

## CV-SALTS Webinar Questions for Response

### Discussion 1 – Overview and Salt Control Program

**Question:** When was the last time an infant in CA (or US) was diagnosed with Blue Baby Syndrome?

**Response:** When nitrate levels are over 10 parts per million (10 mg/L) in drinking water, there can be critical issues for pregnant women and children. The symptoms can be acute leading to blue baby syndrome. While this syndrome is somewhat rare, it is not the only impact of elevated nitrates in groundwater. California Department of Public Health does not currently track methemoglobinemia (i.e., blue baby syndrome).

**Question:** Has the staff from the Central Valley Water Board reviewed the actions and steps taken by the European Union (EU) in controlling nitrate discharges to groundwater? Are you aware that nitrogen discharges were controlled, and that nitrate concentrations have decreased?

**Response:** Between 2008 and 2012, the CV-SALTS program canvassed other areas around the world looking to learn how other areas were dealing with salt and nitrate discharges. Each EU country derived their own program with baseline requirements and incentive programs for local agriculture. In the EU, there are few areas with nitrate issues similar to the Central Valley. When looking at Chile where similar cropping patterns exist, the soil is so different that they do not have the same nitrate conditions. The Central Valley nitrate situation is unique.

**Question:** How will costs be allocated to publicly owned treatments works (POTWs) in coastal communities that land apply biosolids in the Central Valley?

**Response:** Cost allocations for both the nitrate and salt control programs are set by participants in those programs; the Central Valley Water Board does not set participation fees. For the Salt Control Program, and participation in the Prioritization and Optimization (P&O) Study alternative permitting pathway, costs are likely to generally be based on facility size and impact and salt quantity. For the Nitrate Control Program, and where Management Zones exist, the Management Zones will independently develop cost allocation mechanisms. Ultimately, the person/entity that is named as the responsible party on waste discharge requirements or a notice of applicability will be responsible for ensuring compliance with the Nitrate Control Program as well as the Salt Control Program.

**Question:** Since the conservative approach for the Salt Control Program appears to be more costly, why would any company choose that?

**Response:** All permittees will need to make an independent decision with respect to what works best for their facility/operation. In general, the conservative approach might be preferred by a discharger that already has a long regulatory history of meeting the conservative limits related to salinity due to either low salinity source waters or treatment facilities. For others, despite the lower cost for the alternative pathway, they may prefer to take individual responsibility via the conservative pathway.

**Question:** Has the Water Board defined or otherwise provided metrics for “reasonable, feasible, and practicable” efforts in the alternative Salt Control Program pathway to provide meaningful bookends to implementing parties?

**Response:** In general, it is expected that the Central Valley Water Board will use its best professional judgment when determining what constitutes reasonable, feasible, and practicable efforts for controlling salts. Further, the Central Valley Water Board will look to other similar policies and meanings for application of such principles, such as the State's Antidegradation Policy and the need implement Best Practicable Treatment or Control. Determining what is reasonable, feasible, and practicable will also be informed by the Salt and Nitrate Management Plan and Staff Report for the Basin Plan Amendments, which clearly indicate that the intent and purpose of the alternative pathway is to maintain current conditions to the extent possible while the Central Valley Water Board, in coordination with the stakeholders, develops a long term plan for addressing salinity in the Central Valley.

**Question:** Where can we find the data sources referencing the acreage taken out of production due to salt loading or impaired by salt loading?

**Response:** These estimates come from a 2008 UC Davis study <https://www.cvsalinity.org/docs/documents-and-presentations/74-economic-impacts-of-central-valley-salinity/file.html>

**Question:** On the website, can you post the link to the salinity fee table in a place that is easier to find?

**Response:** The link is now posted on the website; however, a more comprehensive website is being developed to provide more detailed permit level information.

**Question:** Assuming one can reduce slurry to near zero liquid discharge, are there landfills available for disposing of near-dry salts?

**Response:** Modern lined landfills may be able to accept dry solids, depending on their permits and local policies.

**Question:** Are there any levels of salt and nitrate discharge to groundwater that are acceptable? It is not possible to carry out irrigated agriculture without some discharge.

**Response:** For the Nitrate Control Program Pathway A, requirements will vary depending on the location and groundwater conditions. For the Nitrate Control Program Pathway B, the regulations are designed to allow dischargers to work cooperatively to determine the level of nitrate that can be discharged across the management zone without causing or contributing to a violation of the nitrate water quality objective. This does not necessarily mean that the groundwater will automatically return to meeting the water quality objective but that the combination of discharges from those participating in the Management Zone will not be causing or contributing to contamination. Management Zones, as part of their Management Zone Implementation Plans, may look to include projects such as groundwater recharge or other projects that work in conjunction with the lowering of nitrate concentrations in discharges to ensure that discharges collectively are no longer causing or contributing to contamination. Goal 3 of the program is to have groundwater meet the nitrate water quality objective through managed restoration activities, after meeting Goal 2, which is to no longer contribute to causing groundwater aquifers to exceed the nitrate water quality objective.

For the Salt Control Program, if your discharge is below 700 Electrical Conductivity (EC) as a monthly average then you are likely in compliance. If you are applying 700 EC water to crops, the salt concentration of your discharge as it reaches the receiving water (surface or groundwater) is likely higher than the initial effluent salt concentration. If there is no agricultural (AGR) beneficial use of the receiving water (an unusual circumstance), then discharge level would need to be 900 EC if the municipal (MUN) beneficial use applies. There are only limited

areas of the Central Valley where neither AGR nor MUN apply. In such cases, permittees should confer with Central Valley Water Board staff regarding permitting expectations.

**Question:** Have any other states made a determined effort to clean up their aquifers of nitrate or salt?

**Response:** Most of the east coast and Midwest deal with very different water quality issues because they have much higher rainfall amounts. Their issue is runoff of nitrates to surface water, rather than groundwater. Other areas of the arid west have similar issues as California. The Colorado River Basin manages salinity with a strategy to keep salinity in the soil and away from the Colorado River. Water rights laws vary in the western states, which also shapes water quality management. For nitrate management, California has unique needs and approaches. Cleanup of nitrates in groundwater is common in some parts of the Midwest where concentrated animal feeding operations (CAFO) facilities have historical contamination.

**Question:** How are natural background (ambient) conditions factored into both nitrate and salinity?

**Response:** Natural background and ambient are not the same—natural background is what is occurring naturally; ambient is the water quality today. You will need to evaluate the ambient groundwater conditions now and projected out 20 years for the Nitrate Control Program. For the Salinity Control Program under the Conservative pathway you will need to consider if your discharge will cause current ambient conditions to degrade. If so, the State's Antidegradation Policy applies and the Central Valley Water Board will need to find that allowing this permittee to degrade surface or groundwater better serves the people of the state than having the permittee participate in the P&O study.

**Question:** Regarding the Conservative Salinity Pathway, if we have 10 years effluent characterization, and that effluent meets the salt limits, can the discharger go this direction without groundwater data other than the ag & domestic wells onsite? Do individual WDRs require groundwater monitoring wells?

**Response:** Even though the effluent meets the conservative effluent limits, the Central Valley Water Board must also determine if the discharge causes degradation to high quality waters (surface or groundwater). To determine if the discharge is degrading the receiving water, the Central Valley Water Board will need to know the character of the receiving water. Thus, some level of monitoring data will be necessary. The discharger should consult with the Central Valley Water Board staff and their own technical experts (in house or consultant) to determine if they have adequate data and information to meet the requirements of the conservative pathway for the Salinity Control Program.

## Discussion 2 – Nitrate Control Program

**Question:** How do you comply with the nitrate control program if you are triggered by a discharge expansion, but you are the only discharger in your basin that has been triggered? Specifically, I am thinking the Management Zone approach would be infeasible.

**Response:** There is language in the Basin Plan that recognizes this may occur. You may choose Pathway A, and in fact, Pathway A was set up to ensure that someone can get a permit even if there is not a management zone. Alternatively, there is language that provides the Central Valley Water Board with flexibility to use its discretion to issue a time schedule to the discharger for complying with the Nitrate Control Program through a later formed Management Zone.

**Question:** Has anyone studied the application of high nitrate water to crops as opposed to the application of nitrate fertilizers?

**Response:** Yes, there are pilot studies and documentation of what has been called pump and fertilize. The Irrigated Lands Program provides incentives to growers for implementing pump and fertilize.

**Question:** Are detailed maps of priority areas available?

**Response:** Maps of each of the priority subbasins are available via [cvsalts.info](https://www.cvsalinity.org/nitrate-control-program) at this location: <https://www.cvsalinity.org/nitrate-control-program>, scroll to the table below the map that shows the priority 1 areas in red and click on whichever subbasin you are interested in.

**Question:** Since biosolids application is regulated and limited to the nitrogen need of the crop to be grown such that impacts to groundwater is minimized (as confirmed in the UC Davis Report), will they need to join management zones?

**Response:** They will most likely find it more beneficial to participate in a Management Zone rather than selecting Pathway A; however, the decision must be made by the permitted discharger in consultation with the Central Valley Water Board staff. The Management Zone will consider the impact to groundwater and contribution as they look at your level of contribution to the Management Zone efforts.

**Question:** When considering both Nitrate Control pathways, obviously high nitrate groundwater is above the MCL (10 mg/L). However, what should we consider to be high nitrate discharge?

**Response:** A high nitrate discharge depends both on the water quality objective (i.e., 10 mg/L) as well as the ambient water quality condition. Where the receiving water is better than the water quality objective, the ambient condition (or going back to the original ambient condition as of 1969) is considered to be a high-quality groundwater. Anything above the high quality of the groundwater may be considered a high nitrate discharge even if it is well below the 10 mg/L water quality objective. Thus, it may be site specific. Additionally, if there are nitrates impacting the drinking water in your area, you will have to address that in your compliance documentation.

**Question:** If we are in a Priority 1 subbasin but do not discharge nitrate or salts, why are we being forced to be involved in this program? Is there a way to challenge involvement in this?

**Response:** A permittee that does not discharge nitrate or salts may not be subject to either control program. In such a case, the permittee should consult with the Central Valley Water Board staff to discuss the specifics of their discharge scenario.

**Question:** For POTWs who discharge to surface water and their treatment process meets best practicable treatment or control (BPTC), i.e., impermeable liner for all treatment units and holding ponds, yet the NPDES permit includes generic groundwater limitations, do such facilities need to comply with the nitrate control program for groundwater?

**Response:** The Nitrate Control Program does not impact surface water discharges; it is focused on groundwater impairment. If liners are controlling land discharge of nitrates, you may be in compliance. Your pathway under the Salt Control Program would likely be determined by compliance with the 700  $\mu\text{mhos/cm}$  EC discharge limit for AGR or 900  $\mu\text{mhos/cm}$  for MUN and the program applies to both discharges to surface waters as well as groundwater. Specific conditions should be reviewed with Central Valley Water Board staff.

**Question:** For Pathway A, if you have already determined through an antidegradation analysis that your discharge is not impacting groundwater because background levels exceed applied water quality (but also water quality objectives), what other steps would be required?

**Response:** Assuming that the question is referring to Pathway A of the Nitrate Control Program, you will need to categorize the discharge through the initial assessment and consider impacts over a 20-year planning horizon. Once the discharge has been categorized and the Central Valley Water Board has concurred with the categorization, the existing permit may or may not need to be revised depending on the results of the initial assessment. Notably, as part of the initial assessment, consideration must be given to domestic and municipal drinking water supplies that may be impacted by the discharge.

**Question:** What if the discharger that received the notice is on a waiver program with the Central Valley Water Board? Dehydrator operation that has been closed since 2015 but is allowed to discharge 100,000 gallons/acre/year (500,000 in this case) if operations were needed during weather-induced need for raisins.

**Response:** A closed facility would not likely receive a Notice to Comply. If the permit is still in effect, you may need to notify the Central Valley Water Board of closure. If you are holding a permit/waiver and wish to continue to rely on the authorization provided by the waiver you would be subject to the salt and nitrate control regulations.

**Question:** Why would a compost facility with stringent WDR requirements to protect groundwater and berms to protect surface water be included in this program?

**Response:** The purpose of a Management Zone is to allow all potential sources of nitrate to work together to address nitrate in groundwater. Composting operations that cannot demonstrate that all composting treatment and storage occurs on surfaces designed and constructed to prevent leachate or other fluids that have contacted compost materials from infiltrating into the subsurface and that compost applied to property owned by the permittee(s) is covered by the Irrigated Lands Regulatory Program (ILRP) are subject to these new regulations. Should a permittee not want to work in a management zone, Pathway A can be done on an individual basis.

**Question:** Has a cost analysis been done for this effort?

**Response:** There were several cost studies completed as part of CV-SALTS. The final one was done with the Central Valley Water Board as an attachment to the Basin Plan Amendments and environmental review.

**Question:** Has the CV-SALTS program considered the type of salts discharged? Typically, we think of certain salts (Na, Cl) as being much more troublesome than others (Ca, Mg).

**Response:** Yes, there was detailed work done, but for the AGR beneficial use, EC is the salt standard and forms the basis for evaluating impacts to crops. In some areas, more specific salt ions do matter. For other beneficial uses, sodium or other salt constituents may be critical. For purposes of implementing the Salt and Nitrate Control Plan, the definition of “salinity” and “salt” includes electrical conductivity, total dissolved solids, fixed dissolved solids, chloride, sulfate, and sodium.

**Question:** Why can't we work more on a holistic approach between the State and the users/producers/community etc. that does work on a program together with the State's investment in better management practices. We have the technology, we know how to apply various regional site characterization approaches, we have the interest to work together, but we still seem to have this “us vs. them” approach to regulation.

**Response:** This has been a 10 year plus planning project where everyone could engage. We took the approach that everyone works together. We do not see it as an “us vs. them” program, and in fact, almost all stakeholders gave us strong held beliefs to reach agreement on an approach. These programs were developed through extensive stakeholder process with representatives from agriculture, science, environmental justice, oil and gas, food processors, regulators and more. Without these new programs, the State Water Board was going to use (and had started to use) a “heavy hammer” approach under a clean-up and abatement mandate. This approach provides a reasonable means of addressing drinking water needs and allowing a workable permitting process. The management zone approach is a holistic, collaborative approach to address the challenges. The Central Valley Water Board has agreed to take a longer-term view towards what can be accomplished and specifically recognizes the challenges of meeting both salt and nitrate water quality objectives throughout the Central Valley. Balancing environmental needs against economic realities was a big part of the Basin Plan amendments.

**Question:** POTWs permitted to discharge under the State Water Resources Control Board Recycled Water general order must meet Title 22 for nitrate, i.e., comply with 10 ppm, but there are no hard and fast limits for EC. Are there any exemptions from the nitrate or salinity control program requirements for beneficial reuse of recycled water?

**Response:** There are not exemptions for recycled water under the Salt and Nitrate Control Programs. While we all recognize and support recycled water, it is part of the Central Valley’s fabric and needs to be considered in both control programs. See also the answer above regarding need to consider impact of antidegradation policy.

**Question:** Did the CV-SALTS Basin Plan develop technical guidance on impacts over a 20-year timeline?

**Response:** Regulatory and technical guidance as well as templates were prepared for Management Zones during pilot development. Conservative salinity guidelines were also prepared to assist permittees selecting that pathway. Additional guidelines and templates may be prepared in the future.

**Question:** What if your nitrate levels are below thresholds, but you have other sources of nitrogen in your applied water/biosolids?

**Response:** All sources would need to be evaluated.

**Question:** How is Total Nitrogen treated as a source for Nitrate?

**Response:** It really depends on the source and form of the nitrogen in the individual situation and how it impacts groundwater.

### Discussion 3 – Nitrate Management Zones

**Question:** How does the management zone compare to the watershed?

**Response:** Many management zones will likely align with the groundwater basin rather than the watershed, although they may be similar. However, groups of dischargers locally determine the management zone boundaries with Central Valley Water Board approval.

**Question:** Will the Central Valley Water Board website post these plans and announce their public review / comment deadlines?

**Response:** Yes, and the links will be on cvsalts.info as well.

**Question:** Has there been discussion about having the management zones managed by GSAs so that groundwater basins could be managed, and compliance could be done in a coordinated way?

**Response:** Each Management Zone determines management for itself. Each of the Management Zones are in coordination with their GSAs. Some are involved, some may not wish to be, depending on what the local area chooses.

**Question:** Are these nitrate map layers or priority area boundaries publicly available?

**Response:** Priority boundaries are included in the Basin Plan and available on the website. Nitrate layers may be requested. The maps of the priority 1 nitrate areas are located on cvsalts.info at this location: <https://www.cvsalinity.org/nitrate-control-program>, scroll to the table below the map that shows the priority 1 areas in red and click on whichever subbasin you are interested in.

**Question:** What data source did you use for the nitrate data? How did you incorporate depth of wells into the analysis of initial conditions?

**Response:** All data were collected from publicly available sources, such as GAMA (Groundwater Ambient Monitoring and Assessment Program), Geotracker, and prior ILRP and CV-SALTS groundwater assessments. Data collection focused on the shallow groundwater conditions.

**Question:** How can you find/contact the participants within your basin that are forming the Management Zones?

**Response:** Contact names are available on the website at [https://www.cvsalinity.org/images/management\\_zone\\_development\\_chart\\_4-17-20.pdf](https://www.cvsalinity.org/images/management_zone_development_chart_4-17-20.pdf).

**Question:** Is there a public outreach/education component to your program regarding access to safe drinking water?

**Response:** Outreach has been a major part of CV-SALTS and is a major component of the Management Zone plan requirements. Additional information is available in the Management Zone guidance materials.

**Question:** Have you used remote sensing to supplement identifying potential unmapped/unidentified old ag and domestic wells that have been plowed over, developed over, hidden, etc.? Identifying all those tens of thousands of wells is critical to the management plan as indicated. These wells still can act as conduits from shallow to deeper zones and are considered “unpumped” wells that do convey great volumes of groundwater (affected by contaminants) throughout the subsurface aquifer system.

**Response:** Remote sensing has not been used at the CV-SALTS scale. Local agencies and groups may have done such work.

**Question:** Who did the planning work in the Turlock basin?

**Response:** GEI and Luhdorff & Scalmanini supported the pilot management zone work.

**Question:** How long did it take from start to finish for each of the pilots to develop their Preliminary Plans? Assuming it was more than 270 days, any learnings/recommendations on how to meet the required timeline? Now that most GSPs are submitted, how much of the management zone required info might GSAs already have available?

**Response:** The pilots have been working for over a year on their efforts. Template and guidance documents are posted on the website (<https://www.cvsalinity.org/docs/agendas-notes-and->

[materials/meeting-materials/4253-complete-management-zone-guidance/file.html](#)). Most GSAs have good information on water quantity but have not directly focused on nitrate or salinity.

**Question:** Does the Kings River Watershed Coalition Authority have a website where we can download the Preliminary Management Zone Plan for review?

**Response:** <https://kingsriverwqc.org/cv-salts/>.

**Question:** How will growers be reached to provide them all this information and options?

**Response:** Growers who are in ILRP coalitions have received information from their coalitions. The Notices to Comply from the Central Valley Water Board went directly to the third-party coalition rather than individual growers in the priority 1 areas.

**Question:** What is the best way to do outreach during the pandemic?

**Response:** Outreach is challenging in these times. We are all learning new methods and best practices together. Zoom webinars seem to be good, but internet access is limited in many areas. Each area is different. The State Water Board Office of Public Participation has prepared some guidance on community outreach, which is on the website.

**Question:** Our facility is on a waiver program and operational if needed. We have to stay that way in case inclement weather causes a need for dehydration services in the winter, although the maximum allowed discharge is 100,000 gallons/acre/year. This is why the Board let them transfer from WDRs to a waiver program. We received an NTC but have not dehydrated since 2014.

**Response:** These specific conditions should be reviewed with Central Valley Water Board staff.

**Question:** If Pathway B is to join a management zone, should I wait for my local zone to be formed and announced on the CV-SALTS website and then join them?

**Response:** If you are in a Priority 1 area, the website lists who is working in your area to form a management zone [https://www.cvsalinity.org/images/management\\_zone\\_development\\_chart\\_4-17-20.pdf](https://www.cvsalinity.org/images/management_zone_development_chart_4-17-20.pdf). If you are in a Priority 2 area, many have begun to develop, and we can help connect you. If you are in a non-prioritized area, let us know where you are, and we can provide you more information. Visit [www.cvsalts.info](http://www.cvsalts.info).

**Question:** If I am in a Priority 3 zone but I am modifying an existing plant which would require modification of an existing permit, how can I proceed if no management zone is currently in existence? Do I just proceed with Pathway A?

**Response:** There are no Priority 3 zones. There are Priority 1, Priority 2 and non-prioritized. For permit modifications, you may decide to comply via Pathway A. The Central Valley Water Board has discretion to apply a time schedule for compliance with the Nitrate Control Program until a management zone is developed if that appears to be a viable option.

**Question:** If you join a management zone, can you leave and go into Pathway A later?

**Response:** Yes, you can change. There are some restrictive time limits associated with such a change so be sure to consult with Central Valley Water Board staff.

**Question:** Would participants in a Pathway B still be expected to implement best practicable treatment or control in accordance with the State Antidegradation Policy as they implement short- and long-term projects?



**Response:** Yes. However, what is considered BPTC for those participating in a Management Zone may be different than what is considered BPTC by those choosing Pathway A. Specific conditions should be reviewed with Central Valley Water Board staff.

**Question:** How will managed wetlands in the Central Valley be regulated under these two programs?

**Response:** Many of the managed wetlands are already included within the Irrigated Lands Program. Currently, if a managed wetland is discharging salt to surface or groundwater, there will have to be some participation in the Salt Control Program. Likewise, if there are nitrate discharges to groundwater, participation in the Nitrate Control Program would be required. However, there are ongoing discussions among the wetlands community and the Central Valley Water Board as to how managed wetlands should be permitted in the first instance and then how wetlands fit within the Salt and Nitrate Control Programs.

**Question:** Is this meant to be the active live list of management zones for us to check and wait for one to be formed in our area?

**Response:** Yes, we will continue to update the list.  
[https://www.cvsalinity.org/images/management\\_zone\\_development\\_chart\\_4-17-20.pdf](https://www.cvsalinity.org/images/management_zone_development_chart_4-17-20.pdf)

**Question:** How many dischargers are being regulated by the CV-SALTS Program in Turlock that end up paying for the \$1.7M? How is the cost allocated?

**Response:** The discussions regarding cost allocation are underway now. The number of participants will depend on how many permittees elect Pathway B. Please contact the Management Zone contacts to obtain further information.

**Question:** Are there specific grant programs that will have funds earmarked for nitrate management plans?

**Response:** There are no dependable grant sources to get these things started. People can look for grant funds for projects, potentially funded from USDA for in-the-ground plans to reduce nitrate.

**Question:** How coordinated will this program be with the local GSA?

**Response:** Each Management Zone determines management for itself. Each of the Management Zones are in coordination with their GSAs. Some are involved, some may not be, depending on what the local area chooses.

**Question:** What are the civil penalties for non-compliance with the submittal deadlines (if any)? If there are none, would the Central Valley Water Board need to adopt time schedule orders (TSOs) for chronically non-complaint management zones.

**Response:** The potential application of administrative civil penalties, or civil penalties, may vary on the permit program. For non-ILRP permittees, failure to meet timelines will be subject to discharge prohibitions—and non-compliance thereof. For IRLP permittees, failure to comply will be considered a failure to comply with waste discharge requirements. Both forms of non-compliance may be subject to enforcement action by the Central Valley Water Board.