

CDFW Drought Response Funding Report, FY 2015-16

The 2015-16 state budget included \$18.632 million for the California Department of Fish and Wildlife (CDFW) to respond to the effects of the California drought on fish and wildlife. The department identified focus areas for response that included a variety of actions including river monitoring, rescue and relocation operations, holding the most threatened and vulnerable fish populations in captivity, and restoring drought-impacted habitat. The following is the annual report on 2015-16 projects and expenditures.

Fisheries

Emergency Help for Central Valley Chinook Salmon and Delta Native Fishes

\$2.13 million was provided for emergency actions to help at-risk native fishes in the Central Valley and Delta. CDFW monitored habitat and water in the Sacramento River and Delta, and assessed drought impacts on winter-run Chinook salmon, delta smelt and longfin smelt. We performed emergency rescue of winter-run and spring-run Chinook salmon, spawning habitat restoration for winter-run Chinook salmon, and improved the fish screen at Knights Landing Outfall Gates on the Sacramento River. All funds were spent.

Rescue of At-Risk Native Fishes

\$1.03 million was provided to rescue the most at-risk native fishes throughout the State and – where needed – rear rescued fish at CDFW fish hatcheries. CDFW conducted more than 300 fish rescues and modernized four fish hatcheries to care for rescued species. All funds were spent.

Aquatic Stressors and Extensive Fish Monitoring

\$763,000 was provided to monitor the State's most impacted creeks and rivers. CDFW collected drought and water quality data for more than 50 creeks and rivers statewide, and recorded summaries of that data. All funds were spent.

Infrastructure for Installation of Hatchery Tanks

\$555,000 was provided for infrastructure improvements at State hatcheries to address water quality and infection issues caused by the drought. CDFW purchased and installed circular rearing tanks, water chillers, or ultraviolet water disinfection equipment at five hatcheries. All funds were spent.

Offsetting a Commercial Fishing Disaster

\$3.25 million was provided to ensure the State's primary salmon hatcheries could provide support for the commercial and recreational salmon fishery. The funds paid for engineering designs, equipment purchase (water filtration and cooling, ultraviolet light treatment, state-of-the-art holding tanks), and equipment installation at three of the Department's salmon hatcheries, to maximize fish survival during the drought; and transporting fish by truck to increase the survival rate of hatchery salmon threatened by impacted river flows and higher-than-normal water temperatures caused by drought. All funds were spent.

Ecosystems and Habitat

Fisheries Habitat Drought Restoration Grants

\$1.5 million was provided for local grants that would enable restoration work to mitigate the impact of drought on salmon and steelhead habitat. CDFW awarded eight grants to fisheries organizations, regional water agencies, and resource conservation districts in eight counties from San Diego to Humboldt along the coast, and Sacramento to Tehama counties in the Central Valley. The total amount granted was \$661,785. The remaining \$838,215 reverted back to the State.

Continuous Delta Operations Response

\$830,000 was provided for the Department to continue intensive, constant coordination with the Department of Water Resources and other agencies and districts to address water operations in the Delta during the drought. CDFW participated in four different coordination and planning teams, and collected, archived, and analyzed delta smelt and longfin smelt tissues. All funds were spent.

Applying State-of-the-Art Technology to Environmental Monitoring

\$3.2 million was provided to bring the most recent technology and equipment to monitor environmental effects of the drought in some of the most severely impacted ecosystems in the State, including the Sacramento River Basin, Delta, San Joaquin River Basin, and southeast desert. Actions included real-time, constant river temperature monitoring in the upper Sacramento River, aerial surveillance of invasive aquatic vegetation in the Delta, updated GIS mapping of California watersheds, scientific evaluation of Central Valley sturgeon using radio telemetry, and intensive monitoring of desert creeks. All funds were spent.

Permitting

\$250,000 was provided for the Department to coordinate and expedite emergency response permits and cooperative agreements with the State Water Resources Control Board. All funds were spent.

Terrestrial Wildlife

Terrestrial Stressor Monitoring

\$2.625 million was provided to monitor terrestrial habitats and wildlife species most impacted by the drought. CDFW monitored terrestrial wildlife (birds, mammals, reptiles and amphibians) at more than 350 locations throughout the Mojave Desert and Great Valley Ecoregions, and in wet meadow habitats of the northern Sierra Nevada. We coordinated with the U.S. Forest Service and National Park Service to conduct focused amphibian surveys and habitat evaluations at high elevation locations in Sequoia and Kings Canyon National Parks, and surrounding areas. CDFW's California Wildlife Habitat Relationships program staff evaluated the potential effects of climate change on the habitats of 646 terrestrial wildlife species. Targeted

threatened and endangered species monitoring actions included captive breeding and habitat restoration for Amargosa voles, supplemental feeding trials for giant kangaroo rats, giant garter snake studies in the Sacramento and San Joaquin Valleys, and efforts to monitor and protect tricolored blackbird breeding colonies that occurred on agricultural land. All funds were spent.

Support for Human-Terrestrial Wildlife Conflict

\$950,000 was provided to CDFW field biologists, wardens, and support functions to improve the capacity of staff to respond to the increasing number of human-wildlife conflict incidents throughout the state due to the drought's degradation of wildlife habitat. Six CDFW regions, the Law Enforcement Division and headquarters staff coordinated to establish rigorous data collection protocol, and purchase capture and immobilization equipment. CDFW responded to approximately 14,733 human-wildlife conflict incidents and found that the top three animals warranting a conflict response were black bear, mountain lion and deer, respectively. Wildlife officers spent 12,627 hours and responded to 2,262 calls for service in response to human-wildlife conflict statewide. The Human-Wildlife Conflict drought funding allotment made it possible to pay for the staff response these incidents required, including overtime. All funds were allocated or spent.

Maximizing Water for Threatened and Endangered Species

\$375,000 was provided to improve water conveyance systems at state-owned wildlife areas and provide water to state wetlands, in order to reduce the deleterious effects of drought on threatened and endangered species as well as other wildlife. CDFW has completed two projects to improve water supply, water delivery and water use efficiency for the benefit of wetlands and the wildlife they support. These projects refurbished or replaced existing wells and related infrastructure by installing new water delivery infrastructure; replacing damaged pipes, water delivery systems and inefficient equipment; and restored and managed habitat to maximize the availability of existing water sources for wildlife. We also installed metering devices to track and maximize the efficiency of water use. CDFW will continue to operate these improvements in a manner that lessens the impact of drought, for the benefit of threatened and endangered species and other wildlife. All funds were spent.

Law Enforcement

Law Enforcement Overtime

\$1.17 million was provided for the CDFW Law Enforcement Division (LED) to increase patrols and enforcement activities in response to increased wildlife and water violations due to the drought. Wildlife Officer teams have removed 88 tons of trash, 95.3 miles of plastic pipe, 16 tons of fertilizer, 306 dams from streams, and 608,435 marijuana plants from public lands. Our environmental scientists estimate that 6-10 gallons of water is used for each these plants. The number of plants seized represents the theft of 109,518,300 gallons of water from the State. The CDFW CalTIP Program has received 1,025 drought-related calls, and is working with the State Water Resources Control Board (SWRCB) to share reports received for water theft and diversion. CDFW sent 333 reports to the SWRCB during FY 2015-16. All funds were spent.

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