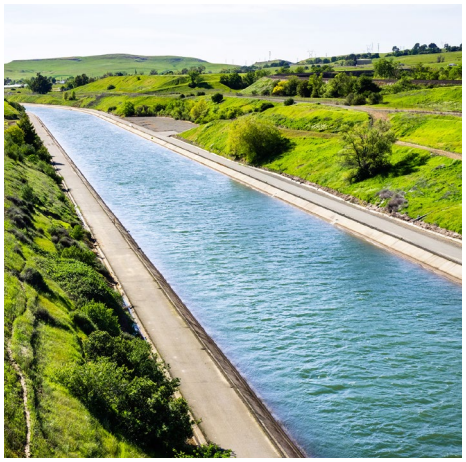

California Agriculture Regulatory Update:

Water Supply, Nitrate and Salinity

April 2023

PREPARED BY:

LAND IQ

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Introduction

As California agriculture enters 2023, regulations on water quality and quantity continue to develop as growers, collectively represented by third parties, respond to expanding monitoring, reporting and management requirements. This update focuses on developments in regulations related to water supply, salt and nitrate, with a focus on activities between June and December 2022.

- **SGMA**
  groundwater basin management
- **ILRP**
  on-farm groundwater nitrate contamination prevention
- **CV-SALTS**
  salt and nitrate control
- **Bay-Delta Plan**
  surface water quality management

Sustainable Groundwater Management Act - SGMA

Background

California passed legislation to formally regulate groundwater in 2014. To this end, the California Department of Water Resources (DWR) assigned a priority to each of California's 515 groundwater basins, based on factors such as groundwater pumping, population, and groundwater level history. Ninety-four groundwater basins were assigned high or medium priority. Together with adjudicated areas (where legal judgments negate the need for a GSP), the area represented by high and medium priority basins represents 98% of all pumping (20M ac-ft/year); 83% of the California's population (25M people) and 88% of irrigated land (6.7M ac).

Groundwater Sustainability Plans

California DWR empowered local agencies, called **Groundwater Sustainability Agencies (GSAs)**, within the 94 high and medium priority basins to plan how to balance their overdrafted groundwater basins by 2040. These plans, called **Groundwater Sustainability Plans (GSPs)**, were submitted to DWR for approval, which can take up to two years.

To date, DWR has reviewed GSPs from 24 of the 94 high and medium priority basins, while GSPs from the remaining 59 basins are still being reviewed. Recently GSPs from the Cuyama Basin, Eastern San Joaquin Subbasin, Kings Subbasin, Merced Subbasin, Paso Robles Subbasin, and Westside Subbasin were approved. Napa Valley Subbasin, Santa Rosa Plain Subbasin, Petaluma Valley Basin, and Sonoma Valley Subbasin GSPs were also approved in January. Six more GSPs were not approved because of deficiencies in how sustainability would be achieved. Regardless of the review schedule, GSAs are required by SGMA to begin implementing their GSPs immediately after submittal and provide annual reports every April. All GSAs are therefore now beginning to implement their GSPs and seeking funding.

Grant Programs for GSP Implementation

The GSPs describe projects and management actions to manage groundwater that may be funded by DWR through the Sustainable Groundwater Management Grant Program. Round 2 of this grant program, announced in 2022, will provide funding to GSAs and other responsible entities to update their GSPs (or alternative plans) or for construction projects and management actions required for implementation. This funding is for eligible applicants with projects located in medium and high priority basins, including critically overdrafted basins. The Legislature has provided, or will provide, approximately $230 million to DWR for SGMA implementation activities, including planning and implementation projects. The award amounts are estimated to range between $1M to $20M, will be announced in August 2023, and are expected to fund three years of work.

Sustainable Groundwater Management (SGM) Grant Program

The SGM Grant Program provides funding to GSAs and other entities to encourage healthy and sustainable groundwater basins, to decrease and eliminate undesirable effects, and to implement projects that provide multiple benefits while also improving groundwater supply and quality. In Round 1 (May 2022), $150M was awarded to 20 agencies for 119 individual projects. Round 2 of the SGM Implementation grant program will provide over $200M from the General Fund and Proposition 68, depending on the 2023-2024 state budget. DWR is also providing an additional $16M in General Funds for Underrepresented Communities. Draft awards will be posted in June 2023 and the final award list will be announced in October 2023, with agreements expected to be executed between November 2023 and January 2024.

Multibenefit Land Repurposing Program (MLRP)

The California Department of Conservation has initiated the Multibenefit Land Repurposing Program (MLRP), which has received $90M in appropriations to date. The MLRP seeks to increase regional capacity to repurpose agricultural land to reduce reliance on groundwater while providing community health, economic wellbeing, water supply, habitat, renewable energy, and climate benefits. Round 1 MLRP grant awards were announced in 2022, and Round 2 awards will be announced in spring 2023. Round 2 grants will award $40M to fund groundwater sustainability projects that reduce groundwater use, repurpose irrigated agricultural land, and provide wildlife habitat.

California
Department of Conservation

The MLRP is funded by the Public Resources Trailer Bill. The MLRP seeks to increase regional capacity to repurpose agricultural land to reduce reliance on groundwater while providing community health, economic wellbeing, water supply, habitat, renewable energy, and climate benefits. Nonprofit organizations, public agencies, and tribal governments are eligible for this program.

The first recipients of the MLRP received just over $40M in May, 2022. Round 2 of the program will award $40M to fund groundwater sustainability projects that reduce groundwater use, repurpose irrigated agricultural land, and provide wildlife habitat. Round 2 grants, up to $8.89M each, will be announced in June 2023. These grants will be awarded as block grants to develop and implement land repurposing programs. Recipients may then award subgrants to achieve their program goals.

LandFlex Grant Program (LandFlex)

LandFlex is a DWR grant program aimed at immediate drought relief to drinking water wells and reducing unsustainable groundwater pumping in critically overdrafted (COD) basins. It is a voluntary incentive program that funds GSAs who can then fund individual farms.

Round 1 LandFlex grants were announced in February 2023 and awarded (in total) $23.3M to three GSAs: Madera County GSA - $9.3M; Greater Kaweah GSA - $7M; Eastern Tule GSA - $7M. As part of the eligibility requirements, these GSAs are all in critically overdrafted basins, are actively implementing an allocation plan that identifies a quantified volume of overdraft as of Water Year (WY) 2022, and have measurable accounting methods (i.e., evapotranspiration or well metering) for WY 2022 and 2023.

These GSAs will work directly with growers to identify land that would reduce pumping impacts to nearby drinking water wells. This is a voluntary program for farmers who can request ac-ft of groundwater. Eligibility is limited to growers with a 3-year average Adjusted Gross Income of $2.5 million or less, and no individual grant award to a grower will be greater than $2.5 million. One of the main goals of LandFlex is to reach vulnerable communities in the San Joaquin Valley whose drinking water is severely impacted by overdraft. To this end, DWR is partnering with Community Alliance with Family Farmers, Self-Help Enterprises, Western United Dairies Foundation, and the Almond Alliance to assist GSAs with providing outreach and engagement to growers.

Learn More

California Department of Water Resources
https://water.ca.gov/programs/groundwater-management/sgma-groundwater-management

Irrigated Lands Regulatory Program - ILRP

Background

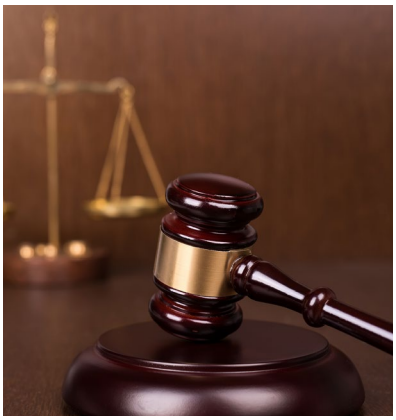
The ILRP is a complex regulatory program with many components. Initially, its focus was on developing and implementing **Irrigation and Nitrogen Management Plan (INMP) Summary Reports**. Farmers report on how much irrigation and nitrogen they are applying and submit this information to their water quality coalitions, who then summarize this information in a report to the Regional Water Quality Control Board. This information informs the overall strategy to manage nitrogen inputs to groundwater, which is an overarching program that everything else fits into called the **Management Practices Evaluation Program (MPEP)**.

The Management Practices Evaluation Program has three parts:

1. **Management Practice Assessment -** This effort uses modeling and field data to find out which farm management practices are the most effective at protecting groundwater from nitrate contamination.
2. **Groundwater Protection Formula, Values and Targets -** A formula used to determine the current nitrate loading to groundwater (value) and what loading rates are required to achieve compliance with groundwater quality standards in each township (targets).
3. **Groundwater Quality Management Plans -** These plans describe how the best protective practices (determined through the management practice assessment) will be implemented to ensure loading rates required to achieve the groundwater protection targets are not exceeded.

The MPEP and Groundwater Quality Management Plans were initiated several years ago and are ongoing. However, the groundwater protection formula and values have only recently been developed within the last two years, and the targets are still under development.

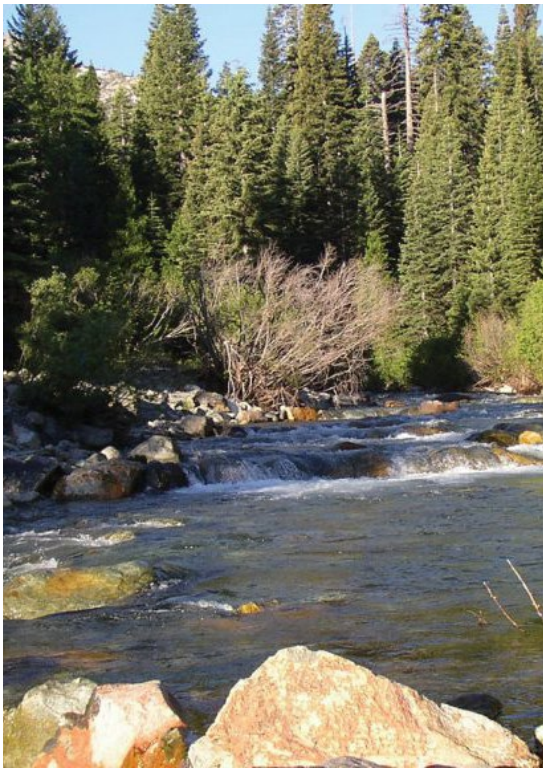
California Court of Appeal Decision



Several petitions related to ILRP have been filed with the State Water Resources Control Board and the Central Valley Regional Water Quality Control Board (Water Boards). Recently, the California Court of Appeal rejected environmental challenges brought against the adoption of the Eastern San Joaquin Watershed waste discharge requirements by the Boards. The environmental plaintiffs included Environmental Law Foundation, Protectores Del Agua Subterranea, and Monterey Coastkeeper, et al. The Agricultural Intervenors and Respondents included the East San Joaquin Water Quality Coalition and other coalitions, who supported the Water Boards. The plaintiffs disagreed with allowing anonymous reporting of nitrogen fertilizer applications among other data and farm information. However, the Court ruled that a balance between confidentiality and transparency should be upheld, and the Water Boards should require no more information of farmers than is necessary to manage the ILRP.

The Court also found that the feedback reporting in current regulations is sufficient, and rejected the plaintiff's arguments that all data should be public. It reasoned that the best that current science can do is connect nitrogen applications to groundwater at a township level, not an individual field or farm level, and upheld the current township-level approach to estimate the impact of agriculture on drinking water.

The Court additionally upheld other elements of ILRP and concluded that ILRP adequately addressed management practice planning and reporting, representative monitoring rather than end-of-field measurements, and determining compliance with the California Antidegradation Policy. This decision is precedential for other coalitions and confirms the important role of coalitions in administering ILRP.



Upper Feather River Exemption

The Central Valley Regional Water Quality Control Board exempted Upper Feather River irrigated agricultural operations from obtaining coverage under the Irrigated Lands Regulatory Program. Irrigated agricultural operations in the watershed are irrigated pasture and/or alfalfa. There are approximately 70 operations in the watershed, covering just over 30,000 ac. Efforts are underway to seek a similar exemption in the Pit River area, the inter-mountain areas of Shasta County, and other areas where irrigated pasture and hay have low potential to contaminate surface water and groundwater.

Learn More

California Department of Water Resources
www.waterboards.ca.gov/centralvalley/water_issues/irrigated_lands/ilrp_decision_tree.pdf

Source: https://sacriver.org/explore-watersheds/feather-river-subregion/upper-feather-river-watershed/photos/#!

Central Valley Salinity Alternatives for Long-term Sustainability - CV-SALTS

Background

CV-SALTS is a collaborative initiative between industry, government, agriculture, and communities to address and control nitrate and salt accumulation in California water supplies. While the CV-SALTS salt control program is implemented at the Central Valley wide scale, the nitrate control program is administered by local organizations called Management Zones. Both programs apply to all industries and local governments, but the nitrate program is implemented by prioritizing areas according to nitrate exceedances (above the drinking water standard) in groundwater. Currently, the initial phase of the salt control program is under way, Priority 1 Management Zones are implementing their plans, and Priority 2 Management Zones are beginning to form.

The P&O Study began in December 2021 and is expected to take 10 to 15 years. To date, P&O study efforts have focused on a Baseline Characterization Report, which is a compilation of data including land use, water quality, salt sources, and other information relevant to both science and policy of salt management. Throughout this process, data management tools and databases are being developed and models for evaluating salt accumulation in pilot areas as well as the entire Central Valley have been selected. The information in the Baseline Characterization Report will be used as foundational information for the remainder of the study, which aims to predict how different management approaches will affect salt accumulation in different parts of the Central Valley under various scenarios, such as drought, and natural factors such as soil type and climate.

Salt Control Program Prioritization and Optimization Study

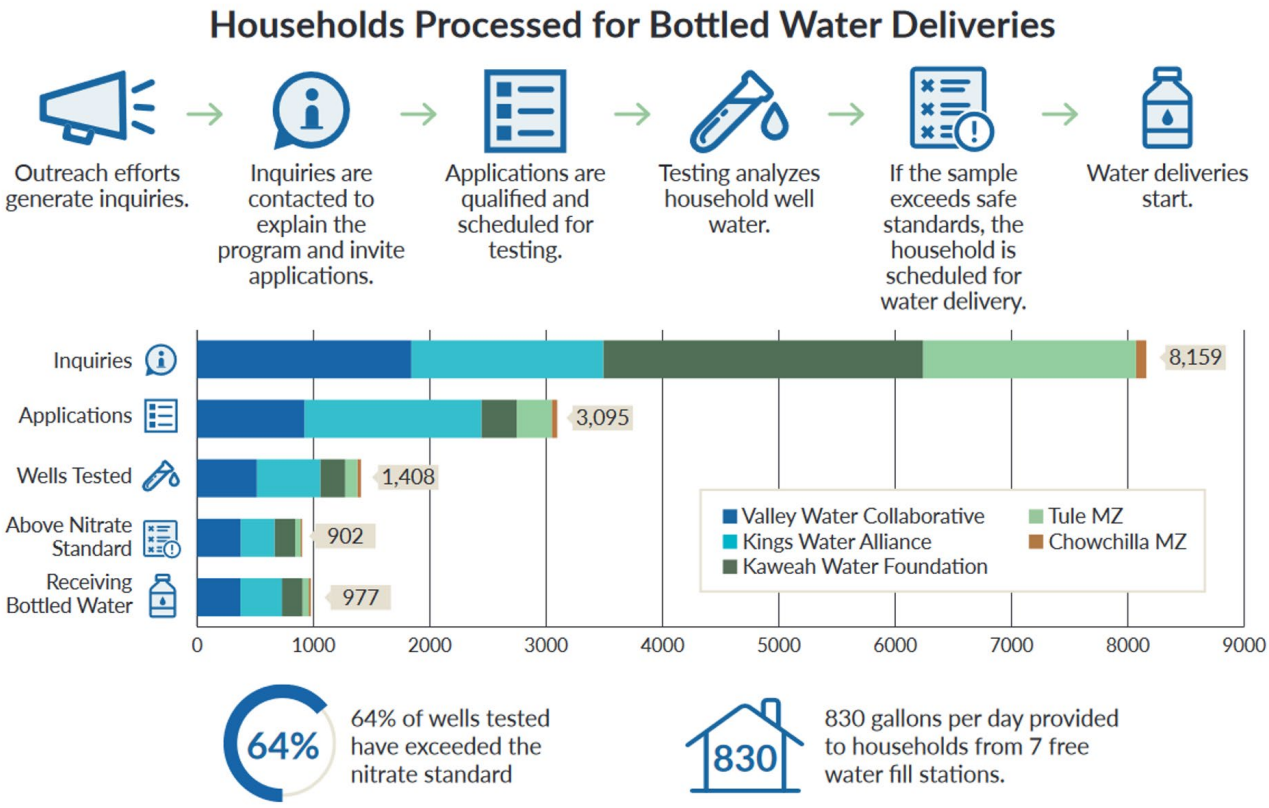
The Prioritization and Optimization (P&O) Study, begun in 2022, is developing the technical information and roadmap to describe and address the long-term problem of salt accumulation in the Valley. The study is intended to determine what water is used in each part of the Central Valley and what types of projects should be used to protect it. The study also aims to discern which of these projects should be initiated first and which ones are lower priority. In addition, the study will include estimated costs for these projects and make recommendations on funding. Lastly, the study will provide information on how the salt control program will be be organized and governed.

Over the past year, consultants conducting the P&O study under the guidance of CV-SALTS have gathered data on groundwater quality, surface water quality, salinity sources, and land use, and have chosen models that will be used in this multi-year effort. Over the next three years, CV-SALTS will continue to guide the P&O study to update the understanding of salt conditions, develop salt management regions and salinity targets for those regions, and identify initial options for managing salt that will achieve salinity targets.

The P&O study is also considering related resource planning initiatives, including surface water use changes and groundwater management under the Sustainable Groundwater Management Act, land use planning efforts, and environmental factors and restoration efforts.

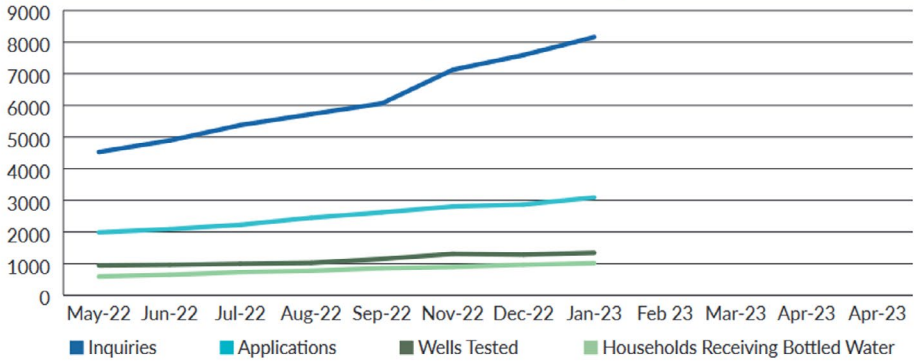
Nitrate Control Program

On March 1, the Regional Water Board sent letters to the Priority 1 Management Zones approving their Final Management Zone Proposals. This action initiates a 6-month period during which Management Zones must submit their Management Zone Implementation Plans, required to be completed by September 5, 2023. In the meantime, Priority 1 Management Zones continue to deliver outreach and safe drinking water to communities throughout the Central Valley. These Management Zones are also coordinating on development of their Implementation Plans to learn from each other and realize efficiencies. Priority 2 Management Zones expect to receive their notices to comply by the end of 2023.



Updated January 2023. Source: https://www.cvsalinity.org/resources/

Bottled Water Program Participation



27% of applications were ineligible or referred to other programs.

23% of applications have not responded to follow-up contacts.

Updated January 2023. Source: https://www.cvsalinity.org/resources/

POSTCARD & FLYERS

Management Zones use direct mail and door-to-door flyer distribution to get program information to potentially affected households. Rural areas pose a particular challenge for door-to-door efforts.

185 campaigns

58,078 household contacts

PROMOTION

Management Zones use radio, television, newspapers, road signs, and social media to describe and promote the program.

318 placements

967,576 impressions

MEETINGS & EVENTS

Management Zones hold in-person and online community meetings to describe the program and encourage applications.

37 events

620 participants

WEBSITES

Each Management Zone manages a website as an information source and means for residents to apply.

10,037 website visitors

971 online applications

ONE-ON-ONE DISCUSSIONS

Management Zones talk individually with residents at street events, door-to-door, and by phone to answer questions, follow-up on applications, and encourage participation.

1,268 events / activities

9,482 contacts

Updated January 2023. Source: https://www.cvsalinity.org/resources/

Learn More

CV-SALTS
www.cvsalinity.org

Valley Water Collaborative (Modesto and Turlock subbasins)
https://valleywaterc.org

Chowchilla Management Zone
https://www.maderacountywater.com/cv-salts

Kings Water Alliance
http://kingswateralliance.org

Kaweah Water Foundation
http://www.kaweahwater.org

Tule Basin Management Zone
https://www.tulemz.com

Bay-Delta Plan

Background

The main purpose of the San Francisco Bay/Sacramento-San Joaquin Delta Estuary Water Quality Control Plan (Bay-Delta Plan) is to address the decline of native aquatic species in the Bay-Delta and related ecosystems. Recent developments related to this on-going controversial plan and its implementation include voluntary agreements, a new report on surface water storage, and the initiation of the Environmental Impact Report (EIR) for Lower San Joaquin River flow and southern Delta salinity.

Source: https://sacriver.org/explore-watersheds/american-river-subregion/#!

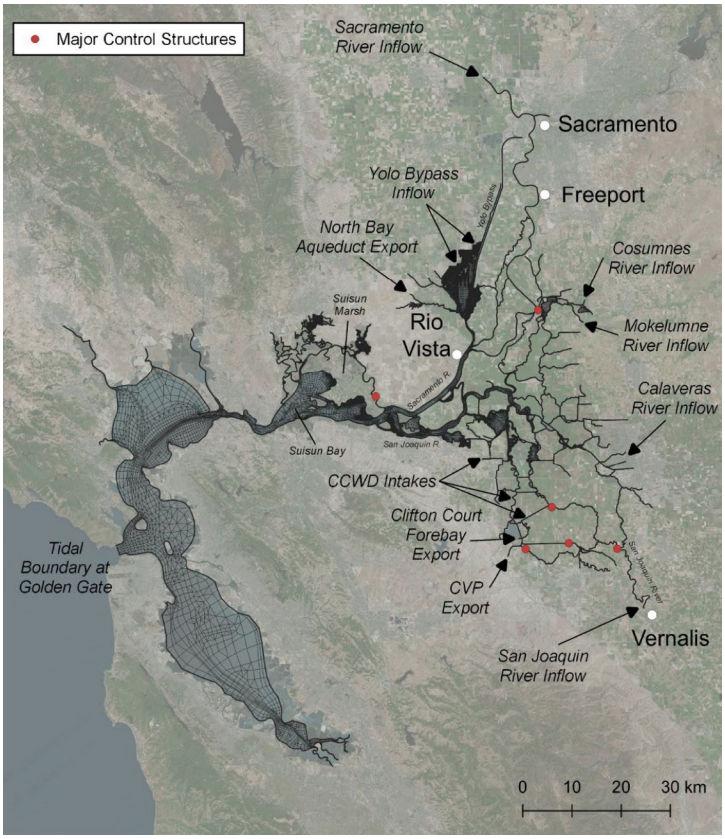
Scientific Basis Report on Voluntary Agreements

In January 2023, the State Water Resources Control Board, California Department of Water Resources, and California Department of Fish and Wildlife released the Draft Scientific Basis Report Supplement in Support of Proposed Voluntary Agreements (VA Scientific Basis Report) for public comment. The report evaluates the effects of potential Voluntary Agreements (VAs) flow contributions from the lower San Joaquin River on Delta outflows, but it does not evaluate benefits on the lower San Joaquin River and its tributaries. The VAs are underpinned by the concept that habitat restoration in combination with higher flows will provide enhanced benefits and improve conditions for native species.

The proposed combination of flow and non-flow restoration assets under VAs are expected to achieve two objectives: (1) the existing narrative objective in the Bay-Delta Plan to double salmon populations by the year 2050 relative to the reference population of 1967–1991; and (2) a new narrative objective to "maintain water quality conditions, including flow conditions in and from tributaries and into the Delta, together with other measures in the watershed, sufficient to support and maintain the natural production of viable native fish populations".

To evaluate the scientific support for the expectation of achieving the dual objectives, the VA Scientific Basis Report analyzed the contributions of the proposed flow and non-flow restoration assets toward habitat and population increases for salmonids and estuarine fishes. The VA Scientific Basis Report addressed limiting factors for native fish species in the Bay-Delta tributaries, off-stream bypasses and side channels, the Delta and San Francisco Bay-Delta Estuary, and other stressors such as climate change, direct take and disease. It included the results of modeling that is used to estimate the effects of VAs on the Sacramento River and its tributaries, as well as the Delta tributaries. The biological and environmental outcomes of VAs, as indicated by the modeling, addressed salmonid spawning and rearing habitat in Sacramento River tributaries, Delta and Estuary habitat, benefits of increased flow, and synergy between flow and non-flow habitat.

The analyses validated (through modeling) the expected increases in habitat and fish populations proposed with the VA. Qualitatively, the VA Scientific Basis Report also concluded that "the synergy of flow and non-flow habitat restoration assets proposed in the VAs is expected to improve conditions for salmonids and estuarine species toward achieving the proposed new narrative viable native fish population objective and existing salmon protection objective".



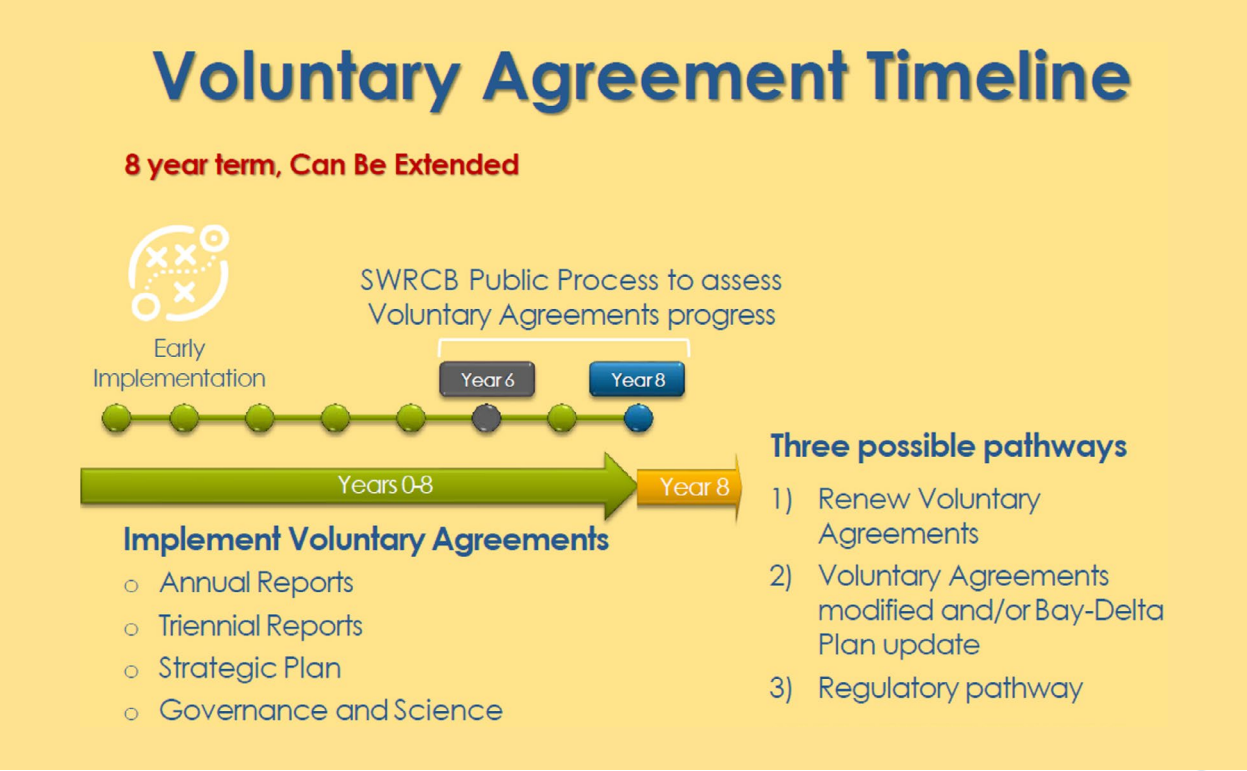
As with all modeling results, there are uncertainties associated with these outcomes resulting from simplifications of and assumptions about the natural system. For example, specific timing and locations of non-flow restoration efforts will influence outcomes, and future hydrologic conditions can only be predicted. Criteria that indicate how well the VAs are being implemented and the success of habitat (suitability and use by fish) plus a monitoring program will be used to determine the actua benefits of the VA.

Bay-Delta Model Boundary Conditions (shown in grey). Source: Draft Scientific Basis Report Supplement in Support of Proposed Voluntary Agreements for the Sacramento River, Delta, and Tributaries Update to the San Francisco Bay/Sacramento-San Joaquin Delta Water Quality Control Plan, 2023.

Implementation of Voluntary Agreements

The VA adaptive management process includes implementing a portfolio of instream and landscape flows in addition to non-flow measures from headwaters to the Delta. The aim is to create a stable regulatory framework that will help resolve existing litigation related to the Bay-Delta plan. The VA approach includes a new governance structure and a robust science program to support fish and wildlife as well as economic viability of agriculture with early implementation of projects. These projects include 23 "no regrets" actions that will serve the objectives of the Bay-Delta plan without jeopardizing the components of the watershed they protect, such as several hundred acres of enhanced floodplain, rearing and spawning fish habitat, improved fish passage structures and operation, and a landscape scale multi-benefit floodplain feasibility study.

The 8-year VA timeline will include a strategic plan, annual reports, triennial reports, and a public process to assess VA progress in years 6 to 8. Following the first 8 years, the VA can be renewed, modified, or a regulatory pathway can be pursued if the VAs are found to be inadequate. Because dedicated flows for VAs will be compensated, it is anticipated that it will cost $5 to $10/ac-ft to divert flows; however, funding will be secured from state and federal agencies along with water suppliers. The VA approach of dedicated compensated flows, systemwide adaptive management including floodplain reactivation, collaboration, and a plan for funding is expected to provide multiple benefits while avoiding the litigation expense, uncertainty of funding, high acreage of necessary fallowed land (35,000 with VAs vs. 330,000 anticipated with unimpaired flows regulation) and singular benefit associated with the initially proposed 55% unimpaired flow regulation for the Sacramento River, its tributaries, and the Delta.



Source: Thaddeus Bettner, March 2023. The Voluntary Agreement Process for healthy Rivers, Landscapes, Communities and Farms. Presentation to Butte County. https://www.buttecounty.net/1215/Seminars

Source: https://sacriver.org/explore-watersheds/american-river-subregion/#!

Learn More

California Water Boards
https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/

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Land IQ provides these regulatory updates to help our clients stay informed about regulatory programs related to agriculture and water in California. To learn more about the regulatory and technical support that Land IQ provides to irrigation and water supply districts, GSAs, commodity groups, and private and public agencies, please visit our website at www.landiq.com or contact:

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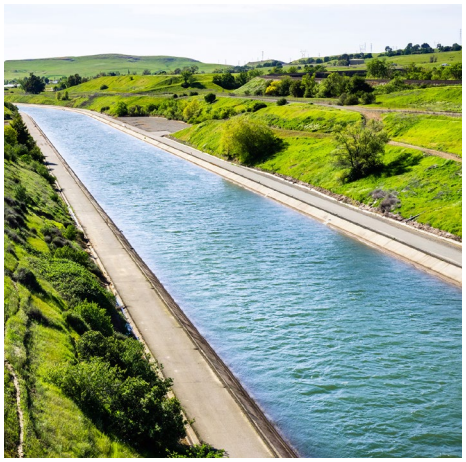

April 2023

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