Work Underway

CV-SALTS is already taking steps to develop comprehensive salinity and nitrate management strategies for the Central Valley. In the next several years, these activities will grow and expand to include more participants and more actions.

Research

CV-SALTS is working to establish a solid scientific basis for Central Valley salinity management through research and analysis of the sources, movement, treatment, and removal of salts and nitrates. CV-SALTS projects identify water quality criteria to protect beneficial uses of water, map the water bodies subject to regulation, and assess salt segregation and disposal options.

Pilot Studies

CV-SALTS has completed pilot studies on the sources and impacts of salts in three Central Valley locations, covering approximately 13% of the most affected areas. In partnership with the U.S. Bureau of Reclamation, a study of the east and west sides of the San Joaquin River will cover another vast area critical to salt management.

Early Implementation

CV-SALTS participants are already focusing salt and nitrate management actions in two critical areas. Improved management practices and regional projects are beginning in the Tulare Lake Basin, a closed basin where water and salts do not flow out to the ocean. CV-SALTS is also helping areas that have inadequate economic capacity to address high levels of nitrate contamination in drinking water.

Funding

Funding for CV-SALTS is managed by a non-profit organization called the Central Valley Salinity Coalition. To date, the Coalition has raised more than $1 million from its members and received an allocation of $5 million from the State Water Resources Control Board. Funds support activities and research to a develop a Central Valley Salt and Nitrate Management Plan. Additional funding will be needed from multiple sources to implement the plan.

Central Valley

Planning & Regulation

CV-SALTS is working with the State Water Resources Board and the Central Valley Regional Water Quality Control Board to develop salinity management strategies and actions for the Central Valley Salt and Nitrate Management Plan. CV-SALTS is identifying, evaluating, and developing the following elements of the plan:

- **Beneficial uses for Central Valley surface & groundwater**
- **Achievable water quality objectives to protect beneficial uses**
- **Existing water management options and policies**
- **Interim and long-term salinity and nitrate management actions**
- **Best management practices and early efforts to curb salts and nitrates**
- **Adaptable implementation plans for the future**

This overall plan will guide the necessary regulatory requirements in the Tulare Lake Basin, the Sacramento and San Joaquin River Basins, and the Delta.

For More Information

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CV SALTS

Sources California Agricultural Resource Directory 2010 – 2011, CDFA, 2010.
The Economic Impacts of Central Valley Salinity, University of California Davis, March 20, 2009.
Cover photos: USBR and D. Cozad.

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Central Valley Salinity Alternatives for Long-Term Sustainability

Salts & Nitrates
Unseen Threat to the Central Valley

The Central Valley faces a future where rising salt levels threaten to tum this productive basin into a land where the water is not fit to drink and soils are not capable of growing crops. Salts are slowly and steadily contaminating the region's water and soil. If nothing is done to reverse this trend, salt impacts in the Central Valley can render much of today's agriculture economically unsustainable in the future. Nitrates already impair the use of portions of the Central Valley's groundwater for drinking water and pose a potential health risk to a segment of the Central Valley's population. Because water from the Central Valley is also delivered to people and businesses from the Bay Area to San Diego, increasing salinity affects business productivity, human health, and the environment across the state.

Salts and nitrates impair water used for drinking, farming, industry, recreation, and the environment.

The Central Valley
Heart of California's Economy

The Central Valley is the heart of California's economy – providing water for people and businesses around the state and food and fiber for California, the nation, and the world. Water from the Central Valley supports 25 million people and the economic engines of the San Diego, Los Angeles, and Bay Area regions. The water also supports the most productive farmland in the country and the people and businesses who work the land, process the crops, and move the products. In 2009, the Central Valley produced a cash crop value of more than $25 billion. Six of the ten most productive counties in the country are located in the Central Valley. The Central Valley is also home to 6.8 million people.

CV-SALTS
New Vision for the Valley

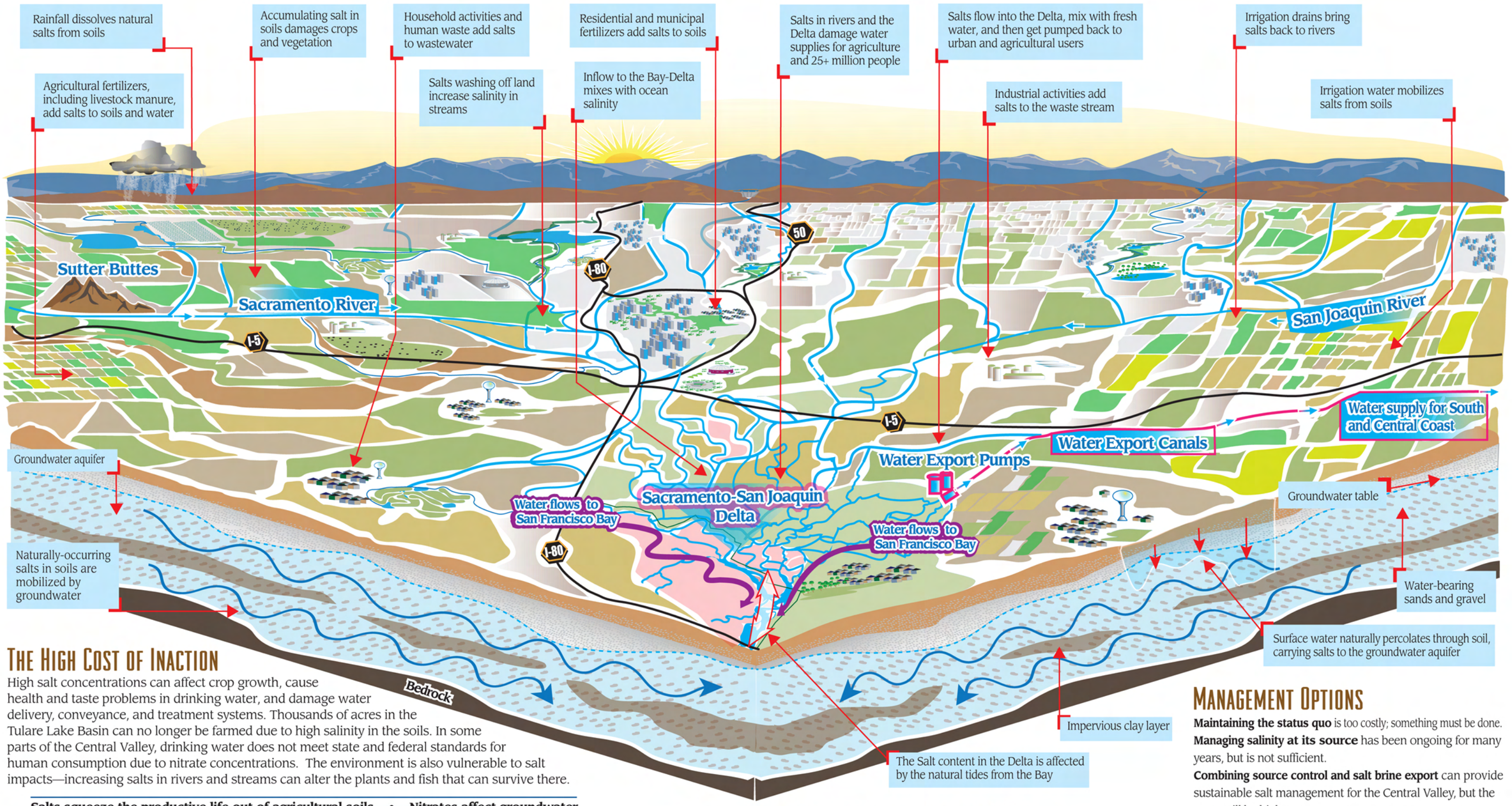
The salinity problem is complex and multi-faceted, so a broad coalition representing agriculture, cities, industry, and regulatory agencies (the State Water Resources Control Board and the Central Valley Regional Water Quality Control Board) have developed a vision for managing salts and nitrates. Central Valley Salinity Alternatives for Long-Term Sustainability Initiative (CV-SALTS) is a collaborative effort initiated in 2006 to find solutions to the salt problem in the Central Valley.

CV-SALTS participants are working together to develop a workable plan to address salinity, including nitrates, throughout the region in a comprehensive, consistent, and sustainable manner. The participants have established five goals:

CV-SALTS Management Goals

Sustain the Valley's Lifestyle	**Support Regional Economic Growth**	**Maintain World-Class Agriculture**	**Maintain Reliable, High Quality Water Supply**	**Protect the Environment**

Salts and Nitrates in the Central Valley come from natural sources and human activities



The High Cost of Inaction

High salt concentrations can affect crop growth, cause health and taste problems in drinking water, and damage water delivery, conveyance, and treatment systems. Thousands of acres in the Tulare Lake Basin can no longer be farmed due to high salinity in the soils. In some parts of the Central Valley, drinking water does not meet state and federal standards for human consumption due to nitrate concentrations. The environment is also vulnerable to salt impacts—increasing salts in rivers and streams can alter the plants and fish that can survive there.

Salts squeeze the productive life out of agricultural soils • Nitrates affect groundwater

Without action to improve salts management for the Central Valley, the economic vitality of the region is threatened, business and residential growth will be constrained, and the environment will suffer further damage. A 2009 University of California study found that salts and nitrates are already costing Central Valley residents $544 million annually for treatment and lost production. Increasingly, freshwater supplies will be used to dilute salts, reducing supplies for people and the environment, especially during droughts.

If we don't act now, by 2030...

- **The costs for managing salinity could reach $1.5 billion per year.**
- **Statewide productivity could be reduced by as much as $8.7 billion.**
- **The Central Valley could lose between 27,000 and 53,000 jobs.**

Management Options

Maintaining the status quo is too costly; something must be done.
Managing salinity at its source has been ongoing for many years, but is not sufficient.
Combining source control and salt brine export can provide sustainable salt management for the Central Valley, but the costs will be high.

CV-SALTS participants concluded that a comprehensive, collaborative effort is needed to reduce the accumulation of salts in the Central Valley.

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