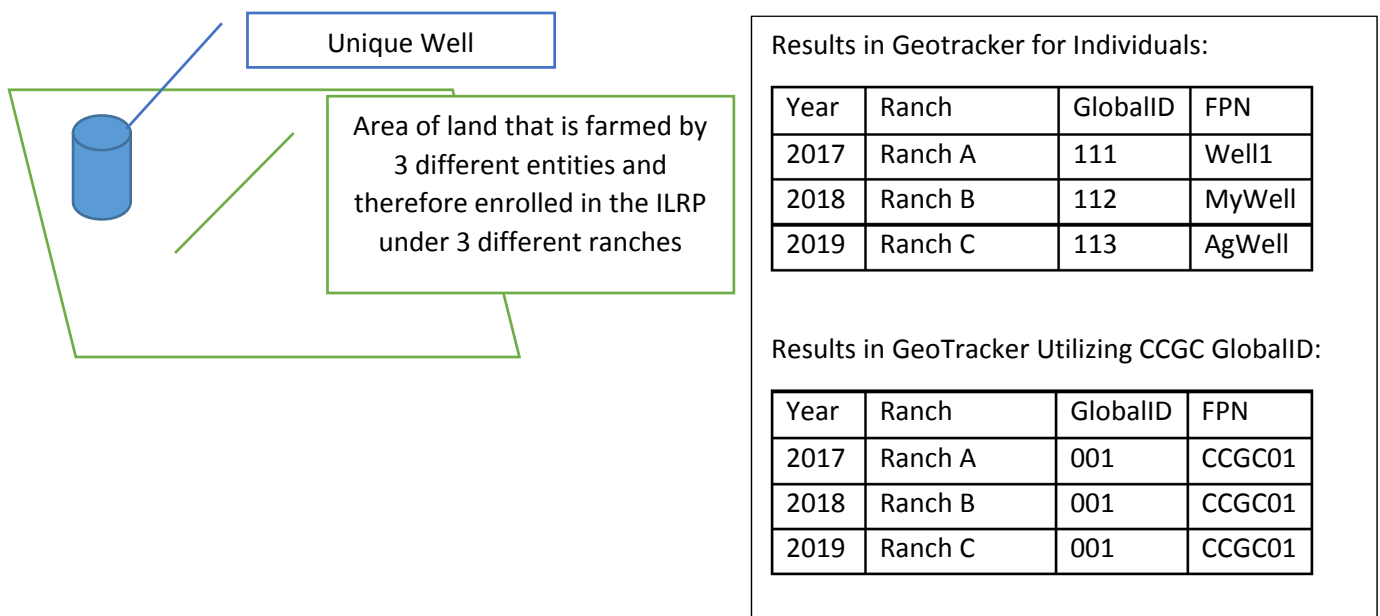
combination. The CCGC has worked with members to resolve which GlobalID is the one they want to keep and to terminate older GlobalIDs.

3. **Updated eNOI:** as the CCGC works with members to reconcile differences between the eNOI from the Central Coast Water Board and the information supplied by the member, members have gone into Geotracker and updated their eNOI information to more accurate including updating the number of wells associated with a ranch, fixing incorrect APNs, terminating old ranches no longer farmed, and enrolling new property within a timely manner.
4. **Linking of wells across Global IDs:** due to the way wells are associated with Global IDs on Geotracker, it is very difficult to know if the same well has results associated with different GlobalIDs. The CCGC is tracking these situations as they come and communicating this with the Central Coast Water Board. This is important to reduce the chance of duplicate sample information being stored within Geotracker.

Previously, the CCGC loaded cooperative monitoring results to a CCGC Global ID and associated wells with unique field point names. This enabled the CCGC to use the same well name and location to track changes in nitrate concentrations over time. The CCGC associates the CCGC Global ID to individual ranch Global IDs for compliance purposes. As members have rotated onto and off ranches, the CCGC has been able to track Global ID associations to unique wells. This has reduced the occurrence of the same well being associated with multiple field point names (FPNs) and locations on GeoTracker. Figure 3 is an illustration of how a single well can be farmed by multiple operations and associated with three different well FPN compared to using the CCGC Global ID and a single FPN. Under the previous Work Plan, the CCGC submitted to the Central Coast Water Board a list that associates the unique CCGC FPN to a member’s Global ID to assess compliance.

It has been a concern of Central Coast Water Board staff that the association of a well to an individual’s Global ID outside of GeoTracker makes it difficult to assess compliance. Under this Work Plan, the CCGC will submit all well data to GeoTracker under individual Global IDs associated with the enrolled ranch and operator.

Figure 3. Illustration of how data are stored on GeoTracker under individual Global IDs compared to the CCGC Global ID.



10 EXCEEDANCE REPORTING

The CCGC will continue to submit exceedance reports for CCGC members to the Central Coast Water Board. In the current program, after groundwater quality data have been received by CCGC, the CCGC notifies its members within two business days if the concentration of nitrate in the well is found to be above 10 mg/L. This notification is in writing and sent via Federal Express. The CCGC has worked closely with Central Coast Water Board staff to ensure that the content of the notification letter complies with the Conditional Waiver and provides the landowner/operator with appropriate instruction for actions that they must take. Specifically, the notification letter from CCGC to the member instructs the landowner/operator of their obligation to inform residents of the potential health effects associated with consuming the water. The CCGC notification directs the landowner/operator to share the notice with all individuals who use the well water (posting of notice and distribution of notice).

11 CCGC DELIVERABLES

11.1 QUARTERLY

Quarterly deliverables will be submitted to the Regional Water Board based on the following schedule:

Year	Reporting Period	Membership List	Exceedance Report / Comprehensive Exceedance Report	Copies of Notifications and Replacement Water Actions
2017	April - June	July 15, 2017	July 15, 2017	July 15, 2017
2017	July – September	October 15, 2017	October 15, 2017	October 15, 2017
2017	October – December	January 15, 2018	January 15, 2018	January 15, 2018
2018	January – March	April 15, 2018	April 15, 2018	April 15, 2018
2018	April – June	July 15, 2018	July 15, 2018	July 15, 2018
2018	July – September	October 15, 2018	October 15, 2018	October 15, 2018
2018	October – December	January 15, 2019	January 15, 2019	January 15, 2019
2019	January – March	April 15, 2019	April 15, 2019	April 15, 2019
2019	April – June	July 15, 2019	July 15, 2019	July 15, 2019
2019	July – September	October 15, 2019	October 15, 2019	October 15, 2019
2019	October – December	January 15, 2020	January 15, 2020	January 15, 2020

Each quarter, the following deliverables will be submitted (starting July 1, 2017):

1. Domestic well exceedance report based on monitoring that occurred the previous quarter.
2. Comprehensive Exceedance Report with follow up actions.
3. Copies of all exceedance notification letters and responses from members documenting user notification and follow up actions.
4. Membership list.