



Pacific Southwest Region (R5)

65th Annual Meeting of the California Cooperative Snow Survey Program

Palo Alto, California
November 6, 2019





Overview

Region 5 - California

- 18 National Forests
- 20,802,641 Acres
- 5 National Monuments
- 1 Grassland
- Pacific Island Partners





National Priorities

- 1. Uplift and empower our employees**
- 2. Be good neighbors and provide excellent customer service**
- 3. Promote shared stewardship by increasing partnerships and volunteerism**
- 4. Improve the condition of forests and grasslands**
- 5. Enhance recreation opportunities, improve access, and sustain infrastructure**



Regional Priorities

- 1. Increase timber production and vegetation management**
- 2. Increase pace and scale of ecological restoration**





Regional Priorities

1. **Increased Mortality**
2014 – 2016 [2014 - 2016 progression.gif](#)
2. **2017 another 29 million**
3. **2018 another 18 million**

"The hazard of these dead trees can't be completely mitigated. This problem is too big to solve quickly."

Randy Moore, Regional Forester





Regional Priorities

- 1. 102,000 acres of meadow in CA National Forests**
- 2. 50% of all Sierra Nevada Meadows on California National Forests are in need of some restoration**
- 3. California Water Action Plan (WAP)**





National Forests
In CALIFORNIA

Nature's Benefits
WATER



WATER FROM CALIFORNIA NATIONAL FORESTS & ITS BENEFITS



HOW MUCH IS 11 TRILLION GALLONS OF WATER WORTH?





Nature's Benefits WATER



(continued)

75% OF CALIFORNIA'S PRECIPITATION (A COMPONENT OF CALIFORNIA'S NATIONAL FOREST WATER SUPPLY) FALLS NORTH OF SACRAMENTO⁶



75% OF THE WATER DEMAND OCCURS SOUTH OF SACRAMENTO. THE STATE WATER PROJECT (SWP) AND THE CENTRAL VALLEY PROJECT (CVP) HELP MEET THIS DEMAND



57% OF THE WATER THE LOS ANGELES DEPARTMENT OF WATER AND POWER (LADWP) PROVIDES⁷, COMES FROM THE LASSEN, PLUMAS, AND INYO NATIONAL FORESTS VIA THE STATE WATER PROJECT (SWP) AND THE L.A. AQUEDUCT. THIS WATER SUPPLIES

4 MILLION RESIDENTS AND SUPPORTS MORE THAN **1.8 MILLION** JOBS

WHERE DOES THE WATER FROM CALIFORNIA NATIONAL FORESTS GO AND WHO BENEFITS?

MOST CALIFORNIA WATER BEGINS AS PRECIPITATION OR SNOWPACK IN THE HIGHER ELEVATIONS AND IS THEN TRANSPORTED BY RIVERS, RESERVOIRS, AND INFRASTRUCTURE TO DOWNSTREAM USERS—CITIES, COMMUNITIES, AGRICULTURAL USERS, AND RECREATIONISTS.

CALIFORNIA AGRICULTURE 2016 ANNUAL AVERAGE EMPLOYMENT WITH SEASONALS IS 420,100¹³— THEREFORE, OVER 115,000 AGRICULTURE JOBS ARE SUPPORTED BY CALIFORNIA'S NATIONAL FORESTS.

THE CENTRAL VALLEY PROJECT PROVIDES WATER TO 1/3 OF CALIFORNIA'S⁸ **\$47.07 BILLION** AGRICULTURE INDUSTRY



83% OF THE WATER FROM THE PRIMARY CENTRAL VALLEY PROJECT (CVP) RESERVOIRS COMES FROM NATIONAL FORESTS⁹



11.2 MILLION PEOPLE RECREATE ON LAKE TAHOE, MAMMOTH LAKES, AND BIG BEAR LAKE—99% OF WATER FROM EACH LAKE COMES FROM NATIONAL FOREST LANDS^{10, 11, 12}

RESTORING CALIFORNIA'S NATIONAL FORESTS TO A HEALTHY AND RESILIENT STATE IS CRITICAL TO PROTECTING OUR WATERSHEDS FOR FUTURE GENERATIONS

Sources

Creators



Nature's Benefits WATER



(continued)

ADDITIONAL WATER BENEFITS FROM NATIONAL FORESTS

FORESTS PLAY AN IMPORTANT ROLE IN THE WATER CYCLE. AS WATER FLOWS FROM NATIONAL FORESTS TO THE OCEAN, MANY OTHER BENEFITS, IN ADDITION TO URBAN AND AGRICULTURAL USES, ARE PROVIDED ALONG THE WAY (SEE FIGURE TO THE RIGHT).



HABITAT NATIONAL FORESTS IN CALIFORNIA'S STREAMS, RIVERS, AND WETLANDS HOST A MULTITUDE OF KEY WATER-BASED HABITATS FOR ANIMALS:

 **9,907**
MEADOWS & WETLANDS¹⁴

 **≈57,000**
MILES OF STREAMS

 **21**
WILD AND SCENIC RIVERS
COVERING OVER 1,213 MILES¹⁷

INSTALLED HYDROPOWER PLANT CAPACITY ON NATIONAL FORESTS CAN GENERATE **10,190**

 **36,500**
GALLONS
OF WATER ONE LARGE TREE CAN CAPTURE AND FILTER PER YEAR.¹⁵

MEGAWATTS
PER YEAR FOR HOMES AND COMMERCIAL BUSINESSES —MORE THAN ENOUGH TO MEET THE POWER NEEDS OF 7,642,500 MILLION HOUSEHOLDS¹⁶



WATER QUALITY
NOT ALL WATER FLOWS DIRECTLY TO THE OCEAN, SOME OF IT INFILTRATES THE FOREST FLOOR, BOTH REPLENISHING THE GROUND WATER SUPPLY AND EVENTUALLY REJOINING FLOWS AFTER BEING FILTERED THROUGH SOILS AND ROOTS TO A CLEANER STATE.

FORESTS ALSO REGULATE THE FLOW AND TEMPERATURE OF WATER WITH TREE COVER, MAINTAINING SNOWPACK AND SLOWING THE FLOW OF WATER FOR LATER USE IN THE SUMMER. THIS HYDROLOGIC SYSTEM HELPS MAINTAIN RESERVOIR LEVELS YEAR-ROUND AND LESSENS THE BURDENS ON DOWNSTREAM LEVEES. FORESTED RIPARIAN AREAS ALSO SIGNIFICANTLY DECREASE STREAM TEMPERATURES, REGULATING CRITICAL HABITAT FOR INVERTEBRATES AND FISH SPECIES.

 **≈400,000**
ACRES OF LAKES



Nature's Benefits WATER



(continued)

THE PROBLEM AND HOW YOU CAN HELP

National Forests provide an abundance of Ecosystem Services, or Nature's Benefits, to the people of California: from drinking water to recreation opportunities, to carbon sequestration, to local jobs and income. Exacerbated by the growing impacts of climate change, our history of fire suppression and extensive logging, has resulted in our National Forests experiencing dramatic increases in wildfire size, frequency, and severity,^{1,2} as well as other disturbance events like tree mortality. Nature's Benefits from our forests are increasingly

threatened by the degraded state of forest health and disturbances like larger, higher severity wildfires with greater threats being a changing climate with increased drought frequency and higher temperatures.^{3,4} To restore forest health, we need to increase the pace and scale of forest restoration across the state. Communicating the Nature's Benefits from California's National Forests and sharing a stewardship vision to bring more resources to bear for restoration, can sustain these benefits for future generations.

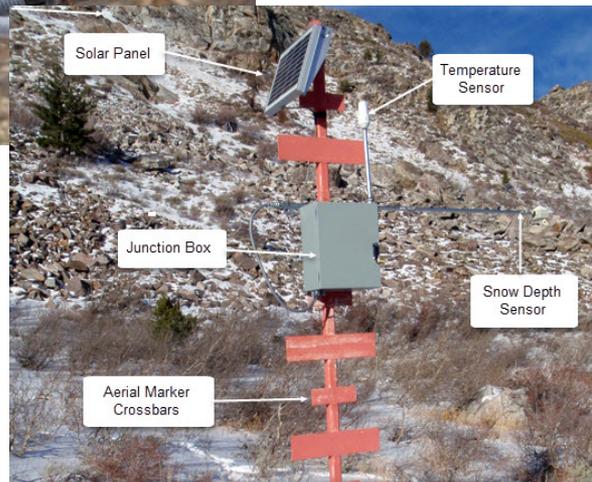


Sources: 1. Miller, A. J., Nitsch, M. G., Coors, D. S., & Ferguson, T. W. (2004). *Wildfire and Fuel...* 2. ... 3. ... 4. ...



Administration

1. Snow Survey partnership FS and DWR
2. Permits for Snow Survey related facilities on NFSL





Administration

Snow Survey partnership FS and DWR

- 1. Mutually beneficial program**
- 2. Equally share the cost**
- 3. 12 of the 18 National Forests in CA participate in the agreement**
- 4. FS employees and volunteers survey 85 (?) snow courses**
- 5. DWR provides funding for supplies, equipment, pack stock support, helicopter support, etc.**
- 6. 2020 last year of the agreement, we are working on the next agreement**



Administration

Special Use Permits - Special Use Permits authorize uses on NFS land that provide a benefit to the general public

- **Region 5 has 14,000 special use permits in both *lands* and *recreation*.**
- **Snow survey sites, SNOTELs, and associated cabins are *lands* permits**
 - Approximately 35 permits associated with DWR
 - Nonconforming uses in wilderness:
 - Needs assessment and extent necessary
 - Survey sites outside of wilderness to test the ability to move facilities outside of designated wilderness
- **Approximately 4,000 lands permits are expired.**
- **Current focus at the Regional Office in the Lands Special Uses program is power transmission and distribution line permits.**
- **We continue to permit Snow survey facilities and activities on NFS lands for those permits that are expired.**
- **Special Use permit administration occurs at the Forest level**



Contact us

Debbie Gaynor
Recreation Special Uses Program Manager
(707) 562-8860
debbie.gaynor@usda.gov

Margaret Wood
Snow survey regional contact
(760) 873 2419
margaret.wood@usda.gov