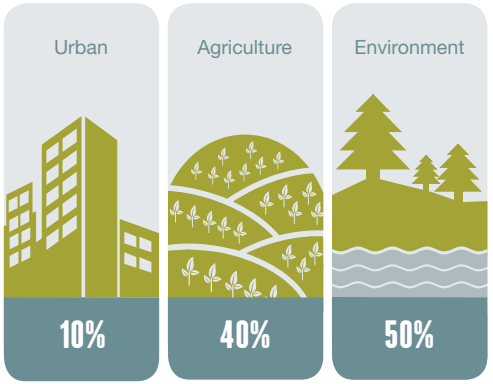
THE FACTS ABOUT WATER + ALMONDS

CALIFORNIA + WATER

CALIFORNIA'S WATER IS A SHARED AND MANAGED RESOURCE

- For over **100** years, Californians have been developing water infrastructure to effectively capture and transport surface water for use throughout the year and to store for dry years. While a majority of California's precipitation falls in the north of the state, it is moved through a network of canals and aqueducts to urban population centers and agricultural land.[2]
- All Californians, not just agriculture, rely on water captured and stored during wet winter months to access in dry summer months.
- With population growth and increased regulatory demands, California's water resources are more stretched than ever.

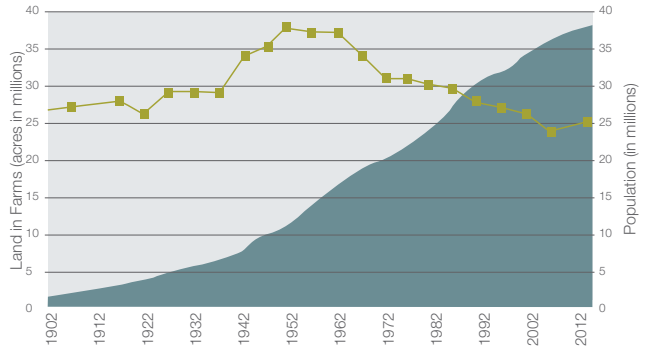
CALIFORNIA'S MANAGED WATER DISTRIBUTION[1]



CALIFORNIA AGRICULTURE PRODUCES MORE WITH LESS

- Despite population growth and decreased acreage dedicated to agriculture, the output of California agriculture has continually increased.
- In the last **40** years, the value of California agriculture has increased by more than **85%**. During that period, the total California crop-applied water use fell by more than **5%**, from **31.2** million acre-feet, to **29.6** million acre-feet.[5]

CHANGES IN CALIFORNIA POPULATION AND FARM ACREAGE[3,4]



CALIFORNIA IS THE NUT, FRUIT AND VEGETABLE BASKET OF THE U.S.

- California contributes over **50%** of fruits, vegetables and nuts in U.S. agriculture, allowing for a diversity of healthy foods in Americans' daily diet.
- California produces 100% of the U.S. domestic supply of almonds.
- California's Mediterranean climate, with its cool wet winters and hot dry summers, offers ideal growing conditions for many diverse crops.
- California's top ten crops in acreage are hay, almonds, grapes, wheat, corn, rice, walnuts, cotton, tomatoes and pistachios, and they all need water to grow. Combined, they cover **76%** of California's irrigated land.[6,7]

ALMONDS + WATER

THE CALIFORNIA ALMOND INDUSTRY IS COMMITTED TO WATER EFFICIENCY

- Through Almond Board of California (ABC), almond farmers have been funding water efficiency research since **1982**.
- Since the early **1990s**, advanced production practices have helped almond growers improve their water efficiency by **33%**, producing more crop per drop.[8]
- The water almond farmers use grows more than just almonds. Almond hulls, the fuzzy green outer covering, feed dairy cows and are part of a cow's balanced diet.
- Almond by-products don't go to waste—in fact, shells are used for energy production through cogeneration and as animal bedding.

AND OUR GROWERS AREN'T STOPPING THERE[9]

- **83%** of growers practice demand-based irrigation, tracking items like soil moisture, tree water status or weather conditions to determine when to irrigate their orchards rather than watering on a predetermined schedule.
- **70%** of almond orchards use micro irrigation systems, decreasing water runoff, putting water directly in the root zone and allowing for precise timing and rate of irrigation.
- **62%** of growers use soil maps while designing their irrigation systems to best match the soil characteristics of their orchards for optimal water infiltration and distribution.

ALMONDS + CALIFORNIA

Ideal climate, combined with the Central Valley's rich soil, water availability and infrastructure, innovative technology and research, makes California the most productive almond-growing region in the world.

Bloom season doesn't have a large threat of frost, meaning optimal pollination of delicate almond blossoms.

GLOBAL MEDITERRANEAN CLIMATES

Cool winters provide adequate chilling without damaging trees.

Warm, dry summers mean perfect weather for almond kernel development and harvest.

LOOKING TO THE FUTURE

Almond Board of California invests over $2 million a year researching production and environmental issues. Current research projects include:

ABC started funding traditional almond-breeding research in 1974. Over the years, this research has added focus on traits that require less water and can withstand higher salinity.

Soil can vary significantly; therefore, ABC is funding research to manage irrigation and production practices that can match the different soil types within one orchard.

Ongoing research will increase irrigation efficiency by improving understanding of complex factors like tree size that impact evapotranspiration (water lost through soil, air and leaves).

1. California Department of Water Resources (DWR), 2014. 2. Public Policy Institute of California, 2011. 3. United States Department of Agriculture (USDA), 1910-2012. 4. California Department of Finance, 2013. 5. DWR, 2014. 6. National Agricultural Statistics Service, 2014. 7. USDA, 2012. 8. Almond Board of California (ABC), 2014. 9. California Almond Sustainability Program.