

May 2020

TUOLUMNE RIVER VOLUNTARY AGREEMENT

PROTECTING FISH, FARMS AND FUTURE GENERATIONS

The Tuolumne River Voluntary Agreement ushers in a new era of cooperative management on the river and its floodplain to ensure ecosystem health, reliable water supplies and economic strength for the future.

The Tuolumne River Voluntary Agreement (TRVA) provides a foundation for comprehensively managing the Tuolumne River. It provides benefits to fish and their habitats as well as to farms, businesses and communities that depend on the river for water supply.

The TRVA is based on the best available science using decades of monitoring and data specific to the Tuolumne River. The comprehensive plan will:

- Increase river flows, adding water in all water year types.
- Improve habitat which, when coupled with increased flows, will enhance native fish species.
- Provide for extensive monitoring that will inform adaptive management.

A STATEWIDE VISION

The TRVA is among several Voluntary Agreements being forged in Northern and Central California. These agreements seek to:

- Enhance sensitive fish species and their habitats.
- Ensure a reliable water supply for urban and rural residents, farms, businesses, and industry.

These agreements represent a more progressive way of managing watersheds than current regulatory approaches and have widespread support throughout the Sacramento and San Joaquin Valleys and the San Francisco Peninsula.

TRVA AT A GLANCE

— Developed by public water purveyors

- Turlock Irrigation District
- Modesto Irrigation District
- San Francisco Public Utilities Commission

— A 15-year management plan based on solid science and responsiveness to nature

— Multiple ecosystem benefits

- Greater flows to help fish
- Enhanced habitat for feeding, spawning and rearing
- Suppression of non-native predators to improve salmon outmigration success

— Balances water supply needs across all sectors

- Environment
- Cities, communities and industries
- Agriculture

More Water, More Habitat, More Fish

The TRVA is designed to respond to seasonal variability and meet the life cycle needs of native fish species while protecting water supplies.

The Voluntary Agreement approach marks “a path forward, one that will ... set us up for a secure and prosperous water future.” — Gov. Gavin Newsom

KEY ELEMENTS OF THE TRVA

Elevated River Flows for the Environment

- VA **More water for all year types:** Enhanced flows will occur in all water year types, even the most challenging, from just over 24,000 acre-feet of greater flows to approximately 110,000 acre-feet above current requirements.
- VA **Responding to hydrological variation:** The TRVA provides a variable flow schedule for every season of every water year type to meet in-river life cycle needs of native fish species.
 - In dry and critically dry years, for example, the TRVA will provide 75 to 125 cubic feet per second (cfs) of water to serve environmental needs, which is more than under the current flow schedule.
 - Depending on water year type, a new floodplain pulse flow of 2,750 (cfs) for up to 20 days will be released to enhance fish habitat.
 - A spill management program will maximize river release benefits for fall-run Chinook salmon floodplain rearing.

Improved Habitat and Predation Control to Support Fish Populations

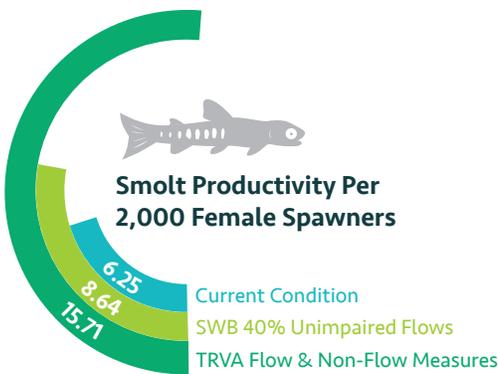
- VA **Habitat Improvements:** The TRVA Partners are investing \$83 million for non-flow measures in and along the river to support native fish species throughout their in-river life cycles, including:
 - Increased gravel to support and improve spawning.
 - Creation of additional quality habitat for fish, including enhanced and increased in-channel and floodplain habitat.
 - Placement of large woody debris to improve habitat complexity.
- VA **Predation Control:** The TRVA includes active control measures targeting striped and black bass that prey on juvenile out-migrating salmon.

EXPECTED BENEFITS OF THE TRVA COMPARED WITH THE STATE WATER BOARD'S BAY-DELTA WATER QUALITY CONTROL PLAN

Enhancing Fish Populations

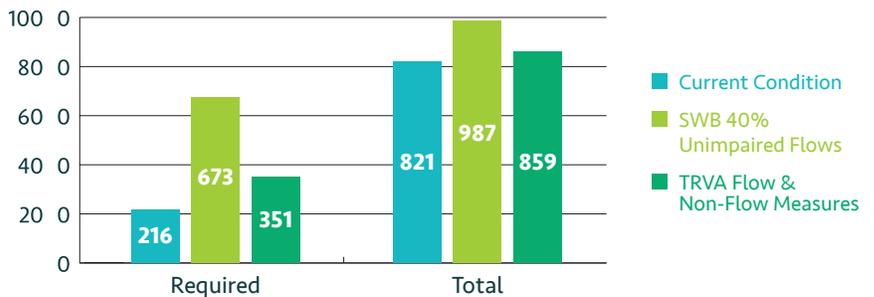
- The TRVA contains flow and non-flow measures designed to enhance in-river spawning, rearing, and out-migrating conditions to help more juvenile salmon survive.
- Salmon productivity is expected to increase by 150 percent over current conditions and more than 80 percent over conditions in the State Water Board's Bay-Delta Plan Update flow regime.¹

Comparison of anticipated increase of Fall-Run Chinook Salmon smolts successfully reaching the confluence of the San Joaquin River



Average Annual Flows

Thousand Acre Feet (TAF) Measured at the La Grange Gage



Preserving Water Supply for A Strong Economy

- Water supplies will be protected for agricultural, business, and municipal interests served by the TRVA Partners.
- Economic savings are estimated at nearly \$50 billion in economic output.²
- Job creation is estimated at more than 194,000 jobs.

ESTIMATED ECONOMIC SAVINGS



\$50 billion
economic output



\$167 million
farm-gate revenue



\$330 million
labor income



194,576
jobs

¹ The State Water Resources Control Board has required that 40 percent of "unimpaired flows" be released annually on the Merced, Stanislaus and Tuolumne rivers during key parts of the year as part of its update to the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (Bay-Delta Plan Update).

² To determine the economic impact of the State Water Board's flow regime proposal under the Bay-Delta Plan Update, Turlock Irrigation District, Modesto Irrigation District and San Francisco Public Utilities Commission studied the effects of the State Water Board's proposed 40 percent unimpaired flows for the year 2015. Economic savings were estimated at \$50 billion in economic output, \$167 million in farm-gate revenue, \$330 million in labor income, and 194,576 jobs [TID / MID: 6,576; SFPUC: 188,000].



THE TRVA IS A SUPERIOR APPROACH WITH BROAD SUPPORT

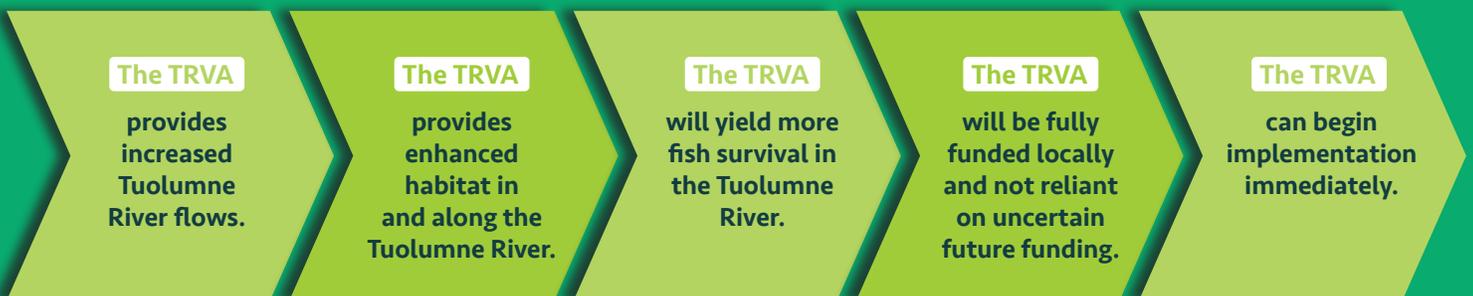
- Built on decades of monitoring, data collection and multiple Tuolumne River-specific scientific studies, it represents a superior approach for improving fishery conditions while protecting the region’s important economic and recreational assets.
- The TRVA is supported by government agencies, environmental stewards, as well as agricultural, businesses, and civic leaders who see promise in these innovative and adaptive approaches.

READY FOR ACTION

- The TRVA is self-funded by the Partners, with \$83 million dedicated for specific habitat improvements.
- Implementation can commence immediately and will not depend on state or federal grants, loans, taxes, or fees.
- A new Tuolumne River partnership will be formed to guide a spill management plan and habitat improvement program, an associated capital fund, and annual funding. The partners will include the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife. The partnership may include other members, including agencies and NGOs.

“Grounded in science, the Tuolumne River Voluntary Agreement is a revolutionary approach to managing and balancing water supplies to support thriving communities and fisheries.” – The TRVA Partners: Turlock Irrigation District, Modesto Irrigation District and San Francisco Public Utilities Commission

CHARTING A NEW COURSE



TRVA PARTNERS

