



## Desalitech's Water Purification Innovations Revive Brackish Central Valley Aquifer Fabbri Ag Services Diversifies Water Sources with High Efficiency Water Solution

### No More Business as Usual

The Western United States is experiencing an unprecedented drought. The situation is particularly dire for California, which relies on a massive and complex system of dams and reservoirs to store snowmelt from the Sierra and supply water to the state as part of the State Water Project (SWP).

2013 was the driest year on record for California, and the Sierra snowpack was just 32% of normal as of April 1 when the snowpack is normally at its peak.

- An estimated 70% of California's fresh water consumption is by farms
- California is the number one food producer in the nation and grows nearly half of all U.S.-grown fruits, nuts and vegetables
- For the first time in its 54-year history, SWP will provide no water to farmers, eliminating a crucial source of water for 750,000 acres of California farmland

The Central Valley Water Project, which is managed by the U.S. Bureau of Reclamation, will provide no water to service contractors South-of-Delta. California Governor Jerry Brown officially declared a drought emergency on January 17th, 2014, and asked all citizens to reduce water use by 20 percent. Conservation efforts are important and laudable, but new sources of water supply are also required.

### Reviving a Brackish Aquifer

A ranch owned and operated by Fabbri Ag Services 24 miles northwest of Bakersfield sits on top of a large, shallow aquifer that had been a reliable supplementary water source for agriculture for decades.

Water quality has deteriorated after heavy usage over time and extended periods of drought. The water now requires desalination to meet the purity requirements of high-value crops.

Fabbri Ag Services tapped Desalitech for its innovative ReFlex Closed Circuit Desalination (CCD) reverse osmosis (RO) system which is uniquely capable of producing purified water from brackish water sources.

Water from the brackish aquifer can be of variable temperature and composition. While conventional RO systems must be calibrated for set conditions, Desalitech's CCD RO solution is flexible and able to adjust to changing conditions.

### The Fabbri Installation

- Produces 300 gallons per minute of irrigation water to supply 40 acres of high value crops like almonds & grapes.
- Cost per acre-foot of water: \$400 to \$700 per acre-foot per year
- Extremely small footprint: 134 square feet (12 square meters).
- ROI: ReFlex systems typically pay for themselves within 9 months of installation by reducing waste disposal fees, energy consumption and maintenance requirements.

“Desalting the aquifer represents a sustainability plan that will let us diversify our water sources in years when supply is low.”

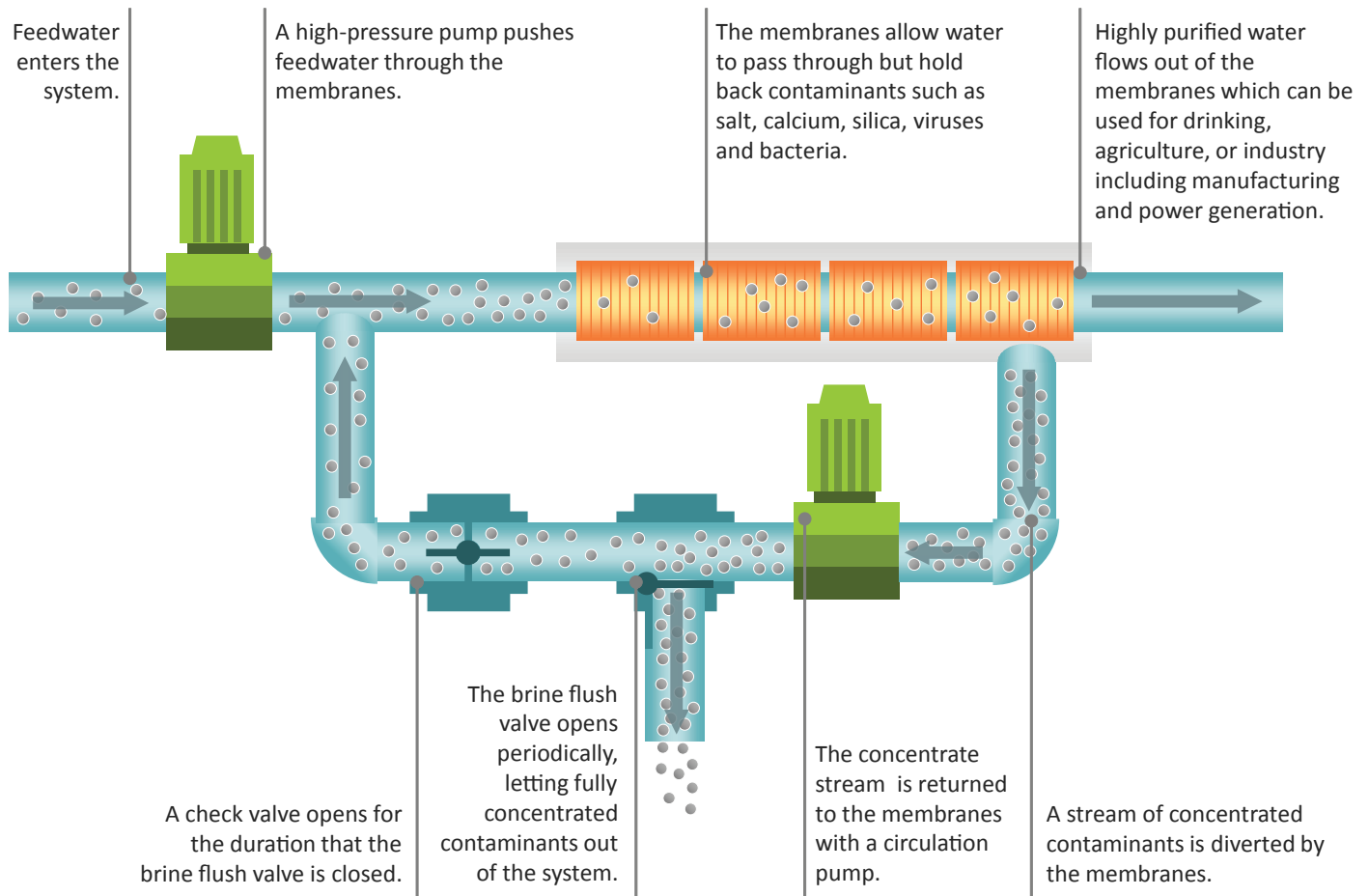
– Jeff Fabbri, CEO of Fabbri Ag Services

The Central Valley is the state's most productive agricultural region.



# Desalitech's ReFlex Closed Circuit Desalination (CCD) Reverse Osmosis (RO) Technology

Desalitech reinvented the RO process with its patented CCD system.



## Advantages

### High Water Use Efficiency

The Fabbri installation operates at a recovery rate of at least 87% and has already been demonstrated at 94%. Conventional RO systems typically top out at 75% recovery and discharge four times the amount of briny concentrate that must be discarded.

### High Reliability

Brackish groundwater is notorious for changing composition and temperature on a seasonal or sometimes daily basis. Desalitech's system automatically adapts to feed water variations, producing consistent product water quality with reduced operating costs.

### Low Energy Consumption

ReFlex RO featuring CCD technology delivers superior performance while consuming less energy. They are also able to achieve high recovery in single stage units, avoiding the complexity and inflexibility of multi-stage conventional RO systems.

## About Desalitech

Desalitech is a provider of high-recovery water production and effluent treatment solutions that deliver superior performance at lower costs. Its patented next-generation Closed-Circuit Desalination (CCD™) solutions represent the first major improvement in reverse osmosis water treatment in decades, achieving more efficient use of water resources, reduced emission of brine waste, and lower power consumption using standard off-the-shelf components.

Desalitech ReFlex systems with CCD technology are uniquely capable extracting purified water from challenging sources and adjusting to highly variable water conditions, making them ideal for industrial water and effluent treatment, agricultural water supply and inland brackish desalination. Desalitech was named to the prestigious 2013 Global Cleantech 100 for its innovations in the water sector.